Prepared for:
Pepco and Pepco Energy Services
Washington, D.C.

Prepared by:
AECOM
Beltsville, Maryland
February 2020

# REMEDIAL INVESTIGATION REPORT

# FINAL

Benning Road Facility
3400 Benning Road, NE
Washington, DC 20019

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Washington, DC 20019

**PREPARED FOR:**

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# Executive Summary

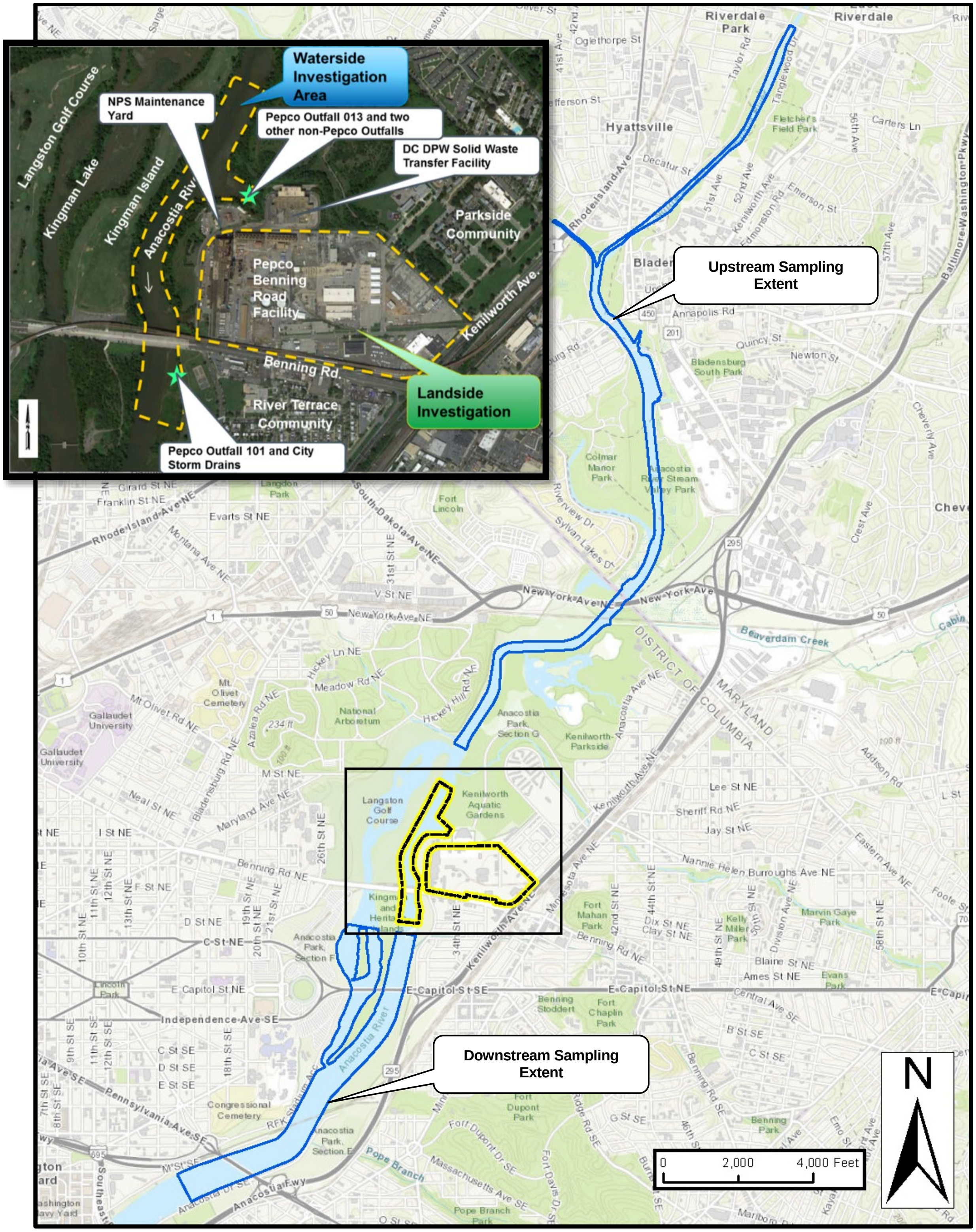
The Potomac Electric Power Company and Pepco Energy Services, Inc. (collectively "Pepco") entered into a consent decree with the District of Columbia that was approved by the U.S. District Court for the District of Columbia on December 1, 2011. This consent decree required Pepco to perform a Remedial Investigation/Feasibility Study (RI/FS) at Pepco's Benning Road facility (the Site), located at 3400 Benning Road NE, Washington, DC, and a segment of the Anacostia River (the River) adjacent to the Site, under the oversight of the District Department of Energy and Environment (DOEE) (formerly the District Department of the Environment [DDOE]).

The Study Area for the RI/FS consists of a "Landside Investigation Area" focused on the Site itself, and a "Waterside Investigation Area" focused on the shoreline and sediments in the segment of the Anacostia River adjacent to and immediately downstream of the Site. In addition, background and forensic samples were collected outside of the Waterside Investigation Area (WIA), both upstream and downstream of the WIA. The areas encompassed by the investigation are shown on Figure ES-1.

The purpose of the Benning Road facility RI/FS is to: (a) characterize environmental conditions within the Study Area, (b) investigate whether and to what extent past or current conditions at the Site have caused or contributed to contamination of the River, (c) assess current and potential risk to human health and the environment posed by conditions within the Study Area, and (d) develop and evaluate potential remedial actions, as may be warranted. This RI Report addresses the first three objectives. The FS Report will address the development and evaluation of potential remedial actions. In addition, a detailed forensics analysis and source identification assessment will be included as an appendix to the FS Report.

The objective of the RI is to gather sufficient data regarding the Study Area conditions to inform management decisions regarding potential risks to human health and the environment. Multi-media RI studies conducted by Pepco to support this objective provide a robust understanding of chemical, biological, and physical conditions within the Study Area, and help place these findings into the larger context of the ongoing DOEE Anacostia River Sediment Project (ARSP).

**Figure ES-1: Landside and Waterside Investigation Areas**



Site Setting

The 77-acre Site is entirely fenced, and access is controlled at all times. The former Benning Road Power Plant was located in the western portion of the Site until it was permanently shut down in 2012. Demolition and removal of the power plant building and related infrastructure was completed in 2015. Most of the Site is currently occupied by the Benning Service Center, which involves activities related to construction, operation, and maintenance of Pepco's electric power transmission and distribution system serving the Washington, DC area. Three substations serving Pepco's transmission and distribution system are also located on this Site. The Site is separated from the Anacostia River by a thin strip of land that is part of Anacostia Park. The River is an urban tidal estuarine river corridor with multiple historical and current sources of contamination, both up- and downstream of the Site.

RI Sampling and Analysis

Both the Landside and Waterside Investigation Areas were well characterized during this RI, which included the collection and analysis of nearly 2,000 field samples (see Table ES-1). Pepco also completed a background sampling program to establish Site-specific background conditions for soil, groundwater, Anacostia River surface water, and Anacostia River sediment, and a forensic evaluation to evaluate constituents of potential concern (COPCs) within the context of the broader urban river corridor. Relevant data collected by DOEE as part of the ARSP RI sampling effort were also evaluated in the Baseline Human Health Risk Assessment (BHHRA) and Baseline Ecological Risk Assessment (BERA), as well as the background evaluation.

**Table ES-1: RI Sampling Summary**

| Matrix | Number of Samples |
|---|---|
| Landside Investigation Area Soils | 1,060 |
| Cooling Tower Basins Soils | 207 |
| Sediment | 449 |
| Surface Water | 20 |
| Toxicity Testing | 21 |
| Macroinvertebrate Community | 21 |
| Sediment Pore Water | 21 |

Landside Investigation Summary

To help guide the Landside Investigation Area activities, the RI identified a total of 20 Target Areas (TA) and seven historical Operational Areas (which in most cases overlap with the Target Areas) on the Landside portion of the Site, based on Phase I RI data, historical investigations and remediation, underground storage tank (UST) closures, and former and current operations. An iterative surficial and sub-surficial sampling approach was used to delineate analytes horizontally and vertically within the Target and Operational Areas relative to risk-based screening levels. Pepco worked closely with DOEE to complete delineation of COPCs in all Target Areas.

Non-aqueous phase liquids were not observed in soils or groundwater. Certain metals, polychlorinated biphenyls (PCB) Aroclors, polycyclic aromatic hydrocarbons (PAHs), dioxins, and petroleum hydrocarbons were detected in Site soils in several of the Target Areas in excess of screening levels. With the exception of vanadium, metals in soils were generally consistent with background conditions. The Landside investigation of PCB Aroclors indicated that the highest levels in Site soils were detected in Target Area 12 at concentrations exceeding the Toxic Substance and Control Act (TSCA) threshold limit for disposal of 50 milligrams per kilogram (mg/kg). Perchloroethelyne (PCE) and methyl-tertiary-butyl-ether (MTBE) were the only two COPCs detected in groundwater in excess of the screening levels. Table ES-2 summarizes the Landside Investigation Area impacts and potential source areas.

**Table ES-2: Landside Investigation Area Impacts and Potential Source Areas**

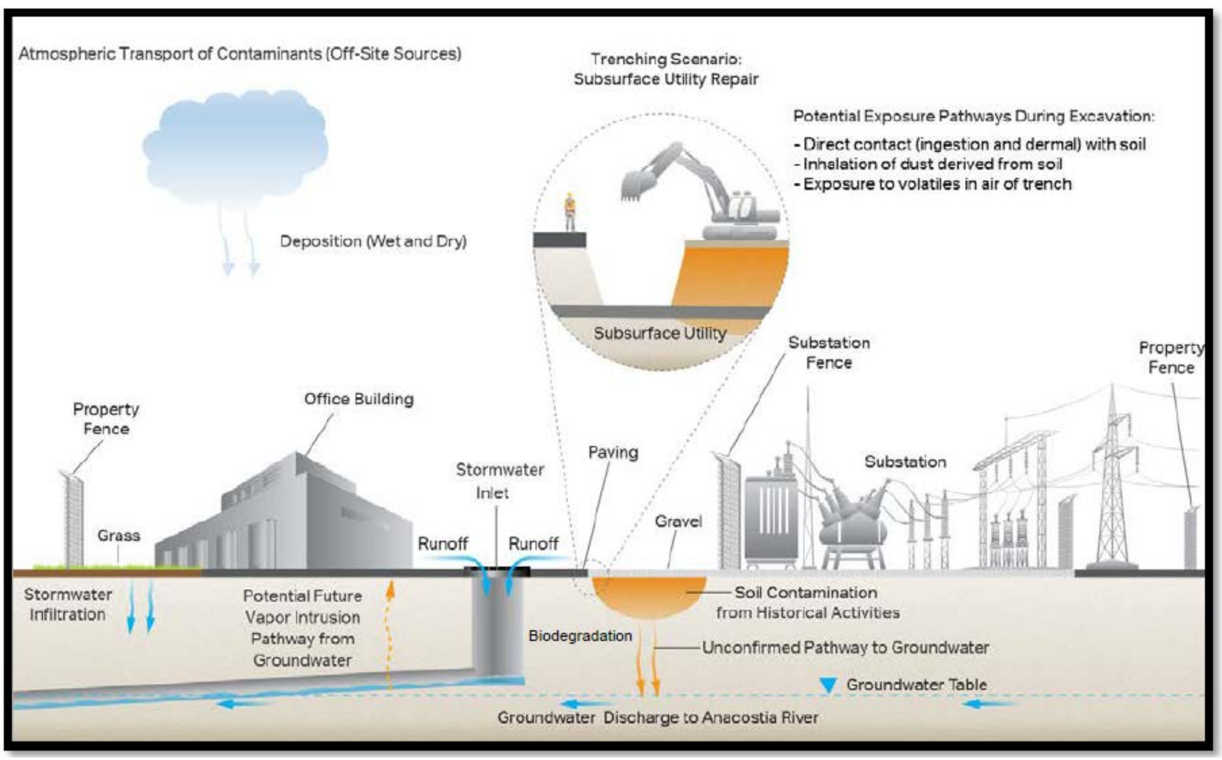
| Target Area | Constituents of Potential Concern | Potential Sources of Impacts |
|---|---|---|
| TA1<br>Former Sludge Dewatering Area | Vanadium, PCBs, PAHs, and dioxins largely surficial and shallow sub-surficial. Vanadium impacts extend outside of TA1 over a larger Former Coal Pile Area footprint to 3 feet below grade. | Sludge from clarifiers, sludge from the former cooling tower basins, river water and sediment processed in the clarifiers prior to use in the cooling tower, and former coal pile; dioxins potentially from the DC Department of Public Works (DPW) incinerator adjacent to the Site |
| TA4<br>Salvage Yard and Former Timber Pile Storage Area | PCBs, PAHs, and total petroleum hydrocarbons (TPH) largely to 5 feet below grade, some extend to 10–15 feet. | Historical activities and fill material |
| TA5<br>Former Cooling Tower Basins (East end of Cooling Tower #16) | PCBs and TPH to 6 feet below grade | PCB-containing caulk and potential historical dielectric fluid spill |
| TA10<br>Red Tag Storage Area | PCBs and dioxins in surface soils and shallow subsurface | PCBs from historical on-Site activities and dioxins potentially from the DC DPW incinerator adjacent to the Site. Low levels of PCDF from dielectric fluids containing PCBs cannot be ruled out. |
| TA11<br>Building 68 | PCBs to 4 feet below grade | Historical activities in TA10 and TA 11 |
| TA12<br>Building #57/Transformer Shop | PCBs and PAHs to 5 feet below grade | Historical operations involving electrical equipment, historical railroad operations, and/or coal tar paving sealants/fill soils |
| TA17<br>Storm Drain System | PCBs, PAHs, and metals | Historical industrial runoff |

| Target Area | Constituents of Potential Concern | Potential Sources of Impacts |
|---|---|---|
| TA18<br>Kenilworth Fueling Island | MTBE in groundwater | Residual from former cleanup and potential off-Site sources |
| TA19<br>PCE in Groundwater | PCE and its daughter products | The specific source (or sources) of PCE detected in on-Site groundwater cannot be conclusively determined from the existing data, and further investigation will be conducted as warranted during post-RI investigation activities. |
| TA20<br>PAHs in Soil/Former Rail Yard and Laydown Area | PAHs largely to 5 feet below grade, some locations extend to 11 feet. | Former Rail Yard operations, coal tar paving sealants, and/or fill soils |

Landside Conceptual Site Model

Throughout the course of the RI, several detailed Conceptual Site Models (CSMs) have been developed to promote an understanding of key chemical, physical, and biological processes within the Study Area. Figure ES-2 presents the key exposure pathways to human receptors within the Landside Investigation Area as well as the connections between COPCs in stormwater, soils and groundwater, and the potential pathways to surface water.

**Figure ES-2: Landside Conceptual Site Model**




Key elements of the landside CSM discussed in the RI include the following:

- The majority of the Site is paved or covered by impermeable surfaces and stormwater is captured in storm drains minimizing infiltration of water through soils that may be impacted; however, the storm drains discharge to the Anacostia River and therefore represent a pathway for historical movement of contaminants from the Site to the river.
- Groundwater is not used for drinking water, and direct contact with soil is unlikely based on the limited Site access, tight security, and presence of pavement or gravel across the majority of the Site.
- The existing operational and institutional controls that are in place at the Site provide effective exposure prevention measures. However, if any of these conditions were to change in the future, on-Site workers may potentially contact surface soil, and construction workers may contact subsurface soil via incidental ingestion, dermal contact, and inhalation of volatiles or dust derived from soil.
- A vapor intrusion pathway evaluation indicated no current exposure; however, vapor controls may be necessary for future buildings constructed over areas where contamination is present in the subsurface.
- Groundwater beneath the Site discharges to the Anacostia River. Given the chemical properties of the COPCs and the low concentrations observed in groundwater at the Site, there is no indication that COPCs have migrated, or are likely to migrate in the future, through groundwater to sediment pore water or surface water in the Anacostia River.

Waterside Investigation Summary

The Waterside Investigation Area focused on sediment and surface water in the portion of the River adjacent to the Site, as well as upstream sediment background locations in the Anacostia River. The major Waterside Investigation findings are as follows:

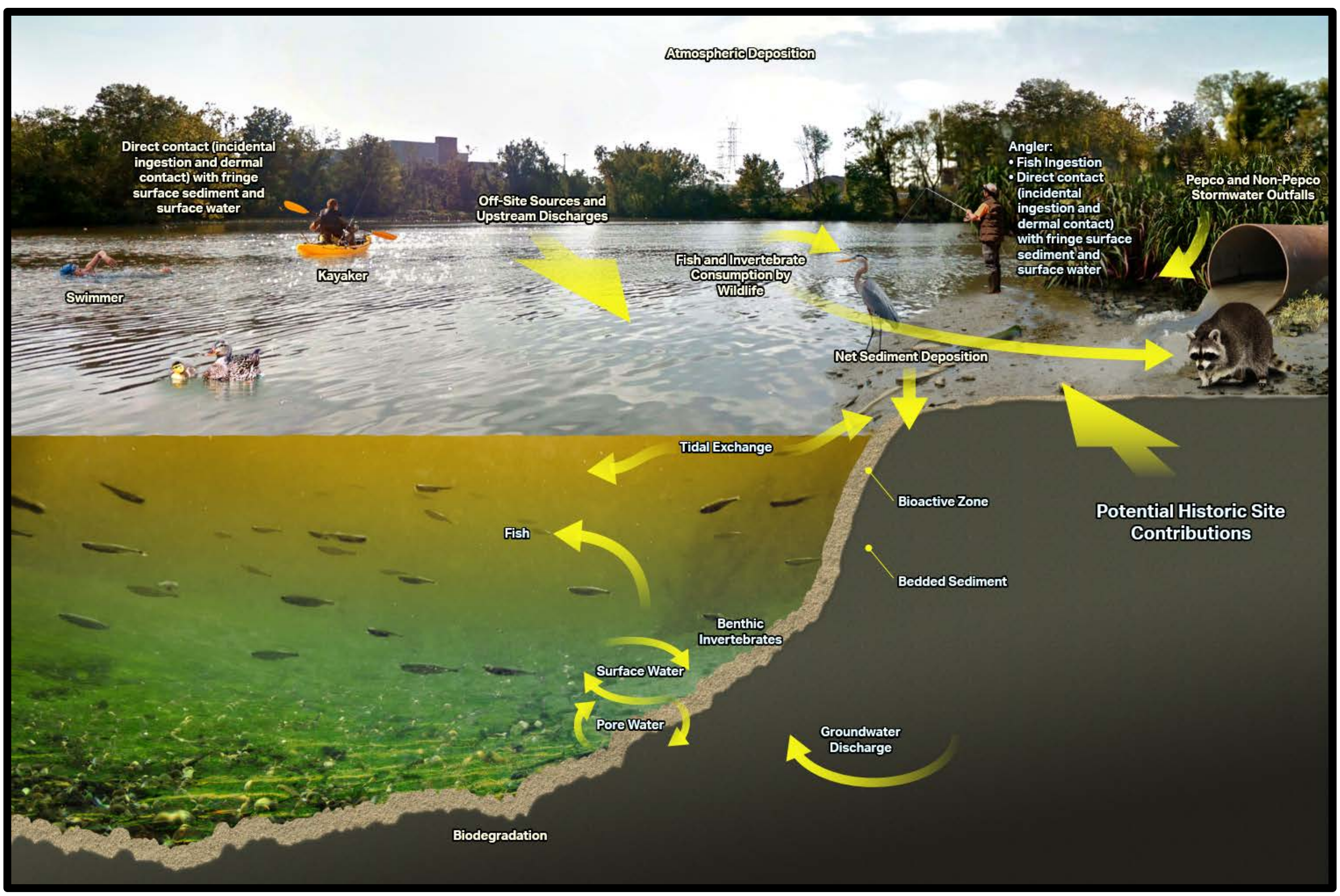
- Concentrations of COPCs in surface water in the Waterside Investigation Area are low, generally below screening values, and generally consistent with Site-specific background conditions in the Anacostia River.
- Concentrations of several metals, pesticides, PAHs, and PCBs exceed ecological screening levels in sediment in the Waterside Investigation Area. The highest concentrations of these constituents are generally located in the approximately 4.2-acre Cove, into which Outfall 013 from the Site and three other pipes not associated with the Site discharge.

- Concentrations of most COPCs in surface sediment in the Waterside Investigation Area are consistent with Site-specific background conditions, but surficial sediment PCB concentrations, particularly in the above-described Cove, exceed the Site-specific background concentrations.
- Multiple lines of evidence (including cesium cores, contaminant profiles, and grain size characterization) indicate that much of the Waterside Investigation Area, including the Cove, is net depositional.

Waterside Conceptual Site Model

Figure ES-3 highlights many of the key Waterside Investigation Area connections between COPCs in soils, surface water, groundwater, and sediment, as well as key ecological and human receptors. The CSM takes into account both current and future uses, including angling and recreational uses, which may increase in the future due to River improvements. These connections are evaluated in the BHHRA and BERA in Appendices AA and BB, respectively.

**Figure ES-3: Waterside Conceptual Site Model**



Key elements of the waterside CSM discussed in the RI include the following:

- The Anacostia River is an urban waterway with a highly developed upland infrastructure. Any evaluation of the Site must consider the broader context of this urban water body. There are numerous off-Site and upstream sources and potential sources of COPCs. Multiple outfalls (other than Pepco's) discharge into the Waterside Investigation Area and upstream reaches of the River.
- Pathways by which Site-related contaminants may have historically migrated from the Landside Investigation Area to the River are limited. The RI documents that neither current nor historical groundwater discharge from the Site is a significant contributor to surface water or sediment impacts in the Anacostia River. Although historical discharges from the Site likely have contributed to sediment conditions in the Cove, the RI documents that stormwater discharges from the Site are not currently a source of COPCs to the River. Prior to the construction of the storm drain system in the 1950s, Site stormwater flowed to the on-Site portion of Piney Run, which historically discharged to the Cove. Portions of the storm drain system are below the groundwater table. Investigation of the condition of the storm drains did not reveal evidence of any significant groundwater infiltration.
- The Waterside Investigation Area includes tidal flats that are regularly inundated and exposed with the ebb and flow of tide, as well as channelized areas that are perennially under water.
- Much of the Waterside Investigation Area, including the 4.2-acre Cove, is net depositional.
- Data collected during this RI demonstrate that the Site-specific bioactive zone (BAZ) in the Anacostia River sediments ranges from 0.15 to 6.1 inches and averaged 4 inches below the sediment surface.
- The presence of bioaccumulative and biomagnifying COPCs in surficial sediment and associated media within the Waterside Investigation Area indicates that there is a potential linkage between contaminants in these media and fish tissue. However, uncertainties exist regarding the relationship between sediment COPCs in the Waterside Investigation Area and fish tissue in the Anacostia River.
- Movement of COPCs into surface water and sediment occurs through resuspension of particulate matter, pore water/surface water exchange, and tidal exchange.
- Ecological receptors in the Waterside Investigation Area include benthic infauna, aquatic invertebrates, fish, and wildlife.
- Human use of the Anacostia River includes angling and other recreational activities; the CSM takes into account both current uses as well as future uses, which may increase in the future due to River improvements.

Baseline Human Health Risk Assessment

The BHHRA evaluated soil and groundwater data from the Landside Investigation Area, and surface sediment and surface water from the Waterside Investigation Area. In addition, per the request of DOEE, the Waterside Investigation Area BHHRA considered fish tissue data collected by USFWS (Pinkney, 2017) from the Upper Anacostia River (an approximately 4-mile reach of the river that includes the Waterside Investigation Area). Because the exact collection points are not specified in the Pinkney study, the samples collected in the Upper Anacostia River are assumed to reflect overall conditions within the several-mile-long river reach that was sampled (or possibly the larger home range for some of the fish species sampled) and may not reflect the specific conditions within the Waterside Investigation Area. The same qualification applies for the fish samples collected within the Lower Anacostia and the Potomac River. Accordingly, although the tissue data for the Upper Anacostia reach were used for this BHHRA per the direction of DOEE, there are uncertainties regarding the relationship between the fish tissue and sediment concentrations.

To help place the Study Area risk evaluation into a regional context, the following regional reaches were also evaluated for potential exposures via fish consumption: (1) Lower Anacostia River (downstream of the CSX bridge) (2) Upper Potomac River (upstream of the 14th Street bridge), and (3) Lower Potomac River (downstream of the 14th Street bridge). The BHHRA also evaluated fish tissue collected from the upstream non-tidal Anacostia River (north of the Maryland state line) as an area which DOEE has determined represents background for fish tissue.

Both reasonable maximum exposure (RME) and central tendency exposure (CTE) scenarios were evaluated so that a range of potential exposures and risks could be considered. The RME provides an estimate of the upper range of exposure in a population, whereas the CTE uses average exposure parameters to calculate an average exposure to an individual. Both scenarios are based on conservative exposure assumptions and toxicological inputs such that the results likely overestimate the actual risk.

*Landside Investigation Area BHHRA Findings*

Four potential receptors were evaluated in the Landside Investigation Area:

- Current/future construction workers
- Future outdoor industrial workers
- Future indoor industrial workers
- Hypothetical future recreational visitors

Potential exposures to on-Site surface and subsurface soils are currently incomplete due to perimeter fencing, 24-hour site security, and the presence of pavement or gravel across the vast majority of the Site. The current lack of access to soil is expected to continue into the foreseeable future. However, the potential for future direct contact exposures to surface and subsurface soil was evaluated, including a hypothetical recreational scenario for the western portion of the Site next to Anacostia Avenue. This area was previously the location of the former power plant demolished between 2012 and 2015. This area of the Site remains under controlled access and Pepco has no plans to convert this area to public recreational use. Nonetheless, because this portion of the Site is the closest to the Anacostia River and the existing NPS park land located across Anacostia Avenue, DOEE directed that the BHHRA evaluate a hypothetical future exposure scenario in which this area becomes public park land or green space. It was also assumed that a construction worker and a hypothetical future indoor worker may be exposed via inhalation of vapors from groundwater. Based on the evaluation of potential migration of constituents from groundwater to surface water, discharge of Site groundwater is not adversely impacting the Anacostia River. Figure ES-4 presents the potential carcinogenic risks for landside receptors, and Figure ES-5 presents the noncarcinogenic hazard index (HI).

**Figure ES-4: Landside Potential Cancer Risks**

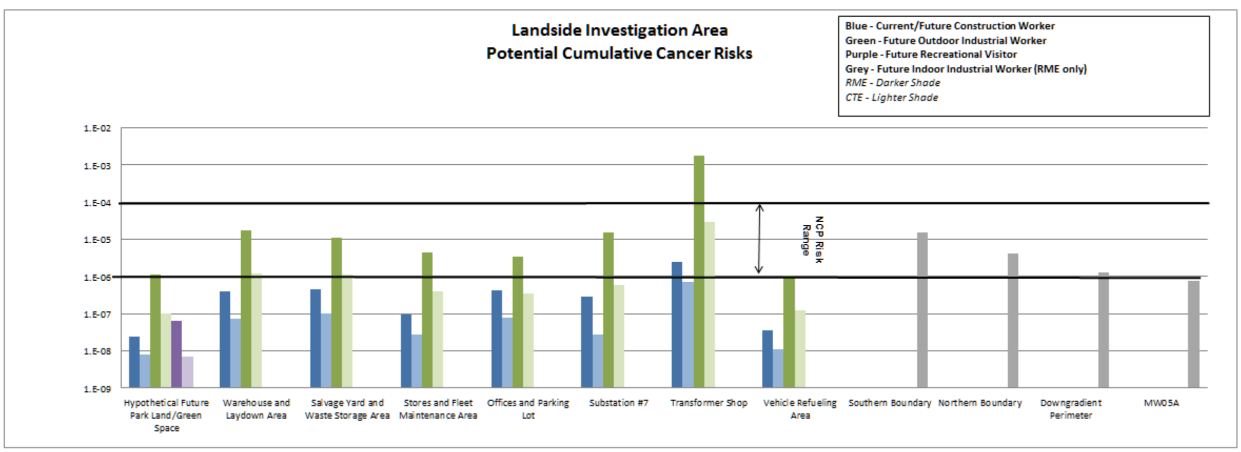
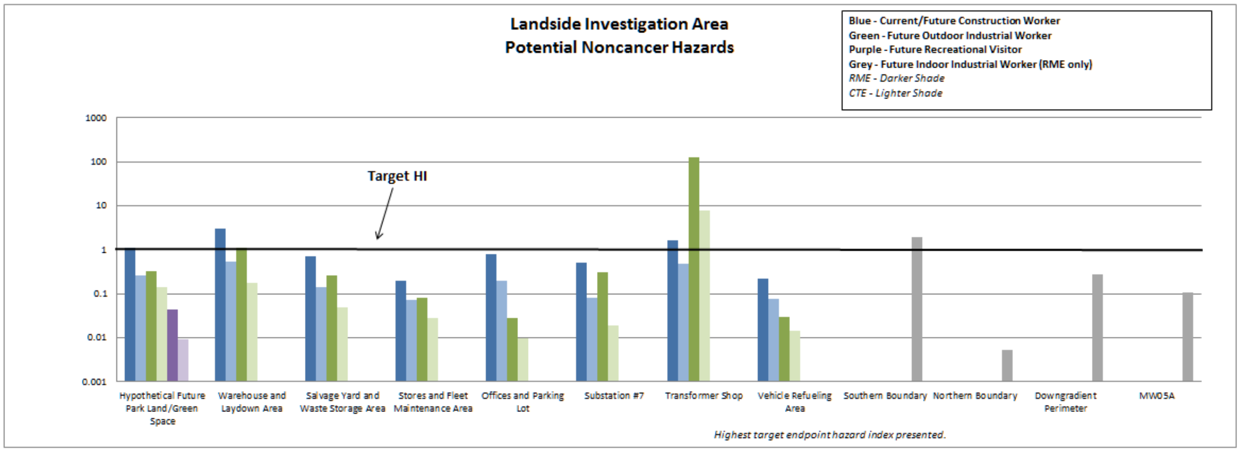


**Figure ES-5: Landside Potential Noncancer Hazards**




As indicated by the figures above, the majority of total potential carcinogenic risk and noncarcinogenic hazards for landside receptor scenarios are within or below the USEPA target cancer risk range of $10^{-6}$ to $10^{-4}$ and below a noncarcinogenic target endpoint HI of 1. Table ES-3 presents the identified constituents of concern (COCs) with potential cancer risks greater than $10^{-6}$ or a target endpoint HI of 1 for the Landside Investigation Area; the noncancer hazard value representing the highest target endpoint HI is presented.

**Table ES-3: Potential COCs for the Landside Investigation Area**

| Potential COC | Cancer Risk/HI | Landside Investigation Area | | | |
|---|---|---|---|---|---|
| | | Warehouse and Laydown Area | Salvage Yard and Storage Area | Substation #7 | Transformer Shop |
| 2,3,7,8-TCDD-TEQ | Risk | -- | 4E-06[a] | -- | -- |
| Vanadium | HI | 3[b] | -- | -- | -- |
| Total PCBs | Risk | 5E-06[a] | 2E-06[a] | 4E-6[a] | 2E-03[a] |
| | HI | -- | -- | -- | 124[a]<br>1.6[b] |

Notes:
-- Indicates that cancer risk is less than $10^{-6}$ or noncancer HI is less than 1.
Blue highlighting indicates that cancer risk exceeds $10^{-6}$ but is less than or equal to $10^{-4}$.
Yellow highlighting indicates that cancer risk exceeds $10^{-4}$ or the target endpoint HI exceeds 1.
[a] Future outdoor industrial worker surface soil (0-1 foot bgs).
[b] Current/future construction worker soil (0-16 feet bgs).

*Waterside Investigation Area BHHRA Findings*

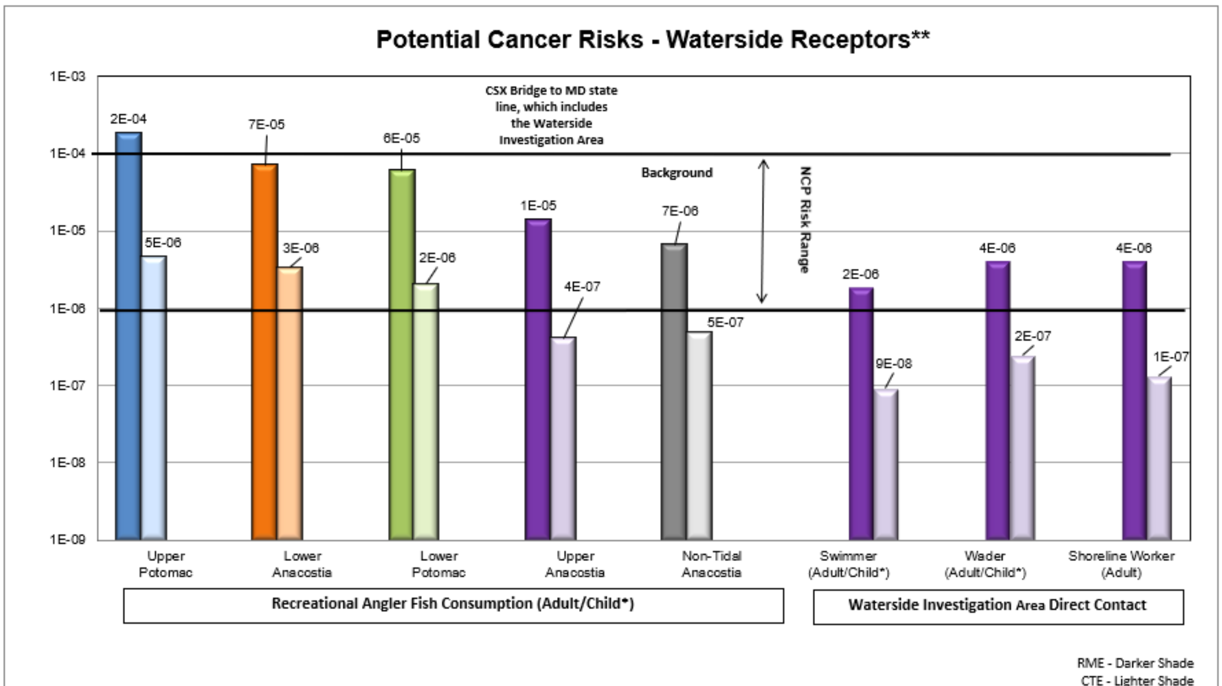
The following potential receptors were evaluated for the Waterside Investigation Area:

- Current and future swimmers and waders

- Current and future shoreline workers
- Current and future anglers

Figure ES-6 presents the potential carcinogenic risks for waterside receptors, and Figure ES-7 presents the noncarcinogenic HI. In addition to the Upper Anacostia which encompasses the Waterside Investigation Area, potential cancer risks and noncancer hazards are also presented for several regional reaches to provide additional context for potential risks in the Waterside Investigation Area. The BHHRA evaluated risks for the recreational angler since angling has not been observed within the Waterside Investigation Area and the Site represents a small portion of river shoreline relative to the length of the Anacostia River (less than 6 percent). The high end consuming angler (i.e., subsistence angler) scenario is considered in the uncertainty evaluation provided in the BHHRA Report (Appendix AA).

**Figure ES-6: Waterside Receptors – Potential Cancer Risks**




*Sum of adult and child presented, as the combined adult/child is the receptor group with the highest potential cancer risk. See Section 6 of the BHHRA (Appendix AA) for presenation of cancer risk for the adult, young child, and older child/teen separately.

**Cancer risks are for the recreational angler scenario (adult/child); results for the high end consuming angler (i.e. subsistence angler) scenario are provided in the BHHRA Report (Appendix AA).

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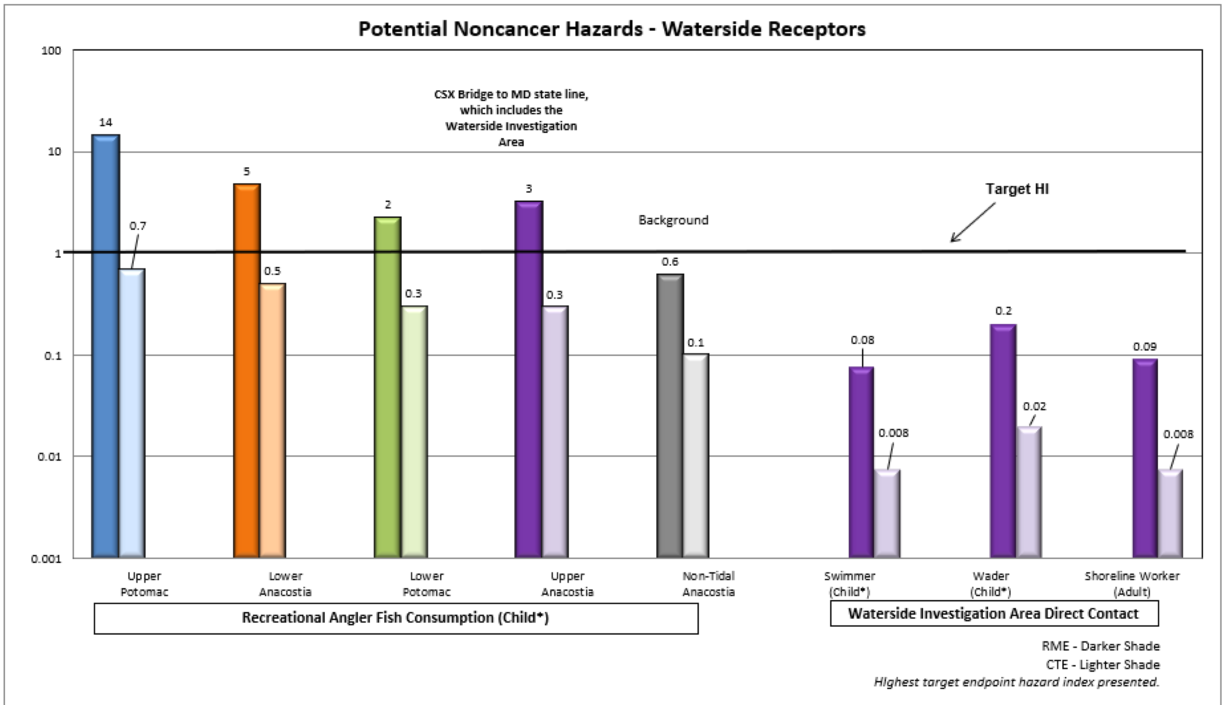
**Figure ES-7: Waterside Receptors – Potential Noncancer Hazards**




*Child presented, as the child is the receptor group with the highest potential noncancer hazard. See Section 6 of the BHHRA (Appendix AA) for presenation of noncancer hazard for the adult, young child, and older child/teen.

**Noncancer hazards are for the recreational angler scenario (child); results for the high end consuming angler (i.e. subsistence angler) scenario are provided in the BHHRA Report (Appendix AA).

As indicated by the figures above, potential cancer risks are within the USEPA's target risk range of $10^{-6}$ to $10^{-4}$ with the exception of the RME scenario for the Upper Potomac River. The noncancer HI exceeds 1 in under the RME scenario in all areas except the Upper Non-Tidal Anacostia. As shown in Table ES-4, all of the chemicals identified as potential COCs in the Upper Anacostia area for recreational fish consumption are also identified in other regional reaches, and in many cases, at higher cancer risk and noncancer hazard levels.

**Table ES-4: Current/Future Recreational Angler Fish Consumption RME Scenario**

| Chemical | Cancer Risk/HI | Current/Future Recreational Angler Fish Consumption from Regional and Background Areas RME Scenario | | | |
|---|---|---|---|---|---|
| | | Regional Reaches | | | Background Reach |
| | | Lower Anacostia | Lower Potomac | Upper Potomac | Upstream Non-Tidal Anacostia |
| Arsenic | Risk | 2E-06 | 3E-05 | 3E-06 | -- |
| Total PCBs | Risk | 5E-05 | 2E-05 | 1E-04 | 3E-06 |
| | HI | 5 | 2 | 14 | -- |
| PCB-TEQ | Risk | 7E-05 | 3E-05 | 2E-04 | 4E-06 |
| | HI | 3 | -- | 9 | -- |
| 4,4-DDE | Risk | -- | -- | 4E-06 | |
| Dieldrin | Risk | 1E-05 | 5E-06 | 2E-05 | |
| Heptachlor epoxide | Risk | 2E-06 | -- | -- | |

Notes:
-- Indicates that cancer risk is less than or equal to $10^{-6}$ or noncancer HI is less than or equal to 1. Cancer risk is presented for the sum of the adult and the young child, and the noncancer HI is presented for the young child. The older child/teen risk and HI values are lower.
Blue highlighting indicates that cumulative cancer risk exceeds $10^{-6}$ but is less than or equal to $10^{-4}$.
Yellow highlighting indicates that cumulative cancer risk exceeds $10^{-4}$ or the target endpoint HI exceeds 1.
[a] Current/future recreational angler.

Overall, the BHHRA for recreational receptors shows that PCBs in fish tissue is the dominant COPC and medium driving exposure risk; other COPCs including pesticides contribute negligibly to cumulative risk. Fish consumption cancer risks and noncancer hazards estimated using data collected by DOEE throughout the Anacostia and Potomac Rivers exceed $10^{-6}$ and an HI of 1; these findings suggest multiple sources of PCBs and other urban contaminants, including upstream of the extent of tidal influence of the Waterside Investigation Area. Because of the significant regional and background cancer risks and noncancer hazards compared to Site cancer risks and noncancer hazards, regional and background conditions need to be carefully considered in risk management decision-making for the Site.

**Table ES-5: Summary of Potential COCs Identified in BHHRA**

| Potential COC | Landside | | | Waterside | |
|---|---|---|---|---|---|
| | Surface Soil Direct Contact | Subsurface Soil Direct Contact | Groundwater Vapor Intrusion | Fish Tissue Consumption | Sediment Direct Contact |
| TCDD-TEQ | **COC (a)** | Risk<$10^{-6}$ HI <1 | (i) | NA | **COC (g)** |
| Total PCBs | **COC (a,b,j)** | **COC (c)** | (i) | **COC (f)** | Risk<$10^{-6}$ HI <1 |
| PCB-TEQ | (h) | <SL | (i) | **COC (f)** | (h) |
| Dieldrin | <SL | <SL | (i) | **COC (f)** | <SL |
| Vanadium | HI<1 | **COC (b)** | (i) | <SL | HI<1 |
| Chloroform | ND | ND | **COC (d)** | NA | <SL |
| Tetrachloroethylene | <SL | <SL | **COC (e)** | NA | <SL |
| Trichloroethylene | ND | ND | **COC (e)** | NA | <SL |
| Vinyl Chloride | ND | ND | **COC (e)** | NA | <SL |

**Notes:**
< SL - maximum detected concentration below applicable screening level.
COC - Constituent of Concern; cancer risk is greater than $10^{-6}$ and/or noncancer hazard index is greater than 1.
NA - Not Analyzed.
ND - Not Detected.
(a) - Salvage Yard and Storage Area.
(b) - Warehouse and Laydown Area.
(c) - Transformer Shop.
(d) - Northern property boundary.
(e) - Southern property boundary.
(f) - Upper Anacostia River.
(g) - Waterside Investigation Area.
(h) - PCB-TEQ is evaluated only for fish tissue.
(i) - The potential exposure pathway for groundwater is vapor intrusion. Non-volatile constituents were therefore not evaluated.
(j) - Substation #7.

The COCs listed above for fish tissue are based on measured fish tissue concentrations; no modeling from sediment to fish tissue was conducted for the BHHRA. The presence of bioaccumulative and biomagnifying COPCs in surficial sediment, surficial sediment pore water, and surface water within the Waterside Investigation Area indicates that there is a potential linkage between contaminants in these media and fish tissue. However, this linkage is uncertain due to the lack of information demonstrating sediment to fish tissue relationships in the River generally, and the small role that sediment and surface water in the Waterside Investigation Area likely play in COPC budgets and fish home ranges in the Anacostia River.

As with all risk assessments, assumptions have been made about variables and processes that are not fully known, such as human behavior, chemical toxicity, or environmental concentrations. While the use of assumptions leads to uncertainty, it is important to note that the assumptions and approaches used in this BHHRA are conservative, such that risks are much more likely to be overestimated than underestimated.

Baseline Ecological Risk Assessment

The Waterside Investigation Area BERA integrates a variety of lines of evidence (LOE) to assess potential ecological risks. A weight of evidence (WOE) approach was used to synthesize conclusions regarding overall potential risk(s) to ecological receptors by considering the results of all components of the assessment methodology (i.e., the results of physical, biological, toxicological, and field measurement endpoints). The WOE components were designed to provide relative measures of potential risks for different ecological receptors and exposure pathways.

*Benthic Community Risk Characterization*

Evaluation of potential risks to the benthic community considered multiple LOEs, as summarized below.

- **Sediment Benchmark Screening**. Concentrations of several constituents (e.g., total PCBs, metals, and pesticides) in surficial sediment exceed literature-derived screening values in both the Waterside Investigation Area and the background area. PCBs were present at slightly higher concentrations in the Cove than elsewhere in the Waterside Investigation Area. However, the ranges of concentrations for most COPCs are similar to the ranges detected in background samples.
- **Bioavailability**. With the possible exception of PAHs at one sampling station, the BERA data suggest that divalent metals (cadmium, copper, lead, nickel, and zinc) and PAHs are not bioavailable in surficial sediment and therefore are not stressors of concern.
- **Pore Water**. Evaluation of surficial sediment pore water using state-of-the-art technologies indicates that constituents are not present at concentrations that pose an ecological concern and that concentrations of pore water constituents in the Waterside Investigation Area and the background area are similar to one another.
- **Toxicity Testing**. Two species (midge and amphipod) were tested to evaluate both lethal and sub-lethal impacts associated with sediment exposure. In general, amphipod and midge survival responses were similar among the five upstream background samples and the 15 Waterside Investigation Area samples. However, several stations, including stations within the Cove, had reduced growth responses relative to the background condition.
- **Benthic Community Survey**. The macroinvertebrate community survey provides a field-based metric of community health. This analysis demonstrated no impacts associated with exposure to COPCs in the Waterside Investigation Area. In fact, the majority of benthic samples collected from the Waterside Investigation Area was more diverse and had higher bioassessment scores than those collected from the background area.

Although the results of this analysis indicate a low to indeterminate potential risk to benthic invertebrates, particularly in the Cove, the results of the WOE evaluation suggest that any incremental risks potentially contributed by the Site are largely indistinguishable from the anthropogenic, urban background conditions that characterize the Anacostia River. In several of the comparisons considered in the WOE evaluation (e.g., macroinvertebrate community study), the potential for ecological risks in the upstream background area is actually slightly higher than the potential for ecological risks in the Waterside Investigation Area.

*Fish Risk Characterization*

The potential risks to fish were evaluated by comparing fish tissue concentrations to critical body residues deemed to be protective of fish. This analysis indicates little to no potential risk to fish from exposure to COPCs.

*Wildlife Risk Characterization*

Potential for risks to wildlife were evaluated through modeled dietary exposures, which indicated that hazard quotients (HQs) for the belted kingfisher, great blue heron, and raccoon were well below or equal to 1 for even the most conservative exposure scenarios. Based on these results, no risks to birds and mammals are expected through food chain exposure to COPCs in the Waterside Investigation Area.

*BERA Summary*

The BERA reached the following conclusions (see Table ES-6).

- While there is a low to indeterminate risk to macroinvertebrates from exposure to COPCs, for the most part the data collected in support of this RI indicate that key COPCs are not bioavailable to macroinvertebrates. Further, the results of the WOE assessment for the benthic community also suggests that any incremental risks contributed by the Site are largely indistinguishable from the anthropogenic, urban background conditions that characterize the Anacostia River as a whole.
- No potential for risk was identified for fish. These results are consistent with the fish risk evaluation in the ARSP RI (Tetra Tech, 2018)
- No potential for risk was identified for wildlife. These results are consistent with the wildlife risk evaluation in the ARSP RI (Tetra Tech, 2018).

**Table ES-6: Weight of Evidence BERA Summary: Waterside Investigation Area**

| Benthic Macroinvertebrate Community | |
|---|---|
| Evaluation of Surface Sediment COPC Concentrations relative to Screening Values | Low Potential for Risk |
| Divalent Metal Bioavailability in BAZ | No Potential for Risk |
| PAH Bioavailability in BAZ | No Potential for Risk |
| Pore Water | No Potential for Risk |
| Midge and Amphipod Toxicity Testing | Indeterminate / Low Potential for Risk |
| Benthic Community | No Potential for Risk |

| Fish | |
|---|---|
| Surface Water Screening Evaluation | No Potential for Risk |
| Ground Water | No Potential for Risk |
| Critical Body Residues | No Potential for Risk |
| **Wildlife Receptors Food Chain Analysis** | |
| Raccoon | No Potential for Risk |
| Kingfisher | No Potential for Risk |
| Great Blue Heron | No Potential for Risk |

## RI Conclusions and Path Forward

A thorough characterization of the Study Area was completed through the various RI activities. The majority of total potential carcinogenic risk and noncarcinogenic hazards for the landside receptor scenarios are within or below the USEPA target risk ($10^{-6}$ to $10^{-4}$) and below the noncarcinogenic target endpoint HI of 1, with the exception of Target Area #1 and the surrounding area, the Former Coal Pile Area footprint, the Former Salvage Yard (Target Area #4), Substation #7, and the transformer shop area (Target Area #12). Additionally, a data gap remains regarding the specific source (or sources) of PCE detected in on-Site groundwater, which cannot be conclusively determined from the existing data; further investigation will be conducted as warranted during post-RI investigation activities. A vapor intrusion pathway evaluation indicated no current exposure; however, vapor controls may be necessary for future buildings constructed in the vicinity of the PCE detections in groundwater. Within the Waterside Investigation Area, concentrations of several COPCs are elevated in the River Cove into which Outfall 013 and three other non-Pepco outfalls discharge. The BERA identified that low to indeterminate risk to benthic macroinvertebrate community was observed within the Cove, where COPC concentrations are higher than the background. The BHHRA identified PCBs in fish tissue to be the dominant COPC and medium driving the exposure risk. The contribution of other COPCs (pesticides and arsenic) to cumulative risk is negligible. Uncertainty exists regarding the relationship between concentrations of PCBs detected in fish tissue samples and PCBs detected in sediments within the Waterside Investigation Area.

Based on the findings of the RI Report, Pepco will conduct a Feasibility Study to evaluate potential remedial actions for both the Landside and Waterside Investigation Areas. As part of the Feasibility Study process, Pepco identified the need for bench-scale Treatability Studies (TS) to support the evaluation of potential remedial alternatives to address sediments in the Waterside Investigation Area. These studies may include sediment dewatering studies, sediment treatability studies focused on analysis of sequestration agents (the use of amendments to reduce bioavailability of contaminants by sorption or biodegradation of contaminants) and other active and inert capping materials, and geotechnical evaluations to better understand sediment stability.

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# Appendices

## List of Acronyms

| | |
|---|---|
| µg/kg | Micrograms per Kilogram |
| µg/L | Micrograms per Liter |
| ANS | Academy of Natural Sciences |
| ARSP | Anacostia River Sediment Project |
| ASI | Aqua Survey, Inc. |
| ASTM | American Society for Testing and Materials |
| AST | Aboveground Storage Tank |
| AVS | Acid Volatile Sulfide |
| AWTA | Anacostia Watershed Toxics Alliance |
| BaP-TE | Benzo(a)pyrene Toxicity Equivalent |
| BAZ | Bioactive Zone |
| BERA | Baseline Ecological Risk Assessment |
| bgs | Below Ground Surface |
| BHHRA | Baseline Human Health Risk Assessment |
| BMP | Best Management Practice |
| BTEX | Benzene, Toluene, Ethylbenzene, and Xylenes |
| BTV | Background Threshold Value |
| CBR | Critical Body Residue |
| CCTV | Closed-Circuit Television |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CLP | Contract Laboratory Program |
| cm | Centimeters |
| cm/yr | Centimeter per Year |
| COC | Constituent of Concern |
| COI | Constituent of Interest |
| COPC | Constituent of Potential Concern |
| CSM | Conceptual Site Model |
| CSO | Combined Sewer Overflow |
| CT | Cooling Tower |
| CTE | Central Tendency Exposure |
| CVAAS | Cold Vapor Atomic Absorption Spectroscopy |
| CVOC | Chlorinated Volatile Organic Compound |
| DAF | Dilution Attenuation Factor |
| DC | District of Columbia |
| DCE | Dichloroethene |
| DCM | Dichloromethane |
| DCMR | District of Columbia Municipal Regulations |
| DCRA | Department of Consumer and Regulatory Affairs |
| DC Water | District of Columbia Water and Sewer Authority |
| DDD | Dichlorodiphenyldichloroethane |
| DDE | Dichlorodiphenyldichloroethylene |
| DDOE | District Department of the Environment |

## List of Acronyms (continued)

| | |
|---|---|
| DDT | Dichlorodiphenyltrichloroethane |
| DNAPL | Dense Non-Aqueous Phase Liquid |
| DOC | Dissolved Organic Carbon |
| DOEE | Department of Energy and Environment |
| DO | Dissolved Oxygen |
| DPT | Direct Push Technology |
| DRO | Diesel Range Organics |
| DU | Decision Unit |
| EDR | Environmental Data Resources, Inc. |
| EPA | Environmental Protection Agency |
| EPC | Epithelioma Papulosum Cyprinid |
| ERA | Ecological Risk Assessment |
| ERI | Electrical Resistivity Imaging |
| ESV | Ecological Screening Value |
| FS | Feasibility Study |
| ft | Feet |
| gal | gallon |
| GBA | Gahagan and Bryant Associates, Inc. |
| GES | Groundwater and Environmental Services, Inc. |
| GIS | Geographic Information System |
| GPS | Global Positioning System |
| GRO | Gasoline Range Organics |
| GSA | General Services Administration |
| GSI | GSI Mid-Atlantic, Inc. |
| HHRA | Human Health Risk Assessment |
| HQ | Hazard Quotient |
| IDW | Investigation Derived Waste |
| ISM | Incremental Sampling Methodology |
| km | kilometer |
| KMY | Kenilworth Maintenance Yard |
| KPN | Kenilworth Park North |
| KPS | Kenilworth Park South |
| LCS | Laboratory Control Sample |
| LNAPL | Light Non-Aqueous Phase Liquid |
| LOAEL | Lowest Observed Adverse Effects Level |
| LOE | Line of Evidence |
| LOEC | Lowest Observed Effects Concentration |
| LWZ | Lower Water-Bearing Zone |
| m/sec | meter per second |
| MG | million gallons |
| mg/kg | milligrams per kilogram |
| mg/L | milligrams per liter |

## List of Acronyms (continued)

| | |
|---|---|
| MLLW | Mean Lower Low Water |
| MS | Matrix Spike |
| MS4 | Municipal Separate Storm Sewer System |
| MSD | Matrix Spike Duplicate |
| MTBE | Methyl Tertiary-butyl Ether |
| MWCOG | Metropolitan Washington Council of Governments |
| NAD83 | North American Datum of 1983 |
| NAPL | Non-Aqueous Phase Liquid |
| NAVD88 | North American Vertical Datum of 1988 |
| ND | Non-detect |
| NOAA | National Oceanic and Atmospheric Administration |
| NOAEL | No Observed Adverse Effects Level |
| NOEC | No Observed Effect Concentration |
| NPS | National Park Service |
| NPDES | National Pollutant Discharge Elimination System |
| NTU | Nephelometric Turbidity Units |
| ORO | Oil Range Organics |
| OSWER | Office of Solid Waste and Emergency Response |
| OU | Operable Unit |
| PA | Preliminary Assessment |
| PAH | Polycyclic Aromatic Hydrocarbon |
| PCB | Polychlorinated Biphenyl |
| PCDD | Polychlorinated Dibenzo Dioxin |
| PCDF | Polychlorinated Dibenzofuran |
| PCE | Tetrachloroethylene |
| PEC | Probable Effect Concentration |
| Pepco | Potomac Electric Power Company |
| PES | Pepco Energy Services |
| pg/g | picograms per gram |
| PID | Photoionization Detector |
| POC | Particulate Organic Carbon |
| POP | Project Operating Procedure |
| ppb | Parts per Billion |
| ppm | Parts per Million |
| PSL | Project Screening Level |
| PVC | Polyvinyl Chloride |
| QAPP | Quality Assurance Project Plan |
| QA/QC | Quality Assurance / Quality Control |
| RAP | Removal Action Plan |
| RCRA | Resource Conservation and Recovery Act |
| RI | Remedial Investigation |
| RI/FS | Remedial Investigation/Feasibility Study |

## List of Acronyms (continued)

| | |
|---|---|
| RME | Reasonable Maximum Exposure |
| ROW | Right-of-Way |
| RPD | Relative Percent Difference |
| SAP | Sampling and Analysis Plan |
| SDR | Storm Drain Residue |
| SDW | Storm Drain Water |
| SEFC | Southeast Federal Center |
| SEM | Simultaneously Extracted Metals |
| SHC | Saturated Hydrocarbon |
| SI | Site Inspection |
| SIP | Self-Implementing Remediation Plan |
| SPI | Sediment Profile Imaging |
| SQG | Sediment Quality Guidelines |
| SVOC | Semivolatile Organic Compound |
| TA | Target Area |
| TCA | Trichloroethane |
| TCDD | 2,3,7,8-Tetrachlorodibenzo-p-dioxin |
| TCE | Trichloroethylene |
| TCLP | Toxicity Characteristic Leaching Procedure |
| TDD | Total Daily Dose |
| TEQ | Toxicity Equivalent |
| TOC | Total Organic Carbon |
| TPH | Total Petroleum Hydrocarbon |
| TRV | Toxicity Reference Values |
| TSCA | Toxic Substances Control Act |
| TS | Treatability Study |
| TSS | Total Suspended Solids |
| TU | Toxic Unit |
| USACE | United States Army Corps of Engineers |
| USCS | Unified Soil Classification System |
| USEPA | United States Environmental Protection Agency |
| USGS | United States Geological Survey |
| UST | Underground Storage Tank |
| UWZ | Upper Water-Bearing Zone |
| VC | Vinyl Chloride |
| VOC | Volatile Organic Compound |
| WGL | Washington Gas Light |
| WIA | Waterside Investigation Area |
| WMATA | Washington Metropolitan Area Transit Authority |
| WNY | Washington Navy Yard |
| WOE | Weight of Evidence |
| XRF | X-Ray Fluorescence |

# 1 Introduction

AECOM has prepared this Remedial Investigation (RI) Report on behalf of Potomac Electric Power Company and Pepco Energy Services (PES), Inc. (collectively "Pepco") to describe the implementation and technical findings of the Remedial Investigation/Feasibility Study (RI/FS) field activities conducted at Pepco's Benning Road facility (the Site), located at 3400 Benning Road NE, Washington, DC, and a segment of the Anacostia River (the River) adjacent to the Site. The general site location is shown on **Figure 1-1**. Together, the Site and the adjacent segment of the River comprise the "Study Area" for the RI. Pepco is performing the RI/FS pursuant to the requirements of a consent decree with the District of Columbia (DC) that was approved by the U.S. District Court for the District of Columbia on December 1, 2011. The RI/FS is being overseen by the District Department of Energy and the Environment, DOEE (formerly the District Department of Environment, or DDOE).

The purpose of the RI/FS is to (a) characterize environmental conditions within the Study Area, (b) investigate whether and to what extent past or current activities or conditions at the Site have caused or contributed to contamination within the Study Area, (c) assess current and potential risk to human health and the environment posed by conditions within the Study Area, and (d) develop and evaluate potential remedial actions, as may be warranted. This RI Report addresses the first three objectives. The FS Report will address the development and evaluation of potential remedial actions. In addition, a detailed forensics analysis and source identification assessment will be included as an appendix to the FS Report.

The RI/FS Study Area investigation consists of a "Landside" component focused on the Site itself, and a "Waterside" component focused on the shoreline and sediments in the segment of the River adjacent to and immediately downstream of the Site. The Landside and Waterside Investigation Areas are depicted on **Figure 1-2**. The RI/FS field activities were performed in two phases; the Phase I field activities were conducted between January 25, 2013 and December 31, 2014, and the Phase II field activities were conducted between December 1, 2017 and July 9, 2018. A schedule showing the dates of key RI/FS project milestones is provided as **Table 1-1**.

The RI/FS was performed in accordance with the United States Environmental Protection Agency's (USEPA's) *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA*, Office of Solid Waste and Emergency Response (OSWER) Directive 9355.3-01, dated October 1988, and other applicable USEPA and DOEE guidance documents and approved work plans.

Pepco submitted the Draft RI/FS Work Plan to DOEE in July 2012 and made subsequent revisions to address comments from DOEE and the public. DOEE provided final approval for the Work Plan in December 2012. During 2014, two addenda to the RI/FS Work Plan were prepared to describe supplemental Phase I RI field investigation activities. Addenda #1 and #2 were approved by DOEE in March and July 2014, respectively. Addendum #1 outlined a targeted sampling event to delineate a tetrachloroethylene (PCE) plume in groundwater along the Site's southern boundary, and specified details of the proposed monitoring well locations, construction, and sampling (AECOM, 2014a). Addendum #2 described a sampling program for soils beneath and around the cooling tower concrete basins in the northwestern portion of the Site to define the extent of polychlorinated biphenyls (PCBs) in soils, and to develop a subsequent soil removal action plan (RAP) (AECOM, 2014b). The Cooling Tower Basin Soil RAP was approved by DOEE in July 2015 (AECOM, 2015). The 2012 approved work plan and the two addenda formed the basis for the Phase I RI.

A Draft RI Report describing the Phase I field investigation and its findings was finalized on February 26, 2016 (AECOM, 2016a). The Draft RI Report was made available for public comment from March 1, 2016 through April 18, 2016. A response to public comments was prepared and released to the public in August 2016. The Draft RI Report identified several data gaps with respect to the Phase I Site characterization, background data evaluation, and human health and ecological risk assessments (ERAs). Per DOEE's RI Path Forward letter of January 14, 2016, Pepco prepared three technical memoranda to further define data needs and prepare for additional Site characterization. Technical Memorandum #1 – Conceptual Site Model (CSM) (AECOM, 2016b) provided a detailed description of the operational Site historical operations, with a focus on the use, storage, disposal, release, and cleanup of various chemicals and waste materials, and identified data gaps and uncertainties in the Site characterization conducted to date as part of the RI/FS. Technical Memorandum #2 – Refined Background Evaluation Work Plan (AECOM, 2016c) described the rationale and procedures for revising the background data evaluation originally presented in the Draft RI Report. Technical Memorandum #3 – Baseline Human Health and Ecological Risk Assessment Work Plan (AECOM, 2016d) described the rationale and procedures for revising the preliminary baseline human health risk assessment (BHHRA) and preliminary baseline ecological risk assessment (BERA) originally presented in the Draft RI Report. The three technical memos were approved by DOEE in October 2016.

Work Plan Addendum #3 (AECOM, 2016e) was developed in conjunction with the three technical memos to detail the Phase II field investigation to address the remaining data gaps and uncertainties identified. Work Plan Addendum #3, which was approved by DOEE in October 2016, formed the basis for the Phase II RI.

A Draft Final RI Report was finalized in September 2019. The Draft Final RI Report was made available for public comment from October 4, 2019 through December 6, 2019. This Final RI Report incorporates the public comments received during the comment period.

## 1.1 Report Purpose and Scope

The purpose of this RI Report is to describe the RI field data collection program; present the findings regarding the nature and extent of contamination, contaminant fate, and routes of transport; and current and future risks to human health and the environment from exposure to contamination detected in the Study Area. This report encompasses all environmental investigation activities conducted within the Study Area (Landside and Waterside) as described in the approved RI/FS Work Plan and Addenda #1, 2, and 3 (AECOM, 2012b; AECOM, 2014a; AECOM, 2014b; AECOM, 2016e).

## 1.2 Site Background and Setting

The 77-acre Site is bordered by a District of Columbia Solid Waste Transfer Station to the north, Kenilworth Maintenance Yard (KMY) (which is owned by the National Park Service [NPS]) to the northwest, a narrow area of land and shoreline (which is part of Anacostia Park) to the west between the Site and the River, Benning Road to the south, and residential areas to the east and south (across Benning Road). The Site is one of 14 properties along the tidal Anacostia River currently identified by DOEE as potential environmental cleanup sites (PECSs) (**Figure 1-3**). Most of the Site is occupied by the Benning Service Center, which involves activities related to construction, operation, and maintenance of Pepco's electric power transmission and distribution system serving the Washington, DC area. Three substations serving Pepco's transmission and distribution system are located on this Site. The Site was also the location of the former Benning Road Power Plant, which was permanently shut down on June 1, 2012. Demolition and removal of the power plant building and related infrastructure commenced in 2014, and all demolition and Site restoration activities were completed in May 2015.

There have been five documented instances between 1985 and 2003 in which materials containing PCBs were released at the Site. In each case, Pepco promptly cleaned up the releases in accordance with applicable legal requirements. A summary of documented historical environmental investigations and response actions that Pepco and the USEPA conducted on the Site is presented in **Table 1-2**. Notwithstanding these previous cleanup actions, it is suspected that these releases, and possibly other historical operations or activities at the Site, may have contributed to contamination in the Site media. In particular, a Site Inspection (SI) conducted for the USEPA in 2008 linked PCBs and inorganic constituents detected in Anacostia River sediments to potential historical discharges from the Site. The report documenting the results of the SI is referred to herein as the USEPA 2009 SI Report. The USEPA 2009 SI Report also stated that the Site was properly managed and that any spills or leaks of hazardous substances were quickly addressed and, if necessary, properly remediated. A thorough review of the Site history, chemical uses, and historical operations was conducted, and the findings were summarized in the Conceptual Site Model Technical Memorandum (AECOM, 2016b). Additional sampling was undertaken during the Phase II RI field activities to investigate potential impacts from historical operations on Site.

### 1.3 Site Description and History

The geographic coordinates for the approximate center of the Site are 38.898° north latitude and 76.959° west longitude; a Site Plan is provided as **Figure 1-2**. Operations at the Benning Road Power Plant ceased on June 1, 2012, as announced by PES, which owned and operated the power plant from 2000 to 2015 when the plant was completely demolished. The power plant was located on the westernmost portion of the Site and occupied approximately 20% of the facility's 77 acres. The current and historical buildings and Site areas are shown on **Figure 1-4**, and current and historical Site operations areas are shown on **Figure 1-5**. A brief description of historical activities is provided below. Readers are referred to the CSM Technical Memorandum (AECOM, 2016b) for further details.

The power plant was built in 1906, and provided Pepco's first system-wide electricity supply to the District of Columbia and nearby Maryland suburbs. Over the years, the power plant operated and subsequently retired several different generating units, reflecting advances in technology and operating on different types of fuel. Four oil-fired boilers and two steam turbine units operated at the power plant in the recent past. The steam turbines, installed in 1968 and 1972, together provided 550 megawatts of electricity, enough to meet the needs of around 180,000 homes during periods of peak electricity demand. Designed to operate a limited number of days each year, these units operated an average of 10 to 15 days annually. The power plant buildings and structures were demolished and removed in late 2014 and early 2015 under the oversight of DOEE and in accordance with permits issued by the D.C. Department of Consumer and Regulatory Affairs (DCRA). Backfilling and Site restoration activities were completed in May 2015.

Structures associated with the power plant included the generating station, two cooling towers, four fuel oil aboveground storage tanks (ASTs), and storage buildings. The closing of the power plant eliminated the need for the ASTs and cooling towers. Therefore, the four ASTs (with capacities of 50,000, 618,000, 1,847,000, and 1,984,000 gallons) were demolished in early 2013, and the superstructures of the two cooling towers were demolished in early 2014. The removal of the cooling tower basins and adjacent PCB-impacted soils was completed in May 2017.

The Service Center occupies the largest part of the property and accommodates approximately 700 Pepco employees. Service Center employees are engaged in maintenance and construction of Pepco's electric transmission and distribution system; system engineering; vehicle fleet maintenance and refueling; and central warehousing for all the materials, supplies, and equipment needed to operate the Pepco electrical distribution system.

The Site is completely surrounded by a fence with two guarded entrances. The main guard station at 3400 Benning Road is staffed 24 hours a day, 7 days a week. The second entrance is also guarded during all times when it is open. Three active substations are located on the Site, two in the eastern portion (Substation #41 and Substation #7) and one in the western portion (Substation #45). To the south of Substation #7 is a large asphalt-covered Pepco employee parking lot. To the south of this area are railroad tracks and Buildings #56, #57, and a transformer staging area. The staging area is used for processing used electrical equipment and associated materials brought to the Site for reconditioning, recycling, and/or disposal. The center of the Site is occupied by buildings used for office space, fleet services maintenance, and storage of hazardous and non-hazardous waste and materials. Areas located outside of the buildings are used for storage of new equipment. A covered storage area constructed in 2016 is used for temporary storage of used electrical equipment prior to disposal.

There is one active underground storage tank (UST) at the Site and all other tanks are ASTs. The UST is a 15,000-gallon double-walled steel and fiberglass tank installed in 1988 to hold non-PCB transformer oil and is located within the paved yard surrounded by Buildings #54, #56 and #57. The UST utilizes a Veeder-Root® leak detection monitoring system that tests the tank and associated underground piping for leaks using interstitial monitoring and automatic gauging of the tank. The system is inspected and calibrated on an annual basis by a manufacturer-authorized representative. No leaks have been detected to date. The UST is registered with DOEE and is operated in full compliance with the District's UST regulations. Two new ASTs, each 12,000 gallons in capacity, were installed at the new Fueling Island which was constructed in 2018. These ASTs replaced the former 20,000-gallon gasoline UST, installed in 1975, and 20,000-gallon diesel fuel UST, installed in 1991. These USTs and the associated dispensers and fuel lines were removed on May 14, 2018. Groundwater and Environmental Services, Inc. (GES) provided UST removal oversight and tank pit confirmation sampling; minimal hydrocarbon impact in the soil was identified, and both USTs were in good condition and did not show any signs of holes, perforations, or evidence of leaking (GES, 2018). Pepco received a letter of permanent tank closure from the DOEE UST Branch on June 18, 2018.

A total of six UST removals/closures in place occurred at the facility between 1989 and 1997 in accordance with the District's UST regulations and under DOEE oversight. The tanks ranged in size from 250 gallons to 15,000 gallons. Two fuel oil USTs (250 and 550 gal) and one UST containing used oil (2,000 gal) were removed in the area of the former ASTs (Target Area [TA] 13). Two diesel-containing USTs (4,000 and 10,000 gal) were removed from the area of the Benning Fuel Island (Target Area 2). A single UST containing fuel oil (15,000 gal) was removed from the area to the east of power plant units 13 and 14. Sampling was conducted following the tank removals, and UST closure reports were submitted to DOEE in each case. These former UST locations are associated with Target Areas 2, 3 and 13 which are identified on **Figure 1-6**. Additional information regarding the UST closures, including petroleum impacts observed and remedial measures taken, is provided in **Table 1-3**. Historically a 20,000-gallon cathodically protected, epoxy-coated steel UST, installed in 1979, was used to store gasoline and was removed in August 2012. The DOEE UST Branch inspected the tank site after the removals took place. The soil and groundwater samples, which were collected following DOEE's inspection, did not show any detectable levels of constituents of concern. Accordingly, DOEE issued a letter of permanent tank closure for this case.

The majority of the Site is covered by impervious material such as concrete or asphalt, as shown on **Figure 1-7**. Active storage areas not covered by impervious material are covered in gravel. One of the gravel-covered areas is located in the western portion of the Site, directly south of the location of the former cooling towers. This area was used at one time for the storage of coal when the power plant used coal to generate electricity. Later, this area was used to dewater sludge periodically removed from the basins located beneath the cooling tower superstructures. The area is no longer used for either purpose and is now covered by gravel. Railroad tracks enter the Site from the east and run to the west. The tracks were formerly used to transport coal to the power plant and are no longer active.

## 1.4 Stormwater Management

Stormwater collected in storm drain inlets at the facility is discharged to the River via Outfall 013 and Outfall 101 (**Figure 1-2**) under the facility's National Pollutant Discharge Elimination System (NPDES) permit (DC0000094). The majority of the stormwater runoff from the facility is conveyed through a 48-inch concrete pipe, which widens to 54 inches before discharging to the River via Outfall 013. In addition, Outfall 013 was also permitted to receive cooling tower blowdown and basin wash water when the cooling towers were in operation. However, these towers were decommissioned and the superstructures of these towers were demolished in 2014 following the permanent shutdown of the Benning Road Power Plant in June 2012.

The Site employs various Best Management Practices (BMPs) to control sediments and contaminants in stormwater discharged from the Site, including the use of filters, filter media, screens, and absorbent booms at all storm drain inlets. In 2017, Pepco installed stormwater treatment systems at four ”hotspots” using combinations of Contech® DownSpout StormFilter™, Jellyfish® Filter, and StormFilter® stormwater treatment units. The treatment measures were designed to reduce metals and total suspended solids (TSS) in stormwater that discharges to Outfall 013 through a combination of physical filtration and adsorption via zeolite and granular activated carbon filter media.

Outfall 101 receives stormwater runoff from inlets in the southwest corner of the property. A detailed facility drainage area map is included in **Appendix A**. Outfall 101 also received stormwater collected in secondary containment basins for transformers associated with the power plant. The transformers and their containment structures were demolished and removed as part of the power plant demolition in 2015, eliminating the secondary containment discharges to Outfall 101.

There are three additional non-Pepco outfalls that discharge into the cove of the Anacostia River where the Outfall 013 discharge pipe is located (the Cove). These outfalls appear to drain properties adjacent to the Benning Road Site (e.g., the DC Department of Public Works Solid Waste [DPW] Transfer Station and the NPS Kenilworth Maintenance Yard [discussed further in Section 1.7 below]), or adjacent roadways. Very little sampling data or other technical information, either current or historical, is available for the discharges from these other outfalls. There is also a municipal storm sewer outfall located adjacent to and approximately 20 feet downstream of Outfall 101. Photographs showing Outfalls 013 and 101 and adjacent outfalls are provided as **Figures 1-8A** and **1-8B**. There are 13 Prince George’s County municipal storm sewer outfalls upstream of the Waterside Investigation Area and the Dueling Creek confluence.

## 1.5 Conceptual Site Model

The CSM is designed to integrate in a functional description (1) the major constituents of concern, based on previous Site investigations and the history of Site operations; (2) the potential on-Site and off-Site sources of these constituents; and (3) the possible exposure pathways of these constituents to potential human health and ecological receptors. The CSM addresses possible connections between the landside on-Site constituents of concern (COC) sources and the waterside sediment contamination in the segments of the Anacostia River adjacent to, immediately downstream, and upstream of the Site. A complete revision of the detailed CSM was provided in 2016 (AECOM, 2016b). A brief summary of the major elements of that report, and how they are integrated into this RI report and its appendices, is provided below.

### 1.5.1 Major Constituents of Concern (COCs) and potential sources

The primary COCs for the Site, based on its industrial history and the previous environmental investigations are polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and metals.

PCBs occurred on-Site primarily as contaminants in mineral oils used in transformers and other electrical equipment (predominantly in the form of Aroclors 1260, 1254, and 1242). PCBs were also present in caulk used for the foundation of the cooling towers (typically in the form of Aroclor 1254). Off-site potential sources of PCBs include upstream tributaries such as Lower Beaverdam Creek, the Kenilworth Landfills, the former District of Columbia Trash Incinerator, and other upstream storm water discharge points.

PAHs occurred on-Site as wood treatments for stored utility poles, in railroad ties, and as minor components of fuel oils and coal stored and burned on-Site for the generating station. Off-site sources of PAHs include vehicle combustion, pavement sealer runoff, soot from fires on the Kenilworth Landfills, runoff from the Langston Golf Course, the Hickey Run tributary, and other upstream storm water discharge points.

Metals detected on-Site such as vanadium have been attributed to both coal storage and sludge handling areas. Off-site sources of metals include the Kenilworth Landfills, the Langston Golf Course, and other upstream storm water discharge points.

The connection of COCs to historical on-Site operations is discussed further in Sections 1.2 and 1.3 above, as well as Sections 1.6. Off-site sources are further discussed in Sections 1.7 and 1.8 below and in the CSM Technical Memorandum #1 (AECOM, 2016b). A more detailed analysis of on-Site and off-Site sources of COCs will be provided in the Forensics Analysis and Source Evaluation being prepared as part of the Feasibility Study.

### 1.5.2 Exposure pathways

Landside on-site exposure pathways to COCs have been greatly reduced by effective clean-up of known spills and releases. Some areas of buried COCs may pose a limited risk to future workers during excavation, but the risk of on-Site exposure is minimal. Most of the Site surface is paved and/or otherwise stabilized. Potential releases from Site soils to the river or other groundwater receptors via groundwater transport, and overland runoff to surface water have also been determined to be negligible.

Historical releases of COCs to the Anacostia River may have occurred via storm drain discharges before recent controls were installed, based on analysis of storm drain and near-Site sediments. These releases may have affected sediments within the Waterside Investigation area and provided potential exposure pathways to fish and other ecological receptors in the river. This potential pathway is discussed in the CSM Tech Memo referenced above, Section 5 below, and in more detail with the associated risk evaluations, which are discussed in Section 6.

## 1.6 Previous Investigations and On-Site Removal Actions

### 1.6.1 Pepco Studies and Removal Actions

A summary of documented historical environmental investigations and response actions that Pepco and the USEPA conducted on the Site is presented in **Table 1-2**. These activities include five investigation and cleanup efforts in response to PCB material releases, multiple petroleum UST removals and closures, due diligence studies (Phase I Environmental Site Assessments) and various other soil removal actions conducted by Pepco since 1985. All of these activities and studies were conducted on the Landside portion of the Study Area. In addition, Pepco also conducted three geotechnical studies (CTI, 2009; Geomatrix, 1988; and Hillis-Carnes, 2010) in different areas of the Site as part of its electric system infrastructure improvement projects. These geotechnical studies provide useful information on Site geology and hydrogeology.

In 1996, Pepco performed dredging at the power plant cooling water intake located north of the Benning Road Bridge in the Anacostia River. The dredged spoils were used to construct a wetland in the vicinity of the water intake. Dredging and wetland construction activities extended from the Benning Road Bridge for approximately 900 feet north (Pepco, 1996; Pepco, 1997). Post-dredging wetland sediment samples were collected by Pepco in 1996, as summarized in **Table 1-2**.

### 1.6.2 EPA 1997 Study

USEPA conducted a multi-media inspection at the Site in 1997 in connection with the renewal of Pepco's NPDES permit (USEPA, 1997). The inspection also included compliance determinations under the Resource Conservation and Recovery Act (RCRA) and the Toxic Substances Control Act (TSCA). The results of this 1997 multi-media inspection are referred to herein as "USEPA, 1997." No compliance issues were noted under RCRA. One spill involving PCB oil was noted inside Building

#57; however, the release was fully contained in a secondary containment vault, and no release into the environment occurred. The cause of the spill was corrected through implementing appropriate management/operating procedures. USEPA also collected two liquid samples and six residue samples from the storm drain system. A liquid sample collected at manhole 33, the last manhole access on Pepco's property prior to discharge at Outfall 013, failed the acute toxicity test due to the presence of chlorine-treated city drinking water. A leaking relief valve in the fire pump house had resulted in the discharge of city drinking water to the storm drain system. The residue samples collected from the storm drain system indicated PCB and metal concentrations that exceeded USEPA Sediment Quality Guidelines (SQGs).

### 1.6.3 EPA 2009 Study

Tetra Tech, Inc. conducted an SI at Pepco's Benning Road Site for the USEPA under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) program in 2008 and issued a report in 2009 (USEPA, 2009). Thirteen soil samples were collected from the former sludge dewatering area (located south of the power plant cooling towers) and 16 sediment samples and five surface water samples were collected from the Anacostia River. Several metals, polycyclic aromatic hydrocarbons (PAHs), and PCBs were detected at elevated concentrations in the former sludge dewatering area and the Anacostia River sediments. The report noted that the former sludge dewatering area was not contained which could result in impacts to stormwater runoff that ultimately discharges to the Cove. However, following the USEPA inspection this area was covered with packed stone and gravel which has controlled exposure to underlying soils. Cadmium, chromium, copper, lead, mercury, nickel, zinc and PCBs were present in the storm water residue samples. With the exception of copper, no other compounds were detected in the surface water samples. The USEPA 2009 SI Report found that the current management and handling of waste streams, including PCB-containing equipment and material, is well organized and supervised, and that the stormwater discharge from the Site is not currently contaminated with PCBs. However, USEPA concluded that the sampling results nonetheless indicated that "historical releases of these hazardous substances from the site contributed to contamination documented in Anacostia River sediments in the vicinity of the site."

## 1.7 Potential Sources of Contamination in the Immediate Vicinity of the Site

Potential sources of contamination to the Anacostia River in the immediate vicinity of the Site include the Kenilworth Park Landfill, the Langston Golf Course, the former District of Columbia trash incinerator facility, and the NPS Kenilworth Maintenance Yard. The following sections describe these sites.

### 1.7.1 Kenilworth Park Landfill

Kenilworth Park Landfill is one of several properties along the Anacostia River that are suspected sources of contamination in river sediments. The landfill is separated into two areas: the Kenilworth Park North (KPN) landfill and Kenilworth Park South (KPS) landfill separated by Watts Branch, a tributary to the Anacostia River (**Figure 1-3**). The southern portion of the KPS landfill is located immediately adjacent to the Waterside Investigation Area. The KPS and KPN landfills are now part of the 700-acre Kenilworth Park and Aquatic Gardens, which is part of the Anacostia Park managed by NPS.

Kenilworth Park Landfill operated as a waste disposal facility from 1942 until closure in 1970, at which time the landfill was covered with low-permeability soil that reportedly included wastewater treatment plant sludge (NPS, 2019a). Municipal waste was burned at the site until 1968, followed by a two-year period of landfilling without open burning. Waste materials disposed of at the landfill included municipal solid waste, incinerator ash and ash from on-site open burning (NPS, 2019a). From 1997 to 1998, additional fill consisting of mostly excavation materials and construction debris was deposited in KPS (ATSDR, 2006). However, certain objectional materials within the construction debris, which were not permitted and presented physical hazards, have since been removed from the site (ATSDR, 2006; NPS, 2019a).

During its operation between the 1950s and 60s, the waste disposal areas extended into the Anacostia River, which included filling the former recreational lakes dredged by the U.S. Army Corp of Engineers likely without barriers or controls to prevent migration of contaminants from the wastes into the water and adjacent sediment (AWTA, 2009). This filling activity eliminated the area of the lake situated to the east of the original landfill footprint, creating the Cove where Outfall 013 and several other outfalls are currently located.

Ecology and Environment, Inc. completed separate remedial investigations at KPN and KPS in 2007 and 2008, respectively, for NPS (NPS, 2007; NPS, 2008). The site was divided into two Operable Units (OUs) for the purposes of investigation and remedial action: OU1 comprises surface soils and subsurface soils including waste material disposed of in the landfill; OU2 is the shallow groundwater underlying OU1.

In 2012, a Feasibility Study was prepared for OU1 for all of Kenilworth Park (KPN and KPS) by The Johnson Company, Inc. (NPS, 2012). Contaminants of concern (COCs) for OU1 soils identified in the FS included lead, PCBs, and PAHs. Methane was identified as a COC in landfill gas.

In February 2013, NPS proposed a remedial plan for OU1 that included placing an engineered cap and implementing institutional controls as the preferred remedial response for surface soils and subsurface soils (including waste material disposed of in the landfill) (NPS, 2013). However, this plan would result in the removal of relatively mature vegetation that provides soil stability and high-quality wildlife habitat (NPS, 2019a). As a result, NPS has reconsidered the future use assumption of the 2013 proposed plan in favor of leaving the land in its current state.

During 2019, NPS completed a Remedial Investigation Addendum to fill data gaps, identify potential exposure risks, and provide the basis for evaluating remedial alternatives. The addendum included a supplemental groundwater study, porewater study, seep characterization, and surficial soil investigation at KPS. An additional groundwater study was completed during 2019 following the supplemental groundwater study (November 2016) and porewater study (August 2018) to fill remaining data gaps. Certain volatile organic compounds (VOCs), PCBs, PAHs, and dioxins and furans were observed in groundwater at the site (OU2), but generally had low frequency of detections. However, several dissolved metals including aluminum, arsenic, barium, copper, iron, and manganese were detected in site groundwater samples at concentrations exceeding Ecological Screening Values (ESVs). NPS completed a porewater study to assess if metals are migrating through groundwater and creating an ecological exposure risk in sediment and surface water. The results indicate that manganese and iron are above ecological risk thresholds, however, iron is the only metal linked to site groundwater that may present a risk to ecological receptors.

As part of the remedial investigation addendum, NPS conducted a surficial soil investigation at KPS to assess whether contaminant concentrations in surficial soil pose a potentially unacceptable risk to visitors or site workers (Appendix E to the Remedial Investigation Addendum; NPS, 2019a). Samples were collected using incremental sampling methodology (ISM) and were analyzed for metals, PCBs, and SVOCs. Elevated concentrations of a number of contaminants, including PCBs, were detected in surface soils around the site. The updated human health risk assessment indicates that exposure to COPCs in surface soils at KPS has the potential to result in cumulative risk exceeding NPS default points of departure (noncancer HI of 1 or cancer risk of 1E-06) for both recreational users and outdoor workers (Woodard and Curran, 2019). The majority of cumulative risk is attributed to PCBs (Aroclors 1254 and 1260), benzo(a)pyrene (BaP), arsenic and, to a lesser extent, cobalt. PCB Aroclors were detected in the majority of the 44 ISM sampling units, with concentrations as high as 1,400 parts per billion (ppb) detected in surficial soil in close proximity to the Anacostia River near the confluence of Watts Branch. BaP was detected in all of the ISM sampling units with mean concentrations ranging from 91 ppb to 3,433 ppb.

The 2012 Kenilworth Park Landfill FS points to the variability in sediment data around the site and concludes that there is no significant ongoing contribution of contaminants from the site to the sediments in the Anacostia River, Watts Branch, or Kenilworth Marsh, particularly for PAHs and PCBs (NPS, 2012). However, none of the studies of the Kenilworth Park Landfill site has evaluated the potential contribution of contaminants to the River sediments from historical placement of waste into the river or the adjacent recreational lakes, or from migration from wastes via surface runoff or groundwater migration during the period of active landfilling activities at the site. Although the maximum PBC Aroclor concentration presented in the FS was 1,334 ppb, detected near the southern shoreline of the Cove, notable PCB Aroclor concentrations as high as 750 ppb, 482 ppb, and 510 ppb in sediments were observed in an unnamed tributary of Watts Branch, the Watts Branch, and Kenilworth Marsh, respectively, which surround the landfills and for which there is no other apparent source. These concentrations are consistent with PCBs detected in the KPS surficial soil samples collected adjacent to Watts Branch and the unnamed tributary of Watts Branch, indicating that site conditions may have contributed to sediment impacts. The recently completed tributary sampling investigation (NPS, 2019b) indicates a possible point source of PCBs in Watts Branch upstream of the Kenilworth Park Landfill, where a surface sediment sample exhibited a concentration of 1,021 ppb of total PCB congeners. However, the elevated concentrations of PCBs in the unnamed tributary to Watts Branch, which originates near the southeast corner of KPS, cannot be attributed to a point source upstream on Watts Branch.

### 1.7.2 Langston Golf Course

Ecology and Environment, Inc. also performed a Preliminary Assessment/Site Inspection (PA/SI) of Langston Golf Course for NPS in 2001. Langston Golf Course is located along the west bank of the River across from the Site. It is one of a number of sites along the Anacostia River that were used by the District as open burning/open dumps for municipal waste disposal from approximately 1910 to 1970 (NPS, 2001). An open dump with open burning existed on the west bank of the River until the early 1950s. The former District landfill was placed directly into Kingman Lake without any barrier, and landfill wastes mixed with soil extended into the water. The PA/SI report identified the presence of chemicals (PAHs, antimony, arsenic, iron, and lead) exceeding action levels in the fill material under the site. Lead showed elevated levels and was identified as the greatest concern among the identified chemicals. The PA/SI report concluded that there are no current exposure pathways by which the landfill wastes buried under the golf course can affect the public. The study also concluded that groundwater impacts on adjoining surface water are extremely slight. The study recommended that the site be maintained in its current use as a golf course and be reevaluated if site use changes (NPS, 2001).

### 1.7.3 Former District of Columbia Trash Incinerator Facility

Another potential source of contamination in the immediate vicinity of the Site is a former trash incinerator facility located to the north of the Site within the DC DPW Solid Waste Transfer Station property. The incinerator, formerly known as Solid Waste Reduction Center No. 1, reportedly operated from 1972 to 1994. According to an Environmental Impact Statement published by the General Services Administration (GSA) in 1978, the facility incinerated 900 to 1,000 tons of waste per day and operated 24 hours per day 5 days a week (GSA, 1978). Ash from the incinerator was disposed of at the Lorton landfill (GSA, 1975). No documentation of any environmental studies or sampling at the former incinerator site was available.

Following closure of incinerator operations in 1994, the facility was converted to the Benning Road DC DPW Solid Waste Transfer Station. The transfer station has two stormwater outfalls, designated Outfall 001 and Outfall 002, which are regulated in accordance with EPA Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activity and Municipal Separate Storm Sewer System (MS4) NPDES Permit No. DC0000221. Although the outfalls are located between the transfer station and the Anacostia Riverwalk Trail, the stormwater likely ultimately discharges to the Cove. The discharges are regulated under Sector K (hazardous waste treatment, storage, or disposal facilities) and Sector N (scrap recycling and waste recycling facilities) under the MSGP. This includes analysis for metals and TSS; however, organics are not analyzed. Elevated concentrations of metals and TSS have been observed at Outfall 002.

### 1.7.4 NPS Kenilworth Maintenance Yard

NPS Kenilworth Maintenance Yard is located to the northwest of the Site on the eastern shore of the Anacostia River. Various materials are stored in the open and exposed to stormwater. A vehicle refueling island is visible at the Kenilworth Maintenance Yard. The site is also on a 2014 DOEE list of known facilities with active USTs in the District. No information regarding any environmental studies or sampling at this site was available with the exception of a dye study completed by NPS during March 2019 to determine if the storm drain on the KMY site discharges to any of the outfalls located in the Cove. According to NPS, the results of the dye test indicate that the storm drain discharges to a grassy depression adjacent to the Anacostia Riverwalk Trail, and not directly to an outfall in the Cove.

## 1.8 Regional Assessment of Anacostia River and Suspected Area-Wide Sources of Impact

### 1.8.1 Historical Perspective

This section provides an overview of sediment quality data from the Anacostia River from a regional perspective and considers data available from the general vicinity of the Benning Road Site. For decades, there has been a broad recognition that the water quality and sediment quality in the Anacostia River is degraded due to a variety of factors, including shoreline habitat degradation, point sources, non-point sources, combined sewer overflows (CSOs), input from tributaries, atmospheric deposition, stormwater runoff, and refuse disposal practices (AWTA, 2002). The problems in the River are exacerbated by the tidal nature of the lower Anacostia River; much of the flow in this portion of the river is tidal. Freshwater flows into the tidal waters are relatively small (Velinsky et al., 2011), and the slow-moving water tends to allow contaminants that might otherwise be flushed from the system to settle into the sediment column.

Several sediment quality studies have been completed within the Anacostia River. Fritz and Weiss (2009) summarized six possible sources of sediment contamination in the river as listed below, while acknowledging that additional contaminants may exist in sediment or on land abutting the River.

| Source | Ownership/Comments | Contaminants linked to sediments |
|---|---|---|
| Washington Navy Yard (WNY) | Department of Defense, National Priority List site. | PCBs and others |
| Southeast Federal Center (SEFC) | Partly GSA/partly private developer. | PAHs, metals, PCBs, and others |
| Poplar Point | NPS | PCBs and PAHs |
| Washington Gas Light (WGL) | WGL and NPS | PAHs and metals |
| Kenilworth Landfill (former DC dump) | NPS | Fill materials had PCBs, PAHs, and metals |
| Pepco Benning Road | Pepco | PCBs and PAHs |

*Source: Fritz and Weiss, 2009*

Studies on each of these specific sites, as well as broader literature relative to Anacostia River ecology, were reviewed to assist in understanding prevailing background sediment and water quality conditions and to provide context for development of the work to be performed as part of the Benning Road RI/FS. Available reports and sampling data reviewed included:

- Sediment concentrations and toxicity information from 35 databases that were compiled by the National Oceanic and Atmospheric Administration (NOAA) (http://mapping.orr.noaa.gov/website/portal/AnacostiaRiver);

- A 2001 report from the Academy of Natural Sciences (ANS) entitled "Sediment Transport: Additional Chemical Analysis Study Phase II";
- A 2002 document from the Anacostia Watershed Toxics Alliance (AWTA) entitled "Charting a Course Toward Restoration: A Toxic Chemical Management Strategy for the Anacostia River";
- A peer-reviewed paper by Velinsky et al. (2011) entitled "Historical Contamination of the Anacostia River, Washington, DC";
- A 2009 document from the AWTA entitled "White Paper on PCB and PAH Contaminated Sediment in the Anacostia River";
- The USEPA 2009 SI Report for the Pepco Benning Road Site, Washington DC; and
- Results from the Environmental Security Technology Certification Program (ESTCP), Demonstration Program—The Determination of Sediment PAH Bioavailability using Direct Pore Water Analysis by Solid Phase Micro-extraction (http://www.serdp-estcp.org/Program-Areas/Environmental-Restoration/Risk-Assessment/ER-200709/ER-200709).

The findings of these studies consistently showed the presence of PCBs, PAHs, organochlorine pesticides, metals, and to a lesser degree VOCs in sediment samples collected from up and down the entire Anacostia River (Velinsky et al, 2011). Velinsky et al. (2011) reported that the concentrations of many contaminants in Anacostia River surficial sediment have decreased during the past few decades due to a combination of factors, including improved environmental practices, restrictions on the manufacture and use of PCBs, and the encapsulation of historically impacted sediment by the more recent deposition of cleaner sediment. For instance, based on the results of six cores collected from the lower Anacostia River, total PCB concentrations in surficial sediment fell from as high as 3,000 micrograms per kilogram (µg/kg) in the late 1950s to between 100 and 200 µg/kg in 2011.

The USEPA 2009 SI Report is the most comprehensive historical investigation of surficial sediments in the vicinity of the Site. According to this report:

- Analytical results obtained during the SI sampling event indicate that the constituents of potential concern (COPCs) associated with Anacostia River sediments are PAHs, PCBs, and inorganic compounds (metals);
- PAHs are ubiquitous in Anacostia River sediments in the vicinity of the Site (**Appendix B – Figure 2**). The report also notes potential PAH sources located upstream of the Site, including numerous combined sewer outfalls;
- PCBs, specifically Aroclor 1254 and Aroclor 1260, were detected in sediment samples above the screening concentrations established by the USEPA Biological Technical Assistance Group

and NOAA for aquatic life. Several metals were also reported above these screening concentrations;

- No VOCs, semivolatile organic compounds (SVOCs), pesticides, or PCBs were reported above detection limits in the surface water samples collected during the SI. Of the inorganic constituents, only copper was detected at a concentration slightly above the corresponding USEPA Region III fresh water quality criterion; and
- USEPA concluded that historical releases from the Site contributed to the contamination in the Anacostia River sediments in the vicinity of the Site based on residue samples USEPA collected from the Benning stormwater system during its 1997 multi-media inspection.

The AWTA (2002) report regarding the Anacostia River indicates that concentrations of PAHs and PCBs in sediments exceeded conservative screening-level ecological benchmarks throughout the entire River, with areas of relatively greater contamination primarily oriented to depositional areas of the lower half of the River (below Kingman Lake), plus some additional isolated locales of the River where sediment is being deposited. The AWTA (2002) report identified the following six areas of interest recommended for further investigation, including the vicinity of the Benning Road Site:

- Area 1: Near O Street/SEFC/WNY (PCBs, PAHs, and metals);
- Area 2: Upstream from CSX lift bridge (PCBs and PAHs);
- Area 3: Between the 11$^{th}$ Street and CSX bridges (PAHs);
- Area 4: Off Poplar Point (PAHs and some PCBs);
- Area 5: Upstream from the Pepco Benning Road facility (PCBs); and
- Area 6: the area in between the “hot-spots” identified in Areas 1 through 5 above, and within the depositional zone of the lower river extending roughly between the South Capitol and 12$^{th}$ Street bridges.

The AWTA (2002) report identified approximately 60 acres of PAH- or PCB-contaminated “hot spots” recommended for capping (hot spots were identified as areas with concentrations exceeding the mean plus two standard deviations: 879 µg/kg for PCBs and 35,440 µg/kg for PAHs). One relatively small hot spot was identified in the vicinity of Outfall 013.

A review of NOAA’s 35 databases (accessed through NOAA’s Query Manager Program) indicates that several hundred Anacostia River surficial sediment samples have been collected from the mouth of the Anacostia River to points upstream of the Benning Road Site. Relative concentrations of total PCBs and total PAHs in surficial sediment samples within 4 miles of the Site are illustrated on GIS plots provided in **Figures 1** and **2** of **Appendix B**. The tabular summary below presents summary statistics for these compounds in Anacostia River sediment.

| Study Area | PCBs | | | | PAHs | | | |
|---|---|---|---|---|---|---|---|---|
| | Number of Samples | Concentration (µg/kg) | | | Number of Samples | Concentration (µg/kg) | | |
| | | Minimum | Mean | Maximum | | Minimum | Mean | Maximum |
| **Benning Road Study Area** [a] | 16 | 40 | Not available | 2,510 | 16 | 2,020 | Not available | 14,920 |
| **Anacostia White Paper (ANS 2000 data only)** [b] | 124 | 2 | 181 | 1,643 | 125 | 495 | 11,742 | 56,330 |
| **Anacostia White Paper (All studies)** [b] | 295 | Not detected | 579 | 12,000 | 314 | 100 | 16,619 | 211,300 |

[a] Source: USEPA, 2009. Sum of Aroclors and total PAHs.
[b] Source: Anacostia Sediment Capping White Paper, undated. This paper evaluates total PCBs and total PAHs from (1) an Academy of Natural Sciences (ANS) Study (ANS, 2000), which was "relatively comprehensive", and (2) 12 specific studies (plus the ANS study) conducted between 1990 and 2003 on the River using a variety of sampling methods and protocols.

The data presented above suggests that USEPA 2009 SI Report data must be considered within the overall construct of the urbanized Anacostia River corridor. USEPA's 1997 Multi-media Inspection Report notes that PCB concentrations in storm sewer residue at the Site were above the SQG, but less than concentrations found in similar samples collected at WNY and SEFC. With regard to PAHs, the USEPA 2009 SI Report indicates that contaminated sediments are located upstream and downstream of the Site, that "PAHs are essentially ubiquitous in sediments of the Anacostia River in the vicinity of the site," and that "…sources of PAHs are located upstream of the Benning Road facility. These potential sources included numerous combined sewer stormwater outfalls located upstream of the site." Studies have found evidence for the atmospheric deposition of PCBs, PAHs, and other compounds (Leister and Baker, 1994; Van Ry et al., 2002). The DC Department of Health estimated that the Total Available Atmospheric Load of PCBs to the Anacostia Watershed is 11.64 pounds per year, representing much of the source of the CSO and Stormwater Loads to the Anacostia River (DC Department of Health, 2003).

### 1.8.2 Anacostia River Sediment Project

DOEE is conducting a River-wide RI/FS (a.k.a., the Anacostia River Sediment Project [ARSP]) within the tidal portion of the Anacostia River, which includes the Benning RI/FS Waterside Investigation Area. The study area for the DOEE RI is an approximately 9-mile-long segment of the River from the confluence of the Northwest and Northeast Branches at Bladensburg, MD, to the confluence with the Potomac River in Washington, DC. DOEE published a draft Remedial Investigation Report on March 30, 2018 (DOEE, 2018). The River-wide RI Report presents the nature and extent of contaminated environmental media (surface water, surface sediment, subsurface sediment, groundwater seepage, and biota) and provides a characterization of the general site conditions to support completion of a River-wide FS to evaluate potential remedial options. The ARSP expanded the six potential source properties identified by the AWTA (2002) study to 14 PECSs (including the Benning Road Site) that abut the tidal Anacostia River. These PECSs were identified based on currently available information, and additional sites may be added in the future. Although 14 PECSs were identified by DOEE, higher resolution Site-specific data from only three PECSs (Washington Navy Yard, CSX, and the Pepco Benning Road Site) were included in the RI in addition to DOEE's River-wide dataset. Several supporting studies related to outfall sampling, tributary sampling, pore water sampling, and forensics were not yet completed and thus not included in the ARSP RI Report. Instead, these studies were deferred to a pending FS phase.

### 1.8.3 Combined Sewer Overflows

One of the more substantial sources of contaminants to the River has been the CSO system that serves approximately one-third of the District of Columbia (AWTA, 2002; http://www.dcwasa.com/wastewater_collection/css/default.cfm). A figure depicting the CSO outfalls and drainage areas in the vicinity of the Study Area is provided in **Appendix C**. The District's CSOs are antiquated systems (many of which date back to the 1880's) that until recently allowed urban runoff and raw sewage to bypass treatment systems during rain events. During dry periods, sanitary wastes collected in the CSO system were conveyed to and treated at the Blue Plains Advanced Wastewater Treatment Plant; however, when the capacity of the CSO system was exceeded during significant rainfall events, a mixture of stormwater and sanitary wastes was directly discharged into the District's water bodies, including the Anacostia River. This practice continued for many decades. To address this problem, the District of Columbia Water and Sewer Authority (DC Water) constructed a large tunnel system to capture and store stormwater for treatment. The first phase of this tunnel system was put into operation on March 23, 2018 (DC Water, 2018). According to DC Water, this portion of the system will provide control for all of the CSO outfalls along the Anacostia River and is expected to eliminate approximately 80% of CSO releases and improve water quality. The system captures flows that previously would have discharged to the river and directs them to the Blue Plains Advanced Wastewater Treatment Plant through a series of underground storage and conveyance tunnels.

According to AWTA (2002), an average of 82 releases of combined stormwater and sanitary wastes occurred every year due to this outdated system from 53 permitted CSO outfalls in the District operated by DC Water. At the time of the AWTA report publication, these releases were reported to allow a discharge volume of approximately 2.14 billion gallons of contaminated waste-water from 11 major CSOs to enter the river system on an annual basis. DC Water recently developed a model that predicted that more than 93% of CSO flow volume was contributed by two CSO systems, one at Main and O Street (CSO 010, the O Street Pumping Station) approximately 3.4 miles downstream from the Site, and the other at the Northeast Boundary (CSO 019), approximately 1.2 miles downstream from the Site.

More recent data from the DC Water website highlights the CSO impact on the Anacostia River (http://www.dcwater.com/wastewater_collection/css/CSO%20Predictions.pdf). During October to December 2014, approximately 68.2 million gallons (MG) of CSO overflow were released into the River. Approximately 81.5% (55.6 MG) was attributable to CSO 019 (the Northeast Boundary CSO), while an additional 6.5% (4.44 MG) were attributable to CSO 010 (the O Street Pumping Station).

AECOM incorporated the findings from the various studies discussed above, and response actions conducted by Pepco, into the RI/FS Work Plan and CSM for the Study Area.

### 1.9 Report Organization

This report is organized into the following eight sections:

- Section 1 – Introduction
- Section 2 – Study Area Investigation
- Section 3 – Physical Characteristics of the Study Area
- Section 4 – Nature and Extent of Contamination
- Section 5 – Contaminant Fate and Transport
- Section 6 – Baseline Risk Assessments
- Section 7 – Summary and Conclusions
- Section 8 – References

Figures, tables, and appendices are provided as stand-alone sections following **Section 8**.

# 2 Study Area Investigation

This section presents a summary of the RI field activities conducted within the Study Area. It describes the means and methods of sample collection, and quantities and locations of samples collected in various environmental media. Sections 3 and 4 of this report discuss the results of these field activities. The RI/FS field activities were conducted in two primary phases; Phase I activities were conducted between January 25, 2013 and December 31, 2014, and Phase II activities were conducted between December 1, 2016 and July 9, 2018. All RI/FS field activities were conducted in accordance with the RI/FS Work Plan, Sampling and Analysis Plan (SAP), and Health and Safety Plan, approved by DOEE in December 2012. Representatives of the DOEE Toxic Substances Division conducted several inspections during the course of the Landside and Waterside Investigations. A photolog of field tasks completed during the Landside and Waterside investigations is provided in **Appendix D**.

Additional investigation activities not specified in the RI/FS Work Plan were presented in Addenda #1, #2, and #3 to the Work Plan, and were approved by DOEE in March 2014, July 2014, and October 2016, respectively. Addendum #1 revised the Phase I Mobilization 3 activities to include the delineation of a PCE plume in groundwater near direct push technology (DPT) boring DP09, and specified details of the proposed monitoring well locations, construction, and sampling. Addendum #2 outlined a soil sampling program for PCBs beneath and adjacent to the cooling tower basins. Addendum #3 was developed to address remaining data gaps and uncertainties identified in the Draft RI Report (AECOM, 2016e).

The field investigation activities were designed to characterize conditions in soil, groundwater, surface water, and sediment; further refine the CSM; and collect data to support a baseline risk assessment. Field activities were divided into Landside and Waterside components during each of the two RI/FS investigation phases. The Landside Investigation focused principally on the Site, but also included off-Site background locations and areas of the adjacent Anacostia Park between the Site and the River. Because the areas sampled within the park property are close to, but not within the footprint of the NPS Kenilworth Maintenance Yard, the sample locations are designated by the pre-fix “KMY.” The Landside Investigation locations are displayed on **Figure 2-1**. The Anacostia Park locations are displayed on **Figure 2-2** and **Figure 2-3**, and Landside background locations are displayed on **Figure 2-4**. The Waterside Investigation evaluated a near-Site portion of the Anacostia River (Waterside Investigation Area), background River locations, and downstream forensics locations. The Waterside

Investigation Area sample locations are displayed on **Figure 2-5A** and the Waterside background locations are displayed on **Figure 2-6**. Information on the selection and justification of Landside and Waterside background locations is provided in Section 4.0 and in the background data evaluation conducted for the Study Area (**Appendix W**).

The Phase I Landside investigation was divided into three mobilizations, which were subdivided as follows:

<u>Phase I Landside Mobilization 1</u>

- Task 1: Utility Clearance
- Task 2: Surface Soil Sampling
- Task 3: Storm Drain Sampling
- Task 4: Electrical Resistivity Imaging (ERI)
- Task 5: Geotechnical Soil Borings

<u>Phase I Landside Mobilization 2</u>

- Task 1: DPT Subsurface Soil Sampling

<u>Phase I Landside Mobilization 3</u>

- Task 1: PCE Source Investigation
- Task 2: Monitoring Well Installation
- Task 3: Monitoring Well Gauging and Sampling
- Task 4: Tidal Influence Monitoring
- Task 5: Aquifer Testing
- Task 6: Cooling Tower Basins Soil Sampling

The Phase I Waterside investigation was divided into two mobilizations, which were subdivided as follows:

<u>Phase I Waterside Mobilization 1</u>

- Task 1: Bathymetric and Utility Surveys

<u>Phase I Waterside Mobilization 2</u>

- Task 1: Surface Water Sampling
- Task 2: Surface Sediment Sampling
- Task 3: Subsurface Sediment Sampling

The Phase II Landside investigation was divided into three mobilizations, which were subdivided as follows:

Phase II Landside Mobilization 1 – Additional Site Characterization

- Task 1: On-site Monitoring Well Redevelopment and Resampling
- Task 2: On-site Nature and Extent Soil Delineation
- Task 3: On-site Soil Forensics Sampling
- Task 4: On-site DPT Groundwater Investigation

Phase II Landside Mobilization 2 – Site-specific Background Sampling

- Task 1: Background Soil Sampling
- Task 2: Background DPT Groundwater Sampling

Phase II Landside Mobilization 3 – Anacostia Park Investigation

- Task 1: ISM Surface Soil Sampling
- Task 2: Discrete Subsurface Soil and Groundwater Sampling
- Task 3: Geotechnical Boring
- Task 4: Arsenic and Chromium Sampling

The Phase II Waterside investigation was divided into two mobilizations, which were subdivided as follows:

Phase II Waterside Mobilization 1 – Sediment Profile Imaging

- Task 1: Sediment Profile Imaging (SPI) at Waterside Investigation Area Locations

Phase II Waterside Mobilization 2 – Sediment Sampling

- Task 1: Waterside Investigation Area Surface Sediment Sampling
- Task 2: Background and Forensics Surface and Subsurface Sediment Sampling
- Task 3: High Resolution Coring
- Task 4: City Storm Drain Sediment Sampling

Several permits from regulatory and other government agencies were obtained prior to each phase of RI/FS field activities. These permits are summarized in **Table 2-1**. The sample quantities and analytical methods for the Landside and Waterside data collection programs are provided in **Table 2-2**. Details of specific field activities are described below.

## 2.1 Phase I Landside Investigation

### 2.1.1 Phase I Landside Mobilization 1, Task 1: Utility Clearance

Numerous overhead and underground utilities are present at the Site, including those associated with three active electrical substations, the former power plant, high-voltage transmission and distribution lines, and the elevated and underground DC Metro rail lines along the Site's southern boundary. Known or suspected utilities at the Site included electric, water supply, storm sewer, sanitary sewer, gas, and telecommunication lines, and Anacostia River water intake/discharge tunnels associated with the former power plant.

A multi-step utility clearance process was conducted for each proposed boring location and included the following:

1. Obtain and review available utility drawings from Pepco and others;
2. Obtain clearance from Pepco by having a Pepco underground technician locate and mark utilities in the vicinity of each proposed boring;
3. Retain a private utility locator to locate and mark all active or abandoned subsurface utilities in the vicinity of each boring;
4. Notify Miss Utility for the identification of all public utilities servicing the Site; and
5. Hand-clear each boring location by use of hand auger and vacuum excavation/air knife to a depth of 5 feet (ft) below grade.

AECOM retained private utility designation contractors Accumark, Inc. of Ashland, VA, and Enviroscan, Inc. of Lancaster, PA, to identify underground utility lines in the vicinity of proposed drilling locations. The utility investigations included the use of ground penetrating radar and electromagnetic surveys of all boring locations using detection equipment to identify and mark induced or naturally-occurring electromagnetic fields present on conductive utilities.

### 2.1.2 Phase I Landside Mobilization 1, Task 2: Surface Soil Sampling

Surface soil samples were collected at 25 locations (SUS01 through SUS25) distributed across the Site. All samples except one were collected between February 4 and February 7, 2013; the surface soil sample at location SUS22 could not be collected until June 13, 2013, due to access issues. The locations of the surface soil samples are shown on **Figure 2-1**, and analytical methods are presented in **Table 2-2**. The samples were collected from within the top 12 inches of the subsurface after coring through existing pavement or ground cover. Surface soil is defined as the top 12 inches of soil below ground level. In locations where man-made ground covering was present (i.e. asphalt, concrete, base coarse), surface soil samples were collected from the base of the covering to 12 inches below ground surface. Each sample was field screened with a photoionization detector (PID) and X-ray fluorescence (XRF) instrument. The results of the surface soil sampling guided the planning of the DPT subsurface investigation.

This task was performed in accordance with the relevant Project Operating Procedures (POPs) provided in Appendix A of the SAP, including those for hand auguring, soil sampling, use of the XRF instrument, decontamination of field equipment, and the packing and shipping of the environmental samples.

AECOM retained surveying contractor Gahagan & Bryant Associates, Inc. (GBA) of Wilmington, DE, to provide land surveying services for the RI/FS project. Location coordinates were referenced to the Maryland State Plane North American Datum of 1983 (NAD83) coordinate system, and elevations were recorded relative to the North American Vertical Datum of 1988 (NAVD88). Surveyed coordinates for the 25 surface soil sample locations are provided in **Table 2-2**.

### 2.1.3 Phase I Landside Mobilization 1, Task 3: Storm Drain Sampling

Eight storm drain water (SDW) and four storm drain residue (SDR) samples were collected on October 7 and 8, 2013, to evaluate potential impacts from Site stormwater that drains to the River at Outfalls 013 and 101. The locations of the storm drain samples are shown on **Figure 2-7**, and analytical methods and coordinates for the samples are presented in **Table 2-2**. Location coordinates for the sampled storm drains, accurate to within 3 ft, were collected by AECOM using a hand-held Trimble™ global positioning system (GPS) unit. Six of the sampling locations were single storm drain inlets on the main underground drainage system that traverses the Site from southeast to northwest and discharges to the River at Outfall 013, including five of the six locations (labeled PEPR 1 through 5) sampled during the 1997 USEPA Multi-media Inspection. Three of the locations co-located with the EPA sampling event (PEPR1, PEPR2, and PEPR3) could not be sampled for residue due to lack of sufficient sediment in the drains. Alternative storm drains were not identified to be sampled because none were near the proposed locations, and would not coincide with the 1997 USEPA Multi-Media Inspection sampling locations.

The other two sampling locations were storm drains to the west of the former power plant building that drain to Outfall 101. One sample (SDW101) collected by Pepco's stormwater management contractor, AMEC, according to a sampling protocol approved by USEPA for NPDES quarterly sampling, was a weighted composite of water from four of the eight storm drains in this area (manholes 87, 88, 90, and 91). The remaining four other storm drains on the west side of the plant were physically covered during the sampling event and excluded from the composite sample because their catchment areas were within those of the other storm drains sampled. The weightings for sample SDW101, based on the stormwater volumes flowing through each location, were as follows:

| Sample Location | Catchment Area ($ft^2$) | Fraction of Sample Volume | Representative Sample Volume (mL) |
|---|---|---|---|
| MH-91 | 6,204 | 7.74% | 1,393 |
| MH-90 | 3,853 | 4.81% | 865 |
| MH-88 | 26,149 | 32.61% | 5,870 |
| MH-87 | 43,975 | 54.84% | 9,872 |

The other stormwater sample collected from west of the plant (SDWMH02) was a grab sample from manhole 88. A storm drain residue sample (SDR101) was also collected from this same location.

### 2.1.4 Phase I Landside Mobilization 1, Task 4: Electrical Resistivity Imaging

AECOM retained Aestus, LLC (Aestus) of Loveland, CO to perform ERI surveys at the Site between February 11 and February 16, 2013. ERI techniques involve the measurement of electrical conductivity/resistivity of the ground and are commonly used in environmental site characterization as screening tools. ERI data can be used to identify subsurface anomalies that represent changes in lithology, buried objects, and Light Non-Aqueous Phase Liquid (LNAPL) or Dense Non-Aqueous Phase Liquid (DNAPL) plumes.

Aestus performed 10 ERI surveys (WAS-1 through WAS-10) at the Site using its proprietary GeoTrax Survey™ technology. The locations of the 10 transects, which are shown on **Figure 2-2**, were selected to image the former sludge dewatering area and other Target Areas. For each of the geophysical surveys, a series of electrodes spaced 5 to 10 ft apart were hammered into the ground to a depth of 6 to 15 inches below ground surface (bgs), and direct current was induced in the subsurface material along the length of the transect. The current measured by the electrical transducers was used to produce images of the conductivity/resistivity of the subsurface material. Survey line lengths ranged from 361 to 541 ft long, producing images showing differences in conductivity/resistivity of the lithology along the survey transects from 72 to 108 ft deep. A technical memorandum for the ERI surveys prepared by Aestus is provided in **Appendix E**.

This technology identifies NAPL zones based on its higher resistivity characteristics. As with any technology, Aestus GeoTrax Survey™ has some limitations. Based on vendor's literature, compared to most geophysical techniques, GeoTrax Survey™ is typically not affected negatively by the presence of: above ground metallic objects such as vehicles, fences, power lines, scrap metal piles, etc.; below ground metallic objects that are discretely located and not extensive in nature; traffic/vibrations; or varying geology. However, extensive grounding grids such as those found at electrical substations and transect lines run adjacent to and along underground metallic pipelines could cause interferences. This limitation is overcome by properly offsetting transects from the underground objects to avoid the interferences. Another type of limitation is associated with the holes created in the trapezoidal image by insufficient overlap of transect lines when surveying particularly long transects lines. Such holes in the image could lead to an incomplete interpretation of the area surveyed. Proper overlaps were used during GeoTrax Survey™ at the Site to avoid this limitation. Finally, this method is not a stand-alone site characterization tool and, as done on the Site, is typically used as a screening tool in conjunction with verification borings to collect and analyze soil and groundwater samples.

### 2.1.5 Phase I Landside Mobilization 1, Task 5: Geotechnical Soil Borings

A geotechnical investigation was conducted at the Site between March 14 and March 27, 2013, to aid in the verification of existing lithologic data and the design of monitoring wells. Five soil borings (SB1 through SB5) were installed at the locations shown on **Figure 2-1**. Coordinates for the borings are provided in **Table 2-2**. Based on review of the RI/FS Work Plan, DOEE proposed to install a sixth soil boring (SB6) on NPS property to the west of the Site, but after a prolonged and unsuccessful effort on the part of AECOM and Pepco to obtain the requisite permit from NPS, DOEE agreed to forgo this boring in December 2014. In February 2015, after the conclusion of RI/FS field activities, NPS granted Pepco the Special Use Permit for the installation of boring SB6 on NPS property. Given that SB6 was proposed as a geotechnical boring only and no chemical data were to be collected, Pepco proposed to defer the completion of SB6 to after submission of the Draft RI Report, at which point DOEE would determine whether the boring was still required (see Section 2.3.9).

AECOM retained drilling contractor Eichelbergers, Inc. of Mechanicsburg, PA to advance the five geotechnical borings at least 10 ft into the Arundel Clay confining layer that underlies the Site using a Hollow Stem Auger drill rig. Total boring depths ranged from 60 to 99 feet below ground surface (ft bgs). Split-spoon samples were obtained using the Standard Penetration Test in accordance with the American Society for Testing and Materials (ASTM) Standard D1586. Split spoon samples were collected continuously from the surface to the water table and then every 5 ft thereafter to the boring terminal depth. Soils were logged in accordance with the Unified Soil Classification System (USCS), and the number of blow counts (hammer strikes) required to advance the sampler 24 inches was recorded. Geologic logs for the geotechnical borings are provided in **Appendix F**. Soil cores were field screened for VOCs using a PID. The relevant POPs in Appendix A of the SAP dictated the procedures used for soil sampling, headspace analysis of VOCs in unsaturated soil samples, sample packaging and shipping, field equipment decontamination, and investigation derived waste (IDW) management.

Shelby tube or disturbed samples (from drill cuttings) were collected from each boring in accordance with ASTM Standard D1587 and analyzed for ASTM Permeability, grain size, and Atterberg limits. A total of 33 geotechnical samples were collected and submitted to Craig Testing Laboratories of Maryland, Inc., of Beltsville, MD, and GeoTesting Express, Inc., of Acton, MA for analysis. All boring locations were abandoned with grout using a tremie pipe and restored to match the existing surface cover.

### 2.1.6 Phase I Landside Mobilization 2, Task 1: DPT Subsurface Investigation

Following the initial field data collection activities of Phase I, DPT borings were installed across the Site between March 29 and June 13, 2013, to evaluate the Target Areas, anomalies identified during the ERI surveys, and other areas of the Site. The purpose of the DPT subsurface investigation was to investigate potential sources of contamination, log lithologic data, and collect soil and groundwater samples to characterize the Site.

AECOM retained Green Services, Inc. of Bel Air, MD to install the soil borings using a Geoprobe® DPT drill rig. Forty-seven DPT borings (DP01 through DP47) were installed across the Site and advanced up to 62.5 ft below grade. The DPT borings were typically advanced to approximately 5 ft below the water table or refusal, whichever came first, except in locations where deeper borings were installed to investigate anomalies identified during the ERI surveys. The locations of the DPT borings are shown on **Figure 2-1**, and their surveyed coordinates are provided in **Table 2-2**.

A total of 142 soil samples and 48 groundwater samples were collected during the DPT investigation. Geologic logs for the DPT borings are provided in **Appendix F**, and sample analytical methods are presented in **Table 2-2**. Soil samples were collected from three depths in each boring, which were screened using a PID and an XRF field instrument. The sample intervals were generally at the 5, 10, and 15 ft bgs horizons, except where ERI anomalies were targeted for sampling. Groundwater samples were collected from within the top 5 ft of the water table using a DPT screen point sampler or temporary monitoring well. Groundwater samples were collected over 5-foot intervals via temporary wells, except for DP34, DP35, and DP45, which were sampled by screen point sampler over shorter intervals to target anomalies identified during the ERI investigation. The procedures used for collecting groundwater samples from the boreholes are presented in Project Operating Procedure 406: Groundwater Sampling via Temporary Wells (**Appendix G**).

Groundwater and soil samples were packaged on ice and shipped under chain-of-custody to TestAmerica Laboratories, Inc. of Pittsburgh, PA for chemical analysis. The relevant POPs in Appendix A of the SAP dictated the procedures used for soil sampling, use of the XRF instrument, headspace analysis of VOCs in unsaturated soil samples, sample packaging and shipping, sealed-screen groundwater profiling, field equipment decontamination, and IDW management. Upon completion, the boring locations were abandoned with grout using a tremie pipe and restored to match the existing surface cover.

### 2.1.7 Phase I Landside Mobilization 3, Task 1: PCE Source Investigation

During the Phase I Mobilization 2 investigation, PCE was detected in groundwater at a concentration of 160 ppb in the 25 to 30 ft bgs interval of DPT boring DP09, near the southern property boundary. In Addendum #1 to the RI/FS Work Plan, a groundwater investigation was proposed to further delineate the PCE plume, help identify a possible PCE source, and determine the appropriate location for a groundwater monitoring well.

Twenty-three PCE Source Area Investigation borings were installed between April 14 and April 18, 2014. The boring location IDs and geographical coordinates are provided in **Table 2-2** and the locations are displayed on **Figure 2-1**. AECOM obtained coordinates using a hand-held Trimble™ GPS unit. An iterative DPT sampling approach was implemented in which eight initial groundwater samples were collected from grid points surrounding DP09 and analyzed for PCE and its degradation products using an on-Site mobile lab. Subsequent sample locations were then selected depending on the previous sample results until the outermost ring of borings around DP09 exhibited PCE concentrations down to a level of 30 to 50 ppb.

AECOM retained GSI Mid-Atlantic, Inc. of Bel Air, MD (GSI, formerly Green Services, Inc.) to provide drilling (DPT) and groundwater sample collection (screen point sampler) services. New Age/Landmark, Inc. of Benton Harbor, MI was retained to provide mobile lab analysis services. Geologic logs (provided in **Appendix F**) were prepared for five of the boring locations to characterize the subsurface and confirm the presence of an upper silt-clay semi-confining layer that underlies the Site and separates the upper water-bearing zone (UWZ) from the lower water-bearing zone (LWZ). A total of 23 grab groundwater samples were collected using a screen-point sampler and inertial pump from 5-foot intervals between 20 and 35 ft bgs within the UWZ. Three deeper groundwater samples were collected from between 45 and 55 ft bgs to characterize the LWZ at those locations.

During this task, the relevant POPs from Appendix A of the SAP were followed for sealed-screen groundwater profiling, sample packaging and shipping, field equipment decontamination, and IDW management.

### 2.1.8 Phase I Landside Mobilization 3, Task 2: Monitoring Well Installation

Based on the results of the Phase I Landside Mobilization 2 investigation and the PCE delineation near DP09, 30 2-inch diameter polyvinyl chloride (PVC) monitoring wells were installed as nested well pairs at 15 locations across the Site. Two monitoring wells were installed at each location: a shallow well in UWZ and a deep well in LWZ. The locations of the monitoring wells are shown on **Figure 2-1**, and surveyed coordinates for the wells are provided in **Table 2-3**. The wells are identified with their location (MW-1 through MW-15) and a letter (A for shallow, B for deep).

One nested well pair (MW-6) was installed by Cascade Drilling, L.P. of Marietta, OH on May 2, 2014. It was then determined that due to presence of numerous utilities, a multi-step utility clearance program was needed to clear utilities prior to drilling other wells. Therefore, the remaining 14 well pairs were installed between September 22 and October 17, 2014, by Summit Drilling Co., Inc. of Bridgewater, NJ, once AECOM had completed the multi-step utility clearance work. The wells were installed by the Sonic drilling method to a maximum depth of 66 ft bgs. Sonic drilling uses a combination of drill bit rotation, high-frequency vibration, and downward force to penetrate even very dense material using minimal drilling fluids. During well installation, 4-inch soil cores were logged continuously and screened with a PID to determine the placement of the well screens. Screened intervals ranged from 10 to 25 ft in length in the upper and lower water-bearing zones. Monitoring well details, including screened intervals and surveyed location coordinates and elevations, are provided in **Table 2-3**.

The monitoring wells were installed as nested wells, with two well risers in a single borehole at each location. First, a 6-inch Sonic casing on 10 ft intervals was advanced to the boring terminal depth, providing continuous 4-inch soil cores. The lithology was logged to determine the proper screen intervals for the wells; geologic logs are provided in **Appendix F**. After the placement of the upper and lower screened intervals was determined, an 8-inch Sonic isolation casing was advanced, overriding the 6-inch casing, to the total depth of the shallow well. Then the 2-inch deeper well was constructed through the 6-inch well casing, introducing sand pack in the 4-inch annulus around the well to 2 ft above the screened interval. The 6-inch temporary casing was retracted following deeper well construction to the bottom of the UWZ. Above the sand pack and at the level of the silt-clay semi-confining layer, a seal of hydrated bentonite chips was set to prevent intermixing between the upper and lower water-bearing zones.

Following the hydration and curing of the bentonite seal, the 6-inch casing was removed from the location entirely, leaving the 8-inch casing in place for the installation of the shallow well. The shallow well was installed with a clean sand pack in the 6-inch annulus to 2 feet above the screened interval, above which was placed a 2-foot seal of hydrated bentonite chips. The wells were finished with a bentonite-cement mixture to grade and a flush mount locking well cap and cover. A generalized construction schematic for the wells is provided as **Figure 2-8**.

Following installation, the wells were developed using a surge block and submersible pump. Well development was conducted until at least five well volumes were removed from each well in accordance with the Work Plan. The final turbidities of many of the wells remained high even after extensive pumping. Approximately 100 gallons (gal) of purge water were withdrawn from each shallow well and 150 gal from each deep well.

During this task, the relevant POPs from Appendix A of the SAP were followed for monitoring well construction and installation, monitoring well development, field equipment decontamination, and IDW management.

### 2.1.9 Phase I Landside Mobilization 3, Task 3: Monitoring Well Sampling and Gauging

During November and December 2014, 30 groundwater samples (one per well) were collected by use of HydraSleeve™ passive grab samplers from the center of the well screens. Analytical methods for the samples are presented in **Table 2-2**. HydraSleeves are single-use (disposable) sampling devices designed to collect groundwater samples directly from a desired screened interval of a well without purging the well prior to sample collection. Physically, the HydraSleeve consists of a section of lay-flat polyethylene tubing, sealed at the bottom end, and with a check valve at the top end. After positioning the HydraSleeve at the bottom of the desired sampling interval, the sampler is activated by pulling it upward at a rate of approximately 1 ft per second. When the sampler is full, the check valve closes, excluding any more water from entering. The HydraSleeve sampler is manufactured by GeoInsight of Las Cruces, NM. Additional details regarding the HydraSleeve sampler are provided in Addendum #1 (AECOM, 2014a).

The model of HydraSleeve used for the RI/FS groundwater sampling was 8 ft long and collected 4 liters of volume. Following a period of at least 7 days of well stabilization following well installation, the HydraSleeves were deployed to the middle of the screened intervals. The HydraSleeves were allowed to compress and the wells were allowed to equilibrate for at least 24 hours before retrieval and sampling. During HydraSleeve retrieval, a portion of each groundwater sample was set aside to measure water quality parameters. Groundwater samples were packaged on ice and shipped under chain-of-custody to TestAmerica Laboratories of Pittsburgh, PA.

Two Site-wide water level measurement events were conducted to characterize local groundwater flow conditions. AECOM retained GBA to install a tide board on the Anacostia River at the Benning Road Bridge referenced to the Mean Lower Low Water (MLLW) vertical datum. Tide board observations were made at the beginning and end of each water level gauging round.

During this task, the relevant POPs from Appendix A of the SAP were followed for groundwater level measurement in a monitoring well and field equipment decontamination, and POP-407 from Addendum #1 outlined the procedures used for groundwater sampling with a HydraSleeve (AECOM, 2014a).

### 2.1.10 Phase I Landside Mobilization 3, Task 4: Tidal Influence Monitoring

A tidal influence study was conducted at the Site over a period of 48 hours from November 10 to November 12, 2014, to help evaluate the tidal effect of the Anacostia River on the Site water table. Water level data from the shallow and deep wells at six locations on-Site (MW-1, MW-3, MW-6, MW-8, MW-11, and MW-13) were monitored at 5-minute increments during the study. These wells were selected to evaluate the tidal effects on wells in the western portion of the Site (near the River) and also to determine how far east (away from the River) the tidal influence reaches. Twelve pressure transducers (Schlumberger Micro-Divers) were deployed in the selected wells, and an additional transducer was secured at the surface to record barometric pressure over the study period. The data were downloaded and processed, and the necessary barometric pressure corrections were made using Win-Situ® software.

The study involved the deployment of pressure transducers in the selected wells, which recorded groundwater levels in 5-minute increments. The continuous water level data were used to determine the tidal effect of the adjacent River on the Site water table.

AECOM visually monitored the Benning Road Bridge tide board over an 8-hour period on November 11, 2014, and the gauge height was recorded at 15-minute increments. These stream stage data were used to establish a relationship between the tide board and a US Geological Survey (USGS) hydrometric gauging station (gauge number 01651750) located approximately 1.2 miles upstream from the Site. Over the 8-hour period, the stream stage at the tide board and that at the USGS gauging station differed by an average of 0.17 ft (±0.03 ft, one standard deviation). This elevation relationship was used to compare the stream stage of the River and the monitoring well water levels over the course of the 48-hour study period, and to help determine the effect of the River's tidal fluctuations on the Site water table.

### 2.1.11 Phase I Landside Mobilization 3, Task 5: Aquifer Testing

Aquifer testing was conducted in 16 wells at eight locations (MW-1, MW-3, MW-6, MW-9, MW-10, MW-11, MW-13, and MW-15) to characterize the hydraulic properties of the shallow and deep aquifers. These wells were selected to get a good geographical distribution of data across the Site. The testing was completed by slug testing techniques, consisting of three rising-head and three falling-head tests in each well, to determine the hydraulic conductivity (K) of the unconsolidated material in the vicinity of each well. The water level data were recorded at 0.5-second intervals using a LevelTROLL 700 data logger. The tests proceeded until the water levels recovered to within 10% of the static pretest levels. Slug testing data were interpreted using the Bouwer and Rice (1976) solution for confined and unconfined aquifers on AQTESOLV™ Version 4.5 aquifer test analysis software. The AQTESOLV software uses the recorded water level data and well details (such as borehole and riser diameters, screen length, and aquifer thickness) as inputs to calculate hydraulic conductivity for the geologic formation in the vicinity of the well.

### 2.1.12 Phase I Landside Mobilization 3, Task 6: Cooling Tower Basins Soil Sampling

Historic sampling of soils around the two cooling tower concrete basins in the northwest corner of the Site was conducted in 1995, 2012, and 2013. In Addendum #2 to the RI/FS Work Plan, a soil sampling program was proposed to delineate PCB contamination in soils beneath and adjacent to the basins based on the results of the previous sampling events, which indicated the presence of PCBs in surface soils adjacent to the basins. The two concrete basins (units 15 and 16) were each approximately 307 ft by 57 ft, and were constructed in 1969 or 1970, when PCBs were widely added to sealants, caulks and many industrial products. Caulking material in the basin expansion joints is believed to be the source of the PCBs detected in the adjacent soils.

The most recent rounds of soil sampling at the cooling tower concrete basins were conducted from August 14 to September 5, 2014, February 5, 2015, and March 11 to 12, 2015, to fill analytical data gaps and further delineate PCB contamination in basin soils. The sampling events targeted the vertical and horizontal expansion joints of each concrete basin. During the 2014–2015 sampling events, a total of 207 soil samples were collected from areas adjacent to and beneath the basins and analyzed for PCBs. The results of these sampling events guided the development of a draft Soil Removal Action Plan.

Pepco submitted an initial draft of the Soil RAP to DOEE on December 1, 2014, and received comments back on December 22, 2014. Pepco addressed the DOEE comments, which included collecting additional analytical data to bound previously detected PCB contamination at the basins, and the final revised Soil RAP was submitted to DOEE on July 29, 2015 (AECOM, 2015).

AECOM retained GSI to provide direct push drilling services, and E2CR, Inc. of Baltimore, MD to provide vacuum excavation services to support the sampling events.

## 2.2 Phase I Waterside Investigation

### 2.2.1 Phase I Waterside Mobilization 1, Task 1: Bathymetric and Utility Surveys

Prior to initiation of the Waterside investigation sampling, AECOM retained GBA to conduct bathymetric and side scan sonar surveys in the Waterside Investigation Area and prepare a contour map of the river bottom in this area. Bathymetric data indicates river bottom elevation at selected points, while side scan sonar data produces a continuous image of the river bottom to reveal large pieces of debris, potential utilities, or other anomalies. The side scan sonar imagery was limited by its resolution (approximately 1 foot) and by the shadowing effects cast by river bottom objects. The surveys were conducted from February 11 to 13, 2013, in accordance with the hydrographic surveying procedures provided in U.S. Army Corps of Engineers (USACE) Survey Manual EM 1110-2-1003 (USACE, 2013). A single GBA-owned vessel was mobilized for the surveys, launched from Bladensburg Marina in Bladensburg, MD. GBA used an Odom Echotrac CV100 fathometer to collect water depth data along parallel survey lines. The survey lines were run at 50-foot intervals within the survey area, and four additional survey lines were run perpendicular to these lines, along the axis of river flow. Geographic positions for each surveyed point were logged using a Trimble™ GPS. Time was recorded continuously so that a tidal correction could be made during post-processing. GBA established tide gauges at Outfall 013 and on a bridge pier of the Benning Road Bridge, surveyed to MLLW.

As a result of utility clearance activities, including a historical records search and visual inspection of the river bank on both sides of the River, two electric cable crossings within the investigation area were identified within the Waterside Investigation Area. These cable crossings were located and surveyed by GBA during the side scan sonar survey, and each was given a 100 ft buffer zone within which no drilling was conducted.

### 2.2.2 Phase I Waterside Mobilization 2, Task 1: Surface Water Sampling

AECOM retained Aqua Survey, Inc. (ASI) of Flemington, NJ, to provide vessels and vessel-based sampling services in support of the Waterside sampling program. Two ASI-owned vessels were launched from Bladensburg Marina for the work: a sampling vessel and a support vessel. Prior to Waterside Investigation activities, notices to the public and other boaters regarding the nature and dates of the planned environmental study in the River were posted at the Bladensburg Marina and in public spaces along the River. Surface water samples were collected at 20 locations (10 Waterside Investigation Area locations and 10 background locations) between September 23 and October 3, 2013. The sample locations for the Waterside Investigation Area are shown on **Figure 2-5A and Figure 2-5B**, and background sampling locations are shown on **Figure 2-6**. Geographic coordinates for the sample locations were collected by GPS at the time of sampling, and are provided in **Table 2-2**.

The surface water samples were collected from approximately 1 foot above the sediment-water interface using a peristaltic pump and tubing secured to a pole marked with 1-foot intervals. Two measurements of water quality parameters were taken at each sampling location using a YSI 6920 Sonde: one near the water surface, and a second from within 1 foot of the sediment surface. The water quality parameters measured in the field included temperature, dissolved oxygen (DO), pH, turbidity, and conductivity.

During this task, the relevant POPs from Appendix A of the SAP were followed for surface water sample collection, sample packaging and shipping, and IDW management.

### 2.2.3 Phase I Waterside Mobilization 2, Task 2: Surface Sediment Sampling

Surface sediment sampling was conducted at 56 locations (46 Waterside Investigation Area locations and 10 background locations) between November 5, 2013, and January 31, 2014. These locations are shown on **Figure 2-5A** and **Figure 2-6**. Geographic coordinates for the sample locations were collected by GPS at the time of sampling, and are provided in **Table 2-2**. ASI provided vessel-based support services. AECOM retained Normandeau Associates, Inc. (Normandeau) of Bedford, NH to provide additional sampling support services for mudflat sampling using a portable Vibracore.

Surface sediment grab samples were collected from a depth of 0 to 6 inches below sediment surface using a Petite Ponar grab sampler. Surface samples were inspected and logged for physical characteristics, including sediment color, particle size, odor, presence of fill material or other man-made materials, presence of sheens or non-aqueous phase liquid (NAPL), presence of aquatic biota, and other notable features. Samples were also screened for organic vapors using a PID.

To facilitate the processing of sediment samples on land, a staging area was constructed next to the River immediately south of Benning Road on Kingman Island (National Park Service property). Permits obtained by AECOM for this and other activities related to the Waterside investigation are summarized in **Table 2-1**.

Turbidity monitoring was carried out in accordance with DOEE Water Quality Certification #DC-13-001 and the turbidity monitoring procedures agreed upon by DOEE and Pepco. There were no exceedances of the established background turbidity at any location during the sampling activities. The turbidity monitoring data are presented in **Appendix H**.

Sediment samples for VOCs, Simultaneously Extracted Metals (SEM), and acid volatile sulfide (AVS) were collected prior to sample homogenization. The remaining samples were homogenized in a mixing bowl and placed in the appropriate sample containers. Details of the Waterside Investigation data collection program are provided in **Table 2-2**.

During this task, the relevant POPs from Appendix A of the SAP were followed for sediment sampling, headspace analysis of VOCs in unsaturated soil samples, sample packaging and shipping, and IDW management.

### 2.2.4 Phase I Waterside Mobilization 2, Task 3: Subsurface Sediment/Vibracore Boring

A total of 208 subsurface sediment samples were collected at 56 locations (46 Site-adjacent locations and 10 background locations) between November 5, 2013, and January 31, 2014, concurrently and co-located with surface sediment sampling. The locations of the subsurface sediment samples for Waterside Investigation Area and background locations are shown on **Figure 2-5A** and **Figure 2-6**, respectively. Geographic coordinates for the sample locations were collected by GPS at the time of sampling, and are provided in **Table 2-2**.

ASI provided vessel-based sampling services and Normandeau supported the mudflat sediment sampling adjacent to the River. The subsurface sediment cores were collected by advancing a Vibracore sampler to a maximum depth of 10 ft below sediment surface, or to refusal, whichever was encountered first.

As with the surface sediment sampling, a program of turbidity monitoring was implemented in accordance with DOEE Water Quality Certification #DC-13-001 and the turbidity monitoring procedures agreed upon by DOEE and Pepco. There were no exceedances of the established background turbidity at any location during the sampling activities. The turbidity monitoring data are presented in **Appendix H**.

To meet the objectives for this task, the sampling was performed as follows:

- The core sampler, equipped with a plastic liner, was driven and extracted at each of the designated sample locations;
- The core liner was extracted from the core barrel and split open;
- If the core recovery was less than 8 ft long, the location was re-cored up to three times, at which point the longest of the three cores was sampled;
- The sediment sample was screened with a PID and logged for physical characteristics as with the surface sediment samples; and
- Samples from up to four horizons within each core were collected (1 to 3 ft, 3 to 5 ft, 5 to 7 ft, and 7 to 9 ft).

A total of 208 discrete interval subsurface sediment samples were collected for laboratory analysis from the 46 sampling locations in the Waterside Investigation Area and the 10 background locations. Analytical methods for the samples are presented in **Table 2-2**.

During this task, the relevant POPs from Appendix A of the SAP were followed for sediment sampling, headspace analysis of VOCs in unsaturated soil samples, sample packaging and shipping, and IDW management.

## 2.3 Phase II Landside Investigation

### 2.3.1 Phase II Landside Mobilization 1, Task 1: On-Site Monitoring Well Redevelopment and Resampling

During 2016, the 30 monitoring wells installed during the Phase I RI/FS field investigation were inspected for damage. The PVC risers in wells MW-08A and MW-08B were broken near the ground surface during the power plant demolition in 2015. AECOM mobilized to the Site on December 1, 2016, to repair these two wells. The repair procedure entailed digging out the concrete well pad, cutting the two risers below the breaks, coupling new PVC pipe to the existing risers to bring them back to grade, sealing the couplings with cement, and pouring a new concrete pad.

A number of the elevated hydrophobic contaminant concentrations detected during the initial sampling of the 30 on-Site monitoring wells in 2014 were attributed to elevated turbidity in the groundwater samples. The elevated turbidity was suspected to be due in part to incomplete well development at the time of monitoring well installation. Removal of the majority of fines from the formation in the vicinity of the well screen during development is critical for obtaining non-turbid groundwater samples and ensuring the long-term capacity of the well to yield groundwater samples representative of the local hydrogeologic conditions.

AECOM completed redevelopment of all 30 on-Site monitoring wells from December 6 to 12, 2016. The wells were manually surged with a surge block along the interval of the well screen, and then pumped using a Whale pump until turbidity levels were reduced to acceptable levels. The final turbidity in all monitoring wells was <10 nephelometric turbidity units (NTU) with the exception of MW-10A, which could only be reduced to <20 NTU. Well development field forms are provided in **Appendix I**.

Following well redevelopment activities, 28 of the 30 on-Site monitoring wells were sampled on December 20 to 22, 2016, to confirm the detections observed during the 2014 sampling event. The wells were sampled by low-flow methods using a peristaltic or Grundfos pump; VOCs were collected by bailer. A summary of the monitoring well groundwater sampling program is provided in **Table 2-2**.

In accordance with Work Plan Addendum #3, groundwater samples were collected from the five monitoring wells that exhibited PCE detections above 2 micrograms per liter (µg/L) (MW-01A, MW-01B, MW-05A, MW-05B, and MW-09A). The samples were collected on April 25, 2017 and submitted for Compound-Specific Isotope Analysis as a fingerprinting technique to determine if the PCE detected at different wells shared the same source.

### 2.3.2 Phase II Landside Mobilization 1, Task 2: On-Site Nature and Extent Soil Delineation

During Phase I sampling activities, several contaminants including PCBs, PAHs, metals, and dioxins and furans were detected in Site surface and/or subsurface soils above project screening levels (PSLs). As a result, delineation sampling was required to horizontally and vertically delineate surface soil contamination at 10 locations: SUSDP05, SUSDP06, SUSDP08, SUSDP10, SUSDP12, SUSDP18, SUSDP19, SUDP20, SUSDP21 and DP44. The sample analysis program for each location is provided in **Table 2-2**. The conceptual approach for horizontal delineation was to conduct step-out sampling around each of the 10 locations. The step-out sampling continued until the extent of impacted soil was delineated to 1.5 times the PSL.

The surface soil samples were collected from the top 12 inches of soil below ground level. In locations where man-made ground covering was present (i.e. asphalt, concrete, base coarse), surface soil samples were collected from the base of the covering to 12 inches below ground surface. In the event that the man-made ground covering extended 12 inches or greater below ground level, no surface soil sample was collected.

AECOM retained GSI to provide DPT drilling services, and E2CR to provide vacuum excavation services to support the surface and shallow subsurface delineation sampling.  Primary sample collection was conducted from January 24 to 30, 2017, with the exception of the DP06 area which required a Washington Metropolitan Area Transit Authority (WMATA) permit.  The DP06 area was sampled on March 20, 2017.  Secondary sampling was conducted on March 23 and 24, 2017, and from July 31 to August 30, 2017.  Six additional rounds of sampling were conducted between January 23 and July 2, 2018, primarily to delineate the extent of PCB, PAH, or total petroleum hydrocarbon – diesel range organics (TPH-DRO) contamination detected in four distinct areas of the Site: the east end of Former Cooling Tower #16 basin, the former salvage yard, the DP19 area parking lot, and adjacent to Building #57.

Target Area 1 Metals Sampling

The area surrounding Target Area 1 in the northwest portion of the Site contains the footprint of the former sludge dewatering area and the former coal pile area.  Due to the Site history and high concentrations of metals detected in this area during Phase I sampling, a more extensive sampling plan was implemented in which a 300 x 500 ft grid was placed over the area.  The grid was sampled for metals using 100 ft spacing, with additional sample points added in the area surrounding SUS08 where historical sludge dewatering primarily occurred.  Surface and subsurface surface soil samples were collected for metals analysis from a total of 28 locations on the Target Area 1 grid over multiple rounds of sampling conducted on January 24, 2017, July 31 to August 4, 2017, and January 30, 2018.  The results indicated elevated total chromium (Cr) concentrations in Target Area 1.  In order to determine the appropriate screening level, the 10 sample locations that exhibited the highest Cr concentrations were resampled on June 29, 2018 and analyzed for both total and hexavalent (VI) Cr.

Former Timber Pole Storage Area and Former Transformer Shop Sampling

A historical records review during development of the Conceptual Site Model Technical Memorandum revealed the historical presence of a timber pole storage area and transformer shops in central areas of the Site where no Phase I soil samples were collected.  The absence of samples in these areas was identified as a data gap in the Phase I Site characterization.  Three surface soil samples were initially collected in the former timber pole storage area (SUSDP48, SUSDP49, and SUSDP 50), and two surface soil samples were initially collected from the former transformer shop area (SUSDP51 and

SUSDP 52) on January 26, 2017. Additional step-out delineation samples were collected in the former timber pole storage area from August 8 to 16, 2017, and on January 30, 2018.

DP19-Area Surface and Subsurface Sampling

As described in the CSM Technical Memorandum, the southeast portion of the Site in the vicinity of DP19 was a railyard from 1937 to at least 1963. This area was converted to a laydown area, and later converted to a parking lot between 1981 and 1988. During Phase I sampling, location DP19 exhibited high levels of PAHs in surface and subsurface soil samples at depths of up to 10 ft bgs. The area around DP19 was gridded and successively sampled in expanding rings to delineate PAH contamination in surface and subsurface soils. Subsurface sampling to the south of DP19 was restricted due to the presence of WMATA aerial and subterranean structures along the southern Site boundary. DP19-area delineation sampling was conducted from January 27 to March 23, 2017, August 16 to 24, 2017, and January 26 to April 5, 2018.

The soil sample analysis program and sample locations are provided in **Table 2-2**. The Phase I and II on-Site soil sample locations are shown on **Figure 2-1**.

### 2.3.3 Phase II Landside Mobilization 1, Task 3: On-Site Soil Forensics Sampling

To obtain information about the nature and possible source(s) of soil contamination detected during Phase I sampling, 22 locations were selected for forensic sampling. The forensic sampling entailed the collection of discrete and composite soil samples between 0 and 16 ft bgs. DPT drilling for the forensic sampling was conducted by GSI from January 24 to March 20, 2017.

The soil sample analysis program and sample locations are provided in **Table 2-2**. The Phase II soil forensics sample locations are shown on **Figure 2-1**.

### 2.3.4 Phase II Landside Mobilization 1, Task 4: On-Site DPT Groundwater Investigation

Two areas of on-Site groundwater contamination identified during Phase I sampling were selected for additional delineation: PCE contamination in the southwest corner of the Site (Target Area 19), and MTBE contamination in the east-central portion of the Site. AECOM retained GSI to conduct the TA19 and MTBE delineation drilling and groundwater sample collection from February 2 to March 20, 2017. Temporary wells were installed using DPT at 11 locations on a 200 x 400 ft grid in the vicinity of TA19. Groundwater samples were collected via inertial pump from the upper and lower water-bearing zones at each sample location for a total of 22 samples. Several of the proposed sample points on the TA19 sampling grid were relocated and two sample points were eliminated due to the high density of underground utilities in this area. The sample locations are summarized in **Table 2-2** and shown on **Figure 2-1**.

In the east-central portion of the Site, MTBE was detected in groundwater during Phase I sampling above the PSL at locations DP32, DP33, and DP45, and in monitoring well MW-13B. To define the limits of the plume, MTBE sampling of the upper and lower aquifers via DPT drilling and temporary well sampling methods was conducted at 11 locations (DP52 and DP54 to DP63). Elevated levels of MTBE in groundwater detected in the lower aquifer at location DP60 on the northern property boundary prompted the installation and sampling of three more temporary wells off-Site to the north (DPOS-01, DPOS-02 and DPOS-03) which are shown on **Figure 2-1**. Although these were off-Site borings, their purpose was to complete delineation of on-Site groundwater contamination, and therefore they are grouped as part of the on-Site DPT groundwater investigation. AECOM retained GSI to conduct the DPOS location drilling and groundwater sample collection from August 21 to 24, 2017.

The on-Site DPT groundwater sample analysis program and sample coordinates are provided in **Table 2-2**.

### 2.3.5 Phase II Landside Mobilization 2, Task 1: Background Soil Sampling

To support the refined background evaluation for soil, surface (0 to 1 ft bgs) and subsurface (3 to 4 ft bgs) Site-specific background soil samples were collected from 20 locations in the vicinity of the Site. These locations were selected away from known or suspected sources of contamination, and were considered to be representative of urban background conditions within northeast Washington, DC. A subset of background samples was selected for forensics analyses to determine the contributions of particular source types to urban background contamination.

AECOM retained E2CR to perform the background soil sampling, which was conducted from February 27 to April 5, 2017. Background soil sample locations are shown on **Figure 2-4**. The background sample analysis program and sample coordinates are provided in **Table 2-2**.

### 2.3.6 Phase II Landside Mobilization 2, Task 2: Background DPT Groundwater Sampling

To support the refined background groundwater evaluation, groundwater samples were collected via DPT drilling and temporary well sampling methods at 10 background locations in the vicinity of the Site. Similar to the background soil sample locations, the background groundwater sample locations were selected away from known or suspected sources of contamination, and were considered to be representative of urban background conditions within northeast Washington, DC. Attempts to collect groundwater samples at six additional locations were not successful due to shallow refusal and/or a non-producing (clay) formation. Attempts were made to collect groundwater samples from both the upper and lower aquifers at each location, however, lower aquifer samples were only collected at four of the 10 sampled locations due to refusal. The results of samples collected in the upper aquifer at 10 locations were used to characterize the groundwater in the UWZ, and results of samples collected in the lower aquifer at four locations were used to characterize groundwater in the LWZ.

AECOM retained GSI to perform DPT drilling for the background groundwater sampling. Initial background groundwater sampling was conducted from March 2 to April 20, 2017 and additional locations were sampled from August 22 to 29, 2017. Background groundwater sample locations are shown on **Figure 2-4**. The background sample analysis program and sample coordinates are provided in **Table 2-2**.

### 2.3.7 Phase II Landside Mobilization 3, Task 1: Anacostia Park Surface Soil Sampling

Records provided by NPS indicate that Pepco had proposed to stage dredge spoils on a portion of the Anacostia Park property during an intake dredging project in 1967. It is not known if the dredge spoil staging activity actually took place. Pepco was required by DOEE to conduct a field investigation in the suspected dredge spoils area within the NPS property. The proposed staging area is located to the west of the Site and adjacent to the Anacostia River as shown on **Figure 2-2**. To investigate the presence and extent of impacts to surface soils in this area of the park property, AECOM characterized the Site using Incremental Sampling Methodology (ISM), a probabilistic sampling method used to determine the overall risk potential in an area. ISM is designed to provide an unbiased and statistically valid estimate of the mean concentration of contamination within each sample area, or decision unit (DU), at a site.

ISM surface soil samples were collected from three DUs at the park property: two DUs along the riverbank and one farther inland, as depicted on **Figure 2-2**. Each of the ISM samples comprised 30 subsamples, or increments, collected using a random sampling pattern within each DU. The increments were collected as 1-foot long cylindrical core (the top 1 foot below grade) by either manual slide hammer or Geoprobe drill rig operated by drilling subcontractor GSI. The ISM samples were collected by compositing 30 grams of soil from each of the 30 increments. The samples were collected by applying six Terra Core® samplers evenly spaced along the 1-foot increment (each Terra Core withdraws approximately 5 grams of soil). The mass of each ISM sample was therefore approximately

900 grams. The collected increments were placed in a plastic bag and kneaded by hand to homogenize in the field.

In accordance with ISM procedures, two additional (replicate) ISM samples were collected from one of the DUs (DU03) to estimate the total sampling error. The replicates were collected in the same manner as described above; however, the samples were collected from different sets of 30 increment locations within the DU, so that a total of 90 locations in DU03 were sampled. In addition to the field replicates, the laboratory was instructed to collect three laboratory replicates from one of the field replicates so that the laboratory error could be quantified. In accordance with the sample preparation methods required for ISM, upon receipt at the laboratory the ISM samples were air dried, disaggregated, and sieved to 2 mm using a #10 mesh screen to eliminate coarser materials not considered part of the soil fraction. Subsamples for extraction were collected by the two-dimensional slab cake method, as described in EPA/600/R-03/027 (USEPA, 2003).

The ISM sample results indicated levels of the metals, arsenic (As), and total chromium (Cr) above their PSLs. These concentrations may be consistent with background levels; however, the samples are unsuitable for statistical comparison to discrete background levels due to the compositional nature of the ISM samples. Therefore, AECOM remobilized to the Anacostia Park property to collect discrete surface soil samples for As and Cr. Surface samples were collected from five locations in each DU totaling 15 sample locations (KM01 through KM15); however, only 12 of the samples were analyzed. Per DOEE comment, three of the 15 samples (KM01, KM06 and KM11) were archived pending the results of the outlier analysis to ensure that a sufficient dataset was available for the statistical comparison to the discrete background dataset.

ISM sampling at the Anacostia Park property was conducted on April 12 and 13, 2017 and the discrete surface soil sampling for As and Cr was conducted on May 5, 2018. The samples were analyzed for both total and hexavalent (VI) Cr to help determine the appropriate Cr screening level. The sample locations are displayed on **Figure 2-2**. The sample analysis program and sample coordinates are provided in **Table 2-2**. The geographic coordinates for the individual increments that comprised the ISM samples were not collected because incremental location data is irrelevant to the evaluation of ISM analytical results.

### 2.3.8 Phase II Landside Mobilization 3, Task 2: Anacostia Park Property Discrete Subsurface Soil and Groundwater Sampling

Groundwater discharges from the Site to the Anacostia River. In this process, any contaminants present in the groundwater discharging from the Site would migrate through the Anacostia Park property located between the Site and the River. Although contamination from suspected dredge spoils staged by Pepco at the Anacostia Park property, if present, was expected to be limited to surface soils, Pepco conducted a limited characterization of subsurface soils and groundwater at the park site to determine if groundwater discharges from the Pepco property are impacting the Anacostia Park property. Three borings (KMY-DU01, KMY-DU02 and KMY-DU03), one in each DU, were advanced by DPT to 20 ft bgs, and soils were logged and field screened for VOCs. Discrete (1-ft interval) soil samples were collected from three depth horizons: 5, 10, and 15 ft bgs. Additionally, groundwater samples were collected from temporary wells installed at each of the three boring locations.

The Anacostia Park discrete subsurface soil and groundwater sampling was conducted April 20 to 21, 2017. Sample locations are shown on **Figure 2-2**. The sample analysis program and sample coordinates are provided in **Table 2-2**.

#### 2.3.9 Phase II Landside Mobilization 3, Task 3: Anacostia Park Property Geotechnical Boring

A single geotechnical boring (SB-6) was initially planned to be installed at the Anacostia Park property during Phase I RI/FS field activities at the request of DOEE to obtain additional geologic data for this area. This boring was not installed during Phase I because the requisite permit from NPS was not issued until after the Phase I field investigation had been completed. E2CR was retained to install SB-6 on April 10, 2017, to a depth of 65 ft, approximately 10 ft into the Arundel Clay. Ten split spoon samples were collected from the boring for physical parameters (grain size, Atterberg limits), and two Shelby tube (undisturbed) samples were collected for permeability analysis. The SB-6 location is shown on **Figure 2-1**. The sample analysis program and sample coordinates are provided in **Table 2-2**.

### 2.4 Phase II Waterside Investigation

#### 2.4.1 Phase II Waterside Mobilization 1, Task 1: Sediment Profile Imaging at Waterside Investigation Area Locations

An SPI reconnaissance survey was proposed to provide additional information for the Waterside Investigation Area surface sediment sampling in support of the BERA. SPI is a valuable tool to help define the depth of the bioactive zone (BAZ), assess benthic faunal composition, and better understand the physical characteristics of the sediment. During the SPI survey, sampling locations were accessed by boat and the SPI camera was lowered to the river bottom and allowed to penetrate the sediment surface prior to photographing the cross-sectional profile of the top 15 to 30 centimeters (cm) of sediment. The sediment profile photographs were analyzed for physical, chemical, and biological features, and scored for apparent redox potential discontinuity, grain size, and evidence of benthic fauna such as the presence of burrows, feeding tubes, or methane bubbles.

The SPI contractor for this work was R.J. Diaz and Daughters of Ware Neck, VA. Vessels, field personnel, and other maritime support services were provided by Normandeau Associates, Inc. of Stowe, PA. The SPI survey was conducted May 17, 2017, at 15 Waterside Investigation Area locations and five background locations. The 15 Waterside Investigation Area locations were all located in the vicinity of the Waterside Investigation Area Cove (the Cove), where the preliminary BERA found potential risks to ecological receptors, and were co-located with 15 stations previously sampled during the Phase I Waterside investigation (**Figure 2-5A** and **Figure 2-5C**). The five in-River background sediment sampling locations selected for the SPI survey (SEDBACK16 through SEDBACK20) were located upstream from the Site (**Figure 2-6**).

Upon completion of the SPI survey, R.J. Diaz and Daughters produced a brief technical memorandum summarizing the data and providing a BAZ depth, which would determine the sampling depth for the Phase II surface sediment samples. During the Phase I Waterside Investigation, a conservative BAZ was estimated to be 15 cm (approximately 6 inches) in depth. After reviewing the results, the SPI contractor recommended a BAZ of 10 cm (approximately 4 inches). The SPI technical memorandum was shared and discussed with DOEE. DOEE agreed with the recommended 4-inch BAZ in the vicinity of the Site.

### 2.4.2 Phase II Waterside Mobilization 2, Task 1: Waterside Investigation Area Surface Sediment Sampling

To support the refined BERA and forensic evaluations, surface sediment samples were collected at 15 Waterside Investigation Area locations in the vicinity of the Cove where Outfall 013 and three non-Pepco outfalls discharge. The preliminary BERA found the greatest potential risks to ecological receptors in the vicinity of the Cove. These locations were co-located with 15 stations sampled during the Phase I Waterside Investigation (**Figure 2-5A** and **Figure 2-5C**). The sample depth for the surface sediment samples was between 0 and 10 cm (0 to approximately 4 inches), coincident with the agreed-upon BAZ. All 15 surface sediment samples were collected for chemical and physical (grain size) parameters, pore water analysis, benthic macroinvertebrate analysis, and laboratory toxicity testing to support the refined BERA. These analyses were conducted using samples collected simultaneously at the 15 locations to provide temporally and spatially synoptic data for ecological risk analysis. Additionally, a subset of the Phase I surface sediment sample locations within the Waterside Investigation Area were selected for forensic analyses.

AECOM contracted Normandeau Associates, Inc. of Stowe, PA to support the sediment sampling activities. Waterside Investigation Area surface sediment sampling was conducted from June 7 to 9, 2017. Surficial sediment samples were collected using a Petite Ponar grab sampler in accordance with the USEPA's (2001) *Method for Collection, Storage, and Manipulation of Sediments for Chemical and Toxicological Analysis: Technical Manual*. Upon retrieving and opening the sampler, the sediment was screened with a PID and immediately sampled for VOCs (if required). The surficial 4 cm (approximately1.5 inches) of sediment was then collected for AVS and SEM prior to homogenization of the remaining sample. The shallow depth for SEM and AVS sampling was selected because the AVS concentration increases dramatically below the top few inches, and therefore sampling at greater depths may fail to indicate the potential bioavailability of divalent metals in the top few centimeters (Van den Berg et al., 1998). This sampling depth was independent of the BAZ.

Following VOC and AVS/SEM sampling, the top 10 cm (BAZ interval) of sediment was scooped out of the Ponar into a disposable pan using a disposable plastic scoop. Oversized material such as twigs, shells, leaves, and stones were removed by hand. The sediment was then logged, homogenized, and placed in appropriate containers for the bulk chemistry analyses listed in the sampling analysis program provided in **Table 2-2**. Bulk sediment chemistry samples were shipped to TestAmerica, SGS, and Alpha Analytical for analysis.

#### 2.4.2.1 Pore Water Sampling and Analysis

Pore water was sampled at the 15 Waterside Investigation Area sample stations to support the ecological and human health risk assessments. Sediment for pore water analysis was collected from the agreed-upon BAZ interval (surficial 10 cm) using the same grab sampling techniques described above for bulk sediment chemistry. Multiple deployments of the Ponar dredge were required to obtain sufficient volume to support all tests. Sediment for pore water testing was containerized in 1-gallon buckets and shipped to Test America and EERC, and analyzed according to the sample analysis program provided in **Table 2-2**.

After receipt at the laboratories, the following methods were used for pore water analysis:

- **Centrifugation/Filtration**: Pore water for metals, dissolved organic carbon (DOC), particulate organic carbon (POC), hardness, and ammonia were obtained via centrifugation of sediment. The POC sample was collected from the post-centrifugation supernatant. The remaining supernatant was filtered via a 0.45 micron filter, and the filtrate was then analyzed using the methodologies outlined in **Table 2-2**.

- **Solid Phase Microextraction**: Pore water samples for PAHs were collected and analyzed ex situ in accordance with ASTM Method 7263, a method that involves centrifugation, flocculation, and solid phase microextraction of the pore water.
- **Sorbent Sampling**: The dissolved PCB concentration in pore water was determined by ex situ sorbent sampling methods using SiREM$^{TM}$ SP3 samplers. EPA method 1668 was used to measure PCBs sorbed to polyethylene sorbents after tumbling and equilibration of a sediment/water/sorbent mixture. Literature values for PCB congener sorbent partition coefficients were used to calculate pore water concentrations from the sorbent concentrations (Lohmann, 2012; Smedes et al 2009).

#### 2.4.2.2 Benthic Macroinvertebrate Sampling and Analysis

A benthic macroinvertebrate community analysis was performed to evaluate the *in situ* response of the benthic community to potential stressors in the Waterside Investigation Area, in support of the BERA. Sediment for benthic macroinvertebrate analysis was collected from the agreed-upon BAZ interval (surficial 10 cm) using the same grab sampling techniques described above for bulk sediment chemistry. Samples were containerized and preserved on the sampling vessel, then shipped to Normandeau Associates, Inc. of Stowe, PA for analysis. Each sample was accompanied by a completed Physical Habitat Assessment form and Human Access Survey form, and documentation of water quality parameters from the overlying surface water, including DO, temperature, pH, and specific conductance.

The laboratory analyses were conducted according to two agency protocols that are applicable to the project: the Maryland Biological Stream Survey Sampling Manual (MDNR, 2014) and the Rapid Bioassessment Protocol for Use in Wadeable Streams and Rivers (Barbour et al., 1999). The samples were sieved through a 0.500-micron mesh sieve and sorted to randomly remove a targeted final count of 80 to 120 specimens.

Four replicate samples were collected at each of the 15 Waterside Investigation Area sample stations. Taxonomic analyses were conducted on three of the four replicates per location. Several measures were taken to ensure quality control of the samples. To comply with the Maryland Department of Natural Resources protocol requirements for quality control, the fourth replicate was analyzed from three locations to compare the density of organisms to the range of densities measured in the first three replicates.

#### 2.4.2.3 Laboratory Toxicity Sampling and Analysis

Laboratory toxicity tests were conducted to evaluate whether direct exposures to sediments have the potential to cause toxicity in ecological receptors. Sediment for lab toxicity testing was collected from the agreed-upon BAZ interval (surficial 10 cm) using the same grab sampling techniques described above for bulk sediment chemistry. The sample was transferred to a clean, laboratory-supplied 1-gallon container. Multiple grabs were required to fill the sample container from each of the 15 Waterside Investigation Area sample stations. Samples were then shipped under chain-of-custody to Aquatec Environmental, Inc. of Williston, VT.

The midge (*Chironomus tentans*) and amphipod (*Hyalella azteca*) were selected as the invertebrate species for a 10-day sediment toxicity testing program. Toxicity testing was conducted in accordance with the USEPA (2000) *Method for Collection, Storage, and Manipulation of Sediments for Chemical and Toxicological Analysis: Technical Manual* (Test Method 100.1: Hyalella azteca 10-d Survival and Growth Test for Sediments, and Test Method 100.2: Chironomus tentans 10-d Survival and Growth Test for Sediments).

### 2.4.3 Phase II Waterside Mobilization 2, Task 2: Background and Forensics Surface and Subsurface Sediment Sampling

Surface and subsurface sampling was conducted at six upstream background sediment sampling locations and 15 forensics locations located adjacent to and downstream of the Site between June 12 and June 27, 2017, using maritime subcontractor Normandeau Associates, Inc. The sampling locations are depicted on **Figure 2-5A** and **Figure 2-6**. The objective of background sediment sampling was to expand the background dataset collected during Phase I and to determine the nature and extent of contamination in sediment at upstream locations not historically impacted by Pepco operations. The forensic sediment sampling was conducted to obtain additional information on the types and possible sources of contamination in sediments adjacent to and downstream of the Site. Pore water, benthic macroinvertebrate, and laboratory toxicity sampling of surface sediment (BAZ interval) was also conducted at five of the six upstream background locations (SEDBACK16 through SEDBACK20) using the methodology described above to support the refined BERA. Prior to sampling, the five upstream background locations were surveyed using SPI, as described in **Section 2.4.1**.

Subsurface sediment samples were collected by driving 4-inch Vibracore samplers to 10 ft below the mudline for core sample collection. Subsurface samples at the six upstream background locations were intended to be collected on 2 ft intervals of 1 to 3, 3 to 5, 5 to 7 and 7 to 9 ft below the mudline.

However, due to multiple refusals, upstream background samples could not be collected from the 5-7 and 7-9 ft depth intervals. Background subsurface samples were analyzed according to the sample analysis program provided in **Table 2-2**.

The 15 forensics sediment sampling locations were sampled on 1-ft intervals between 0 and 10 ft below the mudline. Intervals beginning with even numbers (0, 2, 4, 6, and 8) were analyzed immediately for PAHs, PCBs, and saturated hydrocarbon (SHC). All intervals were archived for possible future analysis.

### 2.4.4 Phase II Waterside Mobilization 3, Task 3: High Resolution Coring

High-resolution cores were collected from three locations within the Waterside Investigation Area on June 20 through 22, 2017, by subcontractor Normandeau Associates, Inc. High-resolution refers to sediment core sampling on a finer scale, i.e., intervals that are 10 cm (approximately 4 inches) in length. The high-resolution cores facilitate the use of geochronological dating methods, which can be used to evaluate sedimentation and burial processes within a stream channel, and can provide information about the deposition of contamination over time. As shown in the sample analysis program provided in **Table 2-2**, high-resolution core samples were submitted for radioisotope analyses (Be-7, Cs-137, and Pb-210) for radiometric dating, and chemical analysis for PCBs, PAHs, TPH-DRO/oil range organics (OROs) and metals. A subset of high resolution core samples was analyzed for forensic parameters (APAH, SHC, GBM, and/or PCBs).

The three high-resolution coring locations (SED1.5C, SED5B, and SED7F) are shown on **Figure 2-5A** and **Figure 2-5C**. Two of these locations (SED5B and SED7F) were previously sampled during Phase I. Sample station SED7F is located in the Cove, and station SED5B is located within the Waterside Investigation Area between the Cove and the Benning Road Bridge; these locations were selected to provide mid-channel stratigraphic data of contaminant deposition quantities and rates over time. Station SED1.5C was located south of the Benning Road Bridge and adjacent to Pepco Outfall 101; this location was selected to provide information regarding the potential contribution of contamination from the outfall to the River.

Chronology and deposition rates of Anacostia River bedded sediments were estimated by measuring changes in the levels of atmospherically deposited radioactive isotopes in the high-resolution cores over time. The following radioactive isotopes were evaluated to aid in the geochronological sediment dating:

- Beryllium-7 is used as a short-term tracer of sediment deposition.  This naturally occurring radioisotope from cosmogenic sources in the atmosphere has a very short half-life and its activity is highest at the sediment surface and decreases rapidly with movement toward the bottom of the core.  The beryllium-7 activity can be used to determine whether the surficial sediment layer is depositional as opposed to erosional.
- Cesium-137 profiles (depth, area, and shape of cesium peak) provide a means of determining the age of a sediment layer.  The cesium-137 profiles are compared to the time of known cesium-137 releases and peak activity (between 1959 and 1964 due to above-ground nuclear weapons testing) to provide discrete time markers with depth.  These results can help determine if sediment deposition has been continuous and relatively undisturbed.
- Lead-210 profiles provide a means of estimating burial rates based on the decay rate of lead-210 with depth (linear regression).  Lead-210, a naturally-occurring radioisotope, has a relatively constant input to the environment from the decay of atmospheric radon-222 and constant decay rate, which are used in combination to calculate sedimentation rates. Radium-226 was also measured to provide additional data to refine the lead-210 curve.

### 2.4.5 Phase II Waterside Mobilization 3, Task 4: City Storm Drain Sediment Sampling

To evaluate potential contributions to River contamination from urban stormwater discharges, two storm drain sediment samples were collected from city storm drains that discharge at outfalls F-477-827 and F-025-074, which correspond with samples SDRF477827 and SDRF025074, respectively.  The storm sewer pipes were accessed at manholes upgradient from the outfalls; the manhole sampling locations are shown on **Figure 2-6**.  These samples were collected using a disposable sample scoop at the end of an extendable pole to reach and scoop out the accumulated storm drain sediment within the manhole.  The samples were analyzed according to the sample analysis program provided in **Table 2-2**.

## 2.5 Investigation-Derived Waste Management

IDW generated during the Phase I and II investigations included the following:

- Disposable material such as Geoprobe/Vibracore liners, personal protective equipment, plastic sheeting, etc.
- Drill cuttings
- Excess soil/sediment leftover from sampling activities
- Well development water
- Purge water

- Decontamination water

All IDW was containerized and staged on the Benning Road Facility site and sampled for RCRA waste characteristics and PCBs. These wastes were managed by Pepco as dictated by the waste characterization results and disposed of at approved off-Site disposal facilities. Disposal quantities and destinations for IDW created during the RI/FS investigation are as follows:

Phase I:

- 15,333 pounds of solid waste were disposed of at Veolia ES Technical Solutions, LLC, 4301 Infirmary Road, West Carrollton, OH 45449.
- 29,280 pounds of solid waste were disposed of at Old Dominion Landfill, 2001 Charles City Road, Henrico, VA 23231.
- 7,515 gallons of liquid waste were disposed of at CIPF Industrial/Domestic Wastewater Facility, 16232 Elliot Parkway, Williamsport, MD 21795.

Phase II:

- 22,744 pounds of solid waste were disposed of at Veolia ES Technical Solutions, LLC, 4301 Infirmary Road, West Carrollton, OH 45449.
- 4,640 pounds of solid waste were disposed of at King George Landfill, 10376 Bullock Drive, King George, VA 22485.
- 2,495 gallons of liquid waste were disposed of at CIPF Industrial/Domestic Wastewater Facility, 16232 Elliot Parkway, Williamsport, MD 21795.

Copies of the waste manifests for transportation and disposal of the RI/FS IDW are provided in **Appendix J**.

## 2.6 Ecological Investigation

On December 17, 2014, an AECOM ecologist and scientist visited the RI/FS Study Area to conduct an ecological site assessment using the USEPA's Ecological Assessment Checklist (USEPA, 1997b) as specified by USEPA Region 3 ecological risk assessment guidance (http://www.epa.gov/reg3hwmd/risk/eco/faqs/slera.htm). The completed checklist is provided in **Appendix K**. The ecological risk assessment was based on the December 17, 2014, site visit and on incidental observations of wildlife in the Study Area by AECOM during RI field activities. The assessment focused on evaluating the aquatic habitat within the Waterside Investigation Area.

## 2.7 Deviations from the Work Plan

This section describes the deviations from the approved RI/FS Work Plan during the implementation of the Phase I and II RI/FS field activities. Deviations in sample numbers are noted in **Table 2-2**, and other deviations are noted below. In a majority of cases, the deviations resulted in Pepco performing more work than the work plan required.

<u>Phase I Landside Investigation</u>

- Eight ERI survey transects were proposed in the work plan; 10 were conducted. The proposed ERI survey transect through Target Areas 1 and 10 was divided into two surveys because a transformer storage area obstructed the path between the two Target Areas. Additionally, two proposed transects, one that pass through Target Areas 4 and 13, and one that would pass through Target Area 7, were too long to be imaged and therefore were divided into two transects each to obtain the required data. These field changes resulted in a total of 10 transects.
- During the installation of geotechnical soil borings during Landside Phase I, Task 5, several Shelby tube samples of the Arundel clay could not be collected as proposed. Multiple attempts were made at collecting these samples, but were hampered by Shelby tube samplers getting damaged and/or stuck in Arundel clay due to the stiffness of the clay.
- During Phase I, 40 DPT borings were proposed; however, 47 were installed. The additional seven borings were advanced to investigate subsurface anomalies identified during the ERI surveys, primarily in Target Areas 1 and 13.
- A dynamic approach with a mobile lab was proposed for soil samples collected during the Phase I Landside Mobilization 2 investigation; however, all samples were sent to a fixed lab. A mobile lab was not used due to the following reasons:
    - Given the long history of the facility and presence of numerous utilities, a multi-step utility clearance program was needed to clear utilities prior to drilling. The multi-step process involved calling One-Call Utility Service, having a private utility locator mark/clear utilities around a proposed boring, and having Pepco's utility/facility coordinators verify that there are no other undocumented utilities in the boring vicinity. Due to safety concerns, this multi-step process required a significant lead time and precluded the use of a more dynamic approach.

- There was no indication of significant source areas during Phase I sampling and ERI verification borings. Pepco was prepared to perform additional sampling depending on the results from Phase I Landside Mobilization 2 sampling, as necessary.
- The DCRA drilling permit limited the number and locations of soil borings. Additional borings would have required permit revisions. This process would take several weeks and would not be conducive to the planned dynamic approach.
- There are limited options for mobile labs to produce quality data, and they have limited availability. Working out the field logistics within the confines of the consent decree required work plan and permit approvals, which would have prolonged the field activities schedule significantly. A decision was made, therefore, to send all samples targeted to be analyzed using a mobile lab to a fixed lab to obtain higher quality data.

- Pepco employed a mobile lab in conjunction with DPT sampling for the PCE investigation. The PCE investigation required real-time tracking of the PCE source, and using mobile labs for field analysis of volatiles such as PCE is more common.

Phase I Waterside Investigation

- Two sediment samples, WSED1 and WSED2, were proposed to be collected within the constructed wetland area to the west of the Site. However, due to accessibility restrictions posed by the presence of sheet piling around the constructed wetland, these two samples were collected in the River channel just outside the wetland area (**Figure 2-5A** and **Figure 2-5B**).
- Several sediment samples were offset from their proposed locations because of utilities, sand bars, poor core recoveries, or other restrictive conditions in the River.

Phase II Landside Investigation

- During on-Site surface soil delineation sampling, several primary samples needed to be moved or eliminated due to access restrictions or utility hazards. Samples were eliminated from the following delineation areas:
  - SUS06: One sample on the south side and three samples on the north side of the primary ring were not collected due to the presence of subsurface utilities and WMATA structures to the south, and an electrical substation to the north.
  - SUS19: One sample on the south side of the primary ring and all samples on the south side of the secondary ring could not be collected due to the presence of WMATA structures.

- o SUS21: One sample at the southwest corner of the primary ring was not collected due to the presence of Building #57.

- Temporary well groundwater samples collected in the MW-1 and MW-2 area were not sampled for PAHs as proposed. DOEE agreed that this analyte was not required because naphthalene detected above its screening level at MW-2 during Phase I activities was attributed to turbidity, and resampling results from MW-2 during Phase II sampling no longer indicated any PAH impacts to groundwater that would necessitate further investigation.

- During on-Site soil forensics sampling, samples below 2 ft bgs that were proposed to be collected as both discrete (1 ft interval) and composite (greater than 1 ft interval) samples, were collected as composite samples only. The discrete samples were proposed to be held at the lab for possible analysis. However, after discussion with DOEE, it was agreed that the uncollected discrete samples at these intervals were not required.

- Off-Site fixed monitoring wells that had been identified and proposed to be sampled for background groundwater were ultimately not sampled for one of these reasons: the wells were near known contaminant sources, access was restricted, or no well construction information could be found regarding them. Background groundwater sampling was instead conducted solely by DPT temporary well sampling.

<u>Phase II Waterside Investigation</u>

- Several sediment samples were offset from their proposed locations because of utilities, sand bars, poor core recoveries, or other restrictive conditions in the River.

- Upstream background sediment samples could not be collected from the 5 to 7 and 7 to 9 ft depth intervals due to multiple refusals.

- City storm drain sediment samples were proposed at manholes F-294-739 and F-656-309; however, there was no sediment observed during the sampling event. Five additional manholes were evaluated for sediment, and of these, only two contained sufficient sediment volume for sample collection (F-025-074 and F-477-827).

# 3 Physical Characteristics of the Study Area

This section summarizes the physical characteristics of the Study Area as determined from the RI/FS field activities described in Section 2, and a review of recent and historic literature. An understanding of the Site's physical characteristics is essential to explain potential contaminant transport pathways and receptor populations, and to inform subsequent screening and development of the alternatives in the FS. Chemical characteristics describing the nature and extent of contamination within the Study Area is the subject of Section 4.

## 3.1 Recent Site Improvements

This section provides a summary of recent Site improvements; a full account of historical improvements is provided in the CSM Technical Memorandum (AECOM, 2016b). The 77-acre Site is principally used as the Benning Service Center, which supports the operations and maintenance activities for Pepco's electric power transmission and distribution system in the Washington, DC area. A Site Plan is provided as **Figure 1-2**. Site improvements consist of paved roadways, parking lots and materials storage areas; three electrical substations; high-tension electrical transmission and distribution wires; and several warehouses, small buildings, and trailers in use by Pepco and Pepco subcontractor personnel. The Site topography slopes generally toward the west, and reaches a topographic high point in the south-central area of the Site along Benning Road. Surface elevations range from about 11 ft NAVD88 near the River along the western Site perimeter to about 36 ft NAVD88 on the east side of the Site, and the topographic high is along the southern Site boundary. The Site is approximately 70% impervious surface; a surface cover map of the Site is provided as **Figure 1-7**.

The former power plant building in the western portion of the Site was demolished in late 2014 and early 2015. The concrete foundation was left in place and the area was backfilled to grade with certified clean fill. Site restoration activities were completed in May 2015. The cooling tower superstructures in the northwestern portion of the Site were demolished in early 2014. During 2017, the cooling tower concrete basins and PCB-impacted soils in the vicinity of the former cooling towers were removed in accordance with the Self Implementing Remediation Plan (SIP) (AECOM, 2014) and the Cooling Tower Basins Soil Removal Action Plan (AECOM, 2015). The SIP for the removal of the cooling tower basins was prepared in accordance with the TSCA Regulations at 40 CFR 761.61(a), and approved by USEPA on May 2, 2014. The RAP for the excavation of PCB-impacted soils adjacent to and beneath the cooling tower basins was approved by DOEE on July 29, 2015. Site restoration activities were conducted during March through May 2017 and included the installation of two stormwater bioretention ponds in the footprint of the former cooling tower basins. The cooling tower removal activities are summarized in the Cooling Tower Basins Remedial Action Completion Report (AECOM, 2017), submitted to DOEE on September 11, 2017.

Four ASTs associated with the former power plant were located at the Site (ASTs #1, #2, #3, and #4 with capacities of 61,800, 1,847,000, 1,984,000, and 50,000 gallons, respectively). Three of these ASTs (#1, #2, and #3) were in the central-western portion of the Site (Target Area 13) and one (#4) was near the northwest corner of the site (Target Area 3). All four ASTs were demolished and removed in early 2013. Benning Service Center uses several other ASTs to store oil. All of these ASTs are either double-walled or located in secondary containment. Additional details are provided in the latest version of the facility Spill Prevention, Control and Countermeasures Plan.

A new fueling island was constructed in 2017. Two ASTs, each with a capacity of 12,000 gallon, one storing diesel and one storing gasoline, were installed for fueling Pepco vehicles. In addition, two stormwater bioretention ponds were constructed to treat the stormwater runoff from the fueling island before it is discharged to the main storm drain pipe.

The three active electrical substations (#7, #41, and #45) are each surrounded by a chain-link fence. Substation #7 is located along Foote Street at the Site's northeastern perimeter and is approximately 4.5 acres in area. Substation #41 is located along Anacostia Avenue in the northern portion of the Site, to the east of the former cooling towers, and is approximately 3 acres in area. Substation # 45 is located west of and adjacent to the Site main entrance on Benning Road and is approximately 1 acre in area. There is no PCB equipment currently in use at these substations.

Building #56 in the southeast corner of the Site is used to service and repair transformer equipment. As a result of Pepco's longstanding program to remove PCB equipment in the course of system repairs and upgrades, there are no known PCB transformers in Pepco's electrical distribution system.

If any transformers without a manufacturer-certified non-PCB label are brought to the Site for service, they are assumed to contain PCBs until tested. Therefore, untested transformers are staged at the Transformer Shop holding area, located outside of Building #56, which consists of an approximately 42 ft by 22 ft concrete pad surrounded by a 1-foot high concrete berm. All materials delivered to this area are tested for PCB content. Recovered oil containing 50 parts per million (ppm) PCBs or greater is drummed and moved to a TSCA-approved storage facility in Building #69 (PCB building) for storage pending off-Site disposal at a Pepco-audited and approved disposal facility. Recovered oil containing < 49 ppm PCB is pumped to two 10,000-gallon holding tanks, designated for accumulating oil containing < 49 ppm PCBs in Building #57. These tanks are installed in concrete vaults, which act as secondary containment. This waste oil is removed as needed by tanker truck to an approved off-Site disposal facility. The concrete vault containing the waste oil tanks and the tanker truck loading area are both marked with PCB $M_L$ labels.

A Transformer Storage Shed (Building #67) was constructed in 2016 for temporary storage of transformers that have been removed from service and brought to the Site for processing and disposal.

As shown in the storm sewer drainage map provided in **Appendix A**, there are two storm drain systems at the Site. The majority of the Site is drained by the main storm drain system that traverses the Site from southeast to northwest and discharges to the River at Outfall 013. The west side of the former Power Plant building is drained by a smaller storm drain system that discharges to the River at Outfall 101.

An Environmental Data Resources, Inc. (EDR) data package for the Study Area was obtained as part of a records search for the RI/FS. A relevant portion of the EDR package, including historical aerial photographs, is included in **Appendix L**, and a summary of the historical development of the Site based on the aerial photographs and historic literature is provided in **Table 3-1**. The aerial photographs show the development of the Site and the surrounding area between 1937 and 2011. Geomorphological changes to the Anacostia River over time can be observed in the historical aerial photographs. In 1940, dredging and filling activities were conducted north of the Site in Kenilworth Marsh, ostensibly to create a recreational lake (NPS, 1995). Throughout the 1950s and 60s, a significant portion of this was filled in with materials including refuse from open burning, incinerator ash, and raw municipal waste, as part of the operation of the Kenilworth Park Landfill.

## 3.2 Meteorology

Washington, DC is in the humid subtropical climate zone. Meteorological data were obtained from the NOAA National Climatic Data Center website for Ronald Reagan Washington National Airport, located approximately 5 miles southwest of the Site. The historical data (1871 to present) indicate that the Washington, DC metro area receives an average of about 40 inches of precipitation annually, and daily mean temperatures range from about 36°F in January to 80°F in July, with a mean annual temperature of 58°F.

Three years of hourly meteorology data (2012 through 2015) were analyzed for Ronald Reagan Washington National Airport's meteorology observation tower. Over the 3 years, the prevailing wind observed was from the south. Wind from due south and south-southwest accounted for 24% (13%

being due south) of all wind occurrences for the area. The second most prevalent wind came from the north-northwest, accounting for 10% of the observations. The average wind speed was approximately 4 meters per second (m/sec) with 46% of the wind speed observations being between 1 and 4 m/sec. Lastly, 11% of the hourly observations were calm. Three-year and 30-year wind roses for the airport are provided in **Appendix M**.

### 3.3 Surface Water Hydrology

The Anacostia River watershed encompasses an area of approximately 456 square kilometers ($km^2$) (176 square miles [$mi^2$]) within the District of Columbia and Maryland, and lies within two physiographic provinces, the Piedmont Plateau and the Coastal Plain. Watershed maps are provided in **Appendix N**. The Anacostia River begins in Bladensburg, MD, at the confluence of its two major tributaries, the Northwest Branch and the Northeast Branch, and flows a distance of approximately 8.4 miles before it discharges into the Potomac River in Washington, DC (Sullivan and Brown, 1988). Because of its location in the Washington metropolitan area, the majority of the watershed is highly urbanized. An analysis of geographic information system (GIS) layers prepared by the Metropolitan Washington Council of Governments (MWCOG) indicates that land use in the watershed is approximately 43% residential, 11% industrial/commercial, and 27% forest or wetlands, with 22.5% of the area of the watershed covered by impervious surfaces (MWCOG, 2007).

Sedimentation has been a problem in the tidal Anacostia River since colonial times (Scatena, 1987). Estimated average annual sediment discharge into the tidal embayment of the River was 134,420 tons for 1963 and 137,600 tons for 1981. Because of the low flow velocities in the tidal portion of the River, the majority of sediment entering the tidal embayment is thought to settle and remain in the tidal River, rather than being discharged to the Potomac. Based on a variety of methods, including analyses of historical bathymetry records, dredging records, and pollen profiles of sediment bed core samples, Scatena (1987) estimated sedimentation rates in the range of 1.2 to 9.1 centimeters per year (cm/yr) (0.5 to 3.6 inches per year [in/yr]). More recently, radiometric dating using Cesium-137 on cores collected near the Washington Navy Yard and the Southeast Federal Center sites indicated a sedimentation rate of approximately 4.0 to 6.5 cm/yr, or 1.6 to 2.6 in/yr (Velinsky et al, 2011). These sedimentation rates were measured 2 to 3 miles downstream of the Site, therefore, the lower range of the sedimentation rates is more appropriate for the Study Area.

The Anacostia River is subject to tidal influence. River surface elevations in the Study Area generally range from approximately -1.7 ft to 3.3 ft MLLW. The average variation in the River's stage over a tidal cycle is approximately 1 meter (3.3 ft). The width of the River varies from approximately 60 m (197 ft) in some upstream reaches to approximately 500 m (1640 ft) near the confluence with the Potomac, and average depths across a transect vary from about 1.6 m (5.2 ft) near Bladensburg to about 6.2 m (20.3 ft) just downstream of the South Capitol Street Bridge. During base flow conditions, measured flow velocities during the tidal cycle have been in the range of 0 to 0.3 meters per second (m/sec) (0 to 1 feet per second [ft/sec]) (Katz et al., 2001).

Based on a review of NOAA's Office of Coast Survey Navigation Chart #12289 dated October 2010, the navigable Anacostia channel ends before the Pennsylvania Avenue Bridge, which is approximately 1.6 miles downstream of the Site. According to information provided by the USACE per telephone conversation on March 9, 2012, the most recent navigational dredging was performed prior to 2002, and included dredging up to Bolling Air Force Base. Pepco conducted cooling water intake dredging adjacent to the Site in 1995 and 1996, and the Maryland National Capital Parks and Planning Commission is known to dredge the River in the Bladensburg area (Pepco, 1995b).

At mid-tide conditions, the navigational channel in the Study Area ranges in depth from approximately 5 to 17 ft. The deepest part of the channel is generally the outside of each bend, where flow velocity and erosional forces are greater. A sand bar is in evidence directly south of the Benning Road Bridge, likely due to greater sediment deposition in this area caused by the interruption in flow downstream of the bridge pier. A bathymetric map of the Waterside Investigation Area based on a hydrographic survey performed by GBA is provided as **Figure 3-1**. Side scan sonar imagery for the Waterside Investigation Area is provided as **Figure 3-2**. The side scan sonar imagery shows several objects on the river bottom, including trees and tree stumps, wire fencing, shoreline sea walls, and the two previously identified cable crossings. The east shoreline seawall and the cable crossings are displayed on **Figure 2-5A**. Mud flats are exposed at low tide along the eastern bank of the River on either side of the Benning Road Bridge and in the area of the Cove into which Outfall 013 and three adjacent non-Pepco outfalls discharge. Two constructed wetlands surrounded by sheet piling exist along the eastern bank of the River in the Waterside Investigation Area: one directly west of the Site, and another approximately 325 ft south of the Benning Road Bridge.

Geologic logs for the River coring locations collected during the RI activities revealed the presence of primarily silt deposits in the sediment column from 0 to 10 feet below top of sediment. In many cases the silt deposits were underlain by sandy sediments between 5 and 10 feet below top of sediment. Trace organic material was ubiquitous within the surficial 2 feet, including leaves, twigs, and macroinvertebrates.

## 3.4 Geology

### 3.4.1 Regional Geology

The facility is located within the Coastal Plain Physiographic Province, which is characterized by eastward thickening sequences of unconsolidated deposits. The western limit of the Coastal Plain Province is referred to as the Fall Line, where the metamorphic and igneous bedrock of the Piedmont Physiographic Province dips to the southeast beneath the younger sediments of the Coastal Plain (Johnston, 1964). The Fall Line is located approximately 5 miles west of the Site.

The Coastal Plain consists of an eastward-thickening wedge of unconsolidated sedimentary deposits ranging in geologic age from Cretaceous to Recent. These unconsolidated sediments consist of gravels, sands, silts, and clays that have been deposited upon the consolidated crystalline bedrock which slopes towards the southeast (**Figure 3-3**). Many different depositional environments existed during the formation of the Coastal Plain sediments. Glacially influenced periods of erosion and deposition, fluvial (river) processes, and structural deformations of the sedimentary deposits have all played a part in the evolution of the Coastal Plain. As a result of these processes, the presence, thickness, and lateral continuity of these sedimentary deposits in the Coastal Plain are highly variable.

### 3.4.2 Site-Specific Geology

The soils underlying the Site consist primarily of (from shallowest to deepest) artificial fill material, the Patapsco Formation, the Arundel Clay unit, and the Patuxent Formation. The Patuxent Formation overlies the crystalline bedrock. The RI/FS subsurface investigation principally targeted the artificial fill material and the Patapsco Formation at the Site, while confirming the depth of the Arundel Clay at several locations.

The artificial fill material at the Site primarily consists of infrastructure (utilities and structures), historical fill material used to level the Site, and relatively impermeable pavement (asphalt and concrete). Fill material thickness averages about 5 to 8 ft across much of the Site. Areas with thicker layers of fill material include the former sludge dewatering area and areas where subterranean tunnels and storm drains exist.

Fill material in the former sludge dewatering area to the south of the cooling towers is approximately 14 ft thick, fill material surrounding the intake and discharge tunnels to the west of the former power plant are approximately 20 ft deep, and fill associated with the underground Metro line underlying the southeast portion of the Site along Benning Road is approximately 25 to 30 ft deep. The main 54-inch storm drain that traverses the Site from southeast to northwest reaches up to 20 ft bgs where it exits to the north of the Site at Outfall 013.

The Patapsco Formation in the area of the Site consists of a highly variegated mixture of brown and gray clays, silts, and graded sands, with lenticular beds of coarse sands and minor gravels. The subsurface investigation identified a silt-clay semi-confining layer underlying much of the Site and dividing the Patapsco Formation aquifer into an upper water-bearing zone and lower water-bearing zone. The top of the silt-clay layer was encountered between 25 and 40 ft bgs, and the layer averaged about 6 ft in thickness. An isopach map showing the approximate thickness of the silt-clay layer within the Patapsco Formation at the Site is presented in **Figure 3-4**.

Underlying the Patapsco Formation is the Arundel Clay, a distinct regional confining layer consisting of very stiff, fat, mottled maroon and dark gray clay. The Arundel Clay underlies the Site at a depth of between 45 and 85 ft bgs, and generally dips toward the west. The thickness of the Arundel Clay varies, but has been observed to be as much as 100 feet thick (USGS, 2002).

Beneath the Arundel Clay are the unconsolidated gravels, sands, and clays of the Patuxent Formation. The top of the Patuxent Formation has been reported to be located at approximately 125 to 180 feet below ground surface in nearby environmental assessments (NPS, 2008). The crystalline bedrock underneath the Patuxent Formation is located at approximately 400 feet beneath the Site.

Geologic data from RI/FS and historical borings were used to create generalized geologic cross sections for the Site at the transects shown on **Figure 3-5**. Cross section A-A’ (**Figure 3-6**) runs in the north-south direction along the western Site perimeter, and shows a surficial fill layer, the silt-clay semi-confining layer that divides the UWZ and LWZ, and a deeper silt-clay deposit that overlies the Arundel Clay. This cross section also includes a USGS lithologic boring (DCHP01) that was completed in 2002 on the mud flat to the northwest of Outfall 013 (USGS, 2002). The geologic log for this boring, as well as a regional geologic profile produced by the USGS, is provided in **Appendix O**.

Cross section B-B’ (**Figure 3-7**) runs in the north-south direction through the middle of the Site, and was created from lithologic data collected during the RI/FS, as well as one historical geotechnical boring (GEO-B-7) that was installed by Geomatrix, Inc. in 1988. Similar to cross section A-A’, cross section B-B’ shows a surficial fill layer, the silt-clay semi-confining layer, and a deeper silt-clay deposit that overlies the Arundel Clay, as well as several silt or clay lenses within the Patapsco Formation. The water table generally follows the surface topography.

Cross section C-C' (**Figure 3-8**) traverses the length of the Site from east to west, and includes RI/FS borings as well as historical geotechnical borings installed by Geomatrix, Inc. in 1988 (GEO-B-3 and GEO-B-36) and CTI Consultants, Inc. in 2009 (CTI-B-5 and CTI-B-3). The cross section shows a surficial fill layer, the silt-clay semi-confining layer, a deeper silt-clay deposit that overlies the Arundel Clay, and several silt or clay lenses. It should be noted that the three cross sections are generalized and do not show the numerous small (<1 foot thick) lenses of silt and clay that were encountered within the UWZ and LWZ of the Patapsco Formation. The water table generally follows the surface topography.

Geologic logs for the borings and monitoring wells installed during the Landside and Waterside Investigations are provided in **Appendix F**. Landside boring locations are shown on **Figures 2-1**, **2-2**, and **2-3**, and Waterside coring locations are shown on **Figures 2-4** and **2-5**. Laboratory reports for the geotechnical analyses are provided in **Appendix P**, and a summary of the geotechnical results is provided in **Table 3-2**.

## 3.5 Hydrogeology

### 3.5.1 Regional Hydrogeology

Based on the literature reviews and information from adjacent sites, aquifers underneath the Site consist of saturated sand layers within the Patapsco and Patuxent Formations and include (from shallowest to deepest) the Upper Patapsco Aquifer, the Lower Patapsco Aquifer, the Upper Patuxent Aquifer, and the Lower Patuxent Aquifer. The Lower Patapsco and Upper Patuxent Aquifers are separated by the thick Arundel Clay unit. The Arundel Clay has very low conductivity and acts as a regional aquitard between the Patapsco and Patuxent Formations. A geotechnical analysis of Arundel Clay samples collected during the RI/FS indicated that the Clay's hydraulic conductivity is on the order of 10-9 ft/sec. The Patuxent Aquifer, located beneath the Arundel Clay, flows under confined conditions towards the east (DC Water Resources Research Center, 1993). In the vicinity of the Site, the regional groundwater flow direction in the shallow aquifer is generally toward the northwest as shown on **Figure 3-9**.

### 3.5.2 Site-Specific Hydrogeology

The water table aquifer (UWZ) generally ranges from 9 to 16 ft bgs, but reaches as deep as 26 ft bgs in the vicinity of the topographic high in the south-central portion of the Site. The piezometric surface of the LWZ aquifer at the Site generally averages 0 to 2 ft deeper than the UWZ water table. The vertical hydraulic gradients at the 15 nested well locations during mid-tide conditions are provided in **Table 3-3**. All locations exhibit a downward vertical hydraulic gradient except for MW-2, MW-6, and MW-7, which show slight upward vertical gradients.

Groundwater contour maps were prepared for average (mid-tide) groundwater levels in the UWZ and LWZ (**Figure 3-10 and Figure 3-11**, respectively). Mid-tide groundwater levels were computed from gauging measurements collected during mid-tide conditions in the Anacostia River. Based on the results of the tidal study, there is little variation in water levels (1 to 3 inches) across much of the Site (excluding the southwest corner near the dredged inlet [MW-01]) between low and high tides. The direction of groundwater flow in both aquifers is generally toward the River to the west. In both aquifers, groundwater flow in the northern and eastern portions of the Site is toward the northwest, while groundwater flow in the western and southern portions of the Site is toward the west or southwest. In both the UWZ and LWZ, horizontal hydraulic gradients become shallower nearer the River. During high tide conditions, hydraulic gradients in the southwestern portion of the Site may flatten completely or temporarily change directionality. Horizontal hydraulic gradients ranged from approximately 0.0007 to 0.01 in the UWZ, and approximately 0.002 to 0.02 in the LWZ.

A 48-hour tidal study conducted in six well pairs showed evidence of tidal influence across the Site in both the upper and lower aquifers. The greatest influence by far was observed at MW-1 in the southwest corner of the Site, where groundwater levels in both the UWZ and LWZ varied by approximately 3 ft over a tidal cycle. MW-1 is directly adjacent to the area of the River that was dredged by Pepco in 1996 to provide cooling water to the Power Plant via intake/discharge tunnels. Groundwater levels across the rest of the Site in both the UWZ and LWZ fluctuated by only 1 to 3 inches over a tidal cycle, and exhibited less variation with increasing distance from the River. The results of the tidal influence study indicate a hydraulic connection between the River and the UWZ and LWZ aquifers at the Site, but with the exception of the southwest corner of the Site the degree of tidal influence by the River on the Site water table is minimal. The results of the tidal study are provided in **Appendix Q**.

The results of the aquifer testing conducted in eight well pairs distributed evenly across the Site indicate that hydraulic conductivities in the UWZ and LWZ range from approximately 10-6 to 10-5 m/sec, which is consistent with unconsolidated deposits of silty sands or fine sands (Freeze and Cherry, 1979; Fetter, 1988). The results of the aquifer testing are presented in **Table 3-4**, and summary reports for the aquifer tests generated by AQTESOLVTM are provided in **Appendix R**.

### 3.6 Land Use and Demography

The Site is located in Ward 7 in the District of Columbia, within the 20019 zip code. Ward 7 sits on the most eastern part of the city and is typified by single-family homes and parks. It is home to a number of Civil War fort sites that have since been turned into parkland, including Fort Mahan Park, Fort Davis Park, Fort Chaplin Park, and Fort Dupont Park. Ward 7 is also home to green spaces such as Kenilworth Aquatic Gardens, Watts Branch Park, Anacostia River Park and Kingman Island. Ward 7 also has an extensive waterfront along the Anacostia River with riverfront neighborhoods. River Terrace, Mayfair, and Eastland Gardens abut the east side of the River, while Kingman Park sits to the west.

This area is primarily urban with the Anacostia River bordering the area to the west. The Anacostia Freeway is the main north-south highway and East Capitol Street NE is the main east-west highway. Transportation in the vicinity of the Site takes the form of light rail or motorized vehicles. The WMATA operates the light rail system in Washington, DC (i.e. Metrorail). The Minnesota Avenue Metrorail station is located immediately to the east of the Site. Approximately 19% of the population in the 20019 zip code use Metrorail to commute to and from work, with an average of 3,274 people using the Minnesota Avenue station per day. A large percentage of the local residents use automobiles, either singly or in carpools, to commute to and from work.

Minnesota Avenue is zoned as commercial in the vicinity of the Site. In addition, a commercial light manufacturing corridor exists along the Kenilworth Avenue/Metrorail tracks. Property along Benning Road is zoned sporadically as commercial. All other surrounding areas are largely residential. The majority of the housing units are either single-family detached or single-family attached units, most of which were built between 1940 and 1969. There are three high schools, 21 public primary/middle schools, and five private primary/middle schools within the boundaries of zip code 20019. Four of the schools are located within a 0.25-mile radius of the boundary of the Site: Thomas Elementary School, Cesar Chavez Middle and High School, Benning Elementary School, and River Terrace Elementary School (Google Earth).

According to a USEPA 2009 Site Inspection Report, there are no drinking water intakes located within 15 miles of the Site. Based on a review of the EDR Report dated January 2015, no water supply wells are located within 0.5-mile of the Site. The DC Water provides drinking water to the surrounding area by drawing raw water from intakes located at Great Falls and Little Falls on the Potomac River, upstream from the confluence of the Potomac River with the Anacostia River (http://www.dcwater.com/about/facilities.cfm).

### 3.7 Ecology

The ecological findings are based on a December 17, 2014 site visit, incidental wildlife observations by RI field staff, and an Ecological Assessment Checklist (provided in **Appendix K**). Two patches of emergent wetland vegetation (approximately 2,000 and 10,000 square feet in area) are visible along the eastern shoreline of the Anacostia River at the southern end of the Waterside Investigation Area. Signage along the shoreline near these patches indicates that they are part of the Anacostia River Fringe Wetlands Restoration. The dominant vegetation of these patches is *Phragmites australis* and *Typha* sp. Both wetlands have sheet pile bulkhead surrounding the areas with some openings for surface water movement between the wetlands and the River. Evidence of flooding (e.g., watermarks on wetland vegetation and trees) is visible along the shoreline.

Most of the eastern shoreline is stabilized with either sheet pile or rock wall. Riparian vegetation is dense in some areas and sparse in other areas and consists of large trees and shrubs. Tree species include maple, oak, and sycamore. The bank slope ranges from gradual to shallow to the River edge. The western shoreline is uniformly stabilized with a continuous rock wall with dense tree cover throughout.

There is a cove of the River (the “Cove”) approximately 4.2-acres in area, to the northwest of the Benning Road Facility, directly north of the NPS Kenilworth Maintenance Yard and west of the DPW Solid Waste Transfer Station. Several outfalls discharge into the Cove, including Outfall 013. Mudflats are exposed in this area during low tide, and the shoreline of the Cove is gradual in slope with little bank stabilization.

Several bird species were observed on the water and on mudflats in the River on December 17, 2014, including mallards (*Anas platyrhynchos*), gulls (*Laridae* family), Canada geese (*Branta canadensis*), and belted kingfisher (*Megaceryle alcyon*). In addition, wildlife observations were made during sediment sampling activities in November 2014. The following bird species were observed in the vicinity of the Waterside Investigation Area:

- Canada geese
- Mallards
- Gulls

- Blue heron (*Ardea herodias*)
- Cormorants (*Phalacrocorax auritus*)
- Bald eagle (*Haliaeetus leucocephalus*) (upstream near National Arboretum)
- Bufflehead ducks (*Bucephala albeola*)
- Egret (*Ardea* sp.)
- Deer (*Cervidae* family)

The following aquatic organisms were noted in the Ponar grabs:

- Freshwater bivalves
- Freshwater eel (elver)

# 4 Nature and Extent of Contamination

The objective of this section is to describe the nature, and lateral and vertical extent, of contamination detected in the Landside and Waterside portions of the Study Area. All activities described in the approved RI/FS Work Plan and Addenda #1, #2 and #3 to the Work Plan were conducted during the RI field investigation, except where noted in Section 2.7. As detailed in Section 2, the RI/FS field activities were conducted in two primary phases; Phase I activities were conducted between January 25, 2013 and December 31, 2014, and Phase II activities were conducted between December 1, 2016 and July 9, 2018.

For purposes of focusing the discussion of the field sampling data, this section describes the Constituents of Interest (COIs) in each of the following environmental media: Site soil, Site groundwater, Site storm drains (stormwater and storm drain residue), Anacostia River surface water, and Anacostia River sediments. For each medium, the COIs are defined as those constituents detected at concentrations exceeding their respective PSLs. COIs were selected based on previous investigations which identified PCBs, PAHs, and metals as primary COIs. Samples were also screened for VOCs, SVOCs, organochlorine pesticides, and dioxins to provide comprehensive support for the risk assessments. U.S. Environmental Protection Agency (EPA) SW846 methods, created by EPA for complying with RCRA regulations, were selected for analyses in the nature and extent characterization to provide data of known quality and comparability with previous and ongoing investigations, including DOEE's ARSP Phase I and Phase II investigations. The COIs were further evaluated in the BHHRA and the BERA to determine which COIs should be identified as COPCs. The environmental transport and fate of the COPCs is described in Section 5 and the results of the BHHRA and BERA are presented in Section 6.

Data collected during the field investigation program (such as field data, laboratory data, and geospatial data) were uploaded to and stored in the project database. Laboratory deliverables were received in an AECOM-specified electronic format and were uploaded into a Site-specific EQuIS database. Since the data is used as the basis for decision-making, the laboratory analysis of samples must meet specific Quality Assurance / Quality Control (QA/QC) requirements laid out in the Quality Assurance Project Plan (QAPP). All laboratory data were first subjected to data validation to determine its usability in decision-making. Validated data were then tabulated to perform data analysis and evaluation.

This section begins with a discussion on data validation and assessment of quality assurance requirements. Data Validation Reports and Validation Qualified Results (with validation qualifiers) are provided in **Appendix S**. A summary of Quality Assurance Assessment is provided in **Appendix T**. Full laboratory raw data packages are provided in **Appendix U**. As the Data Validation Reports, validation qualified results tables, and raw data reports are voluminous, they are provided in electronic form under **Appendix S** and **Appendix U**.

Following the discussion on validation, an evaluation of the sampling results is presented by environmental medium. Data summary tables for various environmental media along with calculated statistics for use in discussions in this section are provided as **Table 4-1** through **Table 4-39**. Field XRF data correlation plots are provided in **Appendix V**.

PSLs were established in the SAP using very conservative, non-Site-specific exposure assumptions. The purpose of these PSLs was to select appropriate analytical methods. As such, some PSLs were revised during the risk assessment process to ensure that the screening levels used to evaluate the RI field sampling results were the most current available and reflected Site-specific considerations where appropriate. The screening levels used in the evaluation of nature and extent are the same screening levels that were used in the human health and ecological risk assessments. In addition, groundwater quality standards from the District of Columbia Municipal Regulations (DCMR) Chapter 21, Section 1155.3 and DC UST cleanup standards for petroleum impacted soils were used as screening levels where appropriate. **Table 4-40** through **Table 4-44** present the updated PSLs and their sources, and are described briefly below.

Soil human health PSLs are USEPA regional screening levels (RSLs) for industrial soil **(Table 4-40).**Groundwater PSLs for human health are the lower of the DC drinking water quality standards (Rule 21-1155) and USEPA maximum contaminant levels; USEPA RSLs for tap water were selected where regulatory values were not available ( see **Table 4-41**). These screening levels are used for comparison and discussion purposes only, as groundwater at the Site is not used for drinking water or other purposes.

As discussed in Section 3, Site groundwater discharges to the Anacostia River. As such, the risk assessments have evaluated groundwater discharges to surface water as identified in the groundwater samples collected from the four near-shore monitoring well pairs located adjacent to the western downgradient boundary of the Site (MW-1A/B, MW-2A/B, MW-3A/B, and MW-4A/B), as well as MW-8 A/B and MW-11A/B, which are located along the northwestern and northern downgradient Site boundary. The groundwater discharge to surface water pathway was evaluated based on dilution attenuation factors (DAFs) and surface water criteria. Surface water PSLs for human health are the lower of the DC surface water quality criteria (Rule 21-1104) and the USEPA National Recommended Water Quality Criteria for human health (consumption of organisms) (https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table); USEPA RSLs for tap water were selected where regulatory values were not available (see **Table 4-42**). Surface water PSLs for ecological receptors were selected based on a hierarchy of chronic exposure water quality standards and benchmarks from DOEE, USEPA, and literature values (see **Table 4-43**). The screening for the groundwater-to-surface water pathway for near shore wells is included in Section 5. Screening levels and their sources are provided in **Table 4-1** through **Table 4-39**.

Surface sediment human health PSLs are USEPA RSLs for residential soil **(Table 4-40).** Ecological sediment PSLs are low-effect ecological screening values based on a hierarchy of freshwater values from NOAA and USEPA sources (**Table 4-44**).

Background and reference area information is integral to evaluating potential risks posed by environmental conditions at a site. USEPA defines background as: “Substances or locations that are not influenced by the releases from the Site and are usually described as naturally occurring or anthropogenic.” The Anacostia River has been impacted by a variety of historical and ongoing background sources of chemical, physical, and biological stressors from point and non-point sources, including NPDES discharges, surface runoff, combined sewer and storm sewer outfalls, refuse disposal practices, tributary inputs, and atmospheric deposition (SRC and NOAA, 2000). Due to the widespread presence of a variety of chemical contaminants in the Anacostia River watershed, the Site investigation results need to be evaluated in the context of regional background conditions.

A background data evaluation conducted for the Study Area is provided as **Appendix W**. The objective of the background evaluation is to develop statistically defensible estimates of COPCs present in the regional environment that have not been influenced by Site-related activities. The initial selection of the Site-specific background sampling locations for soil, sediment, and groundwater was addressed in Technical Memorandum #2, which was approved by DOEE on October 14, 2016 (AECOM, 2016c). Background threshold levels for COPCs were calculated and compared to Study Area concentrations to understand the magnitude and spatial patterns of Study Area COPCs. In addition, Study Area and background population comparisons were conducted to identify COPCs for which Study Area concentrations are generally consistent with background concentrations. The background evaluations are based on soil, sediment, groundwater and pore water samples collected by Pepco as part of the RI field investigations. These Site-specific background datasets were supplemented with sediment sampling data collected by DOEE for the ARSP, which are reported in the ARSP RI Report (Tetra Tech, 2018). Further discussion of the samples used in the background evaluations is provided in **Appendix W**. This background data evaluation is referenced in the “Nature and Extent” discussions as appropriate.

The results of a detailed forensic analysis and source evaluation will be presented as an appendix to the FS report. This appendix will evaluate contaminant sources based on sampling results forensic analysis, knowledge of Site operations, and historical documentation.

### 4.1 Data Validation Summary and Quality Assurance Assessment

#### 4.1.1 Data Validation Summary

Data validation was performed on all Phase I and Phase II laboratory reports to assess data quality per Section 8.2.3 of the QAPP (AECOM, 2012c) and as amended in Work Plan Addendum #3 (AECOM, 2016e). Each laboratory report was reviewed to determine whether the documentation and quality control results compiled with criteria specified in QAPP Table 1 and Work Plan Addendum #3, the relevant EPA, Standard Methods, ASTM reference methods, and the guidance provided in EPA's National Functional Guidelines for Inorganic and Organic Data Review (USEPA, 2010 and USEPA, 2008, respectively, for Phase I; and USEPA 2017 for Phase II). Modifications were made to accommodate non-Contract Laboratory Program methodologies. Reviewed data elements are defined in the individual data validation reports for each laboratory report or group of laboratory reports and may include:

- Data completeness (chain-of-custody/sample integrity)
- Holding times and sample preservation
- Initial calibration/continuing calibration verification
- Laboratory blanks/equipment blanks
- Surrogate spike recoveries
- Matrix spike (MS) and/or matrix spike duplicate (MSD) results
- Laboratory control sample (LCS)/LCS duplicate results
- Field duplicates
- Sample results/reporting issues

Other method specific QC elements, such as mass spectrometer tuning, internal standard performance, interference check sample results, and labeled standard recovery, were also reviewed as needed. Data validation qualifiers were applied to results where a QC nonconformance required qualification per EPA guidance. Qualified results and the specific reasons for data qualification are listed in each individual Data Validation Report. Data Validation Reports are provided in **Appendix S**. Only 520 results out of 207,453 evaluated (0.25% of the total) were rejected and are not usable for project decisions. These rejected result values were removed from the database to prevent use during project decision making. Summaries of the method conformance, QC sample frequency, and data qualifications (including details concerning the rejected results) for each major test group or analytical fraction, per Section 8.3.2 of the QAPP, are provided as tables in **Appendix S** and text in **Appendix T**.

### 4.1.2 Quality Assurance Assessment

The project data quality objectives for measurement data were based on the assessment of precision, accuracy, completeness, sensitivity, comparability, and representativeness.

Precision is a measure of the degree to which two or more measurements are in agreement. Field precision was assessed through the collection and measurement of field duplicates at a rate of one duplicate per 20 analytical samples, per matrix, per sampling technique. Precision was measured by calculating relative percent difference (RPD) for duplicate samples, either as MS/MSDs or as laboratory duplicates. The objective for field precision RPDs was <30% RPD for aqueous samples and <50% RPD for solid samples, where results were reported at greater than five times the reporting limit.

Accuracy is the degree of agreement between the observed value and an accepted reference or true value. Accuracy in the field was assessed using negative controls such as trip blanks and equipment blanks and by adhering to all sample handling, preservation, and holding time requirements. The objective for trip blanks and equipment blanks was that no target compounds should be present above the reporting limit. Laboratory accuracy was assessed through the analysis of laboratory method blanks as negative controls, and spiked samples such as MS/MSDs, LCSs, and surrogate compounds, as positive controls. The objective for method blanks was no detected target compounds above the reporting limits or Estimated Minimum Level for all isotope dilution analytes.

Precision and accuracy goals as defined in Table 1 of the QAPP were met for almost all samples. Criteria exceedances that resulted in data qualification are summarized in **Appendix S** by method. A very limited number of accuracy criteria exceedances resulted in rejection of results. Overall method precision and accuracy were excellent. Only 0.25% of the results were rejected based on quality control problems discovered during data validation.

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount that was expected to be obtained under normal conditions, defined as the conditions expected if the sampling plan were implemented as planned.

Project completeness objectives are defined in Section 3.2.3 of the QAPP. The field completeness objective of >90% and the laboratory completeness objective of >95% for valid measurements were both met. More than 99.5% of the laboratory results were deemed valid and usable for project decisions.

Sensitivity of analytical data was demonstrated by laboratory reporting and detection limits. Nominal reporting and detection limits, presented in Tables 2 and 3 of the QAPP and in Tables 5.2 and 5.3 of Work

Plan Addendum #3, were selected based on consideration of the applicable risk based project screening levels where available and the actual ability of the laboratory to attain reporting limits at these screening levels. Not all PSLs were obtainable using the conventional USEPA methods, but to maximize the usability of the data, any analytes detected below the reporting limit and above the method detection limit were reported and qualified as estimated by the laboratories.

Sensitivity goals were met for all target analytes where analytes were not detected and dilutions were not required due to high concentrations of detected analytes or matrix interferences. Occasionally nominal reporting limits for water samples were slightly elevated due to limited sample volume. Some sediment sample reporting limits were elevated by dry weight correction due to high moisture content.

Comparability expresses the confidence with which one data set can be compared to another. Representativeness expresses the degree to which data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition within a defined spatial and/or temporal boundary.

Comparability and representativeness as defined in Section 3.2.5 and 3.2.6 of the QAPP were achieved by use of approved EPA methods and proper sampling per AECOM approved SOPs. The same laboratories were used for Phase I and Phase II for each test, except where new methods were added as specified in RI/FS Work Plan Addendum #3. Overall project data quality objectives were met and all results reported in data tables are suitable for project decision making.

## 4.2 Soil Sampling Results

### 4.2.1 Overview of Site Investigation and Target Area Assessment

As discussed in Section 2, the surface and subsurface soil sampling events were conducted in two phases. Phase I data was collected to identify potential contamination throughout the Site and identified areas needing further delineation. Phase II activities involved significant sample collection for further assessment and delineation of these areas. Addendum #3 of the RI/FS Work Plan describes in detail the additional Site characterization needs (AECOM, 2016e) and groups the Phase II investigation into Target Areas as summarized below. Horizontal and vertical extents of delineation were based on detections no greater than 1.5 times the PSL. The locations of the Target Areas are presented in **Figure 1-6**.

| Target Area | Phase I Sample Locations* | Primary Analytes of Interest |
|---|---|---|
| 1 | SUS08 | Vanadium, PCBs, dioxins, PAHs |
| 4 | SUS12 | PCBs, PAHs |
| 5 | SUS05, SUS11, SB-3 | PCBs, TPH |
| 7 | SUS20 | PCBs |
| 9 | SUS18 | PCBs, dioxins |
| 10 | SUS10 | PCBs, dioxins |
| 11 | DP44 | PCBs |
| 12 | SUS21 | PCBs |
| 14 | SUS06 | PCBs |
| 20 | SUS/DP19 | PAHs |
| Former Timber Pole Storage Area | Building 75 Area | Full suite of analytes |
| Former Transformer Shops | Former Buildings 38 and 39 | Full suite of analytes |

*Basis for Phase II identification

Brief operational histories of each Target Area are provided below and a more extensive Site history is provided in the CSM Technical Memorandum, Appendix C (AECOM, 2016b).

- Target Area 1, Former Sludge Dewatering Area: Clarifier sludge was dewatered here from the mid-1970s to the late 2000s. The former sludge dewatering area appears to have been put in place following the removal of coal piles (late 1970s) to handle the sludge from the clarifiers associated with the cooling towers. The sludge dewatering area remained in place, adjacent and north of Building #65, gradually shrinking in size until 2010, when it is no longer visible in aerial photographs and appears to be replaced with a gravel-surfaced parking area.
- Target Area 4, Salvage Yard: A soil investigation and removal was completed in this area in 2003.
- Target Area 5, Former Cooling Towers Cleanup Area (1995 and 2017): The towers were constructed between 1968 and 1970, and the joints for the concrete cooling towers were sealed with caulk containing PCBs which resulted in PCB impacts in the surrounding soils. As discussed in Section 3.1, PCB-impacted soils adjacent to and beneath the cooling tower basins were excavated in 2017. The cooling tower removal activities are summarized in the Cooling Tower Basins Remedial Action Completion Report (AECOM, 2017), submitted to DOEE on September 11, 2017. Excavation depths ranged from 0.5 ft to 6 ft in the vicinity of Cooling Towers 15 and 16 as shown in **Appendix X**. Final disposal quantities indicate that 9,923 tons of soil and 6,666 tons of concrete debris were removed from the Site. Sample results collected during the cooling tower remedial action activities are summarized in **Appendix X**. Additional sample collection outside of the excavation areas performed during the Phase II field sampling is discussed herein. The additional samples collected in the SUS05 area were also used to further assess Target Area 3 (Former 15,000 gal UST and 50,000 gal AST, which stored No. 2 fuel oil).

- 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 was used for temporary storage of empty transformer casing, which were marked to indicate they contained <50 ppm PCBs.
- Target Area 10, Red Tag Storage Area: This area was used for temporary storage of empty transformer casings, which were marked to indicate they contained 50 to 499 ppm PCBs.
- Target Area 11, PCB Building #68: Building was used for temporary storage of PCB wastes and other hazardous wastes in drums.
- Target Area 12, Building #57: Building houses two 10,000 gal holding tanks for accumulated waste mineral oil containing <50 ppm PCBs.
- Target Area 14, Former Railroad Switchyard: Area used as a switchyard from the early 1900s to circa 2000, then used for storage, and has been the site of Substation #45 since 2011.
- Target Area 20, PAHs in Soil. This area was previously used as a railyard from 1937 to at least 1963. This area was then converted to a laydown area for what appears to be electrical equipment from 1963 to approximately 1981 at which time the entire area appears to be vacant. Between 1981 and 1988, the DP19 vicinity was converted to a parking area which is its current use.
- Former Timber Pole Storage Area: A review of historical aerial photos revealed the former storage of timber poles in the central portion of the Site. The absence of samples in these areas was identified as a data gap in the Phase I Site characterization.
- Former Transformer Shop Area: A review of historical aerial photos revealed the former transformer shops, Buildings #38 and #39. The absence of samples in these areas was identified as a data gap in the Phase I Site characterization.

As part of the Site-wide characterization during the Phase II event, samples were also collected at selected locations not specifically stated above. This includes additional samples collected at Target Area 13 which was the location of former ASTs. Phase I and Phase II data is discussed together in the following sections by medium and specific Target Areas within each medium. Section 4.2.3 presents the surface soil characterization results and Section 4.2.4 presents the subsurface soil characterization results. Soil analytical results are summarized in **Table 4-1** through **Table 4-9**, and the results are presented in **Figure 4-1** through **Figure 4-17**.

### 4.2.2 Comparison to Site-Specific Background Analysis

**Appendix W** presents the results of the Site-specific background analysis, which was performed to identify the detected COPCs at the Site that are consistent with the Site-specific background conditions of the Study Area. The Site-specific background evaluation developed Site-specific background threshold values (BTVs) for the soil COIs using the Site-specific background datasets excluding the outliers. In addition, a two-sample hypothesis (or population) test was also conducted for each COI for which sufficient data were available. The population test selected for each COI was determined by the distributions of the Site and background data sets. The BTVs were used to identify Site sample locations at which concentrations of COIs exceed background whereas the population tests were used to identify COIs for which the range and central tendency of Site concentrations are similar to or less than background. Sections 4.2.3 and 4.2.4 below provide a comparison to the BTVs in the summaries for inorganics, TPH fractions, PAHs, PCBs, and dioxin/furan compound groups for surface and subsurface soil. The results of population tests are also discussed in the following sections.

### 4.2.3 Surface Soils Characterization Results

This section summarizes the surface soil results from the Phase I and Phase II investigation. Section 2.1.2 describes the Phase I surface soil sampling events. Section 2.3.2 describes the Phase II surface soil sampling events. The locations of the surface soil samples are shown on **Figure 2-1**, and analytical methods are presented in **Table 2-2**. The following subsections discuss results by analyte group.

#### 4.2.3.1 Inorganic Results in Surface Soils

<u>Phase I XRF Screening</u>

A portable XRF instrument was used to screen surface and subsurface soils for metals per the project SAP and following the guidance provided in EPA Method 6200. The surface and subsurface soils were also analyzed by definitive methods (inductively coupled plasma mass spectrometry and cold vapor atomic absorption spectroscopy) at the TestAmerica Pittsburgh laboratory for the full suite of project metal analytes. The comparability of the field XRF and fixed lab metals data for surface and subsurface soils were evaluated by least squares linear regression analysis using log transformed results per EPA Method 6200. The regressions for copper, lead, vanadium, and zinc had correlation coefficient values >0.7 and were therefore acceptable for screening level data per EPA 6200 Section 9.7. Correlation plots for these metals are provided in **Appendix V**. The correlations for arsenic, antimony, barium, cadmium, chromium, cobalt, iron, mercury, nickel, and selenium did not meet the minimum correlation coefficient requirement; however, the XRF results generally over-predicted the fixed lab definitive method results and were sufficiently sensitive in most cases to provide information about any locations where metals could potentially exceed the project PSLs. XRF results for antimony, barium, cadmium, copper, iron, manganese, nickel, selenium, and silver indicated no exceedances of the PSL values. No XRF data was collected for aluminum, beryllium, magnesium, thallium, or sodium due to inherent limitations of the XRF technique for light metals and instrument calibration. No metals hotspots were detected using XRF, but selected samples from locations DPS11, DPS13, DPS39, DPS42, DPS43, DPS44, and DPS47 were submitted for definitive metals analysis based on the XRF screen results indicating possible exceedance of the PSLs for lead and vanadium. An additional set of 64 subsurface soil samples screened was also analyzed by definitive lab methods for metals in soil to reduce reliance on the XRF data, exceeding the 20% frequency for confirmatory samples planned in Table 4 in the SAP. Results for XRF screening analyses are provided in **Table 4-5**; however, the nature and extent evaluation of surface soils is based on the results of the laboratory testing, which is discussed below.

Laboratory Results

As shown in **Table 4-1**, metals were detected in most of the surface soil samples analyzed for inorganic compounds. Arsenic, cobalt, lead, manganese, nickel, and vanadium concentrations exceeded their respective PSLs.

The distribution of inorganic COIs in surface soils is depicted in **Figure 4-1A**. As presented on **Figure 4-1A**, arsenic PSL exceedances were widespread in surface soil. Vanadium exceedances were more focused in the Target Area 1 area. Cobalt exceeded its PSL at six locations. Lead and nickel each exceeded their PSL at two locations. Manganese exceeded its PSL in only one sample. The maximum, mean, and median surface soil detection concentrations for inorganic PSL exceedances are provided below along with the number of samples with detections and the total number of samples analyzed.

**Surface Soil Summary for Inorganics (mg/kg)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed | BTV | Is Site ≥ to Site-specific background? |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 3 | 190 | 15 | 7.2 | 70 | 70 | 17 | No |
| Cobalt | 35 | 240 | 19 | 6.7 | 70 | 70 | 19.7 | No |
| Lead | 800 | 2,000 | 130 | 54 | 70 | 70 | 544 | No |
| Manganese | 2,600 | 6,600 | 380 | 170 | 70 | 70 | 1104 | No |
| Nickel | 2,200 | 8,000 | 340 | 25 | 70 | 70 | 53.6 | No |
| Vanadium | 580 | 42,000 | 1,500 | 57 | 77 | 77 | 37.8 | Yes |

As noted above, based on the two-sample hypothesis tests presented in the background evaluation (**Appendix W**), concentrations of inorganics in Site surface soil are consistent with Site-specific background surface soil with the exception of vanadium.

Although chromium was detected in all 81 surface soil samples analyzed for chromium, the concentrations were significantly below the total chromium PSL of 180,000 milligrams per kilogram (mg/kg). The PSL of 180,000 mg/kg is based on the likely presence of trivalent chromium. To verify the assumption and confirm that the more toxic hexavalent chromium is not present above its PSL of 6.3 mg/kg, soil samples were collected from the 10 on-Site locations that had previously exhibited the highest concentrations of total chromium which are presented on **Figure 4-2**. These samples were analyzed for both total chromium and hexavalent chromium. As shown in **Table 4-1**, hexavalent chromium concentrations ranged from non-detect to 0.6 mg/kg. A similar analysis was also performed for the samples collected on the Anacostia Park property; hexavalent chromium concentrations ranged from non-detect to 0.98 mg/kg and total chromium concentrations ranged from 26 mg/kg to 51 mg/kg in the 12 samples collected. The percent of hexavalent chromium was calculated in several ways, both including and excluding non-detected results, and based on the combined Pepco Site and Anacostia Park datasets. As shown in **Table 4-45**, the calculated averages of hexavalent chromium to total chromium range from less than 1% to about 1.5%. Therefore, it is assumed that hexavalent chromium is present at 1.5% of total chromium in soil for the evaluation of samples for which speciation is not available. Given the lack of history of chromium use at the Site, and the low detections in soil, it is unlikely that hexavalent chromium is present in other media at the Study Area. Therefore, total chromium was evaluated as trivalent chromium with a PSL of 180,000 mg/kg.

Vanadium PSL exceedances were limited to Target Area 1 (former sludge dewatering area and the larger former coal pile area). Outside of Target Area 1, vanadium detections ranged from 3.4 mg/kg to 140 mg/kg with an average of 33 mg/kg. The finding of an elevated concentration of vanadium is consistent with the findings reported in the USEPA 2009 SI Report for this area. Further discussion of the vanadium exceedances in surface soils is provided below and the vertical extent of vanadium in subsurface soils is discussed in Section 4.2.4.1.

<u>Target Area 1, Former sludge dewatering area; Target Area 3, Former 15,000 Gal UST and 50,000 Gal AST; Target Area 5, Former Cooling Towers; Target Area 10, Red Tag Storage Area; and Target Area 11, PCB Building #68</u>

Vanadium soil concentrations are presented on **Figure 4-3** and **Table 4-1**. Vanadium exceeded its PSL at 14 locations, all of which are located within Target Area 1. The maximum detection was 42,000 mg/kg at TA1E1. However, 11 of the 14 exceedances were 3,800 mg/kg or less. The exceedances are horizontally and vertically bounded at this location. Vanadium concentrations exceeded PSLs in surface soils in Target

Area 1 over an area measuring approximately 68,400 SF or 1.57 acres. Vanadium did not exceed its PSL at Target Areas 3, 5, 10, or 11.

#### 4.2.3.2 VOC Results in Surface Soils

As shown in **Table 4-2**, low concentrations of VOCs associated with fuels and solvents were detected at isolated locations but were all significantly below their PSLs. Acetone, a common laboratory contaminant, was the most frequently detected VOC with 7 detections out of 32 samples, but the maximum concentration was only 35 µg/kg compared to its PSL of 6.7E+07 µg/kg. Likewise, ethylbenzene, toluene, and xylenes compounds were detected three times or less, but at very low concentrations. However, MTBE was not detected in any surface soil samples. PCE; 1,1,2,-trichloroethane (1,1,2-TCA); 1,2-dichloroethane; 1,2,3-trichlorobenzene, and 4-methyl-2-pentanone were each detected once at very low concentrations. PCE was detected once at SUSDP21 at a concentration of only 0.75 µg/kg compared to its PSL of 39,000 µg/kg. Sample location SUSDP21 is located adjacent to the northwest side of Building #57 in Target Area 12 (**Figure 2-1**),

Two solvents containing chlorinated compounds were historically used at the Site (SS-25 and XL-99). The SS-25 product is a solvent degreaser containing percloroethylene (PCE), methylene chloride (DCM) and mineral spirits. The XL-99 cleaning compound solvent contained 1,1,1-Trichloroethane (1,1,1-TCA), 1,4-dioxane and dichlorodifluoromethane. Available records do not indicate that bulk trichlorobenzenes were stored or handled at the Benning facility.

#### 4.2.3.3 SVOCs and PAH Results in Surface Soils

Priority pollutant PAHs were the most commonly detected SVOCs in the surface soils and the only SVOCs that exceeded PSLs. The most common SVOC analytes detected besides PAHs were 2-methylnaphthalene, acetophenone, benzaldehyde, bis-(2-ethylhexyl)phthalate, and carbazole. As part of the Target Area delineations performed during Phase II, a large number of samples were collected for PAH compounds. In total, 121 samples, including duplicates, were analyzed for PAHs. The full suite of SVOCs was only analyzed during the Phase I sampling because of the low concentrations and infrequent detections of the non-PAH SVOCs during Phase I. In total, 11 samples, including one duplicate, were analyzed for SVOCs.

As shown in **Table 4-2**, PAHs as represented by benzo(a)pyrene toxicity equivalent (BaP-TE) were detected in most of the surface soil samples analyzed for PAHs. Two of the individual PAH compounds exceeded their PSLs in surface soil; benzo(a)pyrene and dibenzo(a,h)anthracene. The PSL, maximum, mean, and median surface soil detection concentrations for these analytes are provided below along with the number of samples with detections and the total number of samples analyzed. Although all three analytes were detected at levels exceeding their PSL, their mean and median detection concentrations were below their PSLs. Also presented below are total high-molecular-weight PAHs, total low-molecular-weight PAHs, and total PAHs (sum 16) for information purposes only. These compounds do not have PSLs.

**Surface Soil Summary for PAHs (µg/kg)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed | BTV | Is Site ≥ to Site-specific background? |
|---|---|---|---|---|---|---|---|---|
| Benzo(a)pyrene | 2,100 | 11,000 | 720 | 320 | 102 | 121 | 1,190 | No |
| Dibenzo(a,h)-anthracene | 2,100 | 2,200 | 170 | 81 | 90 | 121 | 79 | Yes |
| BaP-TE | 2,100 | 16,600 | 1,080 | 486 | 104 | 121 | 3,390 | No |
| Total high-molecular-weight PAHs | -- | 120,000 | 7,400 | 2900 | 106 | 121 | -- | -- |
| Total low-molecular-weight PAHs | -- | 41,000 | 1,500 | 490 | 103 | 121 | -- | -- |
| Total PAHs (sum 16) | -- | 160,000 | 8,900 | 3,400 | 106 | 121 | -- | -- |

-- Indicates not applicable

Based on the two-sample hypothesis tests presented in the background evaluation (**Appendix W**), concentrations of benzo(a)pyrene and BaP-TE in Site surface soil are consistent with Site-specific background. However, dibenzo(a,h)-anthracene exhibited a slight exceedance.

To provide an overview of the Site-wide PSL exceedances of PAH in surface soil, **Figure 4-4** presents total PAH concentrations in surface soil samples across the Site. To further illustrate where the PSL exceedances were concentrated, the following descriptions are provided for the Target Areas where delineation of the surface soil for PAHs was conducted during the RI.

<u>Target Area 1 – Former Sludge Dewatering Area, Target Area 3 – Former 15,000 Gal UST and 50,000 Gal AST, Target Area 5 – Former Cooling Towers, Target Area 10 – Red Tag Storage Area, and Target Area 11 – PCB Building #68</u>

PAH soil concentrations are presented on **Figure 4-5** and **Table 4-2**. PAHs as represented by BaP-TE did not exceed their PSL at Target Areas 1, 3, 5, 10, or 11.

Target Area 4 – 2003 Salvage Yard Investigation and Former Timber Pole Storage Area

PAH soil concentrations are presented on **Figure 4-6A** and **Table 4-2**. PAHs as represented by BaP-TE exceeded their PSL at six locations in Target Area 4. The maximum BaP-TE surface soil detection was 6,600 µg/kg at SUSDP43-4NW. The horizontal and vertical extent of PAHs is bounded at this location. PAH concentrations exceeded PSLs in surface soils in Target Area 4 over an area measuring approximately 36,000 SF or 0.83 acres. PAHs as represented by BaP-TE did not exceed their PSL at the Former Timber Pole Storage Area.

Target Area 12 – Building #57

PAH soil concentrations are presented on **Figure 4-7A** and **Table 4-2**. PAHs as represented by BaP-TE exceed their PSL at two locations in Target Area 12, SUSDP21 and SUSDP21-3M. Both detections were 2,590 µg/kg. The horizontal and vertical extent of PSL exceedances is bounded at these locations except along the Site southern boundary where the Anacostia Freeway prevented collection of additional samples. PAH concentrations exceeded PSLs in surface soils in Target Area 12 over an area measuring approximately 9,000 SF or 0.20 acres. Building #57, located within Target Area 12, houses two 10,000 gal holding tanks for temporary storage of waste oil containing <49 ppm PCBs. These tanks are installed in concrete vaults, which act as secondary containment. Historically, Building #57 was used to service and repair PCB-containing transformers.

Target Area 13 – Former AST Area

PAH soil concentrations are presented on **Figure 4-8** and **Table 4-2**. PAHs as represented by BaP-TE slightly exceeded its PSL at one location at Target Area 13 (SUSDP37) with a concentration of 2,180 µg/kg. This detection is vertically and horizontally bounded at this location. In addition, although BaP-TE exceeded its PSL, all individual PAHs were below their respective PSLs.

Target Area 20 – PAHs in Soil

This area was previously used as a railyard and laydown area before being converted into a parking lot in the mid-1980s. PAH soil concentrations are presented on **Figure 4-9A** and **Table 4-2**. PAHs as represented by BaP-TE exceeded its PSL at six locations in Target Area 20; however, all individual PAH detections were below their respective PSLs. The maximum PAH concentrations were reported in this Target Area. Although not all surface soil locations in this Target Area exceeded PSLs, PAH concentrations exceeded PSLs on combined surface and subsurface soil basis over an area measuring approximately 130,000 SF or 3.0 acres.

#### 4.2.3.4 TPH Fraction Results in Surface Soils

As shown in **Table 4-2**, TPH and/or TPH fractions were detected in most of the surface soil samples analyzed for these compounds. Although the PSL for DRO was exceeded in surface soils, the mean and median concentrations were below the PSL. Gasoline Range Organics (GRO) and ORO were detected, but were below their PSLs. TPH itself does not have a PSL; however, the maximum, mean, and median surface soil detection concentrations are provided below along with the number of samples with detections and the total number of samples analyzed.

**Surface Soil Summary for TPH and TPH Fractions (mg/kg)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed | BTV | Is Site $\geq$ to Site-specific background? |
|---|---|---|---|---|---|---|---|---|
| TPH (C9-C44) | -- | 13,400 | 1,310 | 510 | 30 | 30 | -- | -- |
| DRO (C10-C20) | 440 | 3,400 | 410 | 73 | 20 | 39 | 19.7 | Yes |
| ORO (C20-C36) | 350,000 | 3,500 | 530 | 270 | 38 | 39 | 372 | Yes |
| GRO (C6-C10) | 42 | 0.35 | 0.3 | 0.3 | 2 | 32 | -- | -- |

-- Indicates not applicable

The two-sample hypothesis tests presented in the background evaluation (**Appendix W**) indicate that concentrations of DRO (C10-C20) and ORO (C20-C36) in Site surface soil are present at levels greater than the Site-specific background samples.

To further illustrate where the PSL exceedances were concentrated, the following descriptions are provided for the Target Areas where delineation of the surface soil for TPH and TPH fractions was conducted during the RI.

<u>Target Area 5 – Former Cooling Towers</u>

DRO soil concentrations are presented on **Figure 4-10A** and **Table 4-2**. Samples for DRO did not exceed its PSL at Target Area 5. The maximum TPH surface soil detection was 4,480 mg/kg at SUSDP11-1H; TPH does not have a PSL. Although not all surface soil locations in this Target Area exceeded PSLs, TPH and PCB concentrations exceeded PSLs on combined surface and subsurface soil basis over an area measuring approximately 13,700 SF or 0.3 acres. This area is located in the eastern portion of the former CT 16.

Target Area 4 – 2003 Salvage Yard Investigation and Former Timber Pole Storage Area

DRO soil concentrations are presented on **Figure 4-11** and **Table 4-2**. DRO exceeded its PSL at two locations in Target Area 4, approximately 60 feet apart. The maximum DRO surface soil detection was 3,400 mg/kg at SUSDP50-2A. The horizontal extent of PSL exceedances are bounded at this location. Samples for DRO did not exceed its PSL at the Former Timber Pole Storage Area.

Target Area 13 – Former AST Area

DRO soil concentrations are presented on **Figure 4-8** and **Table 4-2**. Data were collected from 14 additional borings around the tank farm (Target Area 13) as part of the AST decommissioning program. Soil samples from two depths (0 to 1 ft and 3 to 4 ft) were analyzed for TPH, and a subset of soil samples were analyzed for metals, PAHs, and PCBs. These results were provided to DOEE. The results indicated low levels of surficial TPH and PAH impacts (with the exception of one location adjacent to DP39), limited to the former AST dikes and the associated piping, which represent potential residuals from former cleanups. Soil sampling results from the AST decommissioning program are provided in **Appendix Y**.

DRO exceeded its PSL at one location at Target Area 13, AST3A, which was collected during a sample event in 2012 and had a concentration of 9,510 µg/kg. DRO was not detected above its PSL in any of the other samples collected in 2012, including a subsurface sample at location AST3A and surrounding samples.

During the RI, samples were collected at Target Area 3 in 2013 and 2017 and no DRO exceedances were identified.

#### 4.2.3.5 PCB Results in Surface Soils

As shown in **Table 4-3**, PCBs were detected at 196 of the 208 locations sampled. Total PCB concentrations exceeding the PSL were detected at 51 locations with the maximum concentration (8,800,000[1] µg/kg) occurring at SUSDP21-3G at Target Area 12. Concentrations of PCBs exceeded the TSCA threshold limit for disposal at three locations, all within Target Area 12. Five PCB Aroclors (A-1242, A-1248, A-1254, A-1260, and A-1268) were detected in surface soil samples. The evaluation of the nature and extent of PCBs in surface soils is limited to PCB Aroclor concentration data. The use of EPA Method 8082 as the primary method for defining the magnitude and extent of PCBs in the Study Area followed the

[1] Surface soil sample SUSDP21-3G with an elevated concentration of Aroclor-1248 (2,500,000 µg/kg initial analysis and 8,800,000 µg/kg in re-analysis). The higher concentration is presented herein.

DOEE approved work plans. Quantifying PCBs using EPA Method 8082 is required under TSCA regulations for PCB waste characterization and disposal (40 CFR Part 761.274). EPA 8082 is part of SW-846 and was developed by EPA to support RCRA investigations. Under this method, the primary method for quantifying total PCBs relies on Aroclors, rather than constituent congeners (individual PCB isomers within the Aroclor mixtures). Analysis of PCBs as congeners using EPA Method 1668C was performed on a subset of samples for forensic and risk assessment purposes. This alternate method provides improved accuracy and sensitivity where the Aroclor pattern match is poor or PCB concentrations are very low, however it is not generally used for RCRA site investigations. The PCB congener pattern analysis is generally consistent with the relative abundance patterns reported by Aroclor data from EPA Method 8082 analysis supporting that the use of EPA Method 8082 for the nature and extent investigation is appropriate. EPA Method 1668C also uses isotope dilution technique to quantify the PCB congeners and this recovery correction may produce a total PCB result as the sum of congeners (tPCBc) which is greater than the sum of Aroclors from EPA Method 8082 (tPCBa). The tPCBc/tPCBa ratios vary widely from sample to sample but the median ratio value for the 29 soils analyzed by both methods was 1.48. A comparison of tPCBc and tPCBa results for soil samples is provided in **Table 4-46**. Intrinsic differences between these methods, their comparability for Aroclor identification, and a detailed statistical comparison of the results of soil analysis in split samples will be further discussed in more detail in the upcoming Forensics Analysis and Source Evaluation Report.

The PSL, maximum, mean, and median surface soil detection concentrations for the detected PCB Aroclors and total PCBs are provided below along with the number of samples with detections and the total number of samples analyzed. The following Aroclors were not detected in the surface soil samples: Aroclor 1016, Aroclor 1221, Aroclor 1232, and Aroclor 1262. **Figure 4-12B** presents Aroclor type abundance in surface soils, near site surficial sediments, and storm drain outfalls.

**Surface Soil Summary for PCBs (µg/kg)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed | BTV | Is Site $\geq$ to Site-specific background? |
|---|---|---|---|---|---|---|---|---|
| Aroclor 1242 | -- | 37,000 | 3,700 | 310 | 14 | 208 | -- | -- |
| Aroclor 1248 | -- | 8,800,000[a] | 230,000 | 270 | 49 | 208 | -- | -- |
| Aroclor 1254 | -- | 7,600 | 560 | 180 | 88 | 208 | -- | -- |
| Aroclor 1260 | -- | 130,000[a] | 1,600 | 110 | 193 | 208 | -- | -- |
| Aroclor-1268 | -- | 1,400 | 110 | 37 | 35 | 208 | -- | -- |
| PCB, Total Aroclors | 970 | 8,800,000[a] | 60,000 | 280 | 196 | 208 | 15.1 | Yes |

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed | BTV | Is Site ≥ to Site-specific background? |
|---|---|---|---|---|---|---|---|---|
| (AECOM Calc) | | | | | | | | |

[a] PCB concentrations ≥50,000 µg/kg in soil must be disposed of as TSCA remediation waste at an approved facility in accordance with 40 CFR 761.
-- Indicates not applicable

As noted above, the Site-specific background analysis identified a BTV of 15.1 µg/kg for total PCB Aroclors, which is well below the PSL. A two-sample hypothesis test could not be conducted for total PCB Aroclors due to the low frequency of detection in Site-specific background soil samples (**Appendix W**). Graphical evaluations (boxplots) of total PCB Aroclors illustrate that Site levels are higher than Site-specific background. To provide an overview of the site wide PSL exceedances of total PCBs in surface soil, **Figure 4-12A** presents total PCB concentrations in surface soil samples across the site. To further illustrate where the PSL exceedances were concentrated, the following descriptions are provided for the Target Areas where delineation of the surface soil for PCBs was conducted during the RI.

<u>Target Area 1 – Former sludge dewatering area, Target Area 3 – Former 15,000 gal UST and 50,000 gal AST, Target Area 5 – Former Cooling Towers, Target Area 10 – Red Tag Storage Area, and Target Area 11 – PCB Building #68</u>

PCB soil concentrations are presented on **Figure 4-13A** and **Table 4-3**. Total PCBs exceeded the PSL at four locations within Target Area 1. The maximum PCB surface soil detection was 3,900 µg/kg at SUS08-1H. The horizontal and vertical extent of PSL exceedances are bounded at this location. PCB concentrations exceeded PSLs within Target Area 1 surface soils over an area measuring approximately 8,100 SF or 0.19 acres.

As discussed in Section 3.1 and Section 4.2.1, PCB-impacted soils adjacent to and beneath the Target Area 5 cooling tower basins were excavated in 2017; the soil sampling data used to delineate the excavation footprint and depth was presented in the Cooling Tower Basins Remedial Action Completion Report (AECOM, 2017). Figures displaying the results and extent of excavation are included in **Appendix X**. Additional sample collection outside of the excavation areas performed during the Phase II Site characterization is discussed herein.

Total PCBs exceeded the PSL at one location at Former Cooling Tower #15 within Target Area 5. SUSDP05 had a PCB concentration of 5,700 µg/kg and is bounded by non-exceedance samples.

Total PCBs exceeded the PSL at nine locations at Former Cooling Tower #16 within Target Area 5. The maximum PCB surface soil detection was 7,600 µg/kg at SUSDPCT16-3R. The exceedances are not bounded along the northern Site boundary, but the characterization identified decreasing concentrations toward the property boundary and the surface topography slopes back into the Site at this location.

Therefore, in consultation with DOEE, it was determined that further characterization is not necessary. The exceedances are bounded in the remaining directions; note that sample location SUSDPCT16-3Q along the southern edge of Target Area 5 has an average concentration below 1,450 µg/kg , which is less than 1.5 times the PSL.

Aroclor-1254 is the primary Aroclor in Former Cooling Tower #15 building materials and soils. A higher proportion of Aroclor-1260 is present in soils surrounding Former Cooling Tower #16, especially at the eastern end of the basin. PCB concentrations exceeded PSLs on a combined surface and subsurface soil basis over an area measuring approximately 13,700 SF or 0.3 acres.

Total PCBs exceeded the PSL at seven locations within Target Areas 10 and 11. The maximum PCB surface soil detection was 3,900 µg/kg at SUSDP10-3F. The horizontal extent of PSL exceedances is bounded by non-exceedance samples. PCB concentrations exceeded PSLs in Target Area 10 and 11 surface soils over an area measuring approximately 12,700 SF or 0.29 acres.

Target Area 4 – 2003 Salvage Yard Investigation and Former Timber Pole Storage Area

PCB soil concentrations are presented on **Figure 4-14A** and **Table 4-3**. Total PCBs exceeded the PSL at three locations within Target Area 4. The maximum PCB surface soil detection was 3,500 µg/kg at SUSDP49. The horizontal extent of PSL exceedances are bounded at this location.

Total PCBs exceeded the PSL at four locations at the Former Timber Pole Storage Area. The maximum PCB surface soil detection was 4,800 µg/kg at SUSDP15-1G. The horizontal extent of PSL exceedances is bounded by non-exceedance samples.

Target Area 7 – 1988 Parking Lot Cleanup Area

Target Area 7 was further sampled during the Phase II event due to a total PCB detection of 5,100 µg/kg at SUSDP20 during the Phase I event. Ten surface soil samples were collected in 2017 with all of the samples exhibiting concentrations below the PSL (**Figure 4-12A**). Therefore, the only exceedance in this area is limited to SUSDP20, which was detected during the Phase I sampling.

Target Area 9 – Green Tag Storage Area

Target Area 9 was further sampled during the Phase II event due to a total PCB detection of 1,400 µg/kg at SUSDP18 during the Phase I event (**Figure 4-12A**). Ten surface soil samples were collected in 2017, with all of the samples exhibiting concentrations below the PSL. Therefore, the only exceedance in this area is limited to SUSDP18, which was detected during the Phase I sampling.

Target Area 12 – Building #57

Building #57, located within Target Area 12, houses two 10,000 gal holding tanks for temporary storage of used mineral oil containing <49 ppm PCBs. These tanks are installed in concrete vaults, which act as secondary containment. PCB soil concentrations for Target Area 12 are presented on **Figure 4-15A** and **Table 4-3**. Total PCBs exceeded the PSL at 15 locations within Target Area 12, three of which exceeded the TSCA threshold limit for disposal requiring special handling and disposal in accordance with 40 CFR 761. The maximum PCB surface soil detection was 8,800,000 µg/kg at SUSDP21-3G. The horizontal extent of PSL exceedances is bounded except along the Site southern boundary where the Anacostia Freeway prevents collection of additional samples. AECOM evaluated the feasibility of installing an offsite soil boring adjacent to and southeast of the Site to delineate in the southeast direction of Target Area 12 for elevated levels of PCBs that were detected in shallow subsurface soils immediately adjacent to Building #57. The evaluation identified that the area to the southeast of the Site is a highly urbanized portion of Washington, DC, containing a high density of underground and overhead utilities and critical transportation infrastructure. The configuration of these utilities and infrastructure pose safety hazards and access restrictions that would preclude the mobilization of a drill rig to within several hundred feet of the Site to the southeast. The utilities include subsurface and overhead electric lines, storm sewers, sanitary sewers, water supply lines, communication lines, and gas lines.

A 10-foot-high retaining wall separates Kenilworth Avenue and the Site to the southeast of Building #57. The roads and railways that exist beyond the property boundary to the southeast are: Kenilworth Avenue NE, Route 295 southbound lanes, Route 295 north onramp, Route 295 northbound lanes, and right-of-ways (ROWs) for Conrail and CSX ground-level railways, as well as a ROW for the elevated WMATA Orange Line. Additionally, there is an underground easement for the WMATA Blue Line (inbound and outbound box tunnels) parallel to and northeast of Benning Road. The density and sensitivity of these utilities and infrastructure pose safety hazards and access restrictions that would prohibit the installation of a soil boring within several hundred feet to the southeast of the Site.

AECOM also reexamined the historical footprint of the Benning Road Site and whether operations at the Site ever extended to the southeast of Kenilworth Avenue, which runs immediately adjacent to the Site's southeast property boundary. Historical aerial photos, topographic maps and other documents provided in the CSM Technical Memorandum record the expansion of the Benning Road Site, beginning with the purchase of the first parcel of land for the construction of a generating station adjacent to the Anacostia River in 1906. The southeast portion of the present Site, including the area abutting Kenilworth Avenue, was acquired by Pepco between 1937 and 1943. Additionally, the railroad tracks to the southeast of the Site, formerly owned by Philadelphia, Baltimore and Washington Railroad, have been in place since before

1906. Taken together, the historical evidence clearly indicates that Pepco operations at the Site never extended farther southeast than the present southeast property line at any time.

After a review of the available information, AECOM has determined that (1) installation of a soil boring immediately to the southeast of the Benning Road Site is infeasible due to the high density of utilities and transportation infrastructure in this area, (2) soil samples collected at the nearest potential sample location identified above would be too far from the Site (approximately 500 feet) to provide useful data for the purposes of delineation, and (3) available information indicates that at no time in the history of the Benning Road Site did Pepco operations extend southeast of Kenilworth Avenue. Therefore, the presence of PCB-impacted soils southeast of Kenilworth Avenue as a result of historical Pepco activities is extremely unlikely. As such, the installation of a soil boring to the southeast of the Site is unnecessary and impracticable.

At this Target Area, PCB concentrations exceeded PSLs on a combined surface and subsurface soil basis over an area measuring approximately 9,000 SF or 0.2 acres.

Target Area 14 – Former Railroad Switchyard

Target Area 14 was further sampled during the Phase II event due to a total PCB detection of 1,900 µg/kg at SUSDP06 during the Phase I event. Five surface soil samples were collected in 2017, with all of the samples exhibiting concentrations below the PSL. Therefore, the only exceedance in this area is limited to SUSDP20, which was detected during the Phase I sampling.

#### 4.2.3.6 Pesticide Results in Surface Soils

Low parts per billion level concentrations of pesticides were detected in surface soils. Pesticides detected more commonly included: dichlorodiphenyltrichloroethane (DDT) metabolites (4,4’-dichlorodiphenyldichloroethane [4,4’-DDD], 4,4’-dichlorodiphenyldichloroethylene [4,4’-DDE], and 4,4’-dichlorodiphenyltrichloroethane [4,4’-DDT]), cis-chlordane, dieldrin, endosulfan sulfate, heptachlor epoxide, and methoxychlor. All pesticide concentrations were significantly below PSLs, as shown in **Table 4-3**.

#### 4.2.3.7 Dioxin and Furan Compound Results in Surface Soils

All of the dioxin and furan compounds were detected at parts per trillion concentration levels in the surface soil samples analyzed. TCDD TEQs ranged from 0.101 to 484 picograms per gram (pg/g).

As shown in **Table 4-4**, dioxin and furan compounds were detected in most of the surface soil samples analyzed for these compounds. The maximum, mean, and median surface soil detection concentrations for TCDD TEQ and 2,3,7,8-tetrachlorodibenzo-p-dioxin are provided below along with the number of samples with detections and the total number of samples analyzed.

**Surface Soil Summary for Dioxins and Furans (pg/g)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed | BTV | Is Site ≥ to Site-specific background? |
|---|---|---|---|---|---|---|---|---|
| 2,3,7,8-Tetrachlorodi-benzo-p-dioxin | 22 | 25.5 | 1.7 | 0.793 | 35 | 69 | 1.002 | Yes |
| TCDD TEQ HH | 22 | 484 | 28.8 | 7.45 | 69 | 69 | 20.6 | Yes |

Based on the two-sample hypothesis tests presented in the background evaluation (**Appendix W**), concentrations of 2,3,7,8-Tetrachlorodi-benzo-p-dioxin and TCDD TEQ HH in Site surface soil are present at levels greater than those in the Site-specific background dataset.

To provide an overview of the Site-wide PSL exceedances of TCDD TEQ in surface soil, **Figure 4-16** presents TCDD TEQ concentrations in surface soil samples across the Site. As shown on this figures, TCDD TEQ exceedances were concentrated within Target Areas 1, 5, and 10. The TCDD TEQ delineation is discussed in more detail below for these Target Areas.

Target Area 1 – Former sludge dewatering area, Target Area 5 – Former Cooling Towers, Target Area 10 - Red Tag Storage Area, and Target Area 11 - PCB Building #68

TCDD TEQ soil concentrations are presented on **Figure 4-17** and **Table 4-4**. TCDD TEQ exceeds its PSL in Target Area 1 at five locations. The maximum detection was 50.1 pg/g at SUS08-1A. The exceedances are horizontally and vertically bounded in this area. TCDD TEQ exceeded PSLs in surface soils at Target Area 1 over an area measuring approximately 8,100 SF or 0.19 acres.

TCDD TEQ exceeded its PSL in Target Area 10 at 12 locations. The maximum detection was 484 pg/g at SUS10-2B. The exceedances are horizontally bounded. TCDD TEQ exceeded PSLs in surface soils at Target Area 10 over an area measuring approximately 8,050 SF or 0.18 acres.

TCDD TEQ exceeded its PSL in Target Area 5 at one location, with a detection of 58.7 pg/g at SUSDP11. However, the concentration at this location from 4.5 to 5.5 ft bgs was only 0.601 pg/g. Also, this soil was excavated and removed during the cooling tower soil excavation.

TCDD TEQ did not exceed its PSL at Target Area 11 (Building #68).

Target Area 9 – Green Tag Storage Area

Target Area 9 was further sampled during the Phase II event due to a TCDD TEQ detection of 22.3 pg/g at SUSDP18 during the Phase I event. Eight surface soil samples were collected in 2017. The highest TCDD TEQ concentration was 19.7 pg/g at SUS18-1D, with all of the samples exhibiting concentrations below the PSL. Therefore, the only exceedance in this area is limited to SUSDP18, which was detected during the Phase I sampling.

### 4.2.4 Subsurface Soils Characterization Results

This section summarizes the subsurface soil results from the Phase I and Phase II investigation. Section 2.1.6, describes the Phase I subsurface soil sampling events. Section 2.3.2 describes the Phase II subsurface soil sampling events. The locations of the surface soil samples are shown on **Figure 2-1**, and analytical methods are presented in **Table 2-2**.

A subsection is provided below for each group of compounds, each summarizing the results for that compound followed by specific discussions for the Targets Areas where PSL exceedances were concentrated.

There are several instances where contaminants in the surface soils (0-1 ft.) were non-detect, but were found at levels exceeding PSLs in the immediate subsurface. A series of subsurface profiles were prepared to illustrate the vertical distribution of contaminants (**Figure 4-6B**, **Figure 4-7B**, **Figure 4-9B**, **Figure 4-10B**, **Figure 4-13B**, **Figure 4-14B** and **Figure 4-15B**).

#### 4.2.4.1 Inorganic Results in Subsurface Soils

Phase I XRF Screening

A portable XRF instrument was used to screen surface and subsurface soils for metals per the project SAP and following the guidance provided in EPA Method 6200 as discussed in Section 4.2.3.1. Results for XRF screening analyses are provided in **Table 4-5**; however, the nature and extent evaluation of subsurface soils is based on the results of the laboratory testing, which is discussed below.

Laboratory Results

As shown in **Table 4-6**, metals were detected in most of the subsurface soil samples analyzed for inorganic compounds. Arsenic, cobalt, lead, manganese, thallium, and vanadium concentrations exceeded their respective PSLs.

The distribution of inorganic COIs in subsurface soils is shown in **Figure 4-1B**. As presented on **Figure 4-1B**, arsenic exceeded its PSL in 23 subsurface samples. Vanadium exceeded its PSL in three subsurface samples. Cobalt, lead, manganese, and thallium each exceeded their PSLs in only one sample.

The maximum, mean and median surface soil detection concentrations for inorganic PSL exceedances are provided below along with the number of samples with detections and the total number of samples analyzed. As shown below, the mean and median detection concentrations are significantly smaller than the maximum concentrations.

**Subsurface Soil Summary for Inorganics (mg/kg)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed | BTV | Is Site ≥ to Site-specific background? |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 3 | 71 | 4.3 | 2.3 | 75 | 75 | 17 | No |
| Cobalt | 35 | 120 | 7.5 | 4.4 | 75 | 75 | 19.7 | No |
| Lead | 800 | 5,400 | 110 | 7.3 | 75 | 75 | 170 | No |
| Manganese | 2,600 | 3,400 | 180 | 100 | 75 | 75 | 740 | No |
| Thallium | 1.2 | 1.6 | 0.13 | 0.098 | 61 | 75 | 0.184 | No |
| Vanadium | 580 | 1,400 | 88 | 22 | 75 | 75 | 37.8 | Yes |

Based on the two-sample hypothesis tests presented in the background evaluation (**Appendix W**), concentrations of inorganics in Site subsurface soil were consistent with Site-specific background dataset with the exception of vanadium.

Although chromium was detected in all 75 subsurface soil samples analyzed for chromium, the concentrations were significantly below the PSL for total chromium of 180,000 mg/kg. Section 4.2.3 provides further discussion of the basis for this PSL for both surface and subsurface soils.

Vanadium PSL exceedances were limited to Target Area 1 (former sludge dewatering area). The finding of an elevated concentration of vanadium is consistent with the findings reported in the USEPA 2009 SI Report for this area. The vanadium delineation is discussed in more detail below for Target Area 1 and the adjacent Target Areas.

Target Area 1 – Former sludge dewatering area, Target Area 5 – Former Cooling Towers, Target Area 10 – Red Tag Storage Area, and Target Area 11 – Building #68

Vanadium soil concentrations are presented on **Figure 4-3**, and provided in **Table 4-6**. Vanadium exceeded its PSL at Target Area 1 at two locations. Location TA1G9 had a concentration of 1,400 mg/kg from 1 to 2 ft bgs, but the sample from 2 to 3 ft bgs was only 540 mg/kg. Location TA1E0 had a concentration of 630 mg/kg from 2 to 3 ft bgs but the sample from 3 to 4 ft bgs was only 420 mg/kg. Subsurface vanadium exceedances were limited to Target Area 1 and the surrounding former coal pile area footprint. These concentrations are vertically bounded at a maximum depth of 3 ft below grade. The two localized exceedances are bounded within the footprint of the surface soil PSL exceedances. The footprint of surface soil exceedances for vanadium is approximately 68,400 SF or 1.57 acres.

Vanadium did not exceed its PSL at Target Areas 5, 10, or 11.

#### 4.2.4.2 VOC Results in Subsurface Soils

A total of 67 samples were collected at various depths from 41 locations across the Study Area and analyzed for VOCs. As shown in **Table 4-7**, VOC detections in subsurface soils were very limited and were detected significantly below their PSLs.

Acetone, a common laboratory contaminant, was the most frequently detected VOC, with 15 detections out of 67 samples but with a maximum concentration of only 58 µg/kg compared to its PSL of 6.7E+07 µg/kg. The majority of the detections occurred at two locations, DP-12 and DP-39 and included fuel related compounds.

PCE was detected once at SUSDP39, located within Target Area 13 in the vicinity of former AST #3, with a concentration of only 4.2 µg/kg compared to its PSL of 39,000 µg/kg. MTBE was detected once at DP32, located adjacent to Building #42 in the vicinity of Target Areas 6 and 18, with a concentration of only 100 µg/kg compared to its PSL of 210,000 µg/kg.

ERI activities coupled with the data collected from subsurface DPT borings to confirm composition of geophysical anomalies observed during the ERI indicated that there were no likely free product (LNAPL or DNAPL) pools at the locations investigated. PID screening conducted on Site and visual observations made as part of lithologic logging did not identify any LNAPL/DNAPL zones on Site. A technical memorandum summarizing ERI survey results is provided in **Appendix E**, and PID readings collected during soil borings are provided on the boring logs located in **Appendix F**.

The PID readings collected from all subsurface DPT borings ranged from 0.0 ppm to 1,124 ppm; the maximum reading was detected in SUSDPGD21-P1 (1 to 2 ft bgs), located in Target Area 12 and adjacent to the northeast corner of Building #57. The median PID reading was 0.0 ppm, the average was 4.6 ppm and the standard deviation was 42.8 ppm.

#### 4.2.4.3 SVOCs and PAH Results in Subsurface Soils

Priority pollutant PAHs are the most commonly detected SVOCs in the surface soils and the only SVOC PSL exceedances. The most common SVOC analytes detected besides PAHs were benzaldehyde, bis-(2-Ethylhexyl) phthalate, butylbenzylphthalate, and diethylphthalate. As part of the Target Area delineations performed in Phase II, a large number of samples were collected for PAH compounds. In total, 448 samples, including duplicates, were analyzed for PAHs. The full suite of SVOCs was only analyzed during the Phase I sampling because of the low concentrations and infrequent detections of the non-PAH SVOCs during Phase I. In total, 28 samples, including one duplicate, were analyzed for SVOCs.

As shown in **Table 4-7**, PAHs as represented by BaP-TE were detected in most of the subsurface soil samples analyzed for PAHs. Seven of the individual PAH compounds exceeded their PSLs in subsurface soil as listed below. The PSL maximum, mean, and median surface soil detection concentrations for these eight analytes are provided below along with the number of samples with detections and the total number of samples analyzed. As shown below, only benzo(a)pyrene and BaP-TE had mean detection concentrations above their PSLs. Also presented below are total high-molecular-weight PAHs, total low-molecular-weight PAHs, and total PAHs (sum 16). These compounds do not have PSLs.

**Subsurface Soil Summary for PAHs (µg/kg)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed | BTV | Is Site ≥ to Site-specific background? |
|---|---|---|---|---|---|---|---|---|
| Benzo(a)-anthracene | 21,000 | 720,000 | 8,300 | 760 | 370 | 448 | 77 | Yes |
| Benzo(a)pyrene | 2,100 | 640,000 | 7,400 | 790 | 357 | 448 | 72 | -- |
| Benzo(b)-fluoranthene | 21,000 | 510,000 | 7,900 | 1,000 | 362 | 448 | 100 | -- |
| Benzo(k)-fluoranthene | 210,000 | 570,000 | 4,400 | 380 | 350 | 448 | -- | -- |
| Dibenzo(a,h)-anthracene | 2,100 | 100,000 | 1,500 | 210 | 310 | 448 | 79 | Yes |
| Indeno(1,2,3-cd)pyrene | 21,000 | 380,000 | 4,900 | 630 | 357 | 448 | 52 | -- |

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed | BTV | Is Site > to Site-specific background? |
|---|---|---|---|---|---|---|---|---|
| Naphthalene | 17,000 | 130,000 | 1,300 | 87 | 273 | 448 | 30 | Yes |
| BaP-TE | 2,100 | 898,000 | 10,400 | 1,130 | 373 | 448 | 120 | Yes |
| Total high-molecular-weight PAHs | -- | 6,500,000 | 75,000 | 6,900 | 384 | 448 | -- | -- |
| Total low-molecular-weight PAHs | -- | 2,700,000 | 26,000 | 1,200 | 375 | 448 | -- | -- |
| Total PAHs (sum 16) | -- | 9,000,000 | 100,000 | 8,000 | 384 | 448 | -- | -- |

-- Indicates not applicable

Based on the two-sample hypothesis tests presented in the background evaluation (**Appendix W**), concentrations of benzo(a)-anthracene, dibenzo(a,h)-anthracene, naphthalene, and BaP-TE in Site subsurface soil were present at levels greater than those in Site-specific background dataset. To further illustrate where the PSL exceedances were concentrated, the following descriptions are provided for the Target Areas where delineation of the subsurface soil for PAHs was conducted during the RI.

Target Area 1 – Former sludge dewatering area, Target Area 5 – Former Cooling Towers, Target Area 10 – Red Tag Storage Area, and Target Area 11 – PCB Building #68

PAH soil concentrations are presented on **Figure 4-5** and **Table 4-7**. Just west of Target Area 1, PAHs as represented by BaP-TE exceeded its PSL at SUSDP04 from 2.5 to 3.5 ft bgs, but not in deeper soil at this location. This location and four surrounding locations were sampled in 2017 and no BaP-TE exceedances were found suggesting that the 2013 detection was very limited in extent. Also at Target Area 1, the BaP-TE PSL was exceeded from the 5 to 10 ft bgs interval at SUSDP08. However, this exceedance is vertically (above and beneath) and horizontally bounded within the footprint of surface soil PSL exceedances for PCBs and dioxins measuring approximately 8,100 SF or 0.19 acres.

PAHs as represented by BaP-TE exceeded its PSL at two locations just south of the Target Area 5 Former Cooling Tower #15 excavation area. Both exceedances were from 1 to 2 ft bgs and vertically and horizontally bounded by non-exceedances. BaP-TE concentrations exceeded PSLs in subsurface soils at Target Area 5 over an area measuring approximately 3,200 SF or 0.07 acres.

PAHs as represented by BaP-TE did not exceed the PSL at Target Areas 10 or 11.

In summary, three locations with PAH exceedances were identified in the shallow subsurface in Target Areas 1 and 5 but all three locations are vertically and horizontally bounded as shown in **Figure 4-5**.

Target Area 4 – 2003 Salvage Yard Investigation and Former Timber Pole Storage Area

PAH soil concentrations are presented on **Figure 4-6A** and **Table 4-7**. PAHs as represented by BaP-TE exceeded the PSL at eight locations in Target Area 4. The maximum BaP-TE detection was 614,000 µg/kg from 1 to 2 ft bgs at SUSDP43-3P; however the concentrations at this location from 0 to 1 ft bgs and 2 to 3 ft bgs were only 199 µg/kg and 3,240 µg/kg, respectively. The horizontal and vertical extent of PSL exceedances are bounded at this location. The multi-depth sampling at each location identified exceedance depths ranging from surface soil to the 10 to 15 ft bgs interval. However, most exceedances were from surface soil to 5 ft bgs. **Figure 4-6B**, Transect A presents vertical concentration profiles of locations along the transect from A (SUSDP43-5NW) to A' (SUSDP12-1C) which follows the locations of subsurface exceedance of the PSL for BaP-TE along the railroad tracks. Locations with results exceeding 6260 µg/kg BaP-TE are all confined within 5 ft bgs. Gray bars indicate the locations overlain by impermeable surfaces such as concrete or asphalt. BaP-TE concentrations exceeded PSLs on a combined surface and subsurface soil basis over an area measuring approximately 36,000 SF or 0.80 acres.

PAHs as represented by BaP-TE exceeded its PSL at one location at the Former Timber Pole Storage Area; SUSDP15 from 5 to 10 ft bgs. This detection is vertically and horizontally bounded.

Target Area 12– Building #57

PAH soil concentrations are presented on **Figure 4-7A** and **Table 4-7**. PAHs as represented by BaP-TE exceed the PSL at 16 locations in Target Area 12. Most of the exceedances are grouped in the alleyway between Building #57 and the southwestern property boundary. The maximum BaP-TE detection was 28,200 µg/kg from 1 to 2 ft bgs at SUSDPG21-M1. The horizontal and vertical extent of PSL exceedances is bounded except along the Site boundary where the Anacostia Freeway prevents collection of additional samples (see Section 4.2.3.5 for further discussion). The multi-depth sampling at each location identified impacts from surface soil to 5 ft bgs. **Figure 4-7B**, Transect A presents vertical concentration profiles of locations along the transect from A (SUSDPGD21-G1) to A' (SUSDP21-3G) in the alleyway between Building #57 and the southeastern property boundary. Locations with results exceeding 6260 µg/kg BaP-TE are all confined within 4 ft bgs. **Figure 4-7B**, Transect B presents vertical concentration profiles of locations along the adjacent transect from B (SUSDPGD21-I2) to B' (SUSDP21-R2). Locations with results exceeding 6260 µg/kg BaP-TE are all confined within 4 ft bgs in the center of the transect. **Figure 4-7B**, Transect C presents vertical concentration profiles of locations along the transect from C (SUSDP21-6W) to C' (SUSDP21-1C) in the parking lot west of Building #57 to the west side of the building. Locations exceeding the PSL but below 6260 µg/kg BaP-TE are confined to depths 4 ft bgs. Gray bars extending from 0 depth in these figures indicate the locations overlain by impermeable surfaces such as concrete or asphalt, which significantly reduces the risk of PAH transport by rainwater infiltration. BaP-TE concentrations exceeded PSLs on a combined surface and subsurface soil basis over an area measuring approximately 9,000 SF or 0.20 acres.

Target Area 13 – Former AST Area

PAH soil concentrations are presented on **Figure 4-8** and **Table 4-7**. PAHs as represented by BaP-TE did not exceed the PSL in Target Area 13.

Target Area 20 – PAHs in Soil

This area was previously used as a railyard and laydown area before being converted into a parking lot in the mid-1980s. PAH soil concentrations are presented on **Figure 4-9A** and **Table 4-7**. PAHs as represented by BaP-TE exceeded the PSL at 27 locations in Target Area 20 and from multiple depth intervals at most of these locations. **Figure 4-9A** also shows locations where the BAP-TE exceeded its PSL but all individual PAHs are below their respective PSL. The maximum BaP-TE detection was 898,000 µg/kg from 2 to 3 ft bgs at SUSDP-196W; this is also the maximum BaP-TE detection in all Phase I and Phase II soil samples. The horizontal extent of PSL exceedances are bounded to the east, west, and north. The WMATA underground tunnels prevent further sampling to the south.

Samples collected from 11 to 12 ft bgs and 14 to 16 ft bgs were significantly below the PSL suggesting that the PAH contamination is vertically bounded above 11 ft bgs. However, the majority of the borings in this area bound the PAH impacts at 5 ft. below grade. **Figure 4-9B**, Transect A presents vertical concentration profiles of locations along the transect from A (SUSDP19-7W) to A' (SUSDP21-5W) in the parking lot from south of Building #59 to the south of Building #56. Locations with results exceeding 6260 µg/kg BaP-TE are confined between SUSDP19-6W and SUSDP19-2D within 6 ft bgs, with the exception of SUSDP19 where results exceeding 14200 occur down to 10 ft bgs, but are bounded below and at adjacent locations below 10 ft bgs. **Figure 4-9B**, Transect B presents vertical concentration profiles of locations along the transect from B (SUSDP19-7N) to B'(SUSDP19-1F). Locations with results exceeding 6260 µg/kg BaP-TE are less than 6 ft bgs, with the exception of location SUSDP19-4N where BaP-TE at concentrations greater than 26,940 down to 8 ft. bgs. **Figure 4-9B**, Transect C presents vertical concentration profiles of locations along the transect from C (SUSDP19-1D) to C'(SUSDP19-7NW). Locations with results exceeding 14200 µg/kg BaP-TE are extend to 10 ft bgs at the SE end of this transect.

BaP-TE concentrations exceeded PSLs in subsurface soils at Target Area 20 over an area measuring approximately 130,000 SF or 3.0 acres.

#### 4.2.4.4 TPH Fraction Results in Subsurface Soils

As shown in **Table 4-7**, TPH and/or TPH fractions were detected in most of the subsurface soil samples analyzed for these compounds. DRO sample analysis exceeded its PSL but ORO and GRO analysis did not. TPH does not have a PSL.

The maximum, mean and median surface soil detection concentrations for TPH and TPH fractions are provided below along with the number of samples with detections and the total number of samples analyzed. As shown below, the mean and median detection concentrations were significantly smaller than the maximum concentrations. The mean detection concentration for DRO was above its PSL, but as shown below, DRO was detected in 54 of 173 samples analyzed for DRO.

**Subsurface Soil Summary for TPH and TPH Fractions (mg/kg)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed | BTV | Is Site ≥ to Site-specific background? |
|---|---|---|---|---|---|---|---|---|
| TPH (C9-C44) | -- | 61,000 | 3,370 | 364 | 118 | 121 | -- | -- |
| DRO (C10-C20)[1] | 440 | 11,000 | 1,100 | 140 | 54 | 173 | 19.7 | Yes |
| ORO (C20-C36) | 350,000 | 17,000 | 1,400 | 170 | 98 | 173 | 372 | Yes |
| GRO (C6-C10) | 42 | 38 | 12 | 0.64 | 7 | 140 | -- | -- |

-- Indicates not applicable

As noted above, based on the two-sample hypothesis tests presented in the background evaluation (**Appendix W**), concentrations of DRO (C10-C20) and ORO (C20-C36) in Site subsurface soil were present at levels greater than those in Site-specific background subsurface soil.

To further illustrate where the PSL exceedances were concentrated, the following descriptions are provided for the Target Areas where delineation of the subsurface soil for TPH and TPH fractions was conducted during the RI.

<u>Target Area 5 – Former Cooling Tower Area</u>

DRO soil concentrations are presented on **Figure 4-10A** and **Table 4-7**. DRO exceeded its PSL at seven locations in Target Area 5. The maximum DRO surface soil detection was 18,600 mg/kg at SUSDPCT16-2M from 1 to 2 ft bgs. The multi-depth sampling at each location identified exceedance depths ranging from 1 to 6 ft bgs. The exceedances are not bounded along the northern site boundary but the characterization identified decreasing concentrations toward the property boundary, and the surface topography slopes back into the Site at this location. Therefore, it was determined that further characterization is not necessary.

**Figure 4-10B**, Transect A presents vertical concentration profiles of locations along the transect from A (SUSDPCT16-4W) to A' (SUSDPCT16-1G) along the south side of Former Cooling Tower #16. Locations with results exceeding 3900 mg/kg DRO are confined to less than 4 ft bgs within the approximately 13,700 SF or 0.30 acre footprint where PCBs also exceeded PSLs..

Target Area 4 - 2003 Salvage Yard Investigation and Former Timber Pole Storage Area

DRO soil concentrations are presented on **Figure 4-11** and **Table 4-7**. DRO exceeded its PSL at three locations in Target Area 4, approximately 80 feet apart. The maximum DRO detection was 8,000 mg/kg at SUSDP50 from 1 to 2 ft bgs; however the concentration at this location from 2 to 3 ft bgs was only 98 mg/kg. The horizontal and vertical extent of PSL exceedances are bounded at this location. Samples for DRO did not exceed its PSL at the Former Timber Pole Storage Area.

Target Area 13 – Former AST Area

DRO soil concentrations are presented on **Figure 4-8** and **Table 4-7**. Subsurface soil samples for DRO did not exceed its PSL at Target Area 13.

#### 4.2.4.5 PCB Results in Subsurface Soils

As shown in **Table 4-8**, PCBs were detected at 291 of the 425 locations sampled. Total PCB concentrations exceeding its PSL were detected at 51 locations with the maximum concentration (450,000 µg/kg) occurring at SUSDPGD21-G1 at Target Area 12 (Building #57). Six PCB Aroclors (A-1016, A-1242, A-1248, A-1254, A-1260, and A-1268) were detected in subsurface soil samples. The evaluation of PCBs in subsurface soils is limited to PCB Aroclor concentration data.

The PSL, maximum, mean, and median surface soil detection concentrations for the detected PCB Aroclors and total PCBs are provided below along with the number of samples with detections and the total number of samples analyzed. The following Aroclors were not detected in the subsurface soil samples: Aroclor-1221, Aroclor-1232, and Aroclor-1262.

**Subsurface Soil Summary for PCBs (µg/kg)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed | BTV | Is Site ≥ to Back-ground? |
|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 | -- | 54 | 34 | 34 | 2 | 425 | -- | -- |
| Aroclor-1242 | -- | 10,000 | 780 | 130 | 21 | 425 | -- | -- |
| Aroclor-1248 | -- | 6,900 | 400 | 110 | 85 | 425 | -- | -- |
| Aroclor-1254 | -- | 4,800 | 210 | 81 | 95 | 425 | -- | -- |
| Aroclor-1260 | -- | 450,000[a] | 4,400 | 150 | 277 | 425 | -- | -- |
| Aroclor-1268 | -- | 300 | 35 | 19 | 44 | 425 | -- | -- |
| PCB, Total Aroclors | 970 | 450,000[a] | 4,400 | 230 | 291 | 425 | 15.1 | Yes |

[a] PCB concentrations >50,000 µg/kg in soil must be disposed of as TSCA remediation waste at an approved facility in accordance with 40 CFR 761.
-- Indicates not applicable

The Site-specific background analysis identified a BTV of 15.1 ppb for total PCB Aroclors, which is well below the PSL. A two-sample hypothesis test could not be conducted for total PCB Aroclors due to the low frequency of detection in Site-specific background soil samples (**Appendix W**). Graphical evaluations (boxplots) of total PCB Aroclors illustrate that Site levels are higher than Site-specific background. To further illustrate where the PSL exceedances were concentrated, the following descriptions are provided for the Target Areas where delineation of the subsurface soil for PCBs was conducted during the RI.

<u>Target Area 1 – Former sludge dewatering area, Target Area 5 – Former Cooling Towers, Target Area 10 - Red Tag Storage Area, and Target Area 11 – PCB Building #68</u>

PCB soil concentrations are presented on **Figure 4-13A** and **Table 4-8**. PCBs were not detected in subsurface soils above PSLs within Target Areas 1 and 10. Total PCBs exceeded the PSL at four locations in an area located to the west of Target Area 1 around SUSDP04. The maximum PCB subsurface soil detection was 6,900 µg/kg at SUSDP04-1E from 2 to 3 ft bgs. The multi-depth sampling bounded the vertical extent of PSL exceedances at 5 ft bgs. **Figure 4-13B**, Transect A presents vertical concentration profiles of locations west of Building #65 along the transect from A (SUSDP04-2I) to A' (SUSDP04-1A) and indicates results exceeding the PSL and less than 7700 µg/kg are confined to depths between 2 and 5 ft bgs. The gray bar from 0 ft bgs indicates the depth of impermeable pavement.

During 2017, PCB-impacted soils adjacent to and beneath the former cooling tower basins in Target Area 5 were excavated to up to 6 ft bgs. Excavation depths in the vicinity of Former Cooling Tower #15 concrete basin ranged from 1 to 3 ft bgs within the remediation area surrounding the former structure, and 0.5 to 3 ft beneath the base of the Cooling Tower #15 concrete basin floor. Excavation depths in the vicinity of Former Cooling Tower #16 ranged from 1 to 6 ft bgs within the remediation area surrounding the former structure, and 0.5 to 4 ft beneath the base of the Cooling Tower #16 concrete basin floor. The soil sampling data used to delineate the excavation footprint and depth are presented in the Cooling Tower Basins Remedial Action Completion Report (AECOM, 2017). These results are not repeated in this report; however, additional sample collection outside of the excavation areas performed during the Phase II characterization is discussed herein.

Total PCBs exceed the PSL at 11 locations at Former Cooling Tower #16 in Target Area 5. The maximum PCB subsurface soil detection was 14,000 µg/kg at SUSDP11-1A from 4 to 5 ft bgs. The multi-depth sampling bounded the vertical extent of PSL exceedances at 6 ft bgs. **Figure 4-13B**, Transect C presents vertical concentration profiles of locations south of Cooling Tower #16 from C (SUSDPCT16-3Q) to C' (SUSDPCT16-2E) and indicates results exceeding the PSL but less than 8600 µg/kg are confined to depths less than 3 ft bgs. **Figure 4-13B**, Transect D presents vertical concentration profiles of locations north of Cooling Tower #16 from D (SUSDP11-2N) to D' (SUSDP11-2D) indicates results between the PSL and 14,000 µg/kg are confined to depths less than 6 ft. bgs. PCB concentrations exceeded PSLs in this area in subsurface soils over an area measuring approximately 13,700 SF or 0.30 acres. The gray bar from 0 ft bgs indicates the depth of impermeable pavement The exceedances are bounded in all directions except along the northern Site boundary. The characterization identified decreasing concentrations toward the property boundary and the surface topography slopes back into the Site at this location. Therefore, Pepco in consultation with DOEE determined that further characterization is not necessary.

Total PCBs exceeded the PSL at three locations at Target Area 11. The maximum PCB subsurface soil detection was 14,000 µg/kg at SUSDP44-1H. The multi-depth sampling bounded the vertical extent of PSL exceedance in Target Area 11 at 4 ft bgs. **Figure 4-13B**, Transect B presents vertical concentration profiles of locations with the highest subsurface concentrations in Target Areas 10 and 11 along the transect from B (SUSDP10-4NW) to B' (SUSDP44-2N). Locations with results exceeding the PSL but less than 14,000 µg/kg are confined to depths below the pavement and 4 ft bgs.

<u>Target Area 4 – 2003 Salvage Yard Investigation and Former Timber Pole Storage Area</u>

PCB subsurface soil concentrations are presented on **Figure 4-14A** and **Table 4-8**. Total PCBs exceeded the PSL at seven locations within Target Area 4. The maximum PCB subsurface soil detection was 1,800 µg/kg at SUSDP43 from 1 to 2 ft bgs. The horizontal and vertical extent of PSL exceedances is bounded in this area. The multi-depth sampling at each location bounded the vertical extent at 3 ft bgs. **Figure 4-14B**, Transect A presents vertical concentration profiles of locations with the highest subsurface concentrations in the Former Salvage Yard area, from A (SUSDP43) to A' (SUSDP49-1C) where results above the PSL but less than 2500 µg/kg are confined to depths less than 5 ft bgs.

Total PCBs exceeded the PSL at five locations at the Former Timber Pole Storage Area. The maximum PCB surface soil detection was 3,500 µg/kg at SUSDP49-1C from 1 to 2 ft bgs. The horizontal and vertical extent is bounded at this location. Although a PSL exceedance was noted at 9.5 to 10.5 ft at SUSDP15, PCB impacts in the Former Pole Storage Area are more prevalent to a depth of 2 to 3 ft bgs. **Figure 4-14B**, Transect B presents vertical concentration profiles of locations with the highest subsurface concentrations in the Former Timber Pole Storage Area.

Target Area 7 – 1988 Parking Lot Cleanup Area

The subsurface samples collected at SUSDP20 during the Phase I event detected total PCBs at only 7.4 µg/kg. Additional subsurface sampling at this location in 2017 did not detect Total PCBs.

Target Area 9 – Green Tag Storage Area

The subsurface samples collected at SUSDP18 during the Phase I event detected total PCBs at only 4.6 µg/kg. Additional subsurface sampling at this location in 2017 detected total PCBs at 150 µg/kg from 1 to 2 ft bgs but only 1 µg/kg at 2 to 5 ft bgs.

Target Area 12 – Building #57

PCB soil concentrations are presented on **Figure 4-15A** and **Table 4-8**. Total PCBs exceeded the PSL at 22 locations in Target Area 12. Most of the exceedances were grouped in the alleyway behind Building #57. The maximum PCB subsurface soil detection was 450,000 µg/kg at SUSDPGD21-G1 from 1 to 2 ft bgs. **Figure 4-15B**, Transect A closer to Building #57 presents vertical concentration profiles of locations from A (SUSDPGD21-G2) to A' (SUSDPGD21-S2) where results exceeding the PSL up to 42,000 µg/kg occur confined to a depth of 3 ft bgs. The multi-depth sampling bounded the vertical extent of PSL exceedances to 5 ft bgs. **Figure 4-15B**, Transect B presents vertical concentration profiles of locations with the highest subsurface concentrations from B (SUSDPGD21-C3) to B' (SUSDPGD21-S1), including 4 subsurface samples at two locations exceeding the TSCA limit of 50 mg/kg. The horizontal extent was bounded in all directions except along the southern boundary where the Anacostia Freeway prevents collection of additional samples (see Section 4.2.3.5 for further discussion). PCB concentrations exceeded PSLs in subsurface soil over an area measuring approximately 9,000 SF or 0.20 acres.

Target Area 14 – Former Railroad Switchyard

The subsurface samples collected at SUSDP06 during the Phase I event detected total PCBs at 1,900 µg/kg. Additional subsurface sampling at this location in 2017 did not exhibit any further exceedances around SUSDP06.

#### 4.2.4.6 Pesticide Results in Subsurface Soils

Low parts per billion level concentrations of pesticides were detected in subsurface soils. Pesticides detected more commonly included: DDT metabolites (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT), endosulfan sulfate, endrin, endrin aldehyde, lindane, and trans-chlordane. All detected pesticide concentrations were significantly below PSLs, as shown in **Table 4-8**.

#### 4.2.4.7 Dioxin and Furan Compound Results in Subsurface Soils

Dioxin and furan compounds were detected in most of the subsurface soil samples analyzed for these compounds (**Table 4-9**). All of the dioxin and furan compounds were detected at parts per trillion concentration levels in the subsurface soil samples analyzed. TCDD TEQs ranged from 0.0367 to 23.5 pg/g. TCDD TEQ was slightly exceeded at only one sample location SUSDP10-3G at 1 to 2 ft bgs. The maximum, mean and median surface soil detection concentrations for TCDD TEQ are provided below along with the number of samples with detections and the total number of samples analyzed.

**Subsurface Soil Summary for Dioxins and Furans (pg/g)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed | BTV | Is Site ≥ to Site-specific background? |
|---|---|---|---|---|---|---|---|---|
| TCDD TEQ HH | 22 | 23.5 | 3.97 | 1.25 | 21 | 21 | 42.5 | No |

Based on the two-sample hypothesis tests presented in the background evaluation (**Appendix W**), concentrations of TCDD TEQ in Site subsurface soil were consistent with those in the Site-specific background dataset. TCDD TEQ exceedances were concentrated within Target Areas 1, 5, and 10. The TCDD TEQ delineation is discussed in more detail below for these Target Areas.

Target Area 1 – Former sludge dewatering area, Target Area 5 – Former Cooling Towers, Target Area 10 – Red Tag Storage Area, and Target Area 11 – PCB Building #68

TCDD TEQ soil concentrations are presented on **Figure 4-17** and **Table 4-9**. TCDD TEQ does not exceed its PSL in Target Areas 1, 5, and 11 in the subsurface samples. TCDD TEQ exceeded its PSL in Target

Area 10 at one location, with a detection of 23.5 pg/g at SUSDP10-3G. However, the concentration at this location from 2 to 3 ft bgs was below PSL, at 5.42 pg/g.

Target Area 9 – Green Tag Storage Area

The Target Area 9 subsurface was sampled during the Phase I event at SUSDP18. TCDD TEQ was detected well below its PSL at 0.0367 pg/g, from 2.5 to 3.5 ft bgs.

### 4.2.5 Soils Summary

Extensive surface and subsurface characterization was performed for a wide range of analytes during the Phase I and Phase II investigations. An iterative sampling approach used to delineate the areas where analytes were detected above their screening levels in order to horizontally and vertically bound these exceedances.

Presented below is a summary of the PSL exceedances in surface soil, subsurface soil, and groundwater. Groundwater results are discussed later in this document in Section 4.3. As noted previously, the constituents exceeding their PSLs are referred to as COIs. Analytes that are greater than Site-specific background, or for which no Site-specific background calculation could be developed, are in bold (i.e., **X**). The soil characterization results for the Target Areas are also presented in **Table 4-47**.

**Soil and Groundwater COIs**

| Analyte exceeding its PSL | Surface Soil | Subsurface Soil | UWZ | LWZ |
|---|---|---|---|---|
| *Inorganics* | | | | |
| Aluminum | | | x (total only) | |
| Arsenic | X | X | x (total only) | |
| Cadmium | | | x (total only) | **X (dissolved only)[1]** |
| Cobalt | X | X | X | x |
| Iron, total | | | x (total only) | X |
| Lead | X | X | | |
| Manganese | X | X | X | X |
| Nickel | X | | x (total only) | x (dissolved only) |
| Thallium | | X | | |
| Vanadium | **X** | **X** | x (total only) | **X (total only)[1]** |
| *VOCs* | | | | |
| Tertiary Butyl Alcohol (TBA) | | | **X (DPT only)[1]** | **X[1]** |
| Methyl tert-Butyl Ether (MTBE) | | | **X (DPT only)[1]** | **X[1]** |
| Tetrachloroethylene (PCE) | | | **X[1]** | **X[1]** |
| Trichloroethene (TCE) | | | **X[1]** | **X[1]** |
| Vinyl Chloride (VC) | | | **X[1]** | |
| *SVOCs/PAHs* | | | | |
| 1,1'-Biphenyl | | | **X[1]** | |
| Benzo(a)-anthracene | | **X** | | |
| Benzo(a)pyrene | X | **X[1]** | | |
| Benzo(b)-fluoranthene | | **X[1]** | | |

| Analyte exceeding its PSL | Surface Soil | Subsurface Soil | UWZ | LWZ |
|---|---|---|---|---|
| Benzo(k)-fluoranthene | | **X**[1] | | |
| Dibenzo(a,h)-anthracene | **X** | **X** | | |
| Indeno(1,2,3-cd)pyrene | | **X**[1] | | |
| Naphthalene | | **X** | **X**[1] | **X**[1] |
| BaP-TE | X | **X** | | |
| *TPH Fractions* | | | | |
| DRO (C10-C20) | **X** | **X** | **X (DPT only)**[1] | **X (DPT only)**[1] |
| GRO (C6-C10) | | | | **X (DPT only)**[1] |
| *PCBs, Pesticides, Dioxins/Furans* | | | | |
| PCBs | **X**[2] | **X**[2] | | |
| Dieldrin | | | | **X**[1] |
| 2,3,7,8-Tetrachlorodi-benzo-p-dioxin | **X** | | | |
| TCDD TEQ HH | **X** | X | | |

1 No Site-specific background calculation could be developed
2 No two-sample hypothesis test Site-specific background comparison calculation could be developed but the mean for the total PCBs exceeded its BTV.

Metals were frequently detected in surface and subsurface soils above screening levels but only vanadium exceeded Site-specific background levels. VOCs were not detected in soils above screening levels. Two individual PAH compounds and BaP-TE exceeded screening levels in surface soil. Seven individual PAH compounds and BaP-TE exceeded screening levels in subsurface soil. DRO was detected above its screening level and Site-specific background levels in surface and subsurface soil. Pesticides were not detected in surface and subsurface soils above screening levels. Dioxins were detected above the screening levels and Site-specific background levels in surface soil. Dioxins were detected above screening levels, but below Site-specific background levels in subsurface soils. Total PCBs were detected above its screening level and BTV (see table footnote 2 above) in surface and subsurface soil. The highest total PCB concentrations were detected in Target Area 12, adjacent to Building #57. Concentrations of PCBs exceeded the TSCA threshold limit for disposal of 50 mg/kg in three locations within Target Area 12.

## 4.3 Groundwater

### 4.3.1 Overview of Site Investigations and Target Area Assessment

As discussed in Section 2, the groundwater sampling events were conducted in both Phase I and Phase II. The Phase I groundwater sampling was conducted in two phases, DPT groundwater sampling followed by monitoring well installation and sampling. The screening level DPT groundwater results were used to identify monitoring well locations as described in RI/FS Work Plan Addendum #1. Based on the DPT groundwater results, a total of 15 pairs of groundwater monitoring wells were installed to verify the screening-level data collected during the DPT investigation. Groundwater monitoring well sampling was conducted in November 2014 following well installation and development. Due to the highly variegated nature of the Patapsco Formation at the Site and the observed presence of lenticular beds of fines within coarse-grained deposits, it was necessary for the well screens to intersect one or more layers of silt or clay in nearly every well. As a result of the fine-grained materials within the screened intervals, the five-well-volume minimum pumped during well development was likely not to have removed all entrained fine particulates from the vicinity of the screen. This was a possible contributing factor to the high turbidities observed in the Phase I monitoring well groundwater samples, and consequently the wells were redeveloped prior to performing additional well sampling during the Phase II.

The Phase II events primarily involved the additional groundwater monitoring well sampling event in December 2016 and additional direct push groundwater sampling in 2017 for further assessment and delineation of naphthalene, PCE, and MTBE identified in the Phase I event. Addendum #3 to the RI/FS Work Plan describes in detail the additional Site characterization needs (AECOM, 2016) and groups the Phase II investigation into Target Areas as summarized below. **Figure 1-6** presents the locations of the Target Areas.

| Target Area | Phase I Sample Locations* | Primary Analysts of Interest |
|---|---|---|
| 18 | MW-13B; SB-32 | MTBE |
| 19 | MW-01A, B; MW-02A, B | Naphthalene and PCE |

* Basis for Phase II identification

Brief operational histories of each Target Area are provided below and a more extensive Site history is provided in the CSM Technical Memorandum, Appendix C (AECOM, 2016b).

- Target Area 18 – Kenilworth Fueling Island: In 1995 a failed fuel line associated with a 20,000-gallon gasoline UST resulted in a release of product. The line was isolated and capped upon discovery, and remedial activities were conducted from 1995 to August 1997 under the oversight of the District Department of the Environment (DDOE) (now DOEE). A case closure was issued by DDOE in September 1997. The UST was removed from the ground in 2012. A UST case closure was issued by DDOE on November 1, 2012.
- Target Area 19 – PCE and Naphthalene in Groundwater: adjacent to southern portion of former power plant where chlorinated solvents were suspected to have been stored and used. Although the former Steuart Petroleum fuel oil supply line historically ran through Target Area 19 and naphthalene is a constituent in fuel oil, there are no known releases from this line on the Pepco property. Naphthalene was detected in MW01-A and MW-02-A at low concentrations during the

2014 sampling event, however, these results were not confirmed by the 2016 sampling following well redevelopment to reduce turbidity. In addition to the two Target Areas noted above, PCE was detected in groundwater surrounding location DP09 and a delineation of the PCE in groundwater was performed during the Phase I sampling as discussed in Section 2.1.7. This area is located in the south-central portion of the Site bordering the southern property boundary and was used as a laydown area from the 1950s through the 1980s. However, no information has been uncovered to date indicating the use or storage of chlorinated solvents in this area.

- Section 4.3.3 presents the UWZ characterization results and Section 4.3.4 presents the LWZ characterization results. Groundwater analytical results are summarized in **Table 4-10** through **Table 4-24** and presented on **Figure 4-18** through **Figure 4-22**.

### 4.3.2 Comparison to Site-specific Background Analysis

**Appendix W** presents the results of the Site-specific background analysis for COIs. Site-specific background threshold values were developed for the groundwater COPCs using the Site-specific background datasets excluding the outliers. Sections 4.3.3 and 4.3.4 below provide a comparison to the BTVs in the summaries for the compound groups for the UWZ. Due to the small sample size of the lower aquifer zone Site-specific background dataset, BTVs were not calculated for the LWZ but were calculated for the combined UWZ and LWZ.

A two-sample hypothesis (or population) test was also conducted for each COI for which sufficient data were available. The test selected for each COI was determined by the distributions of the Site and background data sets. The test was conducted to statistically compare the Site and background data sets. The results of population tests are discussed in the following sections.

### 4.3.3 Upper Water-Bearing Zone

This section summarizes the UWZ results from the Phase I and Phase II investigations. Section 2 discusses the details of sampling locations and methodology. The locations of the groundwater samples are shown on **Figure 2-1**, and analytical methods are presented in **Table 2-2**. The following paragraphs discuss the results by analyte group.

#### 4.3.3.1 Inorganics in the UWZ

As presented in **Table 4-10**, a number of inorganics exceeded PSLs in UWZ direct push groundwater samples for dissolved and total metals. However, fewer inorganic constituents exceeded PSLs in samples collected from the monitoring wells and the monitoring well concentrations were also much lower than direct push samples for most of the exceedances. This indicates the effect of turbidity caused by suspended soil particles in the direct push samples.

As shown in **Table 4-17** and the summary presented below, there are fewer dissolved metals as determined by the analysis of filtered samples that exceeded their PSLs than for total metals (unfiltered samples).

The maximum mean and median groundwater detection concentrations for inorganic PSL exceedances (filtered and unfiltered) are provided below along with the number of samples with detections and the total number of samples analyzed.

**UWZ Monitoring Well Summary for Inorganics (μg/L)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed | BTV | Is Site > Site-specific background? |
|---|---|---|---|---|---|---|---|---|
| Cobalt, dissolved | 0.6 | 30 | 8.2 | 5.3 | 11 | 16 | 176 | No |
| Manganese, dissolved | 43 | 5,000 | 1,500 | 700 | 16 | 16 | 18,000 | No |
| Aluminum, total | 2,000 | 11,000 | 1,200 | 470 | 16 | 16 | 55,000 | No |
| Arsenic, total | 10 | 14 | 5.9 | 6 | 16 | 16 | 31 | No |
| Cadmium, total | 5 | 6.1 | 6.1 | 6.1 | 1 | 16 | 5.6 | No |
| Cobalt, total | 0.6 | 87 | 12 | 1.6 | 16 | 16 | 200 | No |
| Iron, total | 1,400 | 44,000 | 15,000 | 8,700 | 16 | 16 | 200,000 | No |
| Manganese, total | 43 | 5,700 | 1,700 | 990 | 16 | 16 | 14,000 | No |
| Nickel, total | 39 | 49 | 6.4 | 2.3 | 15 | 16 | 190 | No |
| Vanadium, total | 8.6 | 83 | 18 | 6.6 | 12 | 16 | 320 | No |

Based on the two-sample hypothesis tests presented in the background evaluation (**Appendix W**), concentrations of inorganics in UWZ groundwater were consistent with the background dataset and are likely naturally occurring. The distribution of inorganic COIs in the UWZ monitoring wells is shown in **Figure 4-18.**

Although the mean and median values of dissolved cobalt and manganese exceeded the PSLs, the detections observed are well below the respective BTVs indicating that the on-Site concentrations are likely naturally-occurring. Cobalt, which is present in high strength steels, alloys, and some paint pigments, was detected in 11 of 16 samples and manganese was detected in all 16 samples. Although manganese is a constituent found in coal and may be associated with historical coal handling, Site concentrations are well below the Site-specific background concentrations. Manganese is a natural element and higher concentrations often result from changes in redox conditions in the subsurface. The dissolved cobalt concentrations on Site range from 0.2 to 30 μg/L, with the maximum concentration occurring at well, MW-4A.

#### 4.3.3.2 VOCs in UWZ

Concentrations of VOCs associated with fuels (Benzene, toluene, ethylbenzene, and xylenes [BTEX], and methyl tertiary-butyl ether [MTBE]); chlorinated solvents (PCE and its daughter products trichloroethylene [TCE], cis-1,2-dichloroethene [cis-1,2-DCE] and vinyl chloride[VC]); common laboratory artifacts such as acetone, methylene chloride and carbon disulfide; and trihalomethanes (bromodichloromethane, dibromochloromethane, and chloroform) were detected. All compounds with the exception of PCE, TCE, MTBE, VC, and tertiary butyl alcohol (TBA) were below PSLs in all samples. These results are generally consistent between the direct push and monitoring well groundwater sampling results. The UWZ groundwater monitoring well PSL exceedances are presented in **Figure 4-18** and **Table 4-18.**

MTBE

Sampling was conducted in Target Area 18 to assess the MTBE related to the former Kenilworth Fueling Island. The direct push groundwater sample events in 2014 and 2016 were performed to delineate the MTBE occurrence. As presented in **Table 4-11** and summarized below, MTBE was detected in 45 of 75 direct push UWZ samples (with PSL exceedance at three locations), and TBA was detected once out of 29 samples (DP58), but above its PSL (**Figure 4-19**). As presented in **Table 4-18**, MTBE was detected in 11 of 25 UWZ monitoring well samples, but not above its PSL.

**UWZ Direct Push Summary for MTBE and TBA (μg/L)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed |
|---|---|---|---|---|---|---|
| Tert-Butyl alcohol | 14 | 110 | 110 | 110 | 1 | 29 |
| Methyl tert-butyl ether | 14 | 48 | 5.6 | 1.2 | 45 | 75 |

A discussion on potential sources of MTBE in Site groundwater is presented in Section 4.8.

PCE and Daughter Products

Investigation in Target Area 19 involved testing for PCE in groundwater in the southwest corner of the Site. In addition, PCE was detected in groundwater surrounding location DP09, and a delineation of the PCE and its daughter products in groundwater was performed during Phase I. Results from the direct push groundwater sampling events in 2014 and 2016 are presented in **Table 4-11** and summarized below. PCE and TCE were detected in 41 and 22 direct push UWZ samples, respectively.

**UWZ Direct Push Summary for PCE and TCE (µg/L)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed |
|---|---|---|---|---|---|---|
| Tetrachloroethylene | 5 | 470 | 70 | 2.1 | 41 | 96 |
| Trichloroethene | 5 | 26 | 9.8 | 6.4 | 22 | 96 |

As summarized below, PCE and its daughter products TCE and VC exceeded their respective PSLs in shallow monitoring well samples.

**UWZ Monitoring Well Summary for VOCs (µg/L)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed |
|---|---|---|---|---|---|---|
| Tetrachloroethylene | 5 | 320 | 31 | 2 | 16 | 25 |
| Trichloroethene | 5 | 41 | 7.7 | 1.2 | 8 | 25 |
| Vinyl Chloride | 2 | 5.3 | 5.3 | 5.3 | 1 | 25 |

PCE exceeded its PSL in MW01-A, MW-05A, and MW-09A. TCE and VC exceeded their PSL in MW09-A. Cis-DCE was also detected in the UWZ but at concentrations below its PSL. When subsurface conditions are favorable, biodegradation takes place sequentially from PCE to TCE to cis-DCE to VC. The three degradation products TCE, cis-DCE, and VC are referred to as PCE daughter products. The maximum monitoring well concentrations of PCE, TCE, cis-DCE, and VC (9.2 µg/L) occurred at MW-09A.

The maximum concentrations of PCE, TCE, and cis-1,2-DCE detected in groundwater during the Phase I PCE direct push sample event to further characterize the PCE concentrations were 470 µg/L, 26 µg/L, and 23 µg/L, respectively, all in sample DPWB730-35N, which is located adjacent to the southern property boundary. This portion of the Site was historically used as an equipment laydown area. The results from both direct push samples and monitoring well samples are presented on **Figure 4-21.** The highest PCE concentrations were detected along the southern property boundary in the south central portion of the Site. Levels of PCE, TCE, and cis-1,2-DCE in groundwater diminish rapidly with increasing distance north of Benning Road. Section 4.8 presents a discussion of the potential sources of the PCE in groundwater.

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### 4.3.3.3 SVOCs and PAHs in the UWZ

PAHs were detected in 22 of the 45 UWZ direct push groundwater samples analyzed (see **Table 4-11**). Total PAH concentrations in groundwater ranged from 0.043 to 30 µg/L, with the maximum concentration detected at DP-37 within the former bulk fuel storage ASTs (Target Area 13). The mean of total PAH concentrations detected was 3.6 µg/L. This average concentration was exceeded at four locations: DP-28, DP-30, DP-37, and DP-39. Three of these locations (DP-28, DP-37 and DP-39) are located in and around TA#13. These concentrations may be associated with residual contamination in the soil; however, the detection of low concentrations of some high-molecular-weight PAHs during DPT sampling could be a result of the drag-down of contaminated fine soil particles from zones above the sampling interval. Irrespective of the care taken to install temporary sample points, DPT sampling methods sometimes introduce a positive bias in groundwater samples due to drag-down. Therefore, permanent monitoring wells were installed to verify the detection of various PAHs in groundwater.

During UWZ monitoring well sampling, total PAHs were detected in five of the 19 samples with a maximum concentration of 16 µg/L in MW02A (see **Table 4-18**). The detections were in MW-01A, MW-02A, MW-07A, MW-08A, and MW-12A). All of these wells, with the exception of MW-12A, are located in the western portion of the Site. As shown in **Figure 4-18** and **Table 4-18** and per the summary presented below, two individual PAHs exceeded the PSL, 1,1'-Biphenyl and naphthalene.

**UWZ Monitoring Well Summary for SVOCs (µg/L)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed |
|---|---|---|---|---|---|---|
| 1,1'-Biphenyl | 0.083 | 0.27 | 0.27 | 0.27 | 1 | 16 |
| Naphthalene | 0.17 | 13 | 3.3 | 0.12 | 4 | 19 |

Both 1,1'-Biphenyl and naphthalene exceed their PSLs in MW02-A and naphthalene also exceeded its PSL in MW01-A. However, resampling in 2016 indicated that naphthalene was not detected in either well. Activities in Target Area 19 included investigation of both PCE and naphthalene in groundwater. However, based on the 2016 monitoring event, naphthalene sampling was eliminated per discussions with DOEE.

### 4.3.3.4 TPH Fractions in the UWZ

With the exception of MW-02A, TPH analysis was performed primarily on direct push samples. In the direct push UWZ groundwater, GRO was not detected. DRO was detected in six of the 45 samples at 320 to 540 µg/L, with the maximum detected at DP46, which is located adjacent to the southwest corner of Building

#57 (**see Table 4-11**). All six detections exceed the DRO PSL of 100 µg/L. ORO was detected in 11 of the 45 samples at 230 to 1,900 µg/L, with the maximum detected at DP43 in Target Area 4. None of the samples exceeded the ORO PSL of 6,000 µg/L.

DRO was not detected in direct push groundwater samples from DP28 in Target Area 13 (Former AST Area) and DP31 south of Target Area 2 (former Benning Fueling Island); ORO was detected, but well below its PSL. Neither DRO nor ORO was detected in sample SUSDP05 immediately downgradient of Target Area 3 (former 15,000 gal UST and 50,000 gal AST [No. 2 Fuel Oil]), sample SUSDP05, located in Target Area 5 (former cooling towers). In the eastern area of Target Area 5, DRO was detected in sample SUSDP11 at 320 µg/L J (estimated). In Target Area 4, DRO was detected in sample SUSDP43 at 490 µg/L; however the soil at this location was subsequently excavated as part of the cooling tower soil remediation. The remaining four DRO exceedances were detected at DP46, SUSDP14, SUSDP15, and SUSDUP19. Location DP46, adjacent to Building #57 in Target Area 12 and SUSDP19 in Target area 20, are located in the southeast corner of the Site and are hydraulically upgradient of the majority of the Site. Locations SUSDP14 , adjacent to Building #59 (offices) and SUSDP15, between Buildings #75 and 88 (shops/stores) are outside of the Target Areas, but are located downgradient of DP46 and SUSDP19.

The petroleum constituent's benzene, toluene, and xylene were detected in UWZ direct push groundwater samples but well below PSLs. Toluene was the most frequently detected, but with a maximum level of 2.1 µg/L (SUSDP06) compared for a PSL of 1,000 µg/L.

For the monitoring wells, TPH was analyzed only in the sample collected at MW02A in 2016, (see **Table 4-18**). The MW02A sample did not detect TPH and this well is downgradient of Target Area 2 and Target Area 13. Twenty-five samples were collected to test for petroleum constituents BTEX and MTBE in the UWZ monitoring wells in 2014 and 2016, and none of these compounds exceeded their PSLs. MW-04A and MW-08A are downgradient of Target Area 3. Ethylbenzene and xylene were not detected, while benzene in MW-9A and toluene in MW3A and MW9A were only detected under 1 µg/L, well below their PSLs.

#### 4.3.3.5 PCBs in the UWZ

None of the UWZ groundwater sample results for PCBs (limited to PCB Aroclors) exceeded the total PCB PSL of 0.5 µg/L. During the direct push sampling in the UWZ, PCBs were detected at three of the 45 samples analyzed with a maximum detection of 0.15 µg/L at SUSDP05 (**see Table 4-12**). All three detections (DP05, DP37 and DP38) were located in the western portion of the Site.

Samples collected from the UWZ monitoring wells indicated PCB presence in MW-07A (in Target Area 1). Aroclor 1242 was detected in MW-07A at 0.034 μg/L, which is below its screening level (**see Table 4-19**).

#### 4.3.3.6 Pesticides in the UWZ

None of the UWZ groundwater sample results for pesticides exceeded their respective PSLs. During direct push groundwater investigation, several pesticides (DDT metabolites, cis and trans chlordane, dieldrin and heptachlor epoxide) were detected primarily in the mid to eastern portion of the Site (DP09, DP10, DP11, DP17 and DP24) (**see Table 4-12**). UWZ monitoring well sampling did not confirm many of these detections. There were two detections of 4,4'-DDT, one detection of beta-BHC, and three detections of delta-BHC but all were below their respective PSLs (**Table 4-19**).

#### 4.3.3.7 Dioxin and Furan Compounds in the UWZ

As presented in **Table 4-13**, dioxins and furan compounds were detected in all 11 of the samples collected from the direct push samples in the UWZ at TCDD TEQs ranging from 0.000762 to 0.643 pg/L, with the maximum TEQ reported at location DP08 (TA 1).

During the UWZ monitoring well sampling, 13 of the 16 samples collected exhibited TCDD TEQs ranging from 0.00128 to 14.1 pg/L, with the maximum TEQ reported at MW-12A (see **Table 4-20**). The detected concentrations appear to be randomly distributed throughout the Site, with no definitive pattern. The groundwater samples from monitoring wells were also visually turbid raising the possibility that some of the measured concentrations may have been artificially inflated by turbidity. Although these parts-per-quadrillion levels do not appear to be Site-related, the wells were re-sampled in 2016 for dioxin concentrations. The 2016 results were consistently lower than the 2014 results in the same wells. None of groundwater sample results for dioxins and furan compounds exceeded the total TEQ of 30 pg/L.

### 4.3.4 Lower Water-Bearing Zone

This section summarizes the LWZ results from the Phase I and Phase II investigation. The locations of the groundwater samples are shown on **Figure 2-1**, and analytical methods are presented in **Table 2-2**. The following subsections discuss the results by analyte group.

#### 4.3.4.1 Inorganics in the LWZ

As presented in **Table 4-14**, a number of inorganics exceeded PSLs in LWZ direct push groundwater samples for dissolved and total metals. However, fewer inorganic constituents exceeded PSLs in samples collected from the monitoring wells and the monitoring well concentrations were also much lower than direct push samples for most of the exceedances. This indicates the potential effect of turbidity caused by suspended soil particles in the direct push samples.

As shown in **Table 4-21** and the summary presented below, vanadium did not exceed its PSL in the filtered samples (dissolved fraction) but it did exceed its PSL in the unfiltered samples (total fraction). As tabulated below, dissolved cadmium, cobalt, iron, manganese, and nickel in monitoring well samples exceeded the screening levels in in the LWZ.

**LWZ Monitoring Well Summary for Inorganics (μg/L)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed | BTV | Is Site ≥ to Site-specific background? |
|---|---|---|---|---|---|---|---|---|
| Cadmium, dissolved | 5 | 6.5 | 3.3 | 3.3 | 2 | 16 | -- | -- |
| Cobalt, dissolved | 0.6 | 80 | 9.4 | 1.4 | 14 | 16 | 176 | No |
| Iron, dissolved | 1,400 | 38,000 | 9,600 | 2,300 | 9 | 16 | 85,000 | No |
| Manganese, dissolved | 43 | 3,400 | 1100 | 800 | 16 | 16 | 18,000 | No |
| Nickel, dissolved | 39 | 44 | 5 | 0.97 | 15 | 16 | 47 | No (Site=BK) |
| Cobalt, total | 0.6 | 26 | 5.1 | 2.7 | 16 | 16 | 200 | No (Site=BK) |
| Iron, total | 1,400 | 61,000 | 29,000 | 30,000 | 16 | 16 | 200,000 | No |
| Manganese, total | 43 | 3,700 | 1,100 | 750 | 16 | 16 | 14,000 | No |
| Vanadium, total | 8.6 | 23 | 10 | 9.2 | 15 | 16 | -- | -- |

-- Indicates not applicable

Based on the two-sample hypothesis tests presented in the background evaluation (**Appendix W**), concentrations of inorganics in Site LWZ groundwater are consistent with Site-specific background groundwater. However, dissolved cadmium and total vanadium do not have a Site-specific background comparison. Also, cadmium was only detected twice in 16 samples, and only one detection was slightly above its PSL. The distribution of inorganic COIs in the LWZ monitoring wells is shown in **Figure 4-20.**

Cadmium was detected in two LWZ wells with the maximum concentration and screening level exceedance in MW-15B, an upgradient Site well. Cobalt, iron and manganese were more widely detected. Iron and manganese are natural elements and higher concentrations often result from changes in redox conditions in the subsurface. Cobalt is present in high strength steels, alloys, and some paint pigments. The dissolved cobalt concentrations in the LWZ on Site range from 0.2 to 80 µg/L, with the maximum concentration occurring at the upgradient well, MW-15B..

#### 4.3.4.2 VOCs in the LWZ

Concentrations of VOCs associated with fuels (BTEX compounds, and MTBE); chlorinated solvents (PCE and its daughter products TCE, cis-1,2-dichloroethene, and VC); common laboratory artifacts such as acetone, methylene chloride, and carbon disulfide; and trihalomethanes (bromodichloromethane, dibromochloromethane, and chloroform) were detected. All compounds with the exception of PCE, TCE, MTBE, VC, and TBA were below PSLs in all samples. These results are generally consistent between the direct push and monitoring well groundwater sampling results. The LWZ groundwater monitoring well PSL exceedances are presented in **Figure 4-20** and **Table 4-22**. As presented below, PCE and its daughter products TCE and VC exceeded their respective PSLs.

**LWZ Monitoring Well Summary for VOCs (µg/L)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed |
|---|---|---|---|---|---|---|
| Tert-Butyl alcohol | 14 | 62 | 34 | 34 | 2 | 8 |
| Methyl tert-butyl ether | 14 | 190 | 23 | 3.4 | 15 | 24 |
| Tetrachloroethylene | 5 | 110 | 30 | 1.2 | 7 | 24 |
| Trichloroethene | 5 | 48 | 18 | 13 | 4 | 24 |

<u>MTBE</u>

MTBE in Target Area 18 was assessed for potential relation to the former Kenilworth Fueling Island. The direct push groundwater sample events in 2014 and 2016 were performed to delineate the horizontal extent of MTBE. As presented in **Table 4-15** and summarized below, MTBE was detected in 28 of 43 direct push LWZ samples. As presented in **Table 4-22** and **Figure 4-20**, MTBE was detected in 15 of 24 LWZ monitoring well samples and exceeded its PSL in MW13B. TBA was detected above its PSL in MW-09B and above its PSL in a direct push LWZ groundwater sample at DP58.

**LWZ Direct Push Summary for MTBE and TBA (µg/L)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed |
|---|---|---|---|---|---|---|
| Tert-Butyl alcohol | 14 | 62 | 24 | 5.6 | 3 | 26 |
| Methyl tert-butyl ether | 14 | 1100 | 110 | 1.5 | 28 | 43 |

The LWZ groundwater direct push PSL exceedances are presented in **Figure 4-22.** The PSL for MTBE was exceeded in seven of the LWZ samples (MW-13B and six direct push samples). The maximum MTBE concentration of 1,100 µg/L was detected in 2017 at an upgradient, off-Site location (DPOS-03) located to the northeast of the Site. Section 4.8 presents a discussion of the potential sources of the MTBE in groundwater.

PCE and Daughter Products

Activities in Target Area 19 included investigation of PCE in groundwater in the southwest corner of the Site. In addition, PCE was detected in groundwater surrounding location DP09 and a delineation of the PCE and its daughter products in groundwater was performed during Phase I.

Results from the direct push groundwater sampling events in 2014 and 2016 are presented in **Table 4-15** and summarized below. PCE and TCE were detected in 11 and 10 direct push LWZ samples, respectively.

**LWZ Direct Push Summary for PCE and TCE (µg/L)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed |
|---|---|---|---|---|---|---|
| Tetrachloroethylene | 5 | 68 | 16 | 7.1 | 11 | 46 |
| Trichloroethene | 5 | 51 | 17 | 12 | 10 | 46 |

As presented in **Figure 4-20** and **Table 4-22**, PCE and TCE were each detected above their PSLs in LWZ monitoring well samples. PCE and TCE had seven and four detections out of 24 monitoring well samples, respectively. PCE exceeded its PSL in MW01-B and MW-05-B. TCE exceeded its PSL in MW01-B. VC and cis-DCE were also detected in the LWZ but at concentrations below their PSLs. As presented on **Figure 4-20** and **Figure 4-21**, the maximum PCE detections in the LWZ monitoring wells was in MW-01B which is within Target Area 19.

**LWZ Monitoring Well Summary for PCE and TCE (µg/L)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed |
|---|---|---|---|---|---|---|
| Tetrachloroethylene | 5 | 110 | 30 | 1.2 | 7 | 24 |
| Trichloroethene | 5 | 48 | 18 | 13 | 4 | 24 |

Within the south-central area of the Site, the groundwater samples from the LWZ exhibited little or no PCE contamination. Groundwater sample DPWB545-50N exhibited the highest concentration of PCE in the LWZ

(8.1 µg/L) and was the only LWZ sample containing detectable levels of a PCE degradation product (3.1 µg/L TCE). These data suggest that the formation in this area is in fact divided into an UWZ and LWZ by an intermediate semi-confining silt-clay layer, and the impacts to the LWZ on Site are significantly lower than impacts to the UWZ. Section 4.8 presents a discussion of the potential sources of the PCE in groundwater.

#### 4.3.4.3 SVOCs and PAHs in the LWZ

PAHs were detected in 16 of the 17 LWZ direct push groundwater samples analyzed (see **Table 4-15**). Total PAH concentrations in groundwater ranged from 0.036 to 2.8 µg/L, with the maximum concentration detected at DP27 in Target Area 13. The mean value of total PAH concentrations was 0.77 µg/L. Although PAHs detected in the LWZ may result from on-Site sources, the detection of low concentrations of some high molecular PAHs during DPT sampling could be a result of the drag-down of contaminated fine soil particles from zones above the sampling interval. Irrespective of the care taken to install temporary sample points, DPT sampling methods sometimes introduce a positive bias in groundwater samples due to drag-down.

During LWZ monitoring well sampling in 2014, Total PAHs were detected in 3 of the 18 samples with a maximum concentration of 2.7 µg/L in MW02B (see **Table 4-22**). The detections were in MW-01B, MW-02B, and MW-12B. Wells MW-01 and MW-02 are located along the western portion of the property and are downgradient of the former power plant building. As shown in **Figure 4-20** and **Table 4-22** and the summary presented below, the only individual PAH that exceeded its PSL was naphthalene. Naphthalene was not detected in either MW-01B or MW-02B when these wells were re-sampled in 2016. Based on these results, further naphthalene sampling was eliminated in Target Area 19, per discussions with DOEE.

**LWZ Monitoring Well Summary for SVOCs (µg/L)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed |
|---|---|---|---|---|---|---|
| Naphthalene | 0.17 | 2.6 | 1.4 | 1.4 | 2 | 18 |

#### 4.3.4.4 TPH Fractions in LWZ

In the direct push sampling, GRO was detected only at DP32 (one detection out of 17 samples) at a concentration of 880 µg/L compared to a PSL of 3.3 µg/L (**see Table 4-15**). This is consistent with the detection of MTBE at this location as MTBE is a gasoline additive. DRO was detected in two of the 17 samples at 260 and 380 µg/L, with the maximum detected at DP46. Both detections exceeded the DRO PSL of 100 µg/L. ORO was detected in four of the 17 samples at 350 to 580 µg/L, with the maximum detected at SUSDP09, all below the ORO PSL of 6,000 µg/L. Neither DRO nor ORO were detected in direct push groundwater samples from DP29 in Target Area 13 (Bulk Storage ASTs and Loading Rack) and DP31 south of Target Area 2 (Former Benning Fueling Island). Petroleum constituents, BTEX compounds, were detected in LWZ direct push groundwater samples but not above 1 µg/L (well below PSLs).

TPH was not analyzed in the LWZ wells. However, 24 samples for the petroleum constituents BTEX and MTBE were collected in the LWZ monitoring wells in 2014 and 2016 and only MTBE exceeded its PSL. Ethylbenzene was not detected, while benzene in MW-8B and xylene in MW9B were only detected under 1 µg/L. Toluene was detected seven times but with a maximum detection of 12 µg/L versus a PSL of 1,000 µg/L.

#### 4.3.4.5 PCBs in the LWZ

None of the LWZ groundwater sample results for PCBs (limited to PCB Aroclors) exceeded the total PCB PSL of 0.5 µg/L. During the direct push sampling, PCBs were detected at five of the 16 sample locations with a maximum detection of only 0.039 µg/L (SUSDP41) as shown in **Table 4-16**. These locations include SUSDP07, SUSDP08, DP27, and SUSDP41 in Target Area 1, and SUSDP03 adjacent to the southeast corner of the former power plant building. Samples collected from the LWZ monitoring wells indicated PCB presence in MW-08B (near Target Area 5). Aroclor combination of 1254 and 1260 was detected in MW-08B at a total concentration of 0.11 µg/L (**see Table 4-23**).

#### 4.3.4.6 Pesticides in the LWZ

During direct push groundwater investigation, pesticides were only sampled in the UWZ. As presented in **Figure 4-20** and **Table 4-23**, during 2016 monitoring well sampling, the only PSL exceedance was for dieldrin, which was detected at one location, MW-08B, at a concentration of 0.0022 µg/L, which is slightly above its PSL of 0.0018 µg/L. There were also five detections of trans-chlordane, four detections of heptachlor epoxide, three detections of 4,4'-DDT, two detections of endrin, and one detection each of beta-BHC, delta-BHC, and endosulfan sulfate, but all below their respective PSLs.

There are no known sources of organochlorine pesticides on the Landside portion of the Site. The pesticides DDT, DDE, DDD, and gamma-chlordane (or trans-chlordane) were widely used historically in urban areas for mosquito and termite control. They are persistent in soils and commonly detected in urban soils and sediments many decades after application.

#### 4.3.4.7 Dioxin and Furan Compounds in the LWZ

None of groundwater sample results for dioxins and furan compounds exceeded the total TEQ PSL of 30 pg/L. During direct push groundwater investigation, dioxins and furan compounds were only sampled in the

UWZ. During the 2014 monitoring well sampling, eight of the 12 samples collected exhibited TCDD TEQs ranging from 0.0017 to 3.34 pg/L. The maximum TEQ was reported at MW-12B and was an order of magnitude below the PSL (see **Table 4-24**). MW-12 is located in the vicinity of the Target Area 12 transformer shops (Building #57); however, dioxins are not associated with storage or servicing of transformers. The detected concentrations appear to be randomly distributed throughout the Site, with no definitive pattern. The groundwater samples from monitoring wells were also visually turbid raising the possibility that some of the measured concentrations may have been artificially inflated by turbidity. Although these parts-per-quadrillion levels do not appear to be Site-related, the wells were re-sampled in 2016 for dioxin concentrations following well redevelopment activities. The 2016 results were significantly lower than the 2014 results in the same wells.

### 4.3.5 Groundwater Summary

Extensive groundwater direct push investigation and monitoring well sampling was performed for the Site UWZ and LWZ during the Phase I and Phase II investigations. Section 4.3.5 presents a summary of the PSL exceedances in the UWZ and the LWZ. **Table 4-47** summaries the groundwater characterization results for the Target Areas.

Upper Water-Bearing Zone

For the UWZ, several metals exceed their screening levels but were below Site-specific background levels. MTBE was detected in 45 of 75 direct push UWZ samples but the PSL for MTBE was only exceeded in three of these. MTBE was detected in 11 of 25 UWZ monitoring well samples but not above its PSL.

PCE, TCE, and VC were detected above their PSLs in 16, eight, and one samples, respectively, out of 25 samples. PCE exceeded its PSL in MW01-A, MW-05-A, and MW09-A. TCE and VC exceeded their PSL in MW09-A. Cis-DCE was also detected in the UWZ but at concentrations below its PSL. The maximum concentrations of PCE, TCE, and cis-1,2-DCE detected in groundwater during the Phase I PCE direct push sample event were 470 µg/L, 26 µg/L, and 23 µg/L, respectively, all in sample DPWB730-35N. The highest PCE concentrations were detected along the southern property boundary in the south-central portion of the Site, which was historically used as a former laydown area. However, there are no records indicating the use or storage of chlorinated solvents in this area. Levels of PCE, TCE, and cis-1,2-DCE in groundwater diminish rapidly with increasing distance north of Benning Road.

With the exception of one TPH samples collected at MW02A in 2016, only direct push groundwater samples were analyzed for TPH and TPH fractions. TPH was not detected in the MW02A sample. In the direct push

UWZ groundwater, DRO was detected in six of the 45 samples, and all six detections exceeded the DRO PSL.

Both 1,1'-biphenyl and naphthalene exceeded their PSLs in MW02-A and naphthalene also exceeded its PSL in MW01-A. However, naphthalene was re-sampled in both wells in 2016 and was not detected in either well.

None of groundwater sample results for PCBs, pesticides, or dioxins/furans exceeded their screening levels.

Lower Water-Bearing Zone

For the LWZ, several metals exceeded their screening levels but were below Site-specific background levels with the exception of dissolved cadmium and total vanadium which do not have Site-specific background comparisons. Also, cadmium was only detected twice in 16 samples, with only one detection slightly above its PSL.

MTBE was detected in 28 of 43 direct push LWZ samples but the PSL for MTBE was only exceeded in six of the LWZ direct push samples. MTBE was detected in 15 of 24 LWZ monitoring well samples and exceeded its PSL in MW13B. The maximum MTBE concentration of 1,100 µg/L was detected in 2017 at an upgradient, off-Site location northeast of the Site. TBA was detected above its PSL in MW-09B and above its PSL in a direct push LWZ groundwater sample at DP58.

For LWZ monitoring wells, PCE and TCE were detected in seven and four samples, respectively, out of 24 samples. PCE exceeded its PSL in MW-01B (Target Area 19) and MW-05B. TCE exceeded its PSL in MW01-B. VC and cis-DCE were also detected in the LWZ but at concentrations below their PSLs. Within the south-central area of the Site, the groundwater samples from the LWZ exhibited little or no PCE contamination.

Only direct push groundwater samples were analyzed for TPH and TPH fractions in the LWZ; GRO was detected at DP32 above its screening level. DRO was detected in two samples, and both samples exceeded the DRO screening level. ORO was detected below its screening level.

None of the SVOCs exceeded screening levels except for naphthalene in MW01-B and MW02-B in 2014. However, naphthalene was re-sampled in both wells in 2016 and was not detected in either well.

None of groundwater sample results for PCBs exceeded the total PCB PSL of 0.5 µg/L. The only pesticide PSL exceedance in the LWZ was for dieldrin which was detected at one location, MW-08B, during the 2016 sampling event at a concentration of 0.0022 μg/L, which is slightly above its PSL of 0.0018 μg/L. None of groundwater sample results for dioxins and furan compounds exceeded their screening levels.

### 4.4 Storm Drain Sampling Results

Sampling of stormwater and residue from Site storm drains was conducted on October 7 and 8, 2013. The locations of the storm drain water and residue samples are shown on **Figure 4-23** and **Figure 4-24**, and analytical methods are presented in **Table 2-2**. Analytical results and statistics for the storm drain water and residue samples are provided in **Table 4-25** and **Table 4-26**, respectively. Eight normal stormwater samples and one duplicate stormwater sample (at location SDPEPR1, which drains to Outfall 013) were collected. Sample SDW101N was a weighted composite of water from four storm sewer manholes on the west side of the former power plant building that drain to Outfall 101. Four normal storm drain residue (sediment) samples and one duplicate residue sample (at location SDPEPR5, which drains to Outfall 013) were collected.

Stormwater samples were analyzed for total and dissolved metals, VOCs, PAHs, TPH (GRO, DRO, and ORO), pesticides, and PCB Aroclors. Storm drain residue samples were analyzed for metals, VOCs, PAHs, TPH (GRO, DRO, and ORO), pesticides, and PCB Aroclors. Concentrations of inorganic and organic constituents of interest in the storm drain samples are shown on **Figure 4-23** and **Figure 4-24**, respectively. No screening levels were defined for storm drain water and storm drain residue because there is little or no direct contact between these media and human or ecological receptors. Any associated risks to human or ecological receptors are addressed as part of the overall risk assessments for the Waterside Investigation Area.

Pepco conducted a closed-circuit television (CCTV) inspection of the storm drains in 2015 and identified several areas with accumulated sediments. Pepco had not previously inspected the storm drains or removed accumulated sediments. As a result, the storm drain sediments sampled for the RI may have accumulated over a period of many years. Pepco subsequently completed a clean out of the entire storm drainage system, and removed all accumulated sediments (approximately 47 cubic yards) for off-Site disposal. Pepco conducted another round of CCTV inspections in 2018, at which time 9.5 tons of sediment and debris were removed from the storm drain system. During June 2019, a third sediment removal was conducted removing an additional 4.72 tons of sediment and debris. Therefore, the storm drain samples collected during the RI are not representative of current conditions within the storm drain system. Observations during the CCTV inspections are included in **Appendix Z** and are discussed further in Section 5.3.1. Following each of the sediment removal events, a composite sample was collected for waste characterization and disposal purposes. The PCB Aroclor results are summarized in the table below. The results show decreasing concentrations for PCB Aroclors between the initial sediment removal event in

2015 and the most recent event in 2019. No PCB Aroclors were detected during the June 2019 waste characterization sampling at a detection limit of 0.066 mg/kg.

**Analytical Results of Storm Drain Sediment Waste Characterization**

| Analyte | July 2015 | September 2018 | June 2019 |
|---|---|---|---|
| **PCB Aroclors (mg/kg)** | | | |
| PCB-1016 | 0.153 | <0.064 | <0.066 |
| PCB-1221 | <0.025 | <0.064 | <0.066 |
| PCB-1232 | <0.025 | <0.064 | <0.066 |
| PCB-1242 | <0.025 | <0.064 | <0.066 |
| PCB-1248 | <0.025 | <0.064 | <0.066 |
| PCB-1254 | <0.025 | 0.19 | <0.066 |
| PCB-1260 | 0.483 | 0.17 | <0.066 |
| **Total PCBs** | **0.636** | **0.360** | **ND** |

### 4.4.1 Inorganics

The analytical data indicate levels of metals in Site stormwater and storm drain residue consistent with storm drain sampling conducted during an EPA Multi-Media Inspection (USEPA, 1997). Consistent with the 1997 EPA sampling event (USEPA, 1997c), the metals exhibiting the highest concentrations in storm drain residue were lead (3200 mg/kg in sample SDR101N) and zinc (3200 mg/kg in SDRPEPR4N, which drains to Outfall 013). The distribution of selected metals in storm drain samples is shown on **Figure 4-23**.

### 4.4.2 VOCs

Very low levels of VOCs were detected in storm drain residue samples from all four sampling locations and in one stormwater sample. All VOC detections were at levels near the typical laboratory detection limits, all were qualified as estimated values, and none were above 2 ppb in residue or surface water.

### 4.4.3 PAHs

PAHs were detected in all storm drain surface water and residue samples. The mean concentration of total PAHs (sum of 16 EPA priority PAHs) in stormwater samples was 2.4 µg/L. The mean concentration of total PAHs in residue was 24 mg/kg, and the maximum detection of total PAHs in residue was 40 mg/kg in sample SDR101N (draining to Outfall 101) to the west of the former power plant building. The PAH with the highest mean detection among storm drain residue samples was fluoranthene. The distribution of total PAHs in storm drain samples is shown on **Figure 4-24**.

### 4.4.4 GRO/DRO/ORO

At least one class of TPH (GRO, DRO, or ORO) was detected in every storm drain water and residue sample except for water sample SDWMH02N (draining to Outfall 101). The maximum concentrations of DRO and ORO detected in storm drain residue were 3,300 mg/kg and 5,800 mg/kg, respectively, both in sample SDRPEPR4N (draining to Outfall 013) in the southeast corner of the Site. Sample SDR101N (draining to Outfall 101) contained the highest detected concentration of GRO (1.6 mg/kg). The maximum concentrations of DRO and ORO detected in stormwater were 1.2 milligrams per liter (mg/L) and 3.3 mg/L, respectively, both in sample SDWPEPR4N (draining to Outfall 013). There were no detections of GRO in any storm drain surface water samples.

### 4.4.5 Pesticides

At least one pesticide was detected at low levels in every storm drain water and residue sample except for water sample SDWMH02N (draining to Outfall 101), and most storm drain samples contained three or more pesticides. The pesticide exhibiting the highest concentration in stormwater was 4,4'-DDT (0.02 µg/L in sample SDWPEPR3N, which drains to Outfall 013). The pesticide exhibiting the highest concentration by far in storm drain residue was methoxychlor (11 mg/kg in sample SDRPEPR5, which drains to Outfall 013). The data validation effort qualified this result with a "JX" qualifier, meaning the analyte was not confirmed and the result is a probable false positive. Excluding this detection, levels of pesticides in storm drain residue ranged from <5 µg/kg to 120 µg/kg. The presence of low levels of pesticides in stormwater runoff is typical of urban environments where pesticides have historically been used. As discussed in Section 2.4 of the CSM Technical Memorandum (AECOM, 2016b), Pepco records do not indicate the use or storage of organochlorine pesticides at the Site. The distribution of selected pesticides in storm drain samples is depicted on **Figure 4-24**.

### 4.4.6 PCBs

PCBs were detected in every storm drain residue sample and one storm drain water sample. The highest concentration of PCBs in storm drain residue was 960 µg/kg in sample SDR013N (draining to Outfall 013) collected from the sampling manhole located upstream of the discharge point at Outfall 013. The PCBs at this location consist of Aroclor 1260 and Aroclor 1248. This pattern of Aroclors matches the Cove sediments, but does not match the pattern of Aroclors in residues from the other storm drain sampling locations (which are comprised of Aroclor 1260 and 1254). It is possible that some on-Site manhole samples may have been affected by backflow from the River during high tides. Supporting forensic characterizations and uncertainty regarding this assessment will be discussed in the upcoming Forensics

Analysis and Source Evaluation Report. Aroclor 1248 was not detected at the Outfall 013 manhole sampling location during the USEPA 1997 Multi-Media Inspection Report (USEPA, 1997c).

The one PCB detection in storm drain surface water was 0.45 µg/L in sample SDWPEPR3 (draining to Outfall 013). The distribution of total PCBs (sum of Aroclors) in storm drain samples is depicted on **Figure 4-23**.

In general, the PCB levels in the storm drain residue samples were significantly lower than levels detected during previous investigations. Additionally, due to the 2015 storm drain clean out, contaminants detected in storm drain residues during the RI are not representative of current Site conditions.

## 4.5 Anacostia Park

Historical records indicate that Pepco had proposed to stage dredge spoils on a portion of the Anacostia Park property during an intake dredging project in 1967. The area is located adjacent to the NPS KMY property, located to the west of the Site and adjacent to the Anacostia River. Although it is not known if the dredge spoil staging activity actually took place, Pepco conducted soil and groundwater characterization to investigate any potential impacts in this portion of Anacostia Park.

The sampling included surface soil sampling using ISM, discrete surface and subsurface soil sampling, and groundwater sampling. The sample locations are displayed on **Figure 2-2** and **Figure 2-3**. The ISM surface soil samples were collected from three DUs (DU01, DU02, and DU3) which included two duplicate samples and two replicate samples from DU03 to estimate the total sampling error. The results indicated that with the exception of arsenic, the surface sample results (ISM and discrete) were below screening levels. As presented in **Table 4-27**, arsenic was detected in all eight ISM composite surface soil samples with a maximum detection of 7 mg/kg at KMY-DU01. Low levels of PCBs, pesticides, PAHs, TPH fractions, and dioxins/furans were detected and were significantly below their PSLs.

The ISM samples are unsuitable for statistical comparison to discrete Site-specific background levels due to the compositional nature of the ISM samples. Therefore, discrete samples were collected for the analysis of arsenic to determine if the detections were consistent with background levels. Additionally, the samples were analyzed for both total and hexavalent chromium to help determine the appropriate chromium screening level. The sampling results indicated that hexavalent chromium levels are negligible and that all of the chromium can be treated as trivalent with a PSL of 180,000 mg/kg. Therefore, chromium has been screened out as a COI. As indicated below and in **Table 4-28**, arsenic was detected in all 13 discrete surface soil samples with a maximum detection of 15 mg/kg at KMY02.

**Surface Soil Summary for Inorganics (mg/kg)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Number of Detections | Total Samples Analyzed | Detections Exceeding PSL | BTV | Detections Exceeding BTV |
|---|---|---|---|---|---|---|---|
| Arsenic | 3 | 15 | 13 | 13 | 12 | 17 | none |

As discussed in Section 4.2.2, a Site-specific background analysis was performed for soil. As presented above, the arsenic detections were below the arsenic BTV of 17 mg/kg.

### 4.5.1 Subsurface Soil

A total of nine discrete subsurface soil samples were collected at three locations (KMY-DU01, KMY-DU02, and KMY-DU03). With the exception of arsenic and BaP-TE, the subsurface sample results were below screening levels. Arsenic was detected in all nine discrete subsurface soil samples with a maximum detection of 4.8 mg/kg at KMY-DU01. The arsenic detections were all below the arsenic BTV of 17 mg/kg. BaP-TE was detected in all nine discrete subsurface soil samples with a maximum detection of 2.37 mg/kg at KMY-DU03. This maximum detection was the only PSL exceedance. However, none of the individual PAHs exceeded their PSLs in any of the discrete soil samples (see table below).

PCBs were detected in two of the nine samples, but significantly below the total PCBs PSL. TPH fractions were detected but below their PSLs.

**Subsurface Soil Summary (mg/kg)**

| Analyte exceeding its PSL | PSL | Maximum Detection | Number of Detections | Total Samples Analyzed | Detections Exceeding PSL | BTV | Detections Exceeding BTV |
|---|---|---|---|---|---|---|---|
| Arsenic | 3 | 4.8 | 9 | 9 | 4 | 17 | none |
| BaP-TE | 2.1 | 2.37 | 9 | 9 | 1 | 0.12 | 1 |

### 4.5.2 Groundwater

Groundwater samples were collected from three borings (KMY-DU01, KMY-DU02, and KMY-DU03) in the Anacostia Park investigation area during April 2017. Groundwater samples were collected from the water table aquifer in each of the three borings. The analytical results are presented in **Table 4-29**. Detected concentrations were generally below screening levels, with the exception of lead and TPH fractions (DRO and ORO). With the exception of lead, which slightly exceeded its BTV in one sample (72 µg/L versus the BTV of 70 µg/L), all dissolved and total metal concentrations were below their BTVs. The other two total lead detections were 12 µg/L and non-detect. Also, lead was not detected in any of the three filtered samples.

PCBs were not detected in any of the three groundwater samples. PAHs and dioxins were detected at very low levels, significantly below their PSLs. One pesticide, 4,4'-DDT, was detected in one sample but significantly below its PSL. Groundwater results for Anacostia Park are summarized below.

**Groundwater Sample Summary (µg/L)**

| Analyte Exceeding its PSL | PSL | Maximum Detection | Mean | Median | Number of Detections | Total Samples Analyzed | BTV |
|---|---|---|---|---|---|---|---|
| Cobalt, dissolved | 0.6 | 16 | 9.5 | 12 | 3 | 3 | 176 |
| Manganese, dissolved | 43 | 3,400 | 2,400 | 2,900 | 3 | 3 | 18,000 |
| Aluminum, total | 2000 | 33,000 | 13,000 | 7,100 | 3 | 3 | 55,000 |
| Arsenic, total | 10 | 16 | 11 | 8.8 | 3 | 3 | 31 |
| Cobalt, total | 0.6 | 52 | 29 | 35 | 3 | 3 | 200 |
| Iron, total | 1,400 | 150,000 | 73,000 | 45,000 | 3 | 3 | 200,000 |
| Lead, total | 15 | 72 | 42 | 42 | 2 | 3 | 70 |
| Manganese, total | 43 | 4,800 | 3,300 | 3,800 | 3 | 3 | 14,000 |
| Nickel, total | 39 | 61 | 26 | 14 | 3 | 3 | 190 |
| Vanadium, total | 8.6 | 80 | 37 | 29 | 3 | 3 | 320 |
| Diesel Range Organics (C10-C20) | 100 | 270 | 270 | 270 | 1 | 3 | -- |
| Oil Range Organics (C20-C36) | 6000 | 850 | 710 | 710 | 2 | 3 | -- |

-- Indicates not applicable

### 4.5.3 Anacostia Park Summary

With the exception of arsenic, the surface sample results (composite and discrete) were below screening levels. A Site-specific background analysis performed for soils found that the arsenic detections were below the arsenic BTV of 17 mg/kg.

BaP-TE exceeded its screening levels at one location. However, none of the individual PAHs exceeded their PSLs in any of the discrete soil samples.

Detected concentrations in the groundwater samples were generally below screening levels, with the exception of one sample for TPH DRO. Based on these results, the Anacostia Park property does not appear to have been impacted by the placement of dredge spoils or by groundwater discharges from the Site.

## 4.6 Anacostia River Surface Water

Surface water samples were collected at 20 locations (10 Waterside Investigation and 10 background) between September 23 and October 3, 2013. Each surface water sample was analyzed for metals, PCB Aroclors and PAHs constituents. A subset of surface water samples was analyzed for VOC, SVOC, pesticides, and dioxin/furan constituents. Details of the Waterside Investigation surface water data collection program are provided in **Table 2-2**.

Because no potential for risk was determined for surface water exposure in the Preliminary BERA, and Site and Site-specific background surface water concentrations were found to be consistent in the Preliminary Background Evaluation, surface water data and related exposure pathways were not identified as a data gap. Therefore, additional surface water samples were not collected in the Study Area or at Site-specific background locations in 2017.

The sample locations for the Waterside Investigation Area are shown on **Figure 2-5A**, and background sampling locations are shown on **Figure 2-6**. Surface water samples were not collected in the Cove due to shallow/minimal water levels which prevented the collection of samples in accordance with the procedures described in the SAP. Analytical results for Waterside Investigation Area surface water samples are summarized in **Table 4-30**. The background surface water results and the background evaluation are provided in **Appendix W**. The following paragraphs further discuss the results.

### 4.6.1 Inorganics

Dissolved and total arsenic, dissolved and total cobalt, and total manganese exceeded human health screening levels in a number of Waterside Investigation Area samples. The maximum concentrations for each of these metals were: dissolved arsenic (0.67 μg/L at SUW6B), total arsenic (1.2 μg/L at SUW4B), dissolved cobalt (0.71 μg/L at SUW3C), total cobalt (1.1 μg/L at three locations), and total manganese (170 μg/L at SUW10B). In addition, dissolved barium and total iron exceeded ecological screening levels in each of the Waterside Investigation Area samples. The maximum concentrations for each of these metals were: dissolved barium (36 μg/L at SUW1B) and total iron (1,400 μg/L at SUW3C).

Based on the population test and boxplot comparisons presented in **Appendix W**, Study Area concentrations of dissolved barium were found to be consistent with background. For dissolved and total arsenic, total cobalt, total iron, and total manganese; the maximum, mean, and medium concentrations were similar for the Waterside Investigation Area and background samples, which also exceeded screening levels.

Dissolved cobalt exceeded its screening level at one Waterside Investigation Area location (SUW3C) at 0.71 μg/L versus a human health screening level of 0.6 μg/L. Due to this one sample, the mean concentration for dissolved cobalt in Waterside Investigation Area samples is higher than the Site-specific background mean. However, as noted above, the mean concentrations for total cobalt were similar for Waterside Investigation Area and Site-specific background samples.

### 4.6.2 Organics

Two individual PAHs (anthracene and pyrene) and total PAHs (high-molecular weight, low-molecular weight, sum 16) exceeded ecological screening values in the Waterside Investigation Area samples. Anthracene was detected and exceeded its screening level of 0.012 μg/L in only one Waterside Investigation Area sample, SUW4B at 0.018 μg/L which was qualified as estimated because it was below the reporting limit. Pyrene was detected in four of 11 Waterside Investigation samples with a maximum concentration of 0.038 μg/L at SUW1B versus a screening level of 0.025 μg/L. As discussed in **Appendix W**, the boxplot comparisons for anthracene and pyrene illustrate that the Interquartile Ranges of these COIs in Study Area surface water are comparable to Site-specific background. The mean concentration of pyrene in Study Area surface water is below its Site-specific BTV (a BTV was not calculated for anthracene). For the total PAHs (high-molecular weight, low-molecular weight, sum 16), the maximum, mean, and medium concentrations were similar for the Waterside Investigation Area and background samples, which also exceeded screening levels.

One pesticide (4,4’-DDT), exceeded human health (0.00022 μg/L) and ecological (0.001 μg/L) screening values in the Waterside Investigation Area samples, with a maximum concentration of 0.0016 μg/L at SUW1B. As discussed in **Appendix W**, the boxplot comparison for Study Area surface water concentrations of 4,4’-DDT were found to be similar to background (e.g., the mean concentration of 4,4’-DDT in Study Area surface water is slightly less than its Site-specific BTV).

Dioxin TEQ (maximum of 0.612 pg/L at SUW3C) and 2,3,7,8-Tetrachlorodibenzo-p-dioxin (one detection of 0.148 pg/L at SUW3C) exceeded the human health screening level of 0.051 pg/L in the Waterside Investigation Area samples. Dioxin TEQ exceeded its screening value in all Waterside Investigation Area and background samples tested. The average concentration of dioxin TEQ in Waterside Investigation Area samples (0.383 pg/L) was slightly elevated compared to background samples (0.271 pg/L). The single background detection of 2,3,7,8-Tetrachlorodibenzo-p-dioxin (0.221 pg/L) was larger than the Waterside Investigation Area detection shown above.

Dieldrin and bis (2-ethylhexyl) phthalate exceeded the screening levels only in background samples. Dieldrin was not detected in the Waterside Investigation Area samples and bis-phthalate was detected in three of the six samples tested, but did not exceed screening values. Total PCB Aroclors were not detected in any surface water sample (**Table 4-30**).

### 4.6.3 Background Comparison – Data Collected by Others

The Anacostia River is a multiply stressed ecosystem, with a variety of chemical non-point sources and, historically, discharge from the Combined Sewer System. As a result of these pollution sources, there are some exceedances of water quality standards in the larger Anacostia River. As part of the ARSP, DOEE collected 14 surface water samples in 2014 and analyzed them for 105 constituents plus bacteriological constituents *Escherichia coli* (E. coli) and fecal coliforms. Ecological and human health benchmark levels were screened against the constituents to assess the general quality of surface water; total PCB congeners, dioxin-like PCB congener TEQ, dioxin TEQ, total arsenic, dissolved barium, total manganese, and dissolved manganese exceeded either a human health or ecological criterion. Additional surface water sampling was conducted in 2016 during one wet and one dry event; these samples identified active TSS sources from Lower Beaverdam Creek in Reach 67 upstream of the Site and determined that distributions of total PCB congeners and total lead concentrations in surface water were driven by TSS. Total PCB congeners and total PAHs were also found to be elevated in Kingman Lake.

## 4.7 Anacostia River Sediments

Surface and subsurface sediment samples were collected within the Waterside Investigation Area and in upstream background areas. In addition, DOEE has collected surface and subsurface sediment samples in the larger Anacostia River as part of the RI/FS for the ARSP.

The Anacostia River has been impacted by a variety of historical and ongoing sources of chemical, physical, and biological stressors from point and non-point sources, including NPDES discharges, surface runoff, combined sewer and storm sewer outfalls, refuse disposal practices, tributary inputs, and atmospheric deposition (SRC and NOAA, 2000). The multitude of sources has resulted in diffuse distributions of many contaminants in sediments throughout the River, including PAHs, metals, PCB Aroclors, and pesticides, with some localized hot spots (Wade et al., 1994; Velinsky et al., 1996; Velinsky et al., 2011). Despite the multiple ongoing and uncontrolled sources in the watershed, there is strong evidence of natural recovery processes in the Anacostia River (Tetra Tech, 2018). Concentrations of PCB Aroclors, PAHs, and lead declined substantially in surface sediment between 2000 and 2014/2015. Chlordane concentrations, in contrast have not appeared to decline, due to uncontrolled sources in the upper watershed. In addition, radiochemistry cores have found sedimentation rates greater than 1 cm/yr, which is generally considered the minimum sedimentation rate to support natural recovery, in most reaches of the Anacostia River.

The results of the larger ARSP investigation indicate that the Anacostia River has multiple stressors and likely a relatively high contribution from background sources (Tetra Tech, 2018). This is a critical context for the evaluation of sediment sampling data within the Waterside Investigation Area.

### 4.7.1 Sediment Sampling Scope

During the Phase I Waterside investigation, surface and subsurface sediment samples were collected at 56 locations (46 within the Waterside Investigation Area, and 10 at Site-specific background locations) between November 5, 2013, and January 31, 2014. A total of 56 surface sediment samples and 208 subsurface sediment samples were collected. Surface sediment samples (collected from 0 to 6 inches below sediment surface) and subsurface sediment samples (collected from 1 to 9 feet below sediment surface) were submitted for laboratory analysis of VOCs, SVOCs, metals, pesticides, PCBs, and dioxin/furan constituents. Each surface sediment sample was analyzed for metals, PCBs and PAHs. Each subsurface sediment sample was analyzed for PCB and PAH constituents. A subset of the surface and subsurface samples was analyzed for metals, VOC, SVOC, pesticide, and dioxin/furan constituents. Not all samples were analyzed for all analytes. **Table 2-2** summarizes the data collection program.

The Phase II Waterside investigation included surface sediment samples collected at 15 locations within the Waterside Investigation Area. These were co-located with 15 stations sampled during the Phase I Waterside Investigation (**Figure 2-5A**) in the vicinity of the Cove where the preliminary BERA found the greatest potential risks to ecological receptors. The sample depth for the surface sediment samples was 0 to 10 cm (approximately 4 inches), coincident with the BAZ determined through the SPI survey (Section 2.4.1). Surface sediment samples were collected for chemical and physical (grain size) parameters, pore water analysis, benthic macroinvertebrate analysis, and laboratory toxicity testing to support the refined BERA. Surface and subsurface sediment samples were collected at six background sampling locations upstream of the Waterside Investigation Area to expand the background dataset collected during Phase I and to determine the nature and extent of contamination in sediment at upstream locations not historically impacted by Pepco operations.

Surface and subsurface sediment samples were collected at 15 locations for forensic analyses to help identify the source or sources of previously detected contamination. The forensics samples were collected from nine locations in the Waterside Investigation Area and six downstream locations (**Figure 2-5A** and **Figure 2-6**). In addition, three high resolution cores were collected for radiometry and chemistry.

#### 4.7.2 Horizontal Delineation

Analytical results for surface sediment samples are summarized in **Tables 4-31 through 4-34**. Analytical results for subsurface sediment samples are summarized in **Tables 4-35 through 4-37**. Waterside Investigation Area and Site-specific background surface sediment samples were screened against HHRA screening levels based on USEPA Regional Screening Level for Residential Soil (2018) and Ecological Risk Assessment (ERA) screening values based on a hierarchy of freshwater sediment values (see **Tables 4-31 through 4-34**).

The sampling results were compared to background threshold values to aid in identifying sampling locations with COPC concentrations above screening levels that are also different from the regional condition. An evaluation of surficial sediment data relative to background conditions is presented in **Appendix W**. This background evaluation included evaluation of the Waterside Investigation Area surficial sediment data to identify the constituents that are consistent with the Site-specific background conditions based on the USEPA guidance (2002a,b). According to USEPA (2002a), background conditions are defined as: "Substances or locations that are not influenced by the releases from a site and are usually described as naturally occurring or anthropogenic: (1) Naturally occurring substances are present in the environment in forms that have not been influenced by human activity; (2) Anthropogenic substances are natural and human-made substances present in the environment as a result of human activities (not specifically related to the CERCLA site in question)." Because remediation is not warranted to address constituents which are determined to be consistent with background conditions (USEPA, 2002b), the results of this evaluation will be used to determine those COPCs that are not solely Site-related.

The background data collected during Phase I and II were supplemented with data collected by DOEE for the ARSP, which are reported in the ARSP RI Report (TetraTech, 2018). Twenty-four samples were collected upstream of SEDBACK20 in 2014 and 2016 from a depth of 0 to 6 inches below sediment surface. The surficial sediment samples collected by DOEE/Tetra Tech that were selected to represent background sediment conditions include the following:

- Seventeen surficial sediment samples (including one field duplicate) collected by Tetra Tech in 2014/2015 to support the ARSP Phase I RI; and
- Seven surficial sediment samples collected by DOEE/Tetra Tech in 2016 to support the ARSP Phase II RI/FS.

The background sediment samples included in this evaluation from both Pepco and DOEE are presented in **Appendix W**. The initial selection of the upstream Site-specific background locations is addressed in Technical Memorandum #2 which was approved by DOEE on October 14, 2016. The Site-specific surface sediment background dataset was recently revised to exclude Pepco and DOEE samples collected in ARSP Reach 7 where coarse-grained sandy sediment dominates the river substrate. The revised background sediment dataset includes 7 samples collected by Pepco in 2013 and 2017 at seven upstream background locations (SEDBACK4, SEDBACK5, SEDBACK6, SEDBACK17, SEDBACK18, SEDBACK19, and SEDBACK20) and the twenty-four samples collected by DOEE described above. The 31 Pepco and DOEE samples described above are in ARSP Reach 67 where finer-grained silt and clay sediments are dominant, which is more consistent with the predominantly fine-grained surface sediment in the Waterside Investigation Area. This revised dataset was presented to DOEE in a May 29, 2019 memorandum (Attachment H of **Appendix W**).

As part of the background evaluation, Pepco performed a further analysis of potential tidal influence to confirm that all sediment sampling locations included in the Site-specific background dataset were upstream of any potential influence from the Site. Pepco's analysis (described in **Section 5.1.2.1**) confirmed that the Pepco background location SEDBACK20 and background locations upstream of SEDBACK20 will not be influenced by any Site-related contaminants as a result of tidal exchanges. No sampling locations downstream of SEDBACK 20 were included in the dataset for the purpose of calculating Site-specific background values.

The following sections detail the results in the context of PSLs, which are the low effect ecological screening values, human health screening criteria, and the BTV described in **Appendix W**. It must be noted that the human health screening level used here is the residential soil screening level; this value assumes a level of exposure that is not realistic for sediment. As a result, these values are more useful for delineation purposes and do not correspond to actual risks. The actual risk associated with human health is described in detail in the BHHRA.

Inorganics

During the sediment sampling activities, 153 samples from the Waterside Investigation Area and 19 background sediment samples were collected from a variety of sampling horizons and submitted for analysis of metals (inorganics). The concentration ranges of inorganics are summarized in **Tables 4-31** (surface) and **4-35** (subsurface). The location of maximum detections for inorganic analytes tended to be on transects 6 and 7, in surface and subsurface sediment samples from the Cove where Outfall 013 and three other non-Site-related outfalls are located. Of the 22 inorganic analytes, the maximum concentration of nine of them occurred in sample SED6.5E, located on the south shore of the Cove. Isolated concentration of COI metals in subsurface sediments were identified downstream of Outfall 013 and north of the Benning Road Bridge.

Evaluation of surface (<0.5 feet in depth) samples in Waterside Investigation Area sediment identified nine analytes (aluminum, antimony, arsenic, cobalt, iron, lead, manganese, nickel, thallium, and vanadium) that exceeded their respective direct contact human health screening levels (**Table 4-31**). Of these, only eight inorganics exceeded both the human health screening level and the sediment BTV (**Table 4-31**). Site concentrations of two inorganics (aluminum and manganese) were found to be consistent with Site-specific background sediment concentrations based on the two-sample hypothesis tests presented in **Appendix W**.

Waterside Investigation Area sediment samples identified 13 analytes (antimony, arsenic, barium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, silver, and zinc) that exceeded the ecological screening level (**Table 4-31**). Of these, five (antimony, arsenic, barium, manganese, and nickel) exceeded both the ecological screening value and the BTV (**Table 4-31**).

VOCs

A total of 37 Waterside Investigation Area and 16 background sediment samples were collected and submitted for analysis of VOC constituents. VOC detections in surface (**Table 4-32**) and subsurface (**Table 4-36**) sediments were very limited, and were generally detected at locations in the channel versus in the Cove. No analytes were reported in excess of the HHRA screening criteria or ESVs. This finding is generally consistent with the ARSP RI, which found that VOC levels in the Anacostia River are generally similar to background (Tetra Tech, 2018).

SVOCs/PAHs

During the sediment sampling activities, 380 Waterside Investigation Area and 41 background surface and sub-surface sediment samples were collected and submitted for analysis of SVOC/PAH constituents. Total PAH concentrations for Waterside Investigation Area samples ranged from 0.84 to 24,000 µg/kg. Priority pollutant PAHs were the most commonly detected SVOCs in the sediments. Maximum PAH concentrations were generally detected at location 1.5C or SED7E in the center of the Cove (**Tables 4-32 and 4-36**).

SVOC/PAH constituents in sediment were reported at concentrations greater than the HHRA and ERA screening levels both Waterside Investigation Area and background samples (**Tables 4-32 and 4-36**). The majority of SVOCs were below ecological and human health screening levels. In Waterside Investigation Area surface and subsurface sediment samples, concentrations of five SVOCs [benzo(a)anthacene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno (1,2,3-cd) pyrene] exceeded HHRA screening levels (**Tables 4-32 and 4-36**). However, only dibenzo(a,h)anthracene exceeded both the direct contact human health criteria and the surface sediment BTV (**Table 4-32**). In surface sediment, 2,3,5-

Trimethylnaphthalene and 2,6-Dimethylnaphthalene exceeded the BTV, but no ESVs were developed for these compounds.

Most PAHs exceeded their individual ESVs in the Waterside Investigation Area (**Tables 4-32 and 4-36**). The maximum total PAH concentration (24,000 µg/kg) was reported at SED-1.5C in the Waterside Investigation Area (see **Figure 2-5A**). However, only dibenzo(a,h)anthracene, was detected at concentrations greater than both the ecological screening level and the sediment BTV (**Table 4-32**).

Site surface sediment concentrations of total HMW PAHs, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene were found to be consistent with Site-specific background sediment concentrations of these PAHs based on the two-sample hypothesis tests presented in **Appendix W**. **Figure 4-27** shows the distribution of total PAHs in surface sediment from the Northwest and Northeast Branches of the Anacostia to the confluence with the Potomac River.

Within the Waterside Investigation Area, the highest subsurface total PAH concentrations as indicated in **Figure 4-25** occur in the Cove or the near Site side of the channel from SED 10C down to SED1.5C.

**Figure 4-26** provides a more complete view of total PAHs in the subsurface and surface sediments along the River from the confluence of the Northeast and Northwest branches on the left, down to the tributary Fort Dupont Creek on the right. All cores from both the Pepco and DOEE datasets are included to provide added information density. Red core segments indicate PAH concentrations in the upper 10% of the concentration range (8.75-210 mg/kg). Core segments in this elevated range are widely distributed throughout the River, and not concentrated near the Pepco Waterside Investigation Area.

Upstream surface and subsurface sediments indicate both recent and historical deposition of PAHs exceeding 8.75 mg/kg near the Bladensburg Marina (locations R7-19, R7-17, R7-13, R7-12), the former Colmar Manor Landfill (locations R7-11, R7-35, R7-09, and SEDBACK4), Dueling Creek (locations R7-05 and R7-26), the NY Ave-Amtrak Bridge (location R7-02), Lower Beaverdam Creek (locations R6-27, R6-15, and SEDBACK5), Hickey Run (location R6-26 at all depths measured), Kenilworth Park Landfill North (location R6-25), Watts Branch (location R6-24), and Kenilworth Park Landfill South (location SED10C, R6-23, and SED8B).

Within the Cove only locations SED7E and SED7G exceeded 8.75 mg/kg. Other elevated PAH locations within the Waterside Investigation Area include SED6A at 3-5’ depth, SED4B at the 1-3’ depth, and R6-01 at 1-1.5’ depth. Several locations near the Benning Road and WMATA railroad bridges, Pepco 101 outfall, and City storm drain F-294-730 also have elevated concentrations, including locations R6-18, SED2B, R5-06, SED1.5B, SED1.5C, R5-04, and R5-03.

Downstream areas appear to include fewer core segments of elevated PAHs, however locations R4-36, SEDREF7, R4-14, and R4-35 near the outfall for storm drain F-656-309 at depths 2-6' are an exception. Areas adjacent to CSX and Fort Dupont Creek (locations R4-32, R4-31, R4-28, R4-25, R4-24,, and R4-16) also have elevated PAH concentrations at depth (1'-6')

PCBs

During the sediment sampling activities, 395 Waterside Investigation Area and 41 Site-specific background sediment samples were collected and submitted for analysis for PCBs Aroclors (**Figure 4-28**). During Phase II, total PCB Aroclor concentrations ranged from 0.98 to 6300 µg/kg. The maximum total PCB Aroclor concentration of 6,300 µg/kg was detected north of the Benning Road Bridge in wetland sample location WSED2 at 7 to 9 ft deep. Aroclors 1260 and 1248 were detected most frequently, in 315 and 211 of 395 samples, respectively. Aroclors 1254 and 1268 were detected less frequently, in 98 and 29 samples respectively (**Tables 4-33 and 4-37**).

In surface sediment (**Figure 4-28**), total PCB Aroclors were detected in excess of direct contact human health screening criteria (**Table 4-33**); no human health screening criteria have been developed for individual Aroclors. Total PCB Aroclors exceeded both the HHRA screening value and the BTV at most locations in the Cove (Sed6.5E, Sed7.5E, Sed 7D, Sed 7E and Sed 7F) and several locations in channel (e.g., Sed6C, 7B, and 8C), which are located at the interface between the channel and the Cove (**Figure 4-28**). Aroclors 1248, 1254, 1260 and 1268 were detected in Waterside Investigation Area samples at concentrations greater than the ERA screening levels (**Table 4-33**). Total PCB Aroclors exceeded both the ERA screening value and the sediment BTV at most locations in the Waterside Investigation Area. **Figure 4-29** shows the distribution of total PCB Aroclors in surface sediment from the Northwest and Northeast branches to the confluence with the Potomac River.

Total PCB congeners were detected at concentrations in excess of the HHRA screening levels and the ESVs in all samples analyzed for this constituent in the Study Area. However, total PCB congener concentrations only exceeded the BTV at locations in the Cove (SED6.5E, SED7.5E, SED7E, and SED7F) (**Table 4-33**). As explained in Section 4.2.3.5, PCB congeners were quantified using EPA Method 1668C. This method uses isotope dilution and the recovery correction may produce a total PCB result as the sum of congeners (tPCBc) which is greater than the sum of Aroclors from EPA Method 8082 (tPCBa). The tPCBc/tPCBa ratios vary widely from sample to sample, primarily due to sediment inhomogeneity, but the median tPCBc/tPCBa ratio value for the 57 sediments analyzed by both methods was 1.77. A comparison of tPCBc and tPCBa results for sediments, including some DOEE results, is provided in **Table 4-46**. A detailed statistical comparison of the results from sediment analysis by both methods will be further provided in the Forensics Analysis and Source Evaluation Report.

**Figure 4-28** indicates the highest subsurface concentrations of PCBs are detected only in the Cove and the near site channel locations between SED4C and SED1C.

**Figure 4-30** provides a more comprehensive view of total PCBs as Aroclors in the subsurface sediments along the River from above the confluence of the Northeast and Northwest branches, down to the tributary Fort Dupont Creek on the right. All cores from both the Pepco and DOEE datasets are included to provide added information density. Red and yellow core segments indicate PCB concentrations in the upper quartile of the concentration range (290-6300 µg/kg). As in the surficial sediments, the highest concentrations are within or near the Cove. Additional elevated concentrations occur downstream at depth (>1-9') between locations SED4C and SED1C within the Waterside Investigation Area.

**Figure 4-12B** presents a more detailed map of Aroclor type abundance in surface soils, near site surficial sediments, and storm drain outfalls. **Figure 4-12C** provides bar graphs indicating Aroclor type abundance by depth in sediment cores from the Waterside Investigation Area.

Upstream buried sediments in the PCB upper quartile range and at depth (>1'-8') are also clearly indicated in **Figure 4-30**. These indicate historical deposition of PCBs near the Bladensburg Marina (location R7-17) , the former Colmar Manor Landfill (locations R7-11, R7-31, R7-08, and R7-30), Dueling Creek ( location R7-29), Lower Beaverdam Creek ( locations R6-15 and SEDBACK5), Kenilworth Park Landfill North (R6-44, R6-43, and R6-39), as well as the Watts Branch and Kenilworth Park Landfill South (locations R6-41, R6-37, R6-35, and r6-34).

Downstream buried sediments south of the Benning Road bridge in the PCB upper quartile range and at depth (>1'-7') indicate historical deposition of PCBs near outfall F-090-064, Piney Run, and NPDES outfall 008 ( locations R5-02, SEDREF03, SEDREF04), as well as the Fort Chaplin Tributary ( locations SEDREF06, R4-15, R4-37, SEDREF08, and R4-36), and between outfall F-656-309, areas adjacent to CSX, and Fort Dupont Creek (locations R4-35, R4-14, R4-33, R4-32, R4-31, R4-28, R4-25, R4-24, R4-16, and R4-11).

Additional information comparing PCB Aroclor patterns in these deeper sediments with those in the surface sediments and landside soils will be provided in the upcoming Forensics Analysis and Source Evaluation Report.

Total PCB concentrations were normalized to total organic carbon (TOC) to understand how the physical nature of sediment in the Waterside Investigation Area affects the distribution of PCBs (**Figure 4-31**). This evaluation showed that the highest concentrations tend to be restricted to locations in the Cove. Normalized concentrations in samples from the 1 to 3 ft depth horizon show slightly higher concentrations in some channel locations than the surface samples (**Figure 4-31**), indicating that higher concentrations are likely being buried by lower concentration sediment in most of the Waterside Investigation Area.

PCBs are detected at high frequencies in all reaches of the Anacostia River (Tetra Tech, 2018) and have been detected at high concentrations (>900 µg/kg) in tributary sediments (Tetra Tech, 2017).

Pesticides

During the sediment sampling activities, 35 Waterside Investigation Area and 10 background sediment samples were collected and submitted for analysis of pesticide constituents. The pesticides 4,4'-DDD; 4,4'-DDE, chlordane and heptachlor epoxide were detected in nearly all samples. The maximum pesticide detections tended to occur on transects 4 and 7 (see **Table 4-33** for surface results and **Table 4-37** for subsurface results).

No pesticides were detected in excess of human health direct contact screening levels. Twelve pesticides (4,4'-DDD, 4,4'-DDE, 4,4'-DDT, Aldrin, cis-chlordane, dieldrin, endosulfan sulfate, endrin, endrin ketone, heptachlor epoxide, methoxychlor, and trans-chlordane) exceeded the ecological screening levels; however, only 4,4'-DDT exceeded both the ecological screening level and the sediment BTV (**Table 4-33**).

Site surface sediment concentrations of chlordane were found to be consistent with Site-specific background sediment concentrations of chlordane based on the two-sample hypothesis tests presented in **Appendix W**.

The Anacostia River RI found that four pesticides (chlordane, 4,4'-DDE, 4,4'-DDD, and dieldrin) were detected at high frequencies and at levels exceeding background in Reaches 123 and 456, Kingman Lake, and Washington Channel. Other frequently detected pesticides including delta-BHC, endosulfan II, endrin aldehyde, gamma-BHC, and heptachlor were either generally similar to background or below ecological screening levels.

Dioxins/Furans

During the sediment sampling activities, 35 Waterside Investigation Area and 10 Site-specific background sediment samples were collected and submitted for dioxin/furan analysis (**Table 4-34**). Maximum concentrations of each (of 17) dioxin/furan constituent were detected at location SED7F (**Figure 4-32**), located in the Cove (**Figure 2-5A**). The TCDD TEQ for human health concentrations ranged from 0.323 to 707 pg/g.

Dioxin/furans in sediment were reported at concentrations greater than the HHRA screening levels (**Table 4-34)**. Of the 17 reported dioxin/furan constituents, 13 exceeded the sediment BTV at most locations in the Waterside Investigation Area. The TCDD TEQ for human health (4.8 pg/g) was exceeded in 14 samples.

Site surface sediment concentrations of octachlorodibenzo-p-dioxin (OCDD) were found to be consistent with Site-specific background sediment concentrations based on the two-sample hypothesis tests presented in **Appendix W**.

### 4.7.3 Vertical Delineation

The two deepest cores, which were also those with the greatest vertical resolution, were collected at location SED1.5C adjacent to Outfall 101 and SED7E located in the Cove. The analytical results for these samples were evaluated and select COPCs plotted to illustrate general trends (**Figure 4-33**). Three inorganic COPCs (lead, mercury, and silver), total PAHs (16 PAH basis) and total PCBs were evaluated. Complete results are presented in **Tables 4-35** through **4-37**.

Each COPC was delineated at depth to a level below the PEC and BTV. The inorganic COPCs lead, mercury and silver, were generally similar between the cores collected in the channel and Cove; silver, which is used to trace wastewater inputs in many systems (e.g., Martin et al., 1988) was slightly elevated in core SED7E, suggesting that the Cove may receive wastewater. Total PAHs displayed a maximum concentration at the 6' depth at SED1.5C and about 7' depth at SED7E. Additional vertical delineation of total PAHs in this and other core locations is provided in **Figure 4-30** and discussed in Section 4.7.2 above. No BTV was developed for total PAHs, but the total PAH concentrations were below the BTV developed for high molecular weight PAHs (**Appendix W**). For each COPC, the highest concentrations were detected at depth. Total PCBs were higher in the core collected in the Cove in the top approximately 3 ft of the core; however the maximum PCB concentration at SED1.5C was below 4' depth. Additional vertical delineation of total PCBs in this and other core locations is provided in **Figure-4-30** and discussed in Section 4.7.2 above.

A comparison of total PCB concentrations over the depth of the core with $^{137}$Cs in sediment indicates that the maximum concentration of total PCBs is coincident with the peak $^{137}$Cs activity in sediment, at approximately 2 feet bgs (**Figure 4-33**). The peak $^{137}$Cs core is generally assumed to have occurred in 1963, at the peak of atmospheric nuclear weapons testing. The radiochemistry cores are discussed in more detail in **Section 5.1**.

### 4.7.4 Pore Water

Pore water samples were collected at the 15 locations in the vicinity of the cove and five upstream background locations; these samples were collected synoptically with surficial sediment from these locations. Pore water samples were analyzed for metals, PAHs, PCBs, DOC, and hardness. The pore water samples are presented in detail in **Table 4-38**.

Three dissolved metals (barium, iron, and manganese), one total phase metal (iron), and one SVOC (pyrene) were identified as COIs (**Table 4-38**). A sample-by-sample screen of the pore water COPCs in the 15 pore water samples in the Waterside Investigation Area and five background samples (which are co-located with the sediment chemistry, bioassay and macroinvertebrate community survey samples) is provided in Attachment I (Table 2) of the BERA (**Appendix BB**) . Most Waterside Investigation Area and background pore water concentrations exceeded the chronic surface water ESVs for the metals, but the ranges of concentrations of these metals in pore water samples from the Waterside Investigation Area were less than the ranges of concentrations measured in background location pore water samples. Pyrene was also detected in all Waterside Investigation Area and background pore water samples and at levels higher than the chronic ESV at six out of 15 Waterside Investigation Area locations and one background location.

### 4.7.5 City Storm Drain Sampling

To evaluate potential contributions to River contamination from urban stormwater discharges, two storm drain sediment samples were collected from city storm drains that discharge at outfalls F-477-827 and F-025-074. The manhole sampling locations are shown on **Figure 2-6**.

Inorganic analytes, pesticides, PCBs, PAHs, and dioxin/furan compounds were detected in off-Site storm sewer sediment. For all detected compounds, concentrations were higher in sample F-025-074 than F-477-827 (**Table 4-39**).

Eleven inorganic analytes were detected in the off-Site storm drain (aluminum, antimony, arsenic, barium, beryllium, cobalt, manganese, nickel, selenium, thallium, and vanadium), but only antimony was detected in sample F-025-074 at concentrations (0.94 mg/kg and 2.2 mg/kg) greater than the BTV (0.75 mg/kg).

No other analytes were detected at concentrations greater than the sediment BTV. Two pesticides (4,4'-DDT and delta-BHC) were detected, and Aroclor 1254 and Aroclor 1260 were detected at 0.77 to 33 µg/kg, compared with the BTV of 186 µg/kg. In addition, 2-methylnapthalene was detected; but no BTV was calculated for this compound. Fourteen PAHs were detected, with the concentrations of low-molecular weight and high molecular weight evenly represented. Twelve dioxin/furan compounds were detected, but at concentrations ranging from 3.7 to 114 times lower than the sediment BTV.

### 4.7.6 Sediment Analysis Summary

In general, surface sediments within the Waterside Investigation Area were similar in terms of COPC concentrations to the rest of the larger Anacostia River, although certain COPCs exceeded both ecological or human health screening criteria and Site-specific sediment BTVs. Vertical delineation reveals that concentrations of inorganics, SVOCs, and PCBs declined to below BTVs and screening values at depth. Maxima for many of the COPCs occurred below the sediment surface.

Most exceedances of both screening levels and sediment BTVs were found in the Cove or in samples immediately adjacent to the Cove suggesting that the Waterside Investigation Area sediment impacts are largely restricted to the Cove. As an example of the spatially restricted nature of BTV exceedances for PCBs, the concentrations in the Cove (transects 6, 7, and 8) were compared to those in the channel area of the Waterside Investigation Area (**Figure 2-5A**). The results of the comparison revealed that concentrations in the Cove (n = 36, median = 295 µg/kg) were higher than in the channel area (n = 47, median = 110 µg/kg) (Tarone-Ware test[2], $p<0.001$). It should be noted that only the Cove had a median concentration higher than the Site-specific sediment BTV (**Appendix W**).

## 4.8 Potential Sources of Detected Constituents

This section summarizes the potential on-Site and off-Site sources of COIs detected in the Study Area. **Table 4-47** summarizes the investigation results by Target Area. As discussed in the preceding sections, various metals, PAHs, TPH, pesticides, PCBs, and dioxins were detected across the Site. The background and off-Site sources are discussed in **Section 4.8.1** followed by discussion of the following potential on-Site contamination source areas, as identified from the field sampling:

- Target Area 1 - Former Sludge Dewatering Area and Surrounding Coal Pile Area
- Target Area 4 - Salvage Yard
- Target Area 5 - Former Cooling Towers
- Target Area 10 - Red Tag Storage Area
- Target Area 11 - Building #68

[2] The non-parametric Tarone-Ware (Tarone and Ware, 1977) test was used to test for significant differences between populations where non-detects were present and at least one of the COPC sample groups being tested was nonparametric.

- Target Area 12 - Building #57 (Transformer Shop)
- Target Area 17 - Storm Drain System (Historical process water discharges and historical and current diffuse leaks/drips and industrial runoff)
- Target Area 18 - Kenilworth Fueling Island (MTBE in groundwater)
- Target Area 19 - PCE in Groundwater (potential off-Site sources)
- Target Area 20 - PAHs in Soil (former Rail Yard and Laydown Area)
- Former Timber Pole Storage Area

### 4.8.1 Background Sources

Multiple lines of available information indicate that there are numerous regional background sources of PCBs, metals, PAHs, pesticides, and dioxins/furans. **Appendix W** presents the results of the background analysis which was performed to identify how the constituents in the Study Area compare to the constituents in the background conditions/locations.

There are several background sources of contamination impacting the Study Area, including regional transportation and fossil fuel burning, historic open burning of trash, urban stormwater runoff, and pesticide residues from regional pest control practices. Vehicle exhaust (incomplete combustion products) in particular is a known source of PAHs in surface soils in cities, including Washington, DC (Takada et al., 1990; Hwang and Foster, 2006). Studies have found evidence for the atmospheric deposition of PCBs, PAHs, and other compounds (Leister and Baker, 1994; Van Ry et al., 2002). Background levels of dioxins are known to be present at significant concentrations in urban and industrial areas (Lester, 1998; Urban et al., 2014). In addition, historical open burning of trash and municipal incinerators in the vicinity of the Site could be a potential source of dioxins as well. Historical and current potential off-Site sources that likely have contributed, and may still be contributing to contamination at the Site and in the Anacostia River include the following:

- Regional transportation and fossil fuel burning;
- Historical open burning at Langston Golf Course and Kenilworth Landfill;
- Historical landfills at Langston Golf Course, Colmar Manor, and Kenilworth Landfill;
- Former trash incinerator facility upwind of the Site to the north;
- KMY and Trash Transfer Station outfalls discharge to the Cove;
- Upstream point and non-point sources in the Anacostia Watershed from the northeast and northwest branches of the Anacostia, and other tributaries such as Lower Beaverdam Creek, Hickey Run, and Watts Branch, where DOEE's data collection is in progress;
- Historical industrial discharges;

- Off-Site sources of PCE including dry cleaners; and
- Urban runoff/CSOs.

### 4.8.2 Target Area 1 – Former Sludge Dewatering Area

This area is within the footprint of former coal yard to the south of the former cooling towers. This area was used for handling sludge from the clarifiers. The clarifiers treated river water for use in the cooling towers as make up water. As discussed in the CSM Technical Memorandum (AECOM, 2016b), the generating station used coal from its inception in 1906 to its transition to burning fuel oil in 1976. Infiltration of rainwater through the coal pile may have contributed to metals into the soils beneath it. Coal storage can be seen in the 1937 aerial north and northwest of the plant building in two equally sized piles covering approximately 4.5 acres. The footprint of the former coal storage area decreases as the plant building expands to the north and decreases further when cooling tower construction appears to begin in the late 1960s. The shrinking of the coal pile area is related to the retirement of older generation units and replacement of coal with oil.

The sludge dewatering area appears to have been put in place following the removal of coal piles to handle the sludge from the clarifiers associated with the cooling towers. The sludge dewatering area remained in place, adjacent and north of Building #65, gradually shrinking in size until 2010, when it is no longer visible in aerial photographs and appears to have been replaced with a gravel-surfaced parking area. Per the 2011 Conestoga-Rovers Decommissioning Plan, aluminum sulfate and sodium hydroxide were used for water treatment in the clarifier houses associated with the cooling towers. Sludge from the clarifiers was initially placed in the drying ponds and was allowed to dry through evaporation. Upon drying, sludge was removed for off-Site disposal. Eventually, clarifier sludge was dewatered in a filter house for off-Site disposal. This change eliminated the need for the drying area over the years.

During the 2008/2009 USEPA Site Inspection metals, primarily vanadium, PAHs and PCBs were detected in this area, and sampling during the RI delineated these contaminants. The metals in soil and groundwater appear to be related to the former coal piles. Potential contributions to the PAHs, PCBs, and dioxins in soil include both the former coal piles, the river sediment sludge, cooling tower materials, and potential off-Site sources. This area is along the northern perimeter of the Site close to the former trash incinerator facility (now DC DPW Solid Waste Transfer Facility). The TCDD TEQ exceedances in surface soil may be due to this off-Site source. Fill material in the former sludge dewatering area is approximately 14 feet thick and PAHs present in the fill material cannot be ruled out.

### 4.8.3 Target Area 4 – 2003 Salvage Yard Investigation and Former Timber Pole Storage Area

The Salvage Yard Investigation Area is adjacent to the west side of Buildings # 75 and #88 in what was once a timber pole storage area. These areas overlap and, therefore, are discussed together. In November 2003, a soil investigation was completed in the salvage yard area formerly used for storing used electrical equipment. Approximately 296 cubic ft of PCB contaminated material (>1 ppm) was excavated and removed from this area for off-Site disposal. TPH-DRO was detected, but was below DC Department of Health requirements upon final excavation.

A review of historical aerial photos (see Appendix A of the CSM Technical Memorandum) revealed the former storage of timber poles between approximately 1950 and 1970 in the area of Building # 75 and the salvage yard. It is presumed that the timber poles were chemically treated with a preservative, but it is not known where the treatment occurred, and further information regarding the timber poles is not available. The forensics data in this area suggest the use of creosote or coal tar treatment of the poles. Building #75 is used for fleet maintenance. Substances used in Historical fleet maintenance activities (used oil, motor oil etc.) may have contributed to site contamination.

Metals, TPH, PAHs, and PCBs were detected in this area and are expected to be largely due to the historic site activities discussed above but off-Site/background sources including fill materials may have also contributed to the soil contamination.

### 4.8.4 Target Area 5 – Former Cooling Towers

In April 1995, PCB containing caulk and joint filler located inside cooling tower structures were found to be impacting the cooling tower concrete basins, sludge and water inside the basins, and soil adjacent to the basins' wall expansion joints. At the time of the basins' construction, PCBs were widely added to sealants, caulks and other industrial products, and caulking in the expansion joints of the basins contained PCBs. Approximately 185 cubic ft of PCB-impacted soil (>1 to 3 ppm) was excavated. Old joint filler and caulk were removed and the expansion joints and basin were double washed and rinsed. The basin was encapsulated with concrete sealant after all rinse water was removed.

In 2004, during a regular inspection of the basin interiors, it was found that the floor and wall coating in basin 15 was not intact in several places. A sludge sample collected from the basin bottom was analyzed and found to contain 4.5 ppm PCBs. The basin concrete surfaces were scarified, double washed/double rinsed, and two coats of fresh encapsulant were applied.

According to the cleanup report submitted to EPA, Pepco sampled, excavated, and replaced soil adjacent to the wall expansion joints around both cooling tower basins. Surface soil samples were also collected at distances of 1 to 2 ft from the basin walls at a depth of 0.5 to 1 inch below grade. PCBs in these non-excavated surface soils ranged from <1 ppm to 3 ppm.

Multiple soil sampling events have been conducted at Former Cooling Towers #15 and #16 since 1995 to determine the potential impacts of PCBs from caulking material in the concrete basin expansion joints on the surrounding soils. The observed contamination around the basin perimeters was limited primarily to the surficial 3 feet, with localized areas of deeper contamination, especially around the eastern portion of basin 16, where PCBs were observed at levels >1 ppm as deep as 5 ft bgs. Beneath the basin slabs, impacted soils were limited to a small area beneath basin 15, and a broader area below the eastern end of basin 16.

The superstructures of the power plant cooling towers were demolished in early 2014. As discussed in Section 3.1, PCB-impacted soils adjacent to and beneath the cooling tower basins were excavated in 2017. A total of 9,923 tons of PCB contaminated soil and 6,666 tons of concrete debris was excavated and disposed at an approved disposal facility in Virginia. Two stormwater bioretention ponds were then installed in the locations of the former cooling towers basins. The cooling tower removal activities are summarized in the Cooling Tower Basins Remedial Action Completion Report (AECOM, 2017), submitted to DOEE on September 11, 2017. This report presents the soil sampling data used to delineate the excavation footprint and depth and these data are not repeated in this report. However, additional sampling was required as part of the confirmatory sampling program outside the previously excavated areas. This additional sampling was performed during the Phase II RI activities and identified additional areas with PCB and TPH impacts at the east end of the Former Cooling Tower #16 footprint. It is suspected that the contamination is related to cooling tower materials and/or a potential historical dielectric fluid spill in this area.

### 4.8.5 Target Area 10 – Red Tag Storage Area and Target Area 11 – Building #68

The Red Tag Storage Area is adjacent to the south side of Building # 68 (PCB Storage Building), and so these two areas are discussed together. The Red Tag Storage Area has concrete pavement and is used for storage of empty transformer casings, which had historically been identified with red tags as PCB contaminated (50 to 499 mg/kg). The casings are stored in this area until they are shipped off site for recycling. During a compliance inspection, the USEPA inspector noted no indications of spills or leaks in the area around the casings (USEPA, 1997c).

Building #68 (PCB Storage Building) is used to store PCBs and hazardous waste in drums. The floor is concrete with a continuous concrete curb 1 foot high providing containment for 22,443 gallons. There were no leaks observed by the USEPA inspector on or around the containers. No leaks or staining was observed by the USEPA inspector in Building #68 on or around the containers (USEPA, 1997c).

The PCBs in soil are likely related to the PCB contamination from historical activities at the Site. This area is along the northern perimeter of the Site, close to and downwind of the former trash incinerator facility. The TCDD TEQ exceedances in surface soil may be related to this off-Site source.

#### 4.8.6 Target Area 12 – Building #57

Building #56 in the southeast corner of the Site, located adjacent to Building #57, is used for the service and repair of transformers and other electrical equipment. As a result of Pepco's PCB management program which was begun in the early 1980s in response to EPA TSCA rules, removal of PCB equipment has occurred in the course of system repairs and upgrades, and currently there are no known PCB transformers (i.e., PCB concentration in transformer oil equal to or greater than 500 ppm) in Pepco's electrical distribution system (USEPA, 1997c). However, pole-mounted transformers within Pepco's distribution system that have not been tested are assumed to contain between 50 and 499 ppm PCBs until they are removed from service and tested.

All untested transformers taken out of service and brought to the Site are staged at the Transformer Shop bermed area, and, a covered structure located outside of Building #56, with an approximately 42 ft by 22 ft concrete pad surrounded by a one-foot concrete berm. All materials delivered to this area are tested for PCB content. Recovered oil containing 50 ppm PCBs or greater is drummed and moved to the TSCA approved storage facility in Building 68 in the western portion of the Site for storage pending off-Site disposal.

Inside of Building #57, recovered oil containing ≤49 ppm PCBs is pumped to one of two 10,000 gallon holding tanks designated for accumulating oil containing ≤49 ppm PCBs. These tanks are installed in concrete vaults, which act as secondary containment. This waste oil is removed as needed by tanker truck to an approved off-Site disposal facility. The concrete vault containing the waste oil tanks and the tanker truck loading area are both marked with PCB $M_L$ labels. Recovered oil containing >49 ppm PCBs is drummed and stored in Building #68 for offsite disposal.

During the 1997 EPA inspection, oil stains were observed on the outside of tank 1 and on the concrete floor in the vault area. A concrete sump located in the back corner of the vault area was also observed to be full of oil. The loading area is located on the ground level of the building just above the storage tank area. The loading area slopes downward from the front and drains back into the tanks via a drain. No cracks were observed in the concrete loading ramp (USEPA, 1997c). The release was fully contained in a secondary containment vault and no release into the environment occurred. The cause of the spill was corrected through implementing appropriate management/operating procedures.

In 2010 Pepco conducted a Phase I Environmental Site Assessment for an 18.5-acre area in the eastern and southern portions of the Site in connection with the planned expansion of Substation #7 and #45 (Greenhorne and O'Mara, 2010). The assessment noted possible environmental concerns associated with Buildings #54, 56, and 57, which historically serviced and repaired PCB-containing transformers. Building #57 was identified in the RI/FS as Target Area 12. The PCBs and PAHs found in soil are likely related to the PCB contamination from historical activities at the Site, historical rail road operations that pre-date Pepco's ownership, coal tar paving sealants, and/or fill materials.

### 4.8.7 Target Area 17 – Storm Drains

Section 1.4 describes the stormwater management system at the Site. The majority of the stormwater runoff from the facility is conveyed through a 48-inch diameter concrete pipe that becomes a 54-inch diameter pipe prior to discharging to the River via Outfall 013. In addition, Outfall 013 was also permitted to receive cooling tower blowdown and cooling tower basin wash water when the cooling towers were in operation. However, these towers were decommissioned, and the superstructures of these towers were demolished in 2014 following the permanent shutdown of the Benning Road Power Plant in June 2012.

The main 48/54-inch storm drain appears on facility maps as far back as the 1950s. Therefore, the storm drain system at the Site appears to be over 60 years old. The 1937 aerial appears to show a surface drainage feature (resembling an open ditch) extending from the southeast corner of the Site, through the central portion, then north/northwest toward a narrow inlet discharging to the Anacostia River. This drainage feature is most likely Piney Run, which is present in topographic maps through 1956. The current storm drain system discharging to Outfall 013 appears to approximately follow this drainage feature. The surface drainage feature is visible in the 1949 aerial photograph, but not the 1952 aerial photograph. Records indicate the portion of Piney Run on the Benning Road property was replaced by the underground storm drain system in the early 1950s. The on-Site storm drain system appears to have been initially connected to the city storm sewer along Kenilworth Avenue in the vicinity of Building #57, and was plugged to eliminate discharge from Kenilworth Avenue circa 1987.

The analysis of storm drain residue samples at some sampling locations suggests that historical storm drain discharges may have contributed to PCB impacts in or near the Cove. The storm drain sediment sampled during the RI, which accumulated over a period of many years, has since been removed. The Site currently employs various BMPs to control sediments and contaminants in stormwater discharged from the Site, including the use of filters, screens and absorbent booms at all storm drain inlets. Although sub-ppb levels of PCBs were detected in one stormwater sample collected at an upstream location within the Site drainage system, PCBs have not been detected in the stormwater discharges at Outfall 013 during the regular monitoring conducted in accordance with the facility's NPDES permit.

In 2017, Pepco installed stormwater treatment systems at four "hotspots" within the main underground drainage system that discharges to Outfall 013 using combinations of Contech® DownSpout StormFilter™, Jellyfish® Filter, and StormFilter® stormwater treatment units. The treatment measures were designed to remove metals and TSS constituents from stormwater through a combination of physical filtration and adsorption via zeolite and granular activated carbon filter media. Outfall 013, which discharges to the Cove, is sampled quarterly for total metals (cadmium, copper, iron, lead, nickel, and zinc), TSS, oil and grease, and PCB Aroclors in accordance with the NPDES permit. There have been exceedances of the limits for TSS and certain metals (none of which has been identified as a COPC), however the permit sampling results have been consistently non-detect for PCB Aroclors at a reporting limit of 0.469 or 0.95 µg/l for each Aroclor. Although the ecological screening criteria for PCBs is 0.014 µg/l, the reporting limits comply with the NPDES permit requirement of 1 µg/l. Recent discharge monitoring indicates that the stormwater discharges are largely in compliance with the discharge standards since the implementation of enhanced BMPs and stormwater treatment systems. The table below summarizes the analytical results of the recent quarterly stormwater sampling at Outfall 013.

**Analytical Results of Recent Quarterly Stormwater Sampling for Outfall 013 (mg/L)**

| Metals and TSS | NPDES Discharge Limits for Outfall 013 | | 2018 | 2018 | 2018 | 2019 |
|---|---|---|---|---|---|---|
| | Daily Maximum (mg/l) | Monthly Average (mg/l) | April | September | December | March |
| Cadmium | 0.00495 | 0.00208 | ND | - | ND | ND |
| Copper | 0.01344 | 0.00524 | **0.0068** | 0.0044 | 0.0026 | **0.0053** |
| Iron | 1.0 | 0.69 | 0.6 | 0.26 | 0.13 | 0.32 |
| Lead | 0.06458 | 0.05660 | 0.0126 | - | 0.0011 | 0.0032 |
| Nickel | 0.117 | 0.073 | 0.0026 | - | 0.0024 | 0.0023 |
| Zinc | 0.11718 | 0.07311 | **0.0745** | 0.0329 | 0.0183 | 0.0271 |
| TSS | 100 | 30 | **61** | **38** | 2.4 | 30 |

Concentrations greater than the permit limits are bolded.

The results reflect grab samples collected once per quarter from the discharge resulting from a qualifying storm event, defined as greater than 0.1 inches in magnitude that occurs at least 72 hours from the previously measurable storm event.

Outfall 101 receives stormwater runoff from inlets in the southwest corner of the property. A detailed facility drainage area map is included in **Appendix A**. Outfall 101 also received stormwater collected in secondary containment basins for transformers associated with the power plant. The transformers and their containment areas were demolished and removed as part of the power plant demolition in 2015, eliminating the secondary containment discharges to Outfall 101. The table below summarizes the analytical results of the recent quarterly stormwater sampling at Outfall 101. There is no effluent limitation for discharge at Outfall 101.

**Analytical Results of Recent Quarterly Stormwater Sampling for Outfall 101 (mg/L)**

| Metals and TSS | NPDES Discharge Limits for Outfall 013 | | 2018 | 2018 | 2018 | 2019 |
|---|---|---|---|---|---|---|
| | Daily Maximum (mg/l) | Monthly Average (mg/l) | April | September | December | March |
| Cadmium | Monitor only | | 0.000732 | 0.000375 | 0.000269 | 0.000723 |
| Copper | Monitor only | | 0.116 | 0.0515 | 0.0317 | 0.079 |
| Iron | Monitor only | | 7 | 0.88 | 2.2 | 4.2 |
| Lead | Monitor only | | 0.117 | 0.0415 | 0.038 | 0.0798 |
| Nickel | Monitor only | | 0.118 | 0.0231 | 0.027 | 0.0778 |
| Zinc | Monitor only | | 0.293 | 0.123 | 0.0995 | 0.188 |
| TSS | Monitor only | | 250 | 100 | 50 | 160 |

The results reflect grab samples collected once per quarter from the discharge resulting from a qualifying storm event, defined as greater than 0.1 inches in magnitude that occurs at least 72 hours from the previously measurable storm event.

There are three additional non-Pepco outfalls located adjacent to Outfall 013 that discharge into the Cove. One of these outfalls is believed to convey stormwater from the District of Columbia's Solid Waste Transfer Station. The two other non-Pepco outfalls, including a small PVC pipe outfall, are of unknown origin. Little sampling data or other technical information, either current or historic, are available for the discharges from these other outfalls. There is also a city storm sewer outfall located adjacent to and approximately 20 feet downstream of Outfall 101. Potential contributions from these non-Pepco outfalls and contributions from upstream sources are critical to understanding the sources of sediment impacts in the Waterside Investigation Area.

### 4.8.8 Target Area 18 - Kenilworth Fueling Island (MTBE in Groundwater)

Samples were collected in Target Area 18 to assess the MTBE potentially related to the former Kenilworth Fueling Island as well as potential upgradient off-Site sources. A 20,000 gal gasoline UST was found leaking in 1995 at the Kenilworth Fueling Island. Pepco completed remediation and received a case closure in 1997. The UST was removed in 2012.

MTBE had been used in U.S. gasoline at low levels since 1979 to replace lead as an octane enhancer. Between 1992 and 2005, MTBE had been used at higher concentrations in some gasoline to fulfill the oxygenate requirements set by Congress in the 1990 Clean Air Act Amendments. MTBE was a constituent in gasoline dispensed at the former Kenilworth Fueling Island which was near DP54 and DP 47 in the southeast area of the Site (**Figure 4-19**). Although this former dispenser is considered a potential source, off-Site borings completed to the northeast of the Site indicate a potential off-Site contribution of MTBE as well.

Accordingly, Pepco conducted an evaluation of other nearby potential sources of MTBE. This assessment identified several gasoline stations hydraulically upgradient of the detected MTBE locations that may also be a source of the MTBE contamination. **Figures 3-10 and 3-11** show the direction of groundwater flow for the on-Site UWZ and LWZ, respectively. **Figure 4-35** shows the regional groundwater flow and the locations of the hydraulically upgradient gasoline stations with leaking UST (LUST) cases. **Table 4-48** presents a list of LUST cases at locations hydraulically upgradient of the Benning Road facility.

#### 4.8.9 Target Area 19 and DP09 Investigation Area – PCE in Groundwater

Samples were collected in Target Area 19 to assess the PCE in groundwater adjacent to the southern portion of former power plant where chlorinated solvents were suspected to have been stored and used. In-person interviews revealed the use of degreasers SS25 and XL99, which are chlorinated solvents, in area 34 in the southern portion of the power plant building and Building #65. Their use was discontinued in the 1980s and the Site switched to non-chlorinated solvents. No other areas of the Site are known to be locations where chlorinated solvents were used.

PCE was also detected in groundwater surrounding location DP09 and a delineation of the PCE in groundwater was performed during both Phase I and Phase II. Pepco conducted a thorough review of Phase I and Phase II characterization data, and historical background information available on chlorinated solvent use at the Site and employed forensic tools to identify the source of PCE in the DP09 and MW-01 areas of the Site. As noted in Section 4, the PCE concentrations at the site are highest at the southern boundary along Benning Road and decline sharply toward the interior of the site. Coupled with a lack of specific evidence for any on-Site release of PCE, these data may indicate an off-Site source of the PCE. However, the specific source (or sources) of PCE detected in on-Site groundwater cannot be conclusively determined from the existing data, and further investigation will be conducted during post-RI investigation activities as needed.

Although groundwater data generated on-site for the purposes of the RI indicate a westerly flow direction along the south property boundary, the overall groundwater flow direction in both the UWZ and LWZ may be toward the northwest which is consistent with the regional groundwater flow direction. Further investigations will be conducted during the post-RI activities to better define the site-specific direction of groundwater flow in the PCE contaminated areas. Some underground utilities at the Site extend to depths that intercept groundwater. The extensive utility conduits along and under Benning Road therefore may provide preferential pathways connecting possible off-Site sources south of the road and the Pepco property north of the road. **Figure 4-21** displays the subsurface utilities and both the DP09 and MW-01 area PCE results. Further investigation will be required to determine if the utility conduits could have channeled significant groundwater flow onto the Pepco property from south of Benning Road.

Several underground structures located on and adjacent to the Site may provide vertical preferential pathways resulting in impacts to the LWZ as observed in the TA19 area. These structures include deep foundations associated with the former power plant buildings in the western portion of the Site and support structures for the WMATA aerial Metro, which extends along the southern border of the Site. Furthermore, the hydraulic data collected from the Site indicates a downward vertical gradient in most on-Site wells including MW05, MW09, and MW12, which are located along the southern border of the Site. The downward vertical gradient in the vicinity of MW09 indicates that there is the potential for plume movement in a direction other than that of groundwater flow. One possible interpretation of the chlorinated volatile organic compound (CVOC) contamination in the upper and lower aquifer is that at least two separate contamination events from an off-Site source (or sources) to the south of Benning Road occurred. The older event, which may have occurred in the deeper aquifer could have produced a disconnected plume now shifted downgradient in the TA19 area. The greater abundance of TCE is most likely due to more advanced degradation of PCE at some points in the deep TA19 area, not a separate TCE source, however alternative interpretations of the data are possible. The exact source of the PCE and TCE on-Site is unknown and additional investigation will be required to better define the most likely source (or sources).

The CSM and available information from Pepco indicate that only a single product used on site contained PCE (SS-25), and no products used contained TCE. There is no evidence that Pepco used chlorinated solvent vapor degreases or stored chlorinated solvents in sumps or large tanks on site. Chlorinated solvents were only used in small quantities for parts cleaning. The earliest date of use for SS-25 is unknown but use of this product was discontinued in the 1980s. The SS-25 product also contained 15 to 20% methylene chloride (also called dichloromethane or DCM) and 40 to 50% mineral spirits. Mineral spirits if present would be reported as TPH-GRO and would be observable in the total ion chromatograms of the SVOC/PAH analyses. In addition:

- Only one TPH-GRO detection was reported on-Site; both PCE and DCM were non-detect (ND) in this sample.
- Although not all of the samples were analyzed for TPH-GRO, the full scan gas chromatography–mass spectrometry total ion current chromatograms acquired in samples from TA19 and other

areas of the PCE plume were reviewed for possible presence of mineral spirit hydrocarbons and none were observed.

- There were only 12 detections of DCM on-Site, all of which were estimated (J flagged) and between 0.2 and 0.5 µg/L, suggesting laboratory contamination is the most likely source. In nine of these 12 samples PCE was ND.
- In the three cases where PCE and DCM were both detected, the concentrations of both PCE and DCM were estimated values and below 1 µg/L.
- DCM detections are not associated with any concentrations of PCE > 1µg/L in any permanent or temporary monitor wells.
- In 95% of the samples with PCE detections, DCM was ND.

Considering the chemical composition of SS-25, the analyses of groundwater samples from this area suggest that SS-25 was not the source of the PCE, however preferential degradation of the DCM and mineral spirits may have occurred over time since release, leaving only the PCE, so an on-Site source cannot be ruled out based on this information alone. Sequential degradation of PCE into TCE, DCE, and VC is the most likely explanation of all the CVOCs observed on-Site. The specific source (or sources) of PCE detected in on-Site groundwater cannot be conclusively determined from the existing data, and further investigation will be conducted during post-RI investigation activities.

#### 4.8.10 Target Area 20 – PAHs in Soil (Former Railroad Yard)

This area was previously used as a railyard from 1937 to at least 1963. This area was then converted to a laydown area for what appears to be electrical equipment from 1963 to approximately 1981 at which time the entire area appears to be vacant. Between 1981 and 1988, the DP19 vicinity was converted to a parking area which is its current use. Multiple spurs in the southeast portion of the Site indicate a railroad yard for parking coal cars.

The PAHs in soil in this area appear to be primarily related to the former use for parking rail coal cars. Other potential sources could include contribution from coal tar based pavement sealant, fill materials, and off-Site contributions.

# 5 Contaminant Fate and Transport

This fate and transport analysis evaluates physical, biological and chemical processes that have the potential to affect COPCs as they move through different environmental media. Understanding the fate and transport of Study Area constituents is important to the evaluation of their potential impacts to receptors. Transport is the simple movement of the constituents, for example, with the flow of groundwater or surface water. Fate is a summary of all the physical and chemical processes that act on the constituents during transport. The distribution of constituents at any given site is influenced by a combination of their physical and chemical properties, source nature, and hydrogeologic and hydrologic setting.

Section 5.1 discusses typical fate and transport processes. Properties of various constituents identified within the Study Area are discussed in **Section 5.2**. A revised Conceptual Site Model and Site-specific migration pathways are discussed in **Section 5.3**. COPC mass flux calculations are presented in **Section 5.4**.

## 5.1 Fate and Transport Processes

### 5.1.1 Chemical Processes

The chemical transport process is dependent on whether a chemical is present as a particulate, in the dissolved phase, or in the food chain. In the particulate phase, the chemical is fixed onto soil, or sediment particles and therefore may be relatively immobile, particularly in the groundwater system, or may be subject to mobilization by the flow of water (e.g., in the riverine portion of the Study Area). In the dissolved phase, chemicals may move in groundwater or in surface water in the downgradient or downstream direction, although tidal forces in the Anacostia River also have the potential to introduce limited upstream transport. In the food chain, the mobility of certain compounds may be a function of the bioaccumulation potential, Site-specific factors that influence bioavailability, as well as the local ecology and habitats.

Some chemical-specific measures, which are generally interrelated, that affect constituent mobility include the following:

- The organic carbon partitioning coefficient ($K_{oc}$) and octanol-water partitioning coefficient ($K_{ow}$) are used to predict the degree of chemical sorption to soils, sediments, and particulate matter.

- Factors such as the fraction organic carbon ($f_{oc}$) and presence of sulfidic materials (e.g., acid volatile sulfides) have the potential to influence the Site-specific bioavailability of hydrophobic organic constituents and certain divalent metals.
- Henry's Law constant describes the interaction between water and air and how readily a compound may volatilize from the dissolved phase.
- Water solubility and vapor pressure are factors that describe how a chemical maybe transitioned from the liquid, solid, and vapor phases, respectively.
- The biodegradation rate describes the rate that a chemical may break down; this value is Site-specific, but in the absence of site data, literature values can be used.
- Bioaccumulation and biomagnification potential for hydrophobic organic constituents is often estimated by the $K_{ow}$ and can be used to focus an evaluation on chemicals that may be incorporated into the tissues of benthic or aquatic organisms.
- Certain inorganic constituents also have the potential to bioaccumulate and biomagnify in aquatic systems and often are characterized by a complex geochemistry involving organic and inorganic fractions.

Literature values have been compiled for the COPCs in the Study Area (**Table 5-1**). Of particular note are the $K_{oc}$ values for the SVOCs (PAHs, PCBs, polychlorinated dibenzo dioxins [PCDDs] and polychlorinated dibenzofurans [PCDFs], and organochlorine pesticides). Most of the COPCs have relatively high $K_{oc}$ values ($10^5$ to $10^6$). These high $K_{oc}$ values are indicative of the tendency for these COPCs to strongly sorb onto soils and sediments and remain with negligible leaching back to water. The sorption is also a function of the organic carbon present in the existing soils and sediments. The higher the organic content the greater capacity for the soils to sorb chemicals. The other important factor for semivolatile COPCs is half-life values, which range from weeks to months; benzene, in comparison has a half-life that ranges from hours to days. The long half-lives for the COPCs suggest persistence in the environment. The tendency to sorb and the environmental persistence are characteristic of PAH's, PCB's, PCDDs/PCDFs, and organochlorine pesticides.

### 5.1.2 Physical Processes

#### 5.1.2.1 Sediment

The fate and transport of sediment in fluvial environments is a critical process, as suspended sediment affects food web dynamics, habitat quality and contaminant partitioning. The fate and transport of sediment in the Anacostia River has been described generally by DOEE in the draft remedial investigation report (Tetra Tech, 2018). Currently, a quantitative understanding of sediment transport dynamics in the River remains a significant area of uncertainty, as sediment transport modeling has been conducted but the final modeling reports have not been made available for technical review by stakeholders such as Pepco. The following are general descriptions of sediment fate and transport in the Anacostia River; as fate and transport models are developed, these conclusions may require updating.

Sediment in the River may be mobilized if shear stresses are sufficiently high to overcome friction and the force of gravity, which can occur as water velocities and current are increased by storm events, or through tidal action, boat propeller wash, or high winds. Chemicals with high partition coefficients (e.g., hydrophobic organic constituents) will tend to remain sorbed to sediment as it moves during these events, while chemicals with low partition coefficients may dissolve and enter the surface water. Metals that are sorbed to fractions can also be mobilized during high sheer stress events. River velocity and particle characteristics are the two main factors that influence the movement of sediment and sorbed chemical constituents. Sediments and other organic material (upon which chemicals are sorbed) are transported as they are suspended. Finer-grained materials are more readily entrained by river flow than coarser-grained materials and may be transported longer distances downstream as suspended river load. However, low energy environments, which can form in wider areas of the River, downstream of obstructions (e.g., bridges), or behind bends, tend to trap fine-grained sediment.

The ARSP RI report describes a general conceptual model of sediment transport. In this model, the tidal Anacostia River is coarse-grained but characterized by depositional zones in the area of reduced gradient below the confluence of the Northeast and Northwest Branches. Below this zone, transport dominates, with no net sediment deposition that extends approximately from Bladensburg Marina to the CSX Bridge; this reach has been referred as a ‘sediment conveyer belt.’ Following this reach, there is a ‘transitional’ reach between the CSX Railroad Bridge and the Pennsylvania Avenue Bridge. Downstream of the Pennsylvania Avenue Bridge is considered depositional (AWTA 2009). Although the Anacostia River is tidally influenced, sediment transport models completed by others indicate riverine transport in the vicinity of the Site is typically in the downstream direction (GeoSea, 2000).

However, radiochemistry coring conducted by several parties in the Anacostia River indicates that this model is either not accurate, or while it may describe riverine behavior on a watershed scale, it does not account for smaller scale hydrogeomorphic conditions that contrast with or even contradict the broader river-wide conceptual model. Several cores collected by DOEE as part of the ARSP RI (Tetra Tech, 2018) indicate that there are high rates of sedimentation in the vicinity of the Waterside Investigation Area, with well-defined $^{137}Cs$ peaks and corresponding sedimentation rates that range from 1 to 3 cm/yr. In addition, a radiochemistry cores collected by Pepco at sampling location SED7E (**Section 2.4.4**) in the Cove indicate that rates are approximately 1 cm/yr (**Figure 5-1**), and the grain size analysis in the Cove indicates that the area is largely depositional; percent fines (the sum of silt and clay fraction) in bulk sediment in the Cove range up to 82%. Some locations in the Waterside Investigation Area channel near the Cove range up to 96% fines. However, no cesium peak was detected in cores collected in the channel adjacent to the Cove, despite sampling at depths up to 7 feet (**Table 5-2**). Likewise, Tetra Tech collected a 9-foot core upstream of the Waterside Investigation Area in the channel near the Bladensburg Marina with no $^{137}Cs$ peak observed (Tetra Tech, 2018), which suggests that either cores were not sufficiently deep to capture the peak or that the history of dredging (or other sediment turbations) has erased the peak in some areas. Downstream of the CSX Bridge, Velinsky (2011) measured sedimentation rates up to 3 cm/yr.

The primary sources of sediment in the Anacostia River include tributaries, storm drains, municipal separate storm sewer system (MS4) outfalls, other NPDES stormwater outfalls, CSOs, direct surface runoff, in-stream sources, and facility discharges (DOEE, 2002). The ARSP RI reported that for 2014, the Northeast and Northwest Branches provided approximately 75% of the total sediment load ($2.8 \times 10^7$ kg) to the tidal Anacostia River; the northeast branch accounted for approximately 46% of the total and the northwest branch 28%. The sediment loads originating from urban land (residential, commercial, and industrial) were larger than loads from agricultural land, forest, or construction sites. Most stormwater runoff from urban lands in the Anacostia Watershed enters the municipal separate storm sewer systems in the three jurisdictions in the Anacostia watershed. According to the RI, areas of the watershed captured by MS4 outfalls produced 3,502,063 kg, or 5.73% of the sediment load, and the CSS areas produced 1,785,387 kg, or 2.92% of the sediment load.

Pepco reviewed a report on Sediment Trend Analysis® (STA) for the Anacostia River (Hill and McLaren, 2000) prepared by GeoSea to evaluate general direction of sediment movement within the Waterside Investigation Area under normal conditions. Pepco also estimated an approximate distance for upstream transport of fine-grained sediment particles (which typically carry contaminants) from the Waterside Investigation Area under worst case tidal and storm surge conditions. GeoSea used sediment characteristics and STA methodology to determine sediment transport under normal conditions. Results of the analysis indicate that the Anacostia reach between Lower Beaverdam Creek to East Capitol Street Bridge (which includes the Waterside Investigation Area) is a “Total Depositional” area where existing sediments were regularly covered by new sediments from up-River areas. In addition, there is erosion of sediments from the confluence of Watts Branch to the River Cove within the Waterside Investigation Area, where Pepco’s outfall 013 and two other non-Pepco outfalls discharge (0.3 mile long) with a downstream transport direction. Examination of the newer grain size data collected during 2014 and 2017 and its distribution suggests that the net sediment transport direction would be southerly, consistent with the earlier determination by the GeoSea STA.

Tidal currents during a 100-yr storm event and during storm surges will be stronger, but the net direction of flow will be downstream due to high volume of river discharge from upstream areas. The semi-diurnal tidal flux will be less dominant during extreme river flow events. An incoming tide during a low river flow event, on the other hand, would present the worst case condition for the mobilization and upstream transport of fine-grained sediments. Under these conditions, it is estimated that fines (silt and clay) from the Cove could potentially be carried upstream with the tide and then settle out from the water column during slack tide. The most upstream location where these fines would be carried by the tide is estimated to be approximately 4,600 feet from the Cove, at which point these would be carried back downstream for the next 6 hours during the ebb tide.

Estimates of sediment and COPC loading from tributaries to the tidal Anacostia remain unquantified in the ARSP RI, but several other studies have been conducted to estimate COPC contributions from tributaries. Of the tributaries, Lower Beaverdam Creek is the third largest source of water, accounting for 17% of the flow to the Anacostia River; for comparison, the northwest and northeast branches account for 45 and 32% respectively (Warner et al., 1997). The ARSP RI summarizes the results of several studies investigating COPC contributions from tributaries, and found that they are significant sources of organic pollutants, including PAHs, PCBs and chlorinated pesticides, and that Lower Beaverdam Creek is likely a larger source of PCBs than the northwest and northeast branches despite the lower flow (Hwang and Foster, 2008). Moreover, recent studies conducted by Lombard et al. (2018)[3] and presented to the Leadership Council for a Cleaner Anacostia River evaluated PCB contributions in the River from three sources (bed sediments, tributaries and outfalls, and air-water exchange). These studies, which employed state-of-the-art monitoring approaches to quantify load, indicated that high concentrations of pollutants, including PCBs, are entering the River from several tributaries, including Lower Beaverdam Creek.

As result of the data gaps identified in the ARSP RI regarding tributary loadings, the USGS, in cooperation with DOEE, initiated a study to determine the current-day (2017) loadings of sediment and sediment-bound COCs from nine tributaries to the Anacostia River (USGS, 2019). The largest of these tributaries include the northwest and northeast branches, Lower Beaverdam Creek, Watts Branch and Hickey Run. The study measured concentrations of contaminants in both surface sediment and suspended sediment which included PCBs, PAHs, organochloride pesticides and trace metals. Total sediment loading from the tributaries to the Anacostia River during 2017 was 3.10E7 kilograms, with 50% from the northwest branch,

[3] Ongoing Inputs of Persistent Organic Pollutants to the Anacostia River, 2018. Natalie Lombard, Mandar Bokare, Varapapa Thodpanich, Sam Magee, Upal Ghosh. Anacostia River Leadership Council for a Cleaner Anacostia River, September 13, 2018

33% from the northeast branch, 14% from Lower Beaverdam Creek and less than 2% each from Watts Branch and Hickey Run. The contribution from the four smaller tributaries was minimal at approximately 1% of the total sediment. However, the loadings for Lower Beaverdam Creek are considered an underestimate resulting from gaps in turbidity and discharge data. Based on concentration data, Lower Beaverdam Creek was the largest source of PCBs at 75% of the total loading to the Anacostia River, whereas Northwest Branch was the largest source of PAHs accounting for 59% of the total loading. Overall, the results of the study indicate that substantial loadings of PCBs, PAHs, and chlordane continue to enter Anacostia River from the larger tributaries, however, additional sampling is needed to refine the concentrations and loadings of pesticides and metals. Surface Water

Desorption from surface water entrained sediments is one way chemicals are transported to surface water. This mechanism is characterized by partitioning coefficients and water solubility. Inorganic constituents in the Anacostia River surface water may occur in a variety of different forms, both as total recoverable and dissolved phase, although the dissolved phase typically represents the bioavailable fraction of this class of compounds. The water solubilities of high molecular weight PAHs, PCBs, dioxins, and organochlorine pesticides are very low and their affinity to attach to organic matter (higher partitioning coefficients) is high. As a result these compounds are not found in surface waters in soluble form, except at very low concentrations. Vapor pressure and Henry's Law Constant help describe how a chemical may partition between the water and the atmosphere. These processes are important for VOCs. Groundwater discharge to surface water may also be a pathway from source areas to surface water, although this is not considered significant at this Site.

Once dissolved in the surface water, the transport properties of chemicals will be a function of the movement of the surface water, primarily surface water velocity, and flux. For instance, transport along concentration gradients may result in dispersion and dilution. Dilution can be estimated by comparing initial to final concentrations. In low velocity systems (i.e., marshes, wetlands) diffusion could be an important transport mechanism. Dissolved phase organic and inorganic constituents may become affixed to sediment and other particulate phases, as well as to organic ligands and other binding phases in the water column.

#### 5.1.2.2 Soils

Surface water runoff, erosion, and dust are mechanisms for transport of impacted soil to wetland sediments and surface water. Man-made infrastructure (drains, sewers, culverts, outfalls) may also provide a mechanism for eroded impacted soil to migrate.

Chemicals that sorb strongly to soils (PAHs, pesticides, and PCBs, for instance) are likely to migrate with soil particles (i.e., via erosion). Some chemicals (PCBs for instance) also do not degrade readily and may persist on soil particles. Other chemicals with lower sorption potential may leave the soil and migrate in dissolved phase in surface water or groundwater.

Constituent migration from soil to groundwater may occur when there is a source of soil impacts and recharge (rainfall) to prompt the migration. The majority of the Site is covered with impervious surfaces and a significant volume of rainfall is captured by the stormwater collection system resulting in minimal rainfall recharge at this Site. Therefore, the soil-to-groundwater pathway is insignificant for much of the Site.

#### 5.1.2.3 Groundwater

Groundwater may become impacted due to direct discharge to groundwater, leaching from soil to the groundwater, or migration within the groundwater system. As constituents in groundwater move through the groundwater system, a number of different processes act on them. These processes as a group are often referred to as attenuation processes, because they result in decreased concentrations of constituents over time and distance from a particular source area. These processes include groundwater velocity (advection), dispersion, retardation (adjusted velocity based on sorption/desorption, $K_{oc}$) and degradation (half-life). Groundwater velocity is a function of changes in groundwater elevation over distance, porosity, and hydraulic conductivity. Hydrodynamic dispersion is the process whereby groundwater containing dissolved constituents must move around individual sand grains or other heterogeneities (variations) in the aquifer during groundwater flow. Together, advection, dispersion, retardation, and degradation attenuate constituent concentrations in groundwater with distance from a source area. Facilitated transport may also move hydrophobic organic constituents through groundwater. Potential facilitated transport mechanisms include cosolvent facilitated transport and colloidal transport. Cosolvent facilitated transport can occur when dissolved constituents, or natural organic matter in groundwater, increase the effective solubility and reduce soil sorption of hydrophobic organic constituents. Colloidal transport can occur when colloidal size particles (generally < 10 microns) act as sorbents for hydrophobic organic constituents and assist the movement through groundwater in spite of the low solubility of the constituents in pure water.

### 5.1.3 Biological Processes

Bioaccumulation, biodegradation, and bioturbation are factors that affect chemicals in the environment (persistence) relative to the nearby organisms and are relevant in the Waterside Investigation Area. At the lower end of the food chain, benthic insect larvae ingest bulk sediment and strip detritus from the surface of the particles, and may be exposed to sediment interstitial pore water. Bioaccumulation occurs when the uptake rate exceeded the organisms' ability to remove the chemical through metabolic functions including dilution and excretion resulting in storage of a chemical in the organisms' tissues. Biomagnification occurs at the higher end of the food chain, when persistent and bioaccumulative chemicals are passed from one organism to another through feeding processes. The source of chemicals to the organism may be sediment-sorbed or dissolved phase, as well as through food chain uptake pathways (e.g., ingestion of contaminated prey items). Biodegradation of COPCs in sediment can be microbially modulated, and can include anaerobic and/or aerobic degradation of constituents, including reductive dechlorination of hydrophobic organic constituents such as PCBs.

Bioturbation is the reworking of soils and sediments by animals or plants. In many quiescent systems, bioturbation is one of the primary factors affecting sediment stability (USEPA, 2005a). Many bottom feeding organisms physically move sediment during feeding, locomotion, nesting, and shelter building; however, with regard to sediment stability analysis, the most significant concern is “mixing zone” movement of sediment in the top 5 to 10 cm. The depth of sediment that is susceptible to mixing by various organisms varies with sediment grain size, density, chemistry, and habitat. The SPI survey (**Section 2.4.1**) in the Waterside Investigation Area documented that the BAZ was limited to the top 4 inches (10 cm). Site-specific and historical macroinvertebrate community surveys of the Anacostia River (McGee *et al.*, 2009) found that the benthic invertebrate community in the Anacostia River is consistent with many other urban rivers and is generally underdeveloped and relatively inactive. Therefore, it is unlikely that bioturbation will play a major role in modifying sediment stability in the Anacostia River at or near the Site.

In the lower Anacostia River, the primary COPC of interest relative to fish tissue residue is PCBs, which are bioaccumulative, have the potential to biomagnify, and will biodegrade to a certain extent in the environment. Partitioned chemicals may enter the food web from uptake of sediment solids, food chain exposure pathways, or porewater/surface water interactions. **Figure 5-2** shows a conceptual exposure pathway for Waterside COPCs.

## 5.2 Constituents of Potential Concern

The following chemicals have been identified as COPCs within the Study Area as a result of the RI sampling and data evaluations performed.

- **Inorganics**: Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Cobalt, Copper, Cyanide, Iron, Lead, Manganese, Mercury, Methyl mercury, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc
- **PCBs**: Total PCBs
- **Dioxins/Furans**: PCDDs, PCDFs, TCDD
- **Pesticides**: 4-4’-DDT, 4-4’-DDE, 4-4’DDD, Aldrin, alpha-Chlordane, beta-BHC, cis-Chlordane, cis-Nonachlor, Dieldrin, Endosulfan Sulfate, Endrin, Endrin ketone, gamma-Chlordane, Heptachlor

Epoxide, Hexachlorobenzene, Methoxychlor, Mirex, Oxychlordane, trans-Chlordane, trans-Nonachlor

- **VOCs**: Acetone, Bromodichloromethane, tert-Butyl alcohol, Chloroform, MTBE, PCE, TCE, VC
- **SVOCs**: 4-Methylphenol, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Acetophenone, Banzaldehyde, Benzoic acid, Banzo(k)fluoranthene, bis-(2-Ethylhexyl)phthalate, Butylbenzylphthalate, Caprolactam, Carbazole, Chrysene, Di-n-octylphthalate, Pyrene, Naphthalene, 2,3,5-Trimethylnaphthalene, 2,6-Dimethylnaphthalene, Total High-molecular-weight PAHs, Total Low-molecular-weight PAHs, Total PAHs
- **TPH**: DRO (C10-C20)

These constituents were found in some or all of the following media: surface soil, subsurface soil, storm drain residue, surficial river sediment, and surface water. The COPCs were identified during the human health and ecological risk assessments; justification for the COPC selection is provided in the BHHRA and BERA included as **Appendix AA** and **Appendix BB**, respectively.

### 5.2.1 Inorganic Constituents

Adsorption is a key factor influencing the fate and transport of metals in the environment. The degree to which a metal will adsorb depends on the presence of competing ions, metal speciation, and water chemistry, such as pH and redox, as well as DOC. Metals are found naturally in the earth's crust in various forms and they do not readily degrade in the environment. Metals that form stable oxyanions, such as arsenate and chromate, and do not form insoluble salts, are generally more mobile in groundwater.

A review of the $K_d$ (partitioning coefficients) in **Table 5-1** provides an indication of the relative mobility of metals in ground and surface waters. For instance, vanadium has a high partitioning coefficient suggesting that it is hydrophobic, preferring to be sorbed, while chromium has a low partitioning coefficient suggesting that it prefers to be in solution. Both vanadium and chromium exhibit multiple oxidation states and speciation of these metals strongly affects their mobility in water. Certain divalent inorganic compounds (e.g., cadmium, copper, lead, nickel, zinc) have the potential to bind irreversibly to sulfidic phases in the sediment. Different forms of native and anthropogenically introduced organic carbon are also effective binding phases for many metals in riverine sediments such as the Anacostia.

Metals do not partition as strongly to organic material as hydrophobic organic compounds. However, the covariance of many inorganic compounds to sediment grain size has been well documented and is generally accepted by the scientific community (Klamer et al., 1990, SSC, 2003, Dashalakis and O'Connor, 1995). Coarse-grained sediments tend to have lower metals concentrations due to relatively low surface area available for metals sorption. Conversely, many compounds will tend to sorb to fine-grained sediment particles (Power and Chapman, 1992; USEPA, 2002). Additionally, when weathering breaks down minerals into clay particles, this fine fraction tends to have higher concentrations of naturally occurring metals than the coarser grained fractions (i.e. sand).

### 5.2.2 PAHs and SVOCs

PAHs are ubiquitous in the environment, coming from both natural and anthropogenic sources; the types and sources of PAHs at the Site are discussed in greater detail in Section 4. PAHs can be categorized into two classes: low molecular weight PAHs and high molecular weight PAHs. PAHs often occur together in the environment and many have similar toxicological effects, and environmental fate. PAHs in general do not easily dissolve in water and exhibit solubilities that are inversely proportional to molecular weight. They are semivolatile and hydrophobic, and therefore can be present in air as vapors or adhere to surfaces of small solid particles. From surface water, some PAHs can evaporate into the atmosphere, but most stick to solid particles and settle to the bottoms of rivers or lakes. PAHs in urban river systems are often irreversibly bound (and thus not bioavailable) to organic carbon and black carbon (soot) in the sediment. In soils, the compounds are most likely to adhere tightly to particles, as indicated by the high $K_{oc}$ values in **Table 5-1**.

Certain PAHs in soils can also migrate to groundwater. Two and three ring PAHs (such as naphthalene, phenanthrene, and acenapthene) are the most soluble in water and likely to desorb from soil. PAHs can breakdown to less short-lived products by reacting with sunlight and other chemicals in the air, generally over a period of weeks to months. Breakdown in soil and water generally takes weeks to months. PAHs have been detected in groundwater either as a result of migration directly from contaminated surface waters or through the soil. They have been shown to be transported laterally within contaminated aquifers.

PAHs have limited bioaccumulation potential but can be found in plants, aquatic organisms, and animals from intake of contaminated water, soil, and food. In general, bioconcentration is greater for the higher molecular weight compounds than for the lower molecular weight compounds. However, extensive metabolism of the compounds by the high-trophic-level consumers (including humans) has been demonstrated, indicating food chain biomagnification of the compounds does not appear to be significant.

### 5.2.3 PCBs

PCBs are anthropogenic chemicals and have no known natural sources. Most PCBs in North America were produced as commercial mixtures called Aroclors and were often used in the past as dielectric fluids in transformers and capacitors. The industry term for these PCB dielectric fluids was askarels, which consisted of either pure Aroclors or mixtures of Aroclors and trichlorobenzene. Production of PCBs started in 1929 and was banned by EPA in 1979. A total of 209 individual PCB isomers, called congeners, are possible although Aroclor mixtures typically contain fewer than 160 congeners. PCBs exhibit low water solubility, are moderately volatile, strongly adsorb to organics, and preferentially partition to soil and sediment. Solubility and volatility of congeners are both inversely related to molecular weight. The major fate process for PCBs in water is adsorption to sediment or other organic matter. Consequently, PCB concentrations in sediment and suspended matter are generally higher than in the associated water column (ATSDR, 2000). The more highly chlorinated Aroclors sorb more strongly than the less chlorinated Aroclors, reflecting their differences in water solubilities and octanol-water partition coefficients. Adsorption and subsequent sedimentation may immobilize PCBs for relatively long periods of time in aquatic systems. However, limited re-dissolution into the water column may occur. PCBs contained in layers nearest the sediment surface may be slowly released over a long period of time. PCBs present in the lower layers of sedimentary deposits may be effectively sequestered from environmental distribution and slowly degraded by anaerobic microbial dechlorination under anoxic conditions (ATSDR, 2000). Reductive dechlorination can alter the relative abundance of PCB congeners but does not always significantly reduce the total mass of PCBs in sediment.

The estimated Henry's law constants for individual Aroclors indicate that volatilization may be a significant environmental transport process for PCBs dissolved in natural water. However, adsorption to sediment significantly decreases the volatilization rate of highly chlorinated Aroclors from the aquatic phase. The re-dissolution rate of PCBs from sediment to water is greater in the summer than in the winter because of more rapid volatilization from water at higher temperatures. The work of Lombard et al. (2018) suggests that net volatilization of PCBs from water to the air may be occurring in portions of the Anacostia River.

The ability of PCBs to bioaccumulate has been related to corresponding octanol-water partition coefficients (Kow). Compounds with high Kow values more readily bind to sediments (particularly sediments with elevated organic carbon) and are more readily bioaccumulated by organisms. Experimentally determined bioconcentration factors may depend on the water depth in which aquatic animals typically feed. PCBs also bio-magnify within the food chain. If consumed, PCBs are stored in fat and biomagnify up the food chain. Developing an understanding of PCB food chain dynamics and relationships between sediment associated PCBs, freely dissolved and particulate associated PCBs in the water column, and fish tissue PCB residues requires complex multi-compartment analysis. Uncertainties exist regarding the relationship between sediment COPCs in the Waterside Investigation Area and fish tissue in the Anacostia River. The work of Lombard et al. (2018) suggests that Anacostia River sediment may be a contributing source of freely dissolved PCBs in the water column in areas of elevated PCB concentrations, but that sediments contribute less load to the surface water than upstream sources, including Lower Beaverdam Creek.

Known potential sources of Aroclor product PCBs at the Pepco Benning site were dielectric fluids in electrical equipment and caulking plasticizer in the concrete cooling tower basins. Following the late 1970's directives from EPA, Pepco implemented a waste tracking system to determine if electrical equipment dielectric fluids contained PCBs. Pepco Holding Technical Procedure EN-PP-000012 (Pepco,2016) describes in detail how all untested or unlabeled equipment is taken to the Benning facility and promptly tested for PCBs on removal from service.

Using the TSCA categories, PCB Equipment (> 500 ppm PCBs) is either disposed by shipment to an approved facility or retro-filled with clean mineral oil (historically) or Envirotemp FR3 fluid in transformers (a refined soybean oil currently used as the primary dielectric fluid). Reuse of retrofilled transformers requires that they must be verified to contain < 49 ppm of PCBs (Non-PCB classification). Recovered oil containing 50 ppm PCBs or greater is drummed and moved to a Toxic Substances Control Act (TSCA) approved storage facility in Building 68 in the western portion of the Site for storage pending off-Site disposal at an audited and approved disposal facility. Recovered oil containing ≤49 ppm PCBs is pumped to one of two 10,000 gallon holding tanks designated for accumulating used Non-PCB class oil in Building #57 and near Building #29. These tanks are installed in concrete vaults, which act as secondary containment. This waste oil is removed as needed by tanker truck to an approved off-Site disposal facility.

Pepco's records since 1990 indicate < 0.7% of electric equipment contained dielectric fluids with PCB concentrations >500,000 ppm and thus were known or suspected to be askarels, usually in sealed devices such as capacitors. Most of these sealed devices were assumed to contain askarels and disposed accordingly per TSCA requirements, without being tested for PCBs. About 1.5% contained PCBs > 500 ppm, 9.2% contained PCBs >50 ppm, and 27% contained PCBs > 5 ppm. The remainder analyzed were non-detect for PCBs. Additional information about the history of PCBs and the Benning facility will be provided in the Forensics Analysis and Source Evaluation Report.

### 5.2.4 Dioxins

Polychlorinated dibenzo dioxins and polychlorinated dibenzofurans are a group of chemicals, commonly referred to as "dioxins", with both natural and anthropogenic sources. Many industrial combustion processes can produce trace levels of dioxins when chlorine is present, but dioxins were never intentionally produced for industrial uses like PCBs. Normal transformer operating conditions do not generate PCDD/PCDFs in mineral oil based or PCB containing dielectric fluids (EPRI, 1983; EPA,1987; Rouse,1988). Combustion in the presence of oxygen, in situations such transformer fires, is required to generate PCDDs from the trichlorobenzenes of askarels or the creation of new PCDFs from the oxidation of PCBs. Available records indicate that only one incident involving a transformer fire has occurred at the Site which was caused by lightning striking a transformer on the roof of the former generation plant power house building. The mere presence of transformers and other electrical equipment, with or without PCB containing dielelctric fluids, does not pose a risk of significant PCDD/PCDF release at the site.

Polychlorinated dibenzo dioxins and polychlorinated dibenzofurans are extremely hydrophobic, almost insoluble in water, persistent in the environment, and they sorb strongly to soils and sediments. The isomer 2,3,7,8-TCDD is the most toxic dioxin and therefore the most frequently referenced in the literature. According to some studies, the ultimate sink of airborne particulate 2,3,7,8-TCDD is likely to be the sediments of surface waters (Choudry and Hutzinger, 1982; Czuczwa and Hites, 1986). Bacterial degradation of dioxins is possible, but it is very slow and limited by the populations of organisms in native material. However, both volatilization and photolysis will slowly remove 2,3,7,8-TCDD from surface soils, surface water and groundwater.

### 5.2.5 Pesticides

The pesticides identified as COPCs are hydrophobic anthropogenic chemicals that were widely used for insect control and are commonly found in urban soils and sediments. They tend to bioconcentrate and biomagnify in the food chain. Biotransformation proceeds at an exceptionally slow rate due to the complex aromatic ring structures and the extent of chlorination. The pesticide 4,4’-DDT undergoes slow but extensive biotransformation in mammals and DDE is the major metabolite (in aerobic conditions), with 4,4’-DDD as another metabolite (under aerobic conditions) (Callahan et al, 1979; Lichtenstein and Schultz, 1959; Menzie, 1980). Organochlorine insecticides are not soluble in water. They have a rather high degree of lipid solubility as characterized by large fat-water partition coefficients which enables them to concentrate in tissue. Pesticides generally have low water solubility, and therefore are primarily in aquatic systems. Photo-oxidation of 4,4’ DDT is known to occur on soil surfaces; however, it’s not known to hydrolyze (Lichtenstein and Schultz, 1959).

Studies have found that plants, fish, mammals, and birds as well as phytoplankton and zooplankton in aquatic environments bioaccumulate DDT. In sediments, DDE is the major metabolite formed (Montgomery, 1996). Both DDD and DDE are stable and biologically active but DDE is non-insecticidal (Montgomery, 1996). DDT has a low solubility and preferentially binds to sediments. If consumed, DDT and metabolites are stored in fat and biomagnify up the food chain.

The fate and transport characteristics of trans-chlordane are similar to other organochlorine pesticides. Organochlorines tend to bioconcentrate and biomagnify in the food chain. Biotransformation proceeds at an exceptionally slow rate due to the complex aromatic ring structures and the extent of chlorination. Trans-chlordane is one isomer in a complex mixture called technical chlordane that was most commonly used as a termiticide in urban areas.  Trans-chlordane is semivolatile in air and insoluble in water.

### 5.2.6 VOCs and TPH

VOCs and TPH were identified as COPCs.  The VOCs included both halogenated and non-halogenated VOCs.  TPH is a term used to describe a group of hundreds of chemical compounds that originate from crude oil.  It's often not feasible or affordable to identify chemical composition of these mixtures.  The nature of these COPCs in on-Site media is residual and/or dissolved phase, and there is no bulk or free product.

In the subsurface environment, VOCs and TPH are relatively mobile for organic compounds, and they are subject to processes that naturally reduce their concentrations.  Groundwater is the primary pathway that has the potential to transport these compounds; however, VOCs present in soil and groundwater can also volatilize under certain circumstances and migrate through the unsaturated zone to the surface.  VOCs and TPH are subjected to various attenuation processes during groundwater transport that tend to reduce their concentrations both over time and with greater distances traveled.  Dispersion during transport resulting from mixing with infiltrating rainwater and non-impacted groundwater, acts to reduce concentrations as groundwater flows farther from the source area.

Sorption and desorption describes a compounds affinity for partitioning between water and organic carbon in the soil.  This is quantified by an organic carbon-water partition coefficient and characterizes compound mobility.  Organic compounds may be adsorbed onto organic material within the aquifer material which reduces mobility and causes chemicals to travel slower relative to the groundwater flow.  TPH typically has a greater tendency to adsorb than most VOCs.  Non-halogenated organics generally have low affinity for organic matter.

VOCs and TPH are also subject to biodegradation/biotransformation.  Once in the subsurface, chlorinated VOCs may undergo reductive dehalogenation under anaerobic conditions.  This is unlikely to take place under aerobic conditions.  PCE present in the Site groundwater may be progressively broken down to TCE, VC, and ultimately carbon dioxide.  However, reduction of PCE/TCE due to reductive dehalogenation does not ensure a reduction in toxicity.  Many of the daughter products of the dehalogenation process, such as VC, are as toxic as or more toxic than the parent compounds.

MTBE has been used in the U.S. since 1979 as a fuel oxygenate in gasoline, and was a constituent in gasoline dispensed at the former Kenilworth Fueling Island (Target Area 18).  Although this former dispenser is considered a potential source, off-Site borings completed to the northeast of the Site indicate a potential off-Site contribution as well.  Once MTBE and other gasoline components are dissolved into the groundwater, the fate is controlled by a number of competing processes. As a dissolved constituent, the maximum rate of transport is that of the groundwater; however, the tendency for gasoline components to adsorb to soil particles competes with the rate of transport. Through groundwater flow, these constituents are attenuated by dispersion and dilution. MTBE can be biodegraded aerobically or anaerobically, but only by relatively few microorganisms and under specific conditions. These organisms may be present at most sites, but may not be present in sufficient numbers or at sufficient growth rates to support active degradation. Other factors for degradation are oxygen content, pH, moisture content, macronutrients (i.e., nitrogen, potassium, iron, etc.) and temperature. Biological de-methylation of MTBE under aerobic conditions may produce Tertiary butyl alcohol (TBA) as an intermediate product; however, TBA is often used itself as a fuel oxygenate. Complete aerobic biodegradation of MTBE and TBA results in the production of carbon dioxide ($CO_2$), which is stable, inert and non-toxic.

## 5.3 Site-specific Migration Pathways and Revised CSM

The purpose of the CSM is to illustrate sources of contamination, impacted media, and routes of migration for the COPCs identified in various environmental media on the Landside and Waterside portions of the Site. This CSM is a revision of the CSM presented in the CSM Technical Memorandum (AECOM, 2016b) based on the Phase II RI activities. General pictorial representations of the Waterside and Landside CSMs are presented as **Figure 5-2** and **Figure 5-3**, respectively, and are described further in the following paragraphs. The CSM discussion in this section is limited to known or potential sources, migration pathways, and potentially impacted media. Potential release mechanisms, exposure pathways, and CSMs related to human and ecological receptors are discussed in the BHHRA (**Appendix AA**) and BERA (**Appendix BB**).

### 5.3.1 Potential On-Site Contamination Source Areas and Migration Pathways

Based on review of previous studies and the findings of the RI field activities, the following potential on-Site source areas of contamination were identified:

- Target Area 1 - Former Sludge Dewatering Area and Surrounding Coal Pile Area
- Target Area 4 - Salvage Yard
- Target Area 5 - Former Cooling Towers
- Target Area 10 - Red Tag Storage Area
- Target Area 11 - PCB Building #68
- Target Area 12 - Building #57 (Transformer Shop)
- Target Area 17 - Storm Drain System (historical process water discharges and historical and current diffuse leaks/drips and Site runoff)

- Target Area 18 - Kenilworth Fueling Island (MTBE in groundwater)
- Target Area 19 - PCE in Groundwater (uncertainty regarding potential on- and off-Site sources)
- Target Area 20 - PAHs in Soil (former Rail Yard and Laydown Area)
- DP09 Investigation Area - PCE in Groundwater
- Former Timber Pole Storage Area

A detailed description of these areas is provided in Section 4.8. Historical power plant operations other than those identified above were thoroughly evaluated in the CSM Technical Memorandum (AECOM, 2016b) and were eliminated as potential sources. The on-Site areas and associated transport pathways were evaluated as part of the RI. However, a data gap still exists regarding the specific source (or sources) of PCE detected in on-Site groundwater which cannot be conclusively determined from the existing data. Further investigation will be conducted during post-RI investigation activities as needed. The CSM graphic provided in the CSM technical memorandum (AECOM, 2016b) has been updated to reflect the current Site conditions. The CSM, which shows the potential on-Site source areas and transport mechanisms is provided as **Figure 5-4**. The revisions to the CSM are based on the following evaluation:

Site Soil to Groundwater Pathway

The PSL exceedances observed in on-Site soil and groundwater were evaluated to determine if a pathway between the media types exists. The primary COIs in groundwater are MTBE and PCE and its daughter products (TCE and VC). Although historically, an on-Site pathway from soils to groundwater may have existed, none of these compounds exceed its screening levels in soil indicating that the current on-Site pathway is incomplete. DRO exceedances were isolated. Metals were frequently detected in groundwater; however, they were not detected greater than background levels with the exception of arsenic and total vanadium for which background in the LWZ could not be calculated. Dissolved vanadium did not exceed its PSL in groundwater and there were only isolated detections of dissolved arsenic, slightly above its PSL, and no exceedances in the downgradient wells. In addition, none of the SVOCs exceeded the PSLs except for naphthalene in MW01-B and MW02-B in 2014. However, naphthalene was re-sampled in both wells in 2016 and was not detected in either well. The only pesticide PSL exceedance in groundwater was for dieldrin which was detected at one location in the LWZ, MW-08B, and only slightly exceeded the PSL. None of groundwater sample results for PCBs or dioxins and furan compounds exceeded their respective PSLs; groundwater constituent occurrences are isolated and are not indicative of an existing pathway between soil and groundwater. PCB and dioxin detections in soil were generally limited to either surface or shallow subsurface (6 ft. or less). These compounds are hydrophobic in nature and have very low solubility; therefore, leaching from soil to groundwater is considered an insignificant pathway. This is supported by Site groundwater sampling which showed no concentrations of PCBs or dioxins above PSLs. Further, the majority of the Site is paved or covered by impermeable surfaces and stormwater is effectively captured minimizing infiltration of water through soils that may be impacted.

Site Groundwater to Storm Drains Pathway

Certain portions of the Pepco storm drain system are located below the groundwater table. Pepco performed CCTV camera inspections of the Site storm drains in 2015 and 2016; observations included minor infiltration, pipe deficiencies, root intrusions, and accumulation of sediment/debris. In response to these findings, Pepco completed cleaning of the main storm drain pipe, which resulted in removal of approximately 47 cubic yards of accumulated sediment, and thereafter completed patching/repairs of several identified defects in the storm drain system. Following the repairs, Pepco conducted another round of CCTV inspections in 2018, at which time 9.5 tons of sediment and debris were removed from the storm drain system. The 2018 inspection found that the majority of storm drain lines inspected are in relatively good condition. However, many lines exhibited potential evidence of infiltration in the form of encrustation on the pipe walls, structural defects, and deposits/debris during the CCTV inspection. Although these portions of the storm drain did not appear to be functioning as a sealed system, there were no observations of active groundwater inflow or weeping to the storm drain system. The observations from the 2018 CCTV inspection and storm drain profiles are provided in **Appendix Z**. Pepco contracted Flippo Construction to perform the storm drain repair/replacement work on these areas, which was initiated in December 2018 and is currently on-going.

As shown on the profiles, the storm drain system is above the groundwater table until the pipe drop at MH-37/I 37. Although portions of the storm drain system are below the groundwater table, only minor infiltration in the form of encrustation has been observed during the CCTV inspections. Several of the encrustations (M51C, I73, I06) were observed in sections located above the groundwater table. Apparent encrustations may be due to efflorescence of salts passing through the concrete and accumulating by evaporation rather than the direct movement of water into the pipe. Furthermore, the CCTV inspections did not indicate active groundwater dripping into the storm drains, or the presence of concrete stalactites that would indicate continuous dripping of groundwater into the pipes. Based on these observations, the groundwater-to-storm drains pathway is deemed insignificant.

Site Storm Drain to Surface Water Pathway

The storm drain system at the Site discharges to the River via two outfalls, Outfall 013 and Outfall 101, and therefore represents a potential pathway for the movement of contaminants from the Site to surface water. The majority of the Site is drained by the main storm sewer system that traverses the Site from southeast to northwest and discharges to the Cove at Outfall 013. The area to the west of the former Power Plant building is drained by a smaller storm sewer system that discharges to the River at Outfall 101. The stormwater discharges from these outfalls is authorized by the facility's NPDES permit (DC0000094). The majority of the Site surface is paved or otherwise stabilized which serves to isolate stormwater from contaminated soil at the Site. The Site has employed various best management practices (e.g., pollution prevention and inlet controls) to control sediments and contaminants in stormwater since the early 1990s. Most recently, Pepco has added treatment systems to the storm drain that discharges to Outfall 013. The treatment measures, which were installed in 2017 and 2018, utilize a combination of biofilters, physical media filtration and adsorption to remove metals and suspended solids. Recent quarterly NPDES sampling indicates that the stormwater discharges are largely in compliance with the discharge standards since the implementation of enhanced best management practices and stormwater treatment systems. Although there have been occasional exceedances for copper, zinc and total suspended solids, none of these constituents has been identified as a COPC. Furthermore, results have been consistently non-detect for PCB Aroclors at a reporting limit of either 0.469 or 0.95 µg/l for each Aroclor. Although the ecological screening criteria for PCBs is 0.014 µg/l, the reporting limits comply with the NPDES permit requirement of 1 µg/l. Based on the storm drain residue samples, it is possible that Site storm drains may have provided a pathway for COPCs to surface water, however, this is not currently considered a significant contaminant migration pathway.

Groundwater to Surface Water Pathway

Mass loading calculations were completed to estimate the mass of contaminants entering the sediment/surface water system via groundwater discharge to the Anacostia River. The mass loading computations were performed using the sampling data from the six near-shore monitoring well pairs (MW-1A/B, MW-2A/B, MW-3A/B, MW-4A/B, MW-8A/B, and MW-11A/B). The calculations are summarized in **Table 5-3**. For calculation purposes, the values used were set to equal the detection limit or the estimated (J-qualified) value, as needed. These wells were selected because they are understood to represent groundwater quality discharging to sediments and ultimately to surface water. Groundwater flux was computed using Darcy's Law: Q = KIA, where "Q" is discharge ($ft^3$/sec), "K" is hydraulic conductivity (ft/sec), "I" is hydraulic gradient (unitless), and "A" is the area through which the groundwater flows ($ft^2$). For waterfront wells in which aquifer testing was conducted during the RI (MW-01, MW-03, and MW-11), the average calculated K value was used for the wells' hydraulic conductivity. For wells in which aquifer testing was not conducted, the geometric mean of hydraulic conductivities from the three nearest aquifer-tested wells was used. A local hydraulic gradient was calculated for each well using the slope of the plane formed by the low-tide groundwater level in the well and the groundwater levels in two up-gradient wells (three-point problem approach using EPA's online tool). A unique cross-sectional area was computed for each well based on water-bearing zone thickness at the well (upper or lower) and a length of boundary segment through which groundwater flows to the River. The groundwater flux calculations are provided in the BHHRA (**Appendix BB**).

The groundwater flux calculations were used to estimate the annual mass loading of contaminants from the groundwater at the Site to surface water in the River. As seen in **Table 5-3**, the mass loading of organic COPCs from groundwater to sediments and surface water is negligible. It should be noted that where the chemical was not detected the detection limits were used to calculate the mass flux; therefore the estimates are considered conservative (i.e., overestimates).

The groundwater flux calculations were also used to determine the DAF for the near-shore monitoring wells. Dilution occurs during groundwater discharge to surface water as a result of the mixing with the stream flow. The DAFs were calculated to estimate the contaminant concentrations in the surface water from groundwater discharging to the River. They were calculated by dividing the groundwater discharges for each waterfront well by the 7-day, 10-year low streamflow (7Q10) of the River adjacent to the Site (13.9 $ft^3$/sec), as estimated using the USGS Maryland StreamStats application, an online GIS tool for estimating streamflows at ungauged locations (USGS, 2018). The 7Q10 is the lowest 7-day average streamflow that occurs on average once every 10 years.

The DAF calculated for each well was multiplied by the groundwater COPC analytical results to estimate surface water concentrations. The estimated concentrations were compared to the HHRA and ERA surface water screening levels as shown in **Table 5-4**. All estimated surface water concentrations were below the applicable screening levels indicating the discharge of groundwater to the River does not pose significant risk for ecological or human health.

As shown through calculations, the mass loading of inorganic and organic constituents to the River are negligible and would not result in the exceedance of surface water quality standards. Based on the volume of groundwater discharges and mass flux calculations, the groundwater to surface water pathway is deemed insignificant.

<u>Groundwater to Sediment Pore Water Pathway</u>

As indicated above, the groundwater to surface water pathway is deemed insignificant based on the estimated concentrations of constituents which are lower than the applicable screening levels. The groundwater to sediment pore water pathway was not modeled as described above for surface water, but was evaluated based on the pore water analytical data collected in 2017. This approach was conservative because this assumes no dilution from groundwater to pore water, and no contributions to pore water from sediment or surface water. As described in Section 4.7.4, sediment pore water samples were collected at

15 Site and 5 upstream background locations. The analytical results of COPCs detected in Site and background pore water samples were screened in the BERA (**Appendix BB**) against chronic freshwater screening levels (**Table 5-4**). Total PCB congeners were detected below the screening level in all Site samples. Most Site and background pore water concentrations exceed the chronic surface water screening levels for three metals (barium, iron, and manganese), but the ranges of these metals in Site pore water samples are lower than the range of concentrations in background pore water. One SVOC (pyrene) was detected above the screening level in Site and background samples, but based on an evaluation of bioavailable fraction of PAHs in pore water these compounds are not expected to be bioavailable at all Site and background locations with the exception of one Site location (SED7B). The results of the pore water pathway presented in the BERA concluded no risks to benthic invertebrates via this pathway. Based on the foregoing, the groundwater to pore water pathway is deemed insignificant.

<u>Surface Water and Sediment to Fish Tissue Pathway</u>

The presence of bioaccumulative and biomagnifying COPCs in surficial sediment, surficial sediment pore water, and surface water within the Waterside Investigation Area indicates that there is a potential linkage between contaminants in these media and fish tissue. However, this linkage is uncertain due to the lack of information demonstrating sediment to fish tissue relationships in the River generally, and the small role that sediment and surface water in the Waterside Investigation Area likely play in COPC budgets and fish home ranges in the Anacostia River.

As demonstrated by several investigating parties (e.g., Hwang and Foster, 2006; Ghosh et al., 2019), including DOEE (Tetra Tech, 2018), the largest sources of bioaccumulative and biomagnifying COPCs (e.g., pesticides and PCBs) are tributaries to the Anacostia River. The ARSP RI report documented that for 2014, approximately 7.2 kg of PCBs entered the tidal Anacostia River system via upland non-tidal sources for the year. Resuspension of bed sediments was estimated to contribute an additional 4.4 kg per year. Ghosh et al. (2019) also investigated the movement of contaminants between sediment and freely dissolved phase and bioaccumulation in biota and preliminary findings suggest concentrations in the freely dissolved phase are reflective of those in mussel tissue. The contribution from sediments within the 4.2-acre Cove is unknown, but likely minimal given the depositional environment that characterizes this area.

Forage fish such as minnow or darter species have smaller ranges of movement and as such, may have longer residence time in the Waterside Investigation Area, and in particular, the Cove, and thus greater exposure to COPCs in these areas. However, uncertainties exist regarding the relationship between exposure to COPCs in sediment and fish tissue concentrations Adult bass (*Micropterus* spp.) common sport fish in the Anacostia and other tidal rivers in the region, have ranges on the order of 2 km (Love, 2009). Brown bullhead, the adults of which reside in the Anacostia River system throughout the year have even larger home ranges that can range from about 2 to 4 km (Sakaris et al., 2005). These fish are exposed to sediment throughout their home ranges, and the small size of the Cove limits its importance as an exposure area for fish. The role that large home ranges, among other factors, play is acknowledged by the USEPA as an uncertainty in establishing fish-sediment linkages (Burkhard, 2009). Forage fish such as minnow or darter species have smaller ranges of movement and as such, may have longer residence time in the Waterside Investigation Area. However, there is no data confirming that this increased residence time is directly correlated with increased bioaccumulation of COPCs in forage fish tissue.

The ARSP Phase II RI BERA, concluded that COPCs were bioaccumulating in fish from sediment on the basis of detection of chemicals in fish tissue at concentrations above those detected in sediment samples (Tetra Tech, 2018). However, there is insufficient data to establish the extent of direct biological linkage (i.e., relationships between fish accumulating chemicals from sediment ingestion or exposure) and no mathematical model of a significant relationship between fish tissue and sediment (i.e., significant correlations between fish tissue and sediment chemistry) have been demonstrated. Therefore, while it is assumed that fish may accumulate constituents through direct contact with sediment or dietary uptake of the sediment, the significance of sediment as a source relative to other sources (e.g., surface water, prey tissue) is uncertain. Further, the shape of the relationship has been assumed to be linear, based on a ratio of calculated values (i.e., 95 UCL) of fish tissue to sediment concentrations. In reality, the relationship between exposure and accumulation is often complex, and complicated by mechanisms such as excretion and metabolism. The shape, or curve, of a relationship is often limited by rate or concentration, meaning that organisms may accumulate faster at lower concentrations or slower at higher concentrations than a simple linear assumption would indicate (Judd et al., 2013).

Given the small size of the Waterside Investigation Area, and in particular the Cove relative to the Anacostia River, the link between Waterside Investigation Area surficial sediment, pore water, and surface water and Anacostia River fish is uncertain. DOEE is funding an on-going study that includes forage fish data collected from the Cove. Once available, this data will be evaluated for consideration in the refinement of risk assessment-based objectives in the FS, as appropriate.

### 5.3.2 Potential Off-Site Sources of Contamination

Historical and current potential off-Site sources that likely have contributed, and may still be contributing to contamination at the Site and in the Anacostia River include the following:

- Regional transportation and fossil fuel burning;

- Historical open burning at Langston Golf Course and Kenilworth Landfill;
- Historical landfills at Langston Golf Course, Colmar Manor, and Kenilworth Landfill;
- Former trash incinerator upwind of the Site to the north;
- KMY and Trash Transfer Station outfalls to the Cove;
- Upstream non-point sources in the Anacostia Watershed from the northeast and northwest branches of the Anacostia, and other tributaries such as Lower Beaverdam Creek, Hickey Run, and Watts Branch, where DOEE's data collection is in progress;
- Historical off-Site discharges to the Cove area (then still part of an oxbow) via Piney Run prior to storm drain construction in the early 1950s;
- Off-Site sources of PCE including dry cleaners; and
- Urban runoff/CSOs.

The contaminants contributed to the environment by these potential off-Site sources likely includes PCBs, PAHs, pesticides, dioxins/furans, metals, and VOCs including MTBE and chlorinated solvents. A CSM graphic for off-Site sources is provided as **Figure 5-5**. A detailed background sampling study was conducted as part of the RI to generate data to evaluate potential off-Site sources of contamination. The background evaluation is provided in **Appendix W**. The potential historical sources of contamination in the immediate vicinity of the Site are described in **Section 1.7**.

### 5.3.3 Contaminant Migration

Contaminant transport can occur via a number of mechanisms, some are responsible for the introduction of constituents into the River (e.g., runoff, bank erosion, point source discharges, and groundwater transport) and others that move constituents once in the River (e.g., bed erosion, surface water transport, bioturbation, and food chain accumulation).

Once introduced to the River, the fate and transport of contaminants is likely to be dominated, at least initially, by potential scour and downstream movement of sediment-associated constituents. Migration from the sediment pack directly into water in a soluble form is another migration pathway, although somewhat limited by the constituent's relatively low solubility and the isolation of the higher constituent concentrations deeper in the sediment pack. Just downstream of the confluence of the Northeast and Northwest Branches (near the Bladensburg Marina), is a zone of accretion where the coarser grain size fractions of sediment are deposited in the low-energy environment (AWTA, 2002). The finer fractions (clay and silt) remain suspended and continue downstream. Within the Waterside Investigation Area, particularly in the Cove, the stability of the sediment pack and minimal downstream impacts indicate that hydrodynamic processes that cause significant mass movement of sediment are unlikely. Other fate processes (e.g., biodegradation, bioturbation) are not likely to be significant for constituents detected in sub-surficial sediments.

Organic COPCs such as PCBs, PAHs, pesticides, and dioxins/furans exhibit strong affinities for organic material in sediments. Therefore, the suspension of these sediments largely controls the transport and distribution of these constituents within the River. The Waterside Investigation Area, and in particular the Cove, appear to be strongly depositional with a high proportion of TOC in sediment. Although the Pepco and non-Pepco outfalls have likely contributed to sediment deposited in the Cove, the deposition of the River 's sediment load once it enters the low energy Cove is likely the dominant contributor. The presence of a well-defined 137Cs peak at 2 feet bgs in the core collected at location SED7E in the Cove indicates a stable and depositional environment, with average deposition rates of approximately 1 cm/yr over a 53 year period. Sediment rates can vary through time and more recent deposition rates may be lower. Sediment data collected in the Waterside Investigation Area indicate that TOC varies from <1 to 6% in both the channel and Cove; however, in the interior of the Cove, there are individual samples that have TOC content as high as 24% TOC, which is unusually high (**Table 4-31**). Grain size also indicates deposition throughout the Waterside Investigation Area, to greater than 80% fine-grained sediment (sum of silt and clay fractions). As a result, the impacts from constituents that may have been contributed to the River from historical Site discharges would be expected to be localized in the vicinity of the Cove, and this appears to be supported by the sediment sampling data. In particular, locations where PCBs and metals exceeded both screening levels and background levels were mostly located in the Cove.

### 5.3.4 CSM Summary

Background and regional sources may be continuing sources of COPCs to River sediments. The Site may have historically contributed to sediment contamination in the Cove; however, at present, the Site does not appear to be a significant source of contaminants to the River based on the following:

- The primary Site-related sources on the Landside Investigation Area were identified to be the residuals from former petroleum and PCB cleanup (including excavation of the former cooling towers), minor spills/drips, past and present general industrial activities, and use of historical fill materials. Historical impacts to soils such as PCBs in Target Area 12 and metals in the sludge dewatering area are identified as a primary Site-related sources; however, the pathway to groundwater is deemed to be insignificant. Remedial activities and best management practices have largely mitigated on-Site sources and the current Landside impacts are under control.
- The current Site use as a service center is not expected to result in significant additional environmental impacts.

- Currently, most of the Site surface is paved and/or otherwise stabilized. Although historically erosion and migration of eroded soils may have occurred, this is not identified as a significant transport mechanism under existing conditions.
- The Site currently employs various BMPs to control sediments and contaminants in stormwater discharged from the Site, including the use of regularly inspected and maintained filters, screens and absorbent booms at all storm drain inlets. Additionally, Pepco installed stormwater treatment systems in 2017 to reduce pollutant loads from stormwater runoff discharged from Outfall 013. The treatment measures are designed to remove metals and TSS constituents from stormwater through a combination of physical filtration and adsorption via zeolite and granular activated carbon filter media. Three biofilters have also been installed on Site.
- Low levels of localized groundwater impacts were observed at the Site from a combination of the Site-related sources described in the first bullet and several potential off-Site sources. Many potential dioxin sources exist in the vicinity of the Site including the heavy traffic corridor, a former incinerator, historical coal-burning on-Site, and historical open burning at KPN; potential groundwater metal transport from KPN Site. Additionally, PCE in Site groundwater may originate from an off-Site source; however, the specific source (or sources) of PCE detected in on-Site groundwater cannot be determined from the existing data, and further investigation will be conducted during post-RI activities as appropriate.

Groundwater from beneath the Site discharges to the Anacostia River. Mass flux calculations were performed to estimate the volume of COPCs that are discharged to the River (discussed in **Section 5.3**). Based on the low levels of COPC concentrations observed and the limited volume of COPCs discharged to the River, neither current nor historical groundwater discharges from the Site to sediment pore water or surface water are a significant contributor to the impacts in the Anacostia River.

# 6 Baseline Risk Assessments

The BHHRA and BERA are presented in **Appendix AA** and **Appendix BB**, respectively, and summarized in this section.

## 6.1 Baseline Human Health Risk Assessment

The BHHRA was performed in accordance with the DOEE approved Risk Assessment Work Plan and Addendum (AECOM, 2012b, 2016d) and evaluated potential human health effects using the following four step USEPA (1989a) paradigm:

- Data Evaluation and Hazard Identification
- Toxicity (Dose-Response) Assessment
- Exposure Assessment
- Risk Characterization

The BHHRA evaluated soil and groundwater data from the Landside Investigation Area, and fringe surface sediment and surface water from the Waterside Investigation Area. In addition, per the request of DOEE, the Waterside Investigation Area BHHRA considered fish tissue data collected by USFWS (Pinkney, 2017) from the Upper Anacostia River (an approximately 4 mile reach of the River that includes the Waterside Investigation Area). Because the exact collection points are not specified in the Pinkney study, the samples collected in the Upper Anacostia River are assumed to reflect overall conditions within the several-mile-long river reach that was sampled (or possibly the larger home range for some of the fish species sampled) and may not reflect the specific conditions within the Waterside Investigation Area. The same qualification applies for the fish samples collected within the Lower Anacostia and the Potomac River. Accordingly, although the tissue data for the Upper Anacostia reach were used for this BHHRA per the direction of DOEE, there is insufficient information to make any definitive conclusions about the relationship between this fish tissue data and specific conditions within the Waterside Investigation Area.

Lastly, to help place the Waterside Investigation Area into a regional context, the BHHRA also evaluated potential risks due to fish consumption in other reaches of the Anacostia River (e.g., downstream and upstream of the Waterside Investigation Area) and the Potomac River. The mix of fish species evaluated for the Lower Anacostia and the Potomac River is similar to the mix evaluated for the Waterside Investigation Area (e.g., catfish, carp, eel); the mix of species evaluated in the Upstream Non-Tidal Anacostia consists mostly of largemouth bass, and is different from the mix of species evaluated in the tidal Upper Anacostia.

### 6.1.1 BHHRA Methodologies

The BHHRA evaluated potential cancer and non-cancer effects in accordance with USEPA guidance. A full suite of analytical results were evaluated for each medium (soil, groundwater, sediment, surface water, and fish tissue) using a conservative screening-level approach to identify the COPCs warranting quantitative evaluation in the BHHRA. The following classes of constituents were evaluated:

- **Dioxins/Furans.** The group of 17 dioxin and furan congeners was evaluated as 2,3,7,8-TCDD toxicity equivalence (TEQ) using toxicity equivalency factors (USEPA 2010) and the cancer and noncancer toxicity values for 2,3,7,8-TCDD.
- **PCBs.** For evaluation of PCB cancer risk and noncancer hazard, two separate PCB cancer risks and noncancer hazards were calculated for exposure via fish consumption, one for total PCBs and one for PCB-TEQ. The first approach evaluated total PCBs using the cancer and noncancer toxicity values published by USEPA for total PCBs and Aroclor 1254, respectively. The second approach evaluated the sum of dioxin-like PCBs (PCB-TEQ) using the toxicity values for 2,3,7,8-TCDD. Abiotic media (e.g., soil, sediment, surface water) were evaluated using only the total PCBs approach due to limited congener data. In addition, the potential for enrichment of dioxin-like PCBs is primarily of interest in biotic media.
- **PAHs.** For evaluation of PAHs, cancer risk was calculated for the seven potentially carcinogenic PAHs using the cancer slope factor for benzo(a)pyrene and USEPA's relative potency factors. Noncancer hazards were calculated for individual PAHs with toxicity factors.
- **Metals.** A number of metals (including arsenic, chromium, mercury, nickel, vanadium, and zinc) were identified as COPCs in one or more medium
- **Other.** Other COPCs evaluated in the BHHRA included VOCs, TPH, and a number of pesticides in fish tissue.

The following four potential receptors and exposure pathways were evaluated for the Landside Investigation Area:

- **Current/future construction workers** who may be exposed via incidental ingestion of and/or dermal contact with soil (0 to 16 ft bgs) via inhalation of fugitive dust derived from soil, and via inhalation of vapors from groundwater in an excavation trench.
- **Future outdoor industrial workers** who may be exposed via incidental ingestion of and/or dermal contact with surface soil and via inhalation of fugitive dust derived from surface soil.
- **Future indoor industrial workers** who may be exposed via inhalation of volatile compounds in indoor air of a hypothetical future building resulting from groundwater vapor intrusion.

- **Hypothetical future recreational visitors** who may be exposed via incidental ingestion of and/or dermal contact with surface soil and via inhalation of fugitive dust derived from surface soil in the western portion of the Site next to Anacostia Avenue. This area was previously the location of the former power plant demolished between 2012 and 2015. This area of the Site remains under controlled access and Pepco has no plans to convert this area to public recreational use. Nonetheless, because this portion of the Site is the closest to the Anacostia River and the existing NPS park land located across Anacostia Avenue, DOEE directed that the BHHRA evaluate a hypothetical future exposure scenario in which this area becomes public park land or green space.

Eight on-Site exposure areas were identified for soil and groundwater based on current Site use. Each exposure area corresponds to one or more of the Target Areas and historical operations areas investigated at the Site as shown in the following table.

| Exposure Area | Target Area |
|---|---|
| Hypothetical Future Park Land / Green Space | TA15, TA19, and former Power Plant footprint |
| Warehouse and Laydown Area | TA1, TA3, TA5, TA16, and former Coal Pile Area |
| Salvage Yard and Waste Storage Area | TA4, TA10 and TA11 |
| Stores and Fleet Maintenance Area | Former Utility Pole Storage Area, Former Buildings #38 and #39 |
| Offices and Parking Lot | TA20, former Equipment Laydown Area and Rail Yard |
| Substation #7 | TA7 and former Utility Pole Storage Area |
| Transformer Shop | Building #57 or TA12 |
| Vehicle Refueling Area | TA2 and TA13, former AST Area |

The following potential receptors and exposure pathways were evaluated for the Waterside Investigation Area:

- **Current and future anglers** who may be exposed via incidental ingestion of and dermal contact with fringe surface sediment and surface water in the Waterside Investigation Area, and via consumption of fish caught in the Upper Anacostia River. The fish consumption evaluation considered both recreational and high-end consuming anglers;
- **Current and future swimmers and waders** who may be exposed via incidental ingestion of and/or dermal contact with surface sediment and surface water.

- **Current and future shoreline workers** who may be exposed via incidental ingestion of and/or dermal contact with surface sediment and surface water.

The Waterside Investigation Area was evaluated as one exposure area for direct contact exposures to fringe surface sediment and surface water.

The risk assessment conceptual site model was developed taking into consideration the existing parks, walking trails, boat docks, and fishing activity within the Waterside Investigation Area, as well as potential improvements to these resources. However, it is possible that recreational use could increase at a level higher than assumed here; these uncertainties are discussed in **Appendix AA.**

Fish consumption exposure at the Waterside Investigation Area was evaluated using the Upper Anacostia River (upstream of the CSX bridge) data set collected by USFWS (Pinkney, 2017) within a several mile long segment of the River that includes the Waterside Investigation Area. To help place the Benning Road risk evaluation in a regional context, the following regional reaches were also evaluated for potential exposures via fish consumption: (1) Upper Potomac River (upstream of the 14th Street bridge), (2) Lower Potomac River (downstream of the 14th Street bridge, and (3) Lower Anacostia River (downstream of the CSX bridge). One reach identified as background by DOEE, the Upstream Non-Tidal Anacostia River (north of the Maryland state line) was also evaluated.

Both reasonable maximum exposure (RME) and central tendency exposure (CTE) scenarios were evaluated to provide information on a range of potential exposures and risks. The RME provides an estimate of the upper range of exposure in a population (the 90th percentile or greater of expected exposure, consistent with USEPA, 1992) and is based on a combination of the upper-bound and central estimates of exposure parameters. The CTE uses average exposure parameters to calculate an average exposure to an individual.

### 6.1.2 Landside Scenario Risk Characterization

The tables below present the total potential carcinogenic risks for all landside receptors as well as noncarcinogenic hazard indices (HIs). The potential risks and hazards are also presented graphically in Section 7.5.

| Landside Receptors – Cumulative Cancer Risks and Noncancer Hazards | | | | |
|---|---|---|---|---|
| Exposure Area | Cancer Risk | | Noncancer HI [a] | |
| | RME | CTE | RME | CTE |
| **Current/Future Construction Worker (Adult)** | | | | |
| Hypothetical Future Park Land/Green Space | 2E-08 | 8E-09 | 1 | 0.3 |
| Warehouse and Laydown Area | 4E-07 | 7E-08 | 3 | 0.5 |
| Salvage Yard and Waste Storage Area | 5E-07 | 1E-07 | 0.7 | 0.1 |
| Stores and Fleet Maintenance Area | 9E-08 | 3E-08 | 0.2 | 0.07 |
| Offices and Parking Lot | 4E-07 | 8E-08 | 0.8 | 0.2 |
| Substation #7 | 3E-07 | 3E-08 | 0.5 | 0.08 |
| Transformer Shop | 2E-06 | 7E-07 | 1.6 | 0.5 |
| Vehicle Refueling Area | 4E-08 | 1E-08 | 0.2 | 0.08 |
| **Future Outdoor Industrial Worker (Adult)** | | | | |
| Hypothetical Future Park Land/Green Space | 1E-06 | 1E-07 | 0.3 | 0.1 |
| Warehouse and Laydown Area | 2E-05 | 1E-06 | 1 | 0.2 |
| Salvage Yard and Waste Storage Area | 1E-05 | 1E-06 | 0.3 | 0.05 |
| Stores and Fleet Maintenance Area | 4E-06 | 4E-07 | 0.08 | 0.03 |
| Offices and Parking Lot | 3E-06 | 4E-07 | 0.03 | 0.01 |
| Substation #7 | 2E-05 | 6E-07 | 0.3 | 0.02 |
| Transformer Shop | 2E-03 | 3E-05 | 124 | 8 |
| Vehicle Refueling Area | 1E-06 | 1E-07 | 0.03 | 0.01 |
| **Future Indoor Industrial Worker (Adult)** | | | | |
| Southern Boundary | 2E-5 | [b] | 2 | [b] |
| Northern Boundary | 4E-6 | | 0.005 | |
| Downgradient Perimeter | 1E-6 | | 0.3 | |
| MW05A | 8E-7 | | 0.1 | |
| **Future Recreational Visitor (Older child/teen)** | | | | |
| Hypothetical Future Park Land/Green Space | 7E-08 | 7E-09 | 0.04 | 0.009 |

Notes:
Blue highlighting indicates that cancer risk exceeds $10^{-6}$ but is less than or equal to $10^{-4}$.
Yellow highlighting indicates that cancer risk exceeds $10^{-4}$ or the target endpoint HI exceeds 1.
See the BHHRA in **Appendix AA** for definitions of Adult, Older Child, and Teen.
[a] Highest target endpoint HI.
[b] CTE scenario was not included for the screening level vapor intrusion evaluation.

As shown in the table above, the majority of total potential carcinogenic risk and noncarcinogenic hazards for landside receptor scenarios are within or below the USEPA target cancer risk range of $10^{-6}$ to $10^{-4}$ and below a noncarcinogenic target endpoint HI of 1. The following summarizes the risk characterization for each receptor.

- Current/Future Construction Workers: Potential cancer risks under the RME scenario are within or below USEPA's target risk range of $10^{-6}$ to $10^{-4}$. Under the RME scenario, the noncarcinogenic HI exceeds 1 in the warehouse and laydown area and the transformer shop. Under the CTE scenario, potential cancer risks are less than $10^{-6}$ and noncancer HI values are below 1 in all areas. COPCs with a cancer risk greater than $10^{-6}$ or a noncancer HI above 1 were identified as chemicals of concern (COCs) and include:

  - Vanadium in the warehouse and laydown area exposure unit surface and subsurface soil, likely associated with Target Area 1 (Former Sludge Dewatering Area) and the larger Former Coal Pile Area footprint that surrounds it.
  - PCBs in the transformer shop exposure unit surface and subsurface soil (Target Area 12 or Building #57)

- Future Outdoor Industrial Worker: Potential cancer risks under the RME scenario are within USEPA's target risk range of $10^{-6}$ to $10^{-4}$ and noncancer hazards are below an HI of 1 except for the transformer shop. Under the CTE scenario, potential cancer risks are within or below USEPA's target risk range of $10^{-6}$ to $10^{-4}$ and noncancer HI values are below 1. COCs with a cancer risk greater than $10^{-6}$ or a noncancer HI above 1 include:

  - 2,3,7,8-TCDD-TEQ in surface soil in the salvage yard and storage area
  - PCBs in surface soil in the warehouse and laydown area, salvage and storage area, substation #7, and the transformer shop exposure unit (Target Area 12 or Building #57)

- Future Indoor Industrial Worker: Potential cancer risks are within USEPA's target risk range of $10^{-6}$ to $10^{-4}$. The noncancer HI exceeds 1 along the southern property boundary. COCs with a cancer risk greater than $10^{-6}$ or a noncancer HI above 1 include:

  - Chloroform in groundwater assuming a building is constructed along the northern property boundary
  - Tetrachloroethylene, trichloroethylene, and vinyl chloride in groundwater, assuming a building is constructed along the southern property boundary.

- Future Recreational Visitor: Potential cancer risks are below $10^{-6}$ and noncarcinogenic hazards are below an HI of 1 under both RME and CTE scenarios.

The table below presents the identified COCs with potential cancer risks greater than $10^{-6}$ or a target endpoint HI of 1 for the Landside Investigation Area; the noncancer hazard value representing the highest target endpoint HI is presented.

| Potential COC | Cancer Risk/ Noncancer HI | Landside Investigation Area | | | | |
|---|---|---|---|---|---|---|
| | | Warehouse and Laydown Area | Salvage Yard and Storage Area | Stores and Fleet Maintenance Area | Substation #7 | Transformer Shop |
| 2,3,7,8-TCDD-TEQ | Risk | -- | 4E-06[a] | | -- | -- |
| Arsenic | Risk | 1E-05 | 4E-06[a] | 2E-06[a] | 1E-05[a] | |
| Vanadium | HI | 3[b] | -- | | -- | -- |
| Total PCBs | Risk | 5E-06[a] | 2E-06[a] | | 4E-6[a] | 2E-03[a] |
| | HI | -- | -- | | -- | 124[a]<br>1.6[b] |

Notes:
-- Indicates that cancer risk is less than $10^{-6}$ or noncancer HI is less than 1.
Blue highlighting indicates that cancer risk exceeds $10^{-6}$ but is less than or equal to $10^{-4}$.
Yellow highlighting indicates that cancer risk exceeds $10^{-4}$ or the target endpoint HI exceeds 1.
[a] Future outdoor industrial worker surface soil (0-1 foot bgs).
[b] Current/future construction worker soil (0-16 feet bgs).

While potential cancer risks associated with arsenic exceed $10^{-6}$, arsenic concentrations in soil are consistent with background in several areas of the Site, as discussed in **Appendix W**. Therefore, arsenic is not identified as a potential Landside soil COC.

Based on the conservative screening level evaluation of the vapor intrusion pathway, the following COCs are identified for the potential future scenario in which a building is constructed along the southern or northern property boundary. The hazard value representing the highest target endpoint HI is presented.

| COPC | Cancer Risk/ Noncancer HI | Potential COCs for the Future Vapor Intrusion Pathway[a] | |
|---|---|---|---|
| | | Southern Boundary (a) | Northern Boundary (DP-60) |
| Chloroform | Risk | -- | 4E-06 |
| Tetrachloroethylene | Risk | 7E-06 | -- |
| | HI | 2 | -- |
| Trichloroethylene | Risk | 6E-06 | -- |
| | HI | 2 | -- |
| Vinyl Chloride | Risk | 2E-06 | -- |

Notes:
-- Indicates that cancer risk is less than $10^{-6}$ or noncancer HI is less than 1.
Blue highlighting indicates that cancer risk exceeds $10^{-6}$ but is less than or equal to $10^{-4}$.
Yellow highlighting indicates that cancer risk exceeds $10^{-4}$ or the target endpoint HI exceeds 1.
[a] Future outdoor industrial worker.

Migration of chemicals in Site groundwater to the Anacostia River was also evaluated. In-stream concentrations of chemicals detected in groundwater at the downgradient edge of the property were modeled using conservative dilution attenuation factors. As discussed in Section 5, contaminants detected in on-Site wells further from the River are not expected to contribute significantly to the potential migration to surface water pathway. No modeled in-stream concentrations exceeded DOEE and federal surface water screening levels, which indicates that Site groundwater is not adversely impacting the Anacostia River.

### 6.1.3 Waterside Scenarios Risk Characterization

Because of the differences in activity patterns and sensitivity to exposures, three age groups were evaluated for Waterside recreational receptors:[4]

- Young child age 1 to 6 years (from 1 up to the 7th birthday, 1 to <7),
- Older child/teen age 7 to 18 years (from 7 up to the 19th birthday, 7 to <19), and
- Adults (>18 years of age).

For carcinogenic risk characterization, which assumes that effects are additive over a lifetime, potential cancer risks for the young child and adult age groups were calculated separately, and then summed to estimate the total potential lifetime excess cancer risk for the receptor, per standard USEPA practice. The older child/teen potential cancer risks were calculated separately. This section presents the results for the sum of the adult and child cancer risk because it is higher than the adult or child alone, and is also higher than the older child/teen. For noncarcinogenic risk characterization, effects were evaluated over the period of exposure. Therefore, noncancer hazards were calculated and presented separately for the young child, older child, and adult age groups. Because the young child is most sensitive to noncarcinogenic effects, the noncancer hazard is highest for this age group and is presented in this section. Section 6 of the BHHRA (Appendix AA) presents potential cancer risk and noncancer hazard values for all three age groups.

The cumulative RME and CTE cancer risks and noncancer hazards for the waterside receptors are summarized in the following table. Potential carcinogenic risks in the Waterside Investigation Area do not exceed $10^{-4}$. The HI exceeds 1 for the recreational fish consumption pathway. The potential cancer risks and noncancer hazards are also presented graphically in Section 7.5.

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[4] Infants under 1 year of age are assumed to not be exposed to Study Area-related media; the potential contribution from early life exposures to lifetime risk is discussed in the uncertainty analysis of the BHHRA (Appendix AA).

| Waterside Receptors – Cumulative Cancer Risks and Noncancer Hazards | | | | |
|---|---|---|---|---|
| **Exposure Area** | **Cancer Risk** | | **Noncancer HI [a]** | |
| | **RME** | **CTE** | **RME** | **CTE** |
| **Swimmer Adult/Young Child [a]** | | | | |
| Waterside Investigation Area (Direct Contact) [b] | 2E-06 | 9E-08 | 0.08 | 0.008 |
| **Wader Adult/Young Child [a]** | | | | |
| Waterside Investigation Area (Direct Contact) [b] | 4E-06 | 2E-07 | 0.2 | 0.02 |
| **Shoreline Worker** | | | | |
| Waterside Investigation Area (Direct Contact) [b] | 4E-06 | 1E-07 | 0.09 | 0.008 |
| **Recreational Angler Adult/Young Child [a,c]** | | | | |
| ***Anacostia River*** [c] (Fish Consumption and Direct Contact) | | | | |
| Upper Anacostia (Total PCBs) | 4E-05 | 2E-06 | 3 | 0.3 |
| Upper Anacostia (PCB-TEQ) | 2E-05 | 1E-06 | 0.7 | 0.06 |

Notes:
Blue highlighting indicates that cancer risk exceeds $10^{-6}$ but is less than or equal to $10^{-4}$.
Yellow highlighting indicates that cancer risk exceeds $10^{-4}$ or the target endpoint HI exceeds 1. The highest target endpoint HI is shown.
[a] Cancer risks for the swimmer, wader, and angler represent the combined adult and child, and noncancer hazards represent the child only.
[b] Includes incidental ingestion and dermal contact with fringe surface sediment and surface water.
[c] Includes incidental ingestion and dermal contact with fringe surface sediment and surface water, and consumption of a mixed fish diet. The Upper Anacostia encompasses the Waterside Investigation Area.

As indicated by the table above, potential cancer risks are within the USEPA's target risk range of $10^{-6}$ to $10^{-4}$. The noncancer HI exceeds 1 for the recreational angler. A summary of the potential cancer risks and noncancer hazards is provided below.

- Potential RME cancer risks to recreational receptors and workers posed by direct contact with fringe surface sediment and surface water in the Anacostia River adjacent to the Site are within or below USEPA's target risk range of $10^{-6}$ to $10^{-4}$. TCDD-TEQ in fringe surface sediment is the only COPC with a cancer risk greater than $10^{-6}$. CTE risks are below $10^{-6}$.
- The RME and CTE noncarcinogenic HI for recreational receptors and workers posed by direct contact with fringe surface sediment and surface water in the Anacostia River adjacent to the Site are below 1.
- Potential RME and CTE cancer risks to recreational anglers posed by consumption of fish from the Upper Anacostia River are within or below USEPA's target risk range of $10^{-6}$ to $10^{-4}$. COCs with potential cancer risks greater than $10^{-6}$ are presented below and include PCBs and dieldrin (RME only).

- The RME noncarcinogenic HI for recreational anglers posed by consumption of fish from the Upper Anacostia River exceeds 1 for PCBs. The CTE HI is below 1.

The table below presents the identified COCs with potential cancer risks greater than $10^{-6}$ or a target endpoint HI of 1 for the Upper Anacostia River and the Waterside Investigation Area; the noncancer hazard value representing the highest target endpoint HI is presented.

| Potential COC | Cancer Risk/ Noncancer HI | Fish Tissue [a] | Fringe Surface Sediment |
|---|---|---|---|
| | | Upper Anacostia | Pepco Waterside Investigation Area |
| 2,3,7,8-TCDD-TEQ | Risk | -- | 2E-06 [a]<br>3E-06 [b,c] |
| Total PCBs | Risk | 3E-05 | -- |
| | HI | 3 | -- |
| PCB-TEQ | Risk | 1E-05 | -- |
| Dieldrin | Risk | 5E-06 | -- |

Notes:
-- Indicates that cancer risk is less than $10^{-6}$ or noncancer HI is less than 1. Cancer risk is presented for the sum of the adult and the young child, and the noncancer HI is presented for the young child. The older child/teen risk and HI values are lower.
Blue highlighting indicates that cancer risk exceeds $10^{-6}$ but is less than or equal to $10^{-4}$.
Yellow highlighting indicates that cancer risk exceeds $10^{-4}$ or the target endpoint HI exceeds 1.
[a] Current/future recreational angler.
[b] Current/future shoreline worker.
[c] Current/future wader.

### 6.1.4 Background and Regional Reach Scenarios Risk Characterization

The fish consumption RME and CTE cancer risks and noncancer hazards for background and regional reaches are summarized in the following table.

| Regional and Background Reaches – Fish Consumption Cancer Risks and Noncancer Hazards | | | | |
|---|---|---|---|---|
| **Exposure Area** | **Cancer Risk[a]** | | **Noncancer HI [a]** | |
| | **RME** | **CTE** | **RME** | **CTE** |
| **Recreational Angler Adult/Young Child** | | | | |
| ***Background Reach*** [b]<br>(Fish Consumption) | | | | |
| Upstream Non-Tidal Anacostia (Total PCBs) | 7E-06 | 5E-07 | 0.6 | 0.1 |
| Upstream Non-Tidal Anacostia (PCB-TEQ) | 8E-06 | 5E-07 | 0.6 | 0.1 |
| ***Regional Reaches*** [b]<br>(Fish Consumption) | | | | |
| Lower Anacostia (Total PCBs) | 7E-05 | 3E-06 | 5 | 0.5 |

| | | | | |
|---|---|---|---|---|
| Lower Anacostia (PCB-TEQ) | 9E-05 | 4E-06 | 3 | 0.3 |
| Lower Potomac (Total PCBs) | 6E-05 | 2E-06 | 2 | 0.3 |
| Lower Potomac (PCB-TEQ) | 6E-05 | 2E-06 | 1 | 0.1 |
| Upper Potomac (Total PCBs) | 2E-04 | 5E-06 | 10 | 0.7 |
| Upper Potomac (PCB-TEQ) | 2E-04 | 7E-06 | 9 | 0.5 |

Notes:
Blue highlighting indicates that cancer risk exceeds $10^{-6}$ but is less than or equal to $10^{-4}$.
Yellow highlighting indicates that cancer risk exceeds $10^{-4}$ or the target endpoint HI exceeds 1. The highest target endpoint HI is shown.
[a] Cancer risks represent the combined adult and child, and noncancer hazards represent the child only. See Section 6 tables for age-specific risks/hazards.
[b] Includes consumption of a mixed fish diet only.

The following conclusions were reached regarding recreational fish consumption in the regional reaches, as shown in the table above:

- Lower Anacostia River: Potential cancer risks are within USEPA's target risk range of $10^{-6}$ to $10^{-4}$ and the noncarcinogenic HI exceeds 1. COCs with cancer risk greater than $10^{-6}$ or an HI greater than 1 include arsenic, PCBs, dieldrin, and heptachlor epoxide. Under the CTE scenario, potential cancer risks are within the USEPA's target risk range of $10^{-6}$ to $10^{-4}$ and the HI is below one; only PCBs exceeds $10^{-6}$ cancer risk.
- Upper Potomac River: Potential cancer risks exceed $10^{-4}$ and the noncarcinogenic HI exceeds 1. COCs with cancer risk greater than $10^{-6}$ or HI greater than 1 include arsenic, PCBs, 4,4-DDE, and dieldrin. Under the CTE scenario, potential cancer risks are within the USEPA's target risk range of $10^{-6}$ to $10^{-4}$ and the HI is below one; only PCBs exceeds $10^{-6}$ cancer risk.
- Lower Potomac River: Potential cancer risks are within USEPA's target risk range of $10^{-6}$ to $10^{-4}$ and the noncarcinogenic HI exceeds 1. COCs with cancer risk greater than $10^{-6}$ or an HI greater than 1 include arsenic, PCBs, and dieldrin. Under the CTE scenario, potential cancer risks are within the USEPA's target risk range of $10^{-6}$ to $10^{-4}$ and the HI is below one. No COPCs exceed $10^{-6}$ under the CTE scenario.
- Upstream Non-Tidal Anacostia: Potential cancer risks are within USEPA's target risk range of $10^{-6}$ to $10^{-4}$ and the noncarcinogenic HI is below one. PCBs are the only COC with cancer risk greater than $10^{-6}$. Under the CTE scenario, potential cancer risks less than of $10^{-6}$ and the HI is below one.

Potential cancer risks and noncancer hazards were highest in the Upper Potomac River and lowest in the Upstream Non-Tidal Anacostia River. Under the high-end consuming angler scenario evaluated in the BHHRA uncertainty analysis, potential carcinogenic risks exceed $10^{-4}$ in all but the Upstream Non-Tidal Anacostia River, and the HI exceeds 1 in all regional reaches. As shown below, all of the chemicals identified as potential COCs in the Upper Anacostia area for recreational fish consumption are also identified in other regional reaches, and in many cases, at higher risk and hazard levels.

| Chemical | Cancer Risk/ Noncancer HI | Current/Future Recreational Angler Fish Consumption RME Scenario | | | |
|---|---|---|---|---|---|
| | | Regional Reaches | | | Background Reach |
| | | Lower Anacostia | Lower Potomac | Upper Potomac | Upstream Non-Tidal Anacostia |
| Arsenic | Risk | 2E-06 | 3E-05 | 3E-06 | -- |
| Total PCBs | Risk | 5E-05 | 2E-05 | 1E-04 | 3E-06 |
| | HI | 5 | 2 | 14 | -- |
| PCB-TEQ | Risk | 7E-05 | 3E-05 | 2E-04 | 4E-06 |
| | HI | 3 | -- | 9 | -- |
| 4,4-DDE | Risk | -- | -- | 4E-06 | |
| Dieldrin | Risk | 1E-05 | 5E-06 | 2E-05 | |
| Heptachlor epoxide | Risk | 2E-06 | -- | -- | |

Notes:
-- Indicates that cancer risk is less than or equal to $10^{-6}$ or noncancer HI is less than or equal to 1. Cancer risk is presented for the sum of the adult and the young child, and the HI is presented for the young child. The older child/teen risk and HI values are lower.
Blue highlighting indicates that cumulative cancer risk exceeds $10^{-6}$ but is less than or equal to $10^{-4}$.
Yellow Highlighting indicates that cumulative cancer risk exceeds $10^{-4}$ or the target endpoint HI exceeds 1.
[a] Current/future recreational angler.

### 6.1.5 Potential COCs

COPCs with a potential cancer risk above 1 x $10^{-6}$ or a noncancer hazard greater than 1 have been identified as COCs as summarized below.

| Potential COC | Landside | | | Waterside | |
|---|---|---|---|---|---|
| | Surface Soil Direct Contact | Subsurface Soil Direct Contact | Groundwater Direct Contact | Fish Tissue Consumption | Sediment Direct Contact |
| TCDD-TEQ | **COC (a)** | Risk<$10^{-6}$ HI <1 | (i) | NA | **COC (g)** |
| Total PCBs | **COC (a,b,j)** | **COC (c)** | (i) | **COC (f)** | Risk<$10^{-6}$ HI <1 |
| PCB-TEQ | (h) | <SL | (i) | **COC (f)** | (h) |
| Dieldrin | <SL | <SL | (i) | **COC (f)** | <SL |
| Vanadium | HI<1 | **COC (b)** | (i) | <SL | HI<1 |
| Chloroform | ND | ND | **COC (d)** | NA | <SL |
| Tetrachloroethylene | <SL | <SL | **COC (e)** | NA | <SL |
| Trichloroethylene | ND | ND | **COC (e)** | NA | <SL |
| Vinyl Chloride | ND | ND | **COC (e)** | NA | <SL |

**Notes:**
< SL - maximum detected concentration below applicable screening level.
COC - Constituent of Concern; cancer risk is greater than $10^{-6}$ and/or noncancer hazard index is greater than 1.
NA - Not Analyzed.
ND - Not Detected.
(a) - Salvage Yard and Storage Area.
(b) - Warehouse and Laydown Area.
(c) - Transformer Shop.
(d) - Northern property boundary.
(e) - Southern property boundary.
(f) - Upper Anacostia River.
(g) - Waterside Investigation Area.
(h) - PCB-TEQ is evaluated only for fish tissue.
(i) - The potential exposure pathway for groundwater is vapor intrusion. Non-volatile constituents were therefore not evaluated.
(j) - Substation #7.

The COCs listed above for fish tissue are based on measured fish tissue concentrations; no modeling from sediment to fish tissue was conducted for the BHHRA. The presence of bioaccumulative and biomagnifying COPCs in surficial sediment, surficial sediment pore water, and surface water within the Waterside Investigation Area indicates that there is a potential linkage between contaminants in these media and fish tissue. However, this linkage is uncertain due to the lack of information demonstrating sediment to fish tissue relationships in the River generally, and the small role that sediment and surface water in the Waterside Investigation Area likely play in COPC budgets and fish home ranges in the Anacostia River. Further, the pore water data collected as part of this RI indicates that PCB concentrations in pore water from the Cove are below effects levels, indicating low potential for PCB related impacts.

Potential fish consumption cancer risks and noncancer hazards were also calculated for the background and other regional reaches to provide important context for the Upper Anacostia area, as presented in Section 6.1.4 above. Potential cancer risks and noncancer hazards were highest in the Upper Potomac River and lowest in the Upstream Non-Tidal Anacostia River. Potential cancer risks and noncancer hazards for the Upper Anacostia fall within the range of potential cancer risks and noncancer hazards in the regional reaches (i.e., Potomac River, Upstream Non-Tidal Anacostia, and Lower Anacostia). These results are indicative of a regional footprint of contamination that is reflected in the fish tissue body burdens.

## 6.2 Baseline Ecological Risk Assessment Summary

A preliminary BERA was submitted to DOEE in April 2015 and finalized in response to DOEE comments in February 2016. The Preliminary BERA reached the following conclusions:

- There is low potential for risk to the benthic macroinvertebrate community from exposure to COPCs in surficial sediments adjacent to the Site, and the potential for risks are limited to sediments within the Cove.
- Many of the risks to the benthic macroinvertebrate community in the Waterside Investigation Area are similar to risks posed by surficial sediments at the Site-specific background sampling locations where the COPC concentrations are similar.
- A screening level analysis of fish tissue data collected by the United States Fish and Wildlife Service (USFWS) and the Maryland Department of the Environment (MDE) at sampling locations within the reach of the Anacostia River extending upstream and downstream of the Waterside Investigation Area showed no potential for ecological risks to the fish community based on COPC concentrations.
- There is no potential for ecological risks to the wildlife community from exposure to COPCs in the Waterside Investigation Area.

Following the submittal of the Preliminary BERA, additional field investigations were conducted to address remaining data gaps and uncertainties. Additional data collected in support of the BERA included surficial sediment chemistry, pore water chemistry, macroinvertebrate community, and toxicity testing. Sampling was conducted in the Waterside Investigation Area and at five upstream background locations. The BERA evaluated these newly collected data and incorporates these results with the results of the Preliminary BERA. In addition, the BERA includes whole body fish (and invertebrate) tissue samples collected by DOEE in support of the ARSP (Tetra Tech, 2018) instead of the USFWS and MDE fish tissue dataset described above. The BERA was performed in accordance with the DOEE approved Risk Assessment Work Plan and Addendum (AECOM, 2012b, 2016d) and applicable federal guidance (USEPA, 1997b, 1998, 2001).

As detailed in the Work Plan, the Waterside Investigation Area BERA integrates a variety of lines of evidence (LOE) to assess potential ecological risks. A weight-of-evidence (WOE) approach was used to synthesize conclusions regarding overall potential risks to ecological receptors by considering the results of all components of the assessment methodology (i.e., the approach was designed to integrate the results of physical, biological, toxicological, and field measurement endpoints to draw risk-based conclusions). The WOE components were designed to provide relative measures of potential risks for different ecological receptors and exposure pathways.

As noted above, the BERA data set was augmented with composite samples of fish and invertebrate tissue collected in the Anacostia River under separate DOEE programs and sediment data collected by DOEE for the ARSP. Because these sampling efforts were not confined to the Waterside Investigation Area, it is uncertain if the sampling data reflect exposure to sediment in the Waterside Investigation Area, particularly for fish with limited homes ranges. In addition, although it is assumed that fish may accumulate constituents through direct contact with sediment or dietary uptake of the sediment (small forage fish with limited home ranges in particular), the significance of sediment as a source relative to other sources (e.g., surface water, prey tissue) is uncertain.

### 6.2.1 BERA Approach

The BERA was conducted to evaluate whether or not populations of ecological receptors (e.g., benthic macroinvertebrates, warmwater fish, birds, and mammals) are potentially at risk due to exposure to Study Area-related constituents within the Waterside Investigation Area surficial sediments. The benthic evaluation focused on 15 Waterside Investigation Area and five upstream background surficial sediment samples collected in 2017 by Pepco. Evaluation of risks to fish consisted of an analysis of critical body residues (CBR) in fish tissue. The wildlife analysis employed food web modeling to calculate Hazard Quotients (HQs), which evaluated ingested doses relative to toxicity reference values (TRVs).

Surficial sediment COPCs were initially identified by comparing maximum detected constituent concentrations to low-effect ecological screening values that are protective of ecological receptors (e.g., benthic and aquatic invertebrates and fish). As a result, 13 metals, 13 pesticides, total PCBs, six SVOCs, total PAHs, one VOC and cyanide were identified as COPCs for evaluation in the BERA.

Benthic Macroinvertebrate Community Risk Analysis
Several Site-specific chemical, biological, and toxicological measurements were used to evaluate potential risks to the benthic macroinvertebrate community in the Waterside Investigation Area.

Concentrations of COPCs in surficial sediment were evaluated relative to refined (ESVs to help identify a cohort of constituents requiring further evaluation in the BERA. COPCs were also compared to sediment BTVs to identify those COPCs that may be higher in the Study Area than in the rest of the Anacostia River. Concentrations of several constituents (e.g., total PCBs, metals, and pesticides) in surficial sediment exceeded literature derived benthic macroinvertebrate screening values in both the Waterside Investigation Area and the background area reaches of the Anacostia River evaluated in this BERA. Based on two-sample hypothesis tests, mean or median Site concentrations were greater than or equal to mean or median background concentrations for most COPCs with the exception of the following COPCs for which Site concentrations were less than background: cyanide, manganese, benzo(k)fluoranthene, chrysene, indeno(1,2,3-cd)pyrene, total HMW PAHs (Method 8270), and OCDD. The ranges of concentrations for most COPCs in Site samples are similar to the ranges detected in background samples and to background threshold values.  Several compounds (e.g., total PCBs) were present at higher concentrations in the Cove than elsewhere in the Waterside Investigation Area.

- Pore water COPCs were identified by comparing maximum detected chemical concentrations measured in pore water collected from the 15 Waterside Investigation Area sediment samples to applicable chronic surface water ESVs.  Three dissolved phase metals (barium, iron, and manganese), one total recoverable phase metal (iron), and one SVOC (pyrene) were identified as COPCs.  Iron is a common naturally occurring constituent in pore waters due to the high solubility of ferrous minerals in reducing conditions.  Evaluation of pore water measured in 15 Waterside Investigation Area samples relative to the five upstream background samples indicated similar COPC concentrations in both areas.  PCBs were not detected above screening values in any pore water samples collected from the Waterside Investigation Area.
- SEM, AVS, and TOC data were analyzed to evaluate potential bioavailability of divalent metals in surficial sediment.  This evaluation indicated that divalent metals in surficial sediment in both the Waterside Investigation Area and the upstream background samples are not bioavailable.
- PAH data were evaluated using equilibrium partitioning modeling and dissolved phase pore water data.  This evaluation indicated that, with the possible exception of two samples (SED7B, located in the channel immediately adjacent to the Cove, and SED7.5D, located in the Cove near Outfall 013), PAHs are not bioavailable at concentrations likely to pose adverse effects to benthic receptors.
- Laboratory toxicity tests were used to evaluate the potential toxicity of Study Area and upstream background area sediments to invertebrates.  A 10-day amphipod (*Hyalella azteca*) test and a 10-day midge (*Chironomus dilutus)* test were conducted; survival and growth (average weight based on the number of surviving organisms) were measured.
    - Survival: In general, amphipod and midge survival responses were similar among the five upstream background samples and the 15 Waterside Investigation Area samples.  Only one sample (SED7B, located in the channel) had reduced amphipod survival relative to two upstream background samples.  There were no differences between Waterside Investigation Area and background samples for midge survival.
    - Growth: For the amphipod test, reduced growth was observed in Waterside Investigation Area sample SED7B relative to three background samples.  For the midge test, two Waterside Investigation Area samples, SED7B and SED7.5E (collected in the Cove), had reduced growth responses for both organisms relative to all background sample responses.

- o The amphipod and midge tests are based on a 10-day test duration, which limits the interpretation of potential longer-term chronic impacts. However, these sediment bioassays are one of several lines of evidence included in the BERA to evaluate potential impacts to the benthic invertebrate community. In addition, the presence of chronic impacts to the benthic community were also evaluated in the benthic community survey (described below) in which chronic exposures would be expected to result in degraded benthic communities. Longer duration amphipod tests were included in the ARSP RI, and the results of these tests for the six sampling locations in the Waterside Investigation Area indicated some impacts for growth and reproduction endpoints based on the longer duration amphipod tests (although the reproduction endpoint was not the more sensitive than the growth endpoint). However, only one ARSP location (R6-21) is located in the Cove, which limits the comparisons between ARSP and Pepco toxicity tests.

- A benthic macroinvertebrate survey was conducted at the same 15 Waterside Investigation Area and five upstream background locations where sediment analyses were performed. The community survey results indicated taxonomically poor benthic macroinvertebrate communities at Study Area and upstream background sampling locations dominated by worms (*Limnodrilus* spp.), Asiatic clams, Nematoda, and the chironomids *Tanypus neopunctipennis* and *Chironomus decorus*. Macroinvertebrate population density was significantly higher in Study Area samples compared to background samples and significantly higher numbers of pollution-tolerant taxa and deep-deposit feeders were found in background samples in comparison to Study Area samples. Most Study Area samples had bioassessment scores that met target community health goals, whereas most background samples had scores indicative of degraded community health. [5]

<u>Fish Community Risk Analysis</u>

[5] Three general groupings of benthic organisms were identified based on similarity of numbers of taxa: Waterside Investigation Area sediment samples located in the Cove, Waterside Investigation Area samples in the channel, and a third group consisting of upstream background and two Waterside Investigation Area samples in the channel. A statistical analysis of COPC concentrations measured in the fifteen Phase II 2017 samples collected in the Cove versus the channel indicated that concentrations of most chemicals are comparable in these two areas; however, boxplot comparisons illustrate higher median total PCB Aroclor and total PAH concentrations in the Cove samples (Attachment K of **Appendix BB**). Insufficient samples are available to compare concentrations of total PCB congeners in the Cove and the channel. Therefore, the use of PCB Aroclor results may underestimate EPCs as estimated by PCB congener analysis, and the use of PCB totals based on Aroclors results in some uncertainty in the sediment benchmark screening. In short-term bioassays, two out of 15 samples (SED7B in the channel and SED7.5E in the Cove) had reduced growth responses for amphipods and/or chironomids relative to most or all background samples.

Potential risks to fish from COPC exposure via ingestion of sediment and contaminated food items was evaluated through an assessment of fish tissue body burdens relative to literature-derived critical body residues. CBRs were presumed to represent threshold tissue concentrations where concentrations in excess of the CBR value could potentially result in adverse biological effects to the exposed fish (not consumers of fish). COPCs evaluated through this approach included 10 inorganic COPCs (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc), 14 pesticides compounds (4,4'-DDD, 4,4'-DDE, 4,4'-DDT, Aldrin, alpha-BHC, beta-BHC, chlordane, delta-BHC, dieldrin, endosulfan I, endrin, gamma-BHC (lindane), heptachlor, and heptachlor epoxide), total PAHs, total PCBs, and 2,3,7,8-TCDD.

- The fish tissue data set collected by the DEOE to support the ARSP (TetraTech, 2018) was used in this evaluation. Composite whole body samples of forage fish, mid- trophic level fish, and upper trophic level fish that were collected from Exposure Unit 3 (encompassing an area ranging from approximately 1.4 miles upstream of the Waterside Investigation Area just past the Kenilworth Park Landfill to approximately 1.4 miles downstream to the CSX bridge) and Kingman Lake were used to conservatively represent the fish in the Waterside Investigation Area. The habitat of Kingman Lake differs from the main stem of the River with slower moving water and shallower water depths. However, because there are no fish barriers between the main stem of the River and Kingman Lake, fish may move between these two areas. Therefore, both Exposure Unit 3 and Kingman Lake fish tissue samples are included in the fish community risk analysis.
- CBRs were identified based on no observed effect concentrations (NOECs) and lowest observed effects concentrations (LOECs) from two databases: Jarvinen and Ankley database (1999) and USACE Environmental Residue Effects Database. In addition, the CBRs identified by Berninger and Tillett (2019) were also reviewed which included several of the CBRs identified for the BERA. NOECs indicate a body residue concentration at which no adverse effects were observed and LOECs indicate a body residue concentration at which adverse effects may begin to be observed.
- Fish tissue exposure point concentrations (EPCs) were compared to the range of NOEC and LOEC CBRs.
- EPCs for all COPCs fell below the NOEC CBRs, indicating no risk to fish populations collected from Exposure Unit 3 and Kingman Lake. The maximum detected concentrations of PCBs in fish tissue are predicted to have significant growth, reproduction, and mortality impacts to less than 0.5% of fish species included in Berninger and Tillett (2019).

Wildlife Risk Analysis

To evaluate potential wildlife exposure, representative wildlife species were selected for evaluation in a food chain model that estimated exposures to wildlife species relative to their positions in the food chain. Three primarily piscivorous wildlife receptors were evaluated in the food chain model: great blue heron, belted kingfisher, and raccoon. To estimate potential dietary exposure, a total daily dose (TDD) was estimated for each species based on the following factors: concentrations of COPCs in the food items that the species would consume, estimated amounts of sediment that the receptor would incidentally ingest, the relative amount of different food items in its diet, body weight, exposure duration, species-specific area use factors, and food ingestion rates.

Potentially bioaccumulative or biomagnifying COPCs evaluated include 10 inorganic COPCs (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc), 14 pesticides compounds (4,4'-DDD, 4,4'-DDE, 4,4'-DDT, Aldrin, alpha-BHC, beta-BHC, chlordane, delta-BHC, dieldrin, endosulfan I, endrin, gamma-BHC (lindane), heptachlor, and heptachlor epoxide), total HMW and LMW PAHs, total PCBs, and TCDD TEQs for birds and mammals.

TRVs were identified for each COPC. TRVs are literature-derived values that represent the daily dose of a constituent that is considered protective of wildlife (mammals and birds) populations or individuals. Both No Observed Adverse Effects Level (NOAEL) and Lowest Observed Adverse Effects Level (LOAEL) TRVs were identified. The TDD was evaluated relative to the NOAEL and LOAEL TRVs to calculate an HQ. HQs greater than 1 indicates a potential for risk to wildlife based on dietary exposure to COPCs.

HQs (calculated as TDD divided by TRV) for nearly all COPCs for the belted kingfisher, great blue heron, and raccoon were well below or equal to 1 for the maximum exposure scenarios (i.e., considering maximum EPCs and NOAEL- and LOAEL-based TRVs).

### 6.2.2 BERA Risk Characterization

The Waterside Investigation Area BERA integrated a variety of methodologies to assess potential ecological risks. The WOE data analysis approach employed in the BERA used both qualitative and semi-quantitative protocols to evaluate and interpret the results from the measurement endpoints for the Waterside Investigation Area and the background areas considered in the BERA. Individual measurement endpoint results were evaluated to determine whether they support a finding of no significant risk for each assessment endpoint.

The matrix presented below was used to characterize and summarize the different LOEs evaluated in this BERA. This matrix includes six benthic macroinvertebrate measurement endpoints, one warmwater fish measurement endpoint, and one protection of vertebrate wildlife measurement endpoint. The potential for risks was evaluated in four discrete categories, with decision rules identified for each category: (1) High potential for ecological risk; (2) Low potential for ecological risk; (3) Indeterminate potential for ecological risk; and (4) No potential for ecological risk. Decision rules for each of these categories are presented in the BERA (**Appendix BB**).

**Weight of Evidence BERA Summary: Waterside Investigation Area**

| LOE Description | Observations | LOE Finding |
|---|---|---|
| **Benthic Macroinvertebrate Community** | | |
| Evaluation of Surface Sediment COPC Concentrations Relative to Screening Values | • Few exceedances of screening values<br>• PCBs higher in the Cove surface sediment<br>•Waterside Investigation Area generally consistent with background | Low Potential for Risk |
| Divalent Metal Bioavailability in BAZ | • SEM, AVS, and TOC evaluation indicates that metals in surface sediment are not bioavailable | No Potential for Risk |
| PAH Bioavailability in BAZ | • Modeling and empirical data indicate that PAHs in surface sediment are not bioavailable | No Potential for Risk |
| Pore Water | • Pore water concentrations similar to background<br>• COPC concentrations in pore water less than screening values | No Potential for Risk |
| Midge and Amphipod Toxicity Testing | • Growth and survival similar among Cove, channel and background area for both species<br>• Small deviations from laboratory controls for one endpoint<br>• Weak association between one endpoint and COPC concentrations (below screening value), and grain size | Indeterminate / Low Potential for Risk |
| Benthic Community | • Waterside Investigation Area data indicate benthic community similar to or better than background area | No Potential for Risk |
| **Fish** | | |
| Surface Water Screening Evaluation | • Few exceedances of water quality standards | No Potential for Risk |
| Ground Water | • No exceedances of water quality standards | No Potential for Risk |
| Critical Body Residues | • Tissue concentration within range of NOECs.<br>• Fish near Waterside Investigation Area have tissue residues consistent with the rest of the River | No Potential for Risk |
| **Wildlife Receptors Food Chain Analysis** | | |
| Raccoon | • All LOAEL HQs < 1<br>• All NOAEL HQ < or = 1<br>• Near Waterside Investigation Area fish have consistent tissue residues as rest of the River, therefore, wildlife exposure via consumption of prey fish tissue is similar to background | No Potential for Risk |
| Kingfisher | | No Potential for Risk |
| Great Blue Heron | | No Potential for Risk |

Based on the WOE methodologies employed in the BERA, the following general conclusions can be made regarding the overall potential for risk.

1. No receptors evaluated in the BERA exhibited a high potential for ecological risk. The majority of the risk assessment endpoints evaluated in the BERA fell within the lower portion of the matrices ("Indeterminate" to "No Potential for Ecological Risks").
2. For the most part, the potential for ecological risk in the Waterside Investigation Area is no greater than the potential for risk in the upstream background areas.
3. No potential for risk was identified for fish. Fish tissue concentrations of all COPCs fell well below the majority of critical body residue thresholds evaluated in this BERA. This finding is consistent with the fish tissue CBR evaluation presented in the ARSP RI (Tetra Tech, 2018). In addition, tissue residues from fish collected upstream and downstream compared to the samples from Exposure Unit 3 and Kingman Lake (selected to represent Study Area conditions) are all similar to one another, suggesting no substantive differences between fish tissue residues collected in the vicinity of the Waterside Investigation Area and the remainder of the Anacostia River.
4. No potential for risk was identified for raccoon, great blue heron, or kingfisher. HQs for these receptors were well below or equal to 1 for all of the conservative exposure scenarios evaluated in the BERA, which considered maximum EPCs and NOAEL- and LOAEL-based TRVs. These results are consistent with the wildlife risk evaluation in the ARSP RI (Tetra Tech, 2018).
5. Multiple LOEs were considered relative to the potential for benthic invertebrate risk from exposure to COPCs in surficial sediment.
    - Concentrations of several constituents (e.g., total PCBs, metals, and pesticides) in surficial sediment exceeded literature derived benthic macroinvertebrate screening values in both the Waterside Investigation Area and the upstream background area samples evaluated in this BERA.
    - Several compounds (e.g., total PCBs) were present at slightly higher concentrations in the Cove than elsewhere in the Waterside Investigation Area. However, the ranges of concentrations for most COPCs were similar to the ranges detected in upstream background samples and to background threshold values.
    - The results of the divalent metals (copper, lead, cadmium, zinc, and nickel) and PAHs (34 constituents) bioavailability analysis demonstrates that these constituents are not bioavailable in surficial sediment and therefore are not stressors of concern, with the possible exception of PAHs at one sampling station (SED7B).

- Evaluation of surficial sediment pore water indicates, with only a few exceptions (iron, manganese, and barium) that constituents are not present in pore water at concentrations that pose an ecological concern, and further that concentrations of pore water constituents in the Waterside Investigation Area and the background area are similar to one-another. PCBs were not present in pore water at concentrations indicative of ecological risk.
- The benthic community survey results, which provide a Site-specific field based metric of community health, generally demonstrated no impacts associated with exposure to COPCs in the Waterside Investigation Area. In fact, the majority of benthic samples collected from the Waterside Investigation Area was more diverse and had higher bioassessment scores than those samples collected from the upstream background locations.
- The toxicity testing results included lethal (survival) and sub-lethal (growth) measurements. In general, amphipod and midge survival responses were similar among the five upstream background samples and the 15 Waterside Investigation Area samples. Only one sample (SED7B, located in the channel) had reduced amphipod survival relative to two upstream background samples. There were no differences between Waterside Investigation Area and background samples for midge survival. For the amphipod test, reduced growth was observed in Site sample SED7B relative to three background samples. For the midge test, two Site samples, SED7B and SED7.5E (collected in the Cove), had reduced growth responses for both organisms relative to all background sample responses.
- The results of the toxicity tests and co-located results for analytical, physical, and community survey results were evaluated on a sample-by-sample basis and across data sets to determine if any spatial trends were apparent among the parameters measured. For three of four toxicity endpoints (survival of both amphipod and midge, and amphipod growth), no significant trends between chemistry, physical characteristics, and toxicity were observed among Waterside Investigation Area and background locations. Midge growth was significantly and negatively correlated to percent fines, total PCB Aroclor PEC quotients, and PAH toxic units (TUs) in sediment and pore water. However, the total PCB Aroclors and PAH correlations are not toxicologically relevant because all but one sample contained PCBs at concentrations below the PEC (i.e., total PCB Aroclor PEC quotients less than 1) and PAH TUs below 1 (i.e., total PAH TU quotient less than 1). It is possible that the correlation with grain size is more meaningful than the COPCs.

### 6.2.3 BERA Uncertainty Evaluation

Several sources of uncertainties were evaluated to understand how they influenced or potentially biased the conclusions of the BERA. The uncertainties associated with the benthic community, fish community, and wildlife community risk characterizations are discussed below.

Uncertainties Associated with the Benthic Community Evaluation

There are several sources of uncertainties associated with the lines of evidence considered for the benthic community risk characterization, including the overestimation of risks due to the differences in sampling depths, the temporal and spatial variability in sediments, conservative ESVs, the lack of ESVs for certain COPCs, the bioavailability of COPCs in sediment and pore water, and uncertainties associated with sediment toxicity tests.

- Concentrations of COPCs were generally higher and more variable in the deeper samples (0 to 15.2 cm) collected in 2014 - 2016 than in the more recent, shallower samples (0 to 10 cm) collected in 2017. As such, the higher concentrations and the higher variability associated with the deeper samples may overestimate the concentrations of COPCs to which benthic organisms may be exposed.
- The WOE is based on sediment samples collected in 2017. A statistical comparison of the 2017 samples with the remainder of the Waterside Investigation Area samples indicated that COPC concentrations and percent fines are similar. Therefore, the uncertainties associated with this temporal variability are not likely to change the findings of the benthic community evaluation.
- Sediment ESVs considered in the BERA were derived from sources typically used in screening level ERAs (e.g., low-effect ESVs), which in some cases are adjusted by safety factors or based on very low TOC levels that are not representative of Site conditions, and therefore represent conservative values that may overestimate risks. They also do not generally account for possible synergistic, antagonistic, or additive effects of contaminant mixtures in environmental media, which may result in an underestimate or overestimate of potential risk. However, the evaluation of SEM, AVS, and TOC and PAHs in pore water provides estimates of bioavailability beyond the evaluation of the bulk sediment data alone.
- ESVs are not available for several constituents in sediment including beryllium, thallium, vanadium, acetophenone, caprolactam, 2,3,5-trimethylnaphthalene, and 2,6-dimethylnaphthalene. It was assumed that the evaluation of other COPCs within these chemical classes (i.e., metals and SVOCs) sufficiently captures the majority of the potential risks at the Waterside Investigation Area.

- The evaluation of AVS and SEM assumes a steady-state system and may not be extrapolated to field conditions, nor does it explicitly consider bioaccumulation or the toxicity of other inorganic constituents.
- The sediment toxicity tests are based on surrogate species that may not precisely predict the health of Site benthic communities and also may not emulate field conditions. In addition, the 10-day test may not capture longer term growth or reproduction impacts that could affect invertebrate populations. According to the ASTM guidance for the amphipod and midge toxicity tests (ASTM 2010), significant lethal or sublethal effects may be difficult to discern at moderate levels of sediment contamination during a shorter-term test (i.e., 10-day duration), but the results of short-term tests can be used to identify the need for further evaluation of sediment toxicity. In addition, the results of sediment toxicity tests should be interpreted along with other lines of evidence using a weight of evidence approach (ASTM, 2010). The sediment bioassays for midge and amphipod are one of several lines of evidence included in the BERA to evaluate potential impacts to the benthic invertebrate community, including the benthic community survey which captures long-term chronic impacts by evaluating the health of the community relative to established biological metrics (e.g., the Chesapeake Bay B-IBI).
- The ESVs used for pore water are based on chronic effects to analyze the potential for ecological risk to freshwater fish communities. Chronic toxicity values were used because it was assumed that pore water and sediment indicator species would experience continuous exposures within the aquatic exposure area. The assumption of chronic exposure may be realistic for the sediment-associated species (i.e., amphipods) and small juvenile fish, but is likely conservative for epibenthic macroinvertebrates. The ESVs are also designed to be protective of sensitive species that may not be present within the Waterside Investigation Area; therefore, this may result in an overestimate of potential toxicity for many aquatic organisms.
- The equilibrium partitioning modeling conducted for PAHs in sediment and pore water likely overpredicts the bioavailability of PAHs in sediment in comparison to pore water because the pore water analysis accounts for more Site-specific binding factors.
- Based on the ratio of total PCB congeners to total PCB Aroclors in sediment, the use of PCB Aroclor data may underestimate EPCs as estimated by PCB congener analysis, and use of PCB totals based on Aroclors results in some uncertainty in the sediment benchmark screening. Despite this uncertainty, even if the benchmark screening was based on PCB congeners rather than PCB Aroclors, the benthic invertebrate risk characterization would likely remain unchanged. Further, the PCB pore water analysis focused on bioavailable congeners and found that Site PCB pore water concentrations were universally below surface water screening levels for protection of aquatic life,

which is consistent with the findings of Ghosh et al. (2019) at Anacostia River sampling locations (i.e., PCB congener concentrations in pore water were below surface water screening levels).

Uncertainties Associated with the Fish Community Evaluation

There are several sources of uncertainties associated with the BERA fish community evaluation, including the relevance and representativeness of the fish tissue samples collected by DOEE for the ARSP to the Waterside Investigation Area and the determination of fish tissue CBRs.

- No fish tissue samples were collected in the Waterside Investigation Area, but were collected upstream and downstream of the Waterside Investigation Area and in Kingman Lake. The fish tissue samples may not be representative of Site conditions because they were collected outside of the Waterside Investigation Area and were not collected to evaluate Waterside Investigation Area attribution.
- The habitat of Kingman Lake differs from the main stem of the River with slower moving water and shallower water depths. Because there are no fish barriers between the main stem of the River and Kingman Lake, fish may move between these two areas and the Waterside Investigation Area. However, the frequency of fish movements between the main stem of the River and Kingman Lake are unknown for all trophic level fish and may be minimal for small forage fish.
- There is uncertainty about the relationship between sediment concentrations and fish tissue concentrations. While it is assumed that fish may accumulate constituents through direct contact with sediment or dietary uptake of the sediment, the significance of sediment as a source relative to other sources (e.g., surface water, prey tissue) is unknown.
- Fish tissue CBRs (i.e., tissue residues representing a toxicity threshold) may not be representative of Site conditions or fish species present in the Waterside Investigation Area. In addition, the lack of lipid data prevents normalization, which can help reduce uncertainties in the tissue concentrations and CBRs.

Uncertainties Associated with the Wildlife Community Evaluation

There are several sources of uncertainty in the evaluation of wildlife risks that may over- or under-estimate risks.

- The assumption that all three wildlife receptors would acquire 100% of their food from the Waterside Investigation Area overestimates exposure and risks. In addition, all receptors were assumed to consume mostly fish, which may not be representative of their true diet.

- Site-specific information was not available for these receptors (e.g., body weights, dietary composition), so assumptions were made in the model that an average body weight was protective of the average receptor, but may not be protective of sensitive receptors.
- Sediment data set represents surface sediments collected throughout the Waterside Investigation Area. The heron and raccoon forage from the shoreline, so they are unlikely to be exposed to sediment in deeper water. However, sediment ingestion for the three representative species contributes less than 5% of the total daily dose, so an increase in the sediment concentration is unlikely to change the evaluation outcome.
- The fish and invertebrate tissue samples were not collected for the purposes of the BERA, and in addition, no fish tissue samples and only four invertebrate tissue samples were collected in the Waterside Investigation Area. It was assumed that the forage and mid-level trophic fish included as prey items were of appropriate size for consumption by the belted kingfisher and great blue heron; however, fish length data were not available to confirm this assumption. As a result, the representativeness of the COPC concentrations detected in the fish and invertebrate tissue samples to the Waterside Investigation Area is uncertain.
- The wildlife toxicity reference values considered were based on NOAELs, which represent a level where no effect has been observed and therefore are very conservative estimates of the exposure level that could potentially result in adverse effects to wildlife receptors.

### 6.2.4 BERA Conclusions

The results of this BERA indicate that: (1) there are elevated levels of several constituents present in Anacostia River surficial sediment in the Waterside Investigation Area and the upstream background locations; (2) concentrations of several constituents (e.g., PCBs) are elevated in the Waterside Investigation Area, particularly in the Cove; however, the majority of constituents are present at concentrations consistent with upstream background conditions; (3) there is no potential for risk to fish, birds, or mammals from exposure to COPCs in the Waterside Investigation Area; and (4) the potential for ecological risk to benthic invertebrates is low to indeterminate.

For the most part, the BERA analysis indicates a lack of constituent bioavailability in surficial sediments. The WOE benthic receptor results also suggest that the potential risks to benthic invertebrates in the Waterside Investigation Area are largely indistinguishable from those posed by the other segments of the tidal Anacostia River. In several of the comparisons considered in the WOE evaluation (e.g. macroinvertebrate community study), the potential for ecological risks in the upstream background area is actually slightly higher than the potential for ecological risks in the Waterside Investigation Area.

# 7 Summary and Conclusions

The purpose of the Pepco Benning Road Remedial Investigation/Feasibility Study (RI/FS) is to: (a) characterize environmental conditions within the Study Area, (b) investigate whether and to what extent past or current conditions at the Site have caused or contributed to contamination of the River, (c) assess current and potential risk to human health and the environment posed by conditions within the Study Area, and (d) develop and evaluate potential remedial actions, as may be warranted. This RI Report addresses the first three objectives. The FS Report will address the fourth objective. The RI field program consisted of two phases of investigation: Phase I field activities were conducted between January 25, 2013 and December 31, 2014, and Phase II field activities were conducted between December 1, 2017 and July 9, 2018. The Draft RI Report (AECOM, 2016a), which described the Phase I field investigation and its findings, was provided to the District Department of Energy and Environment (DOEE) on February 26, 2016. The Draft RI Report was made available for public comment from March 1, 2016 through April 18, 2016, and the response to public comments was released in August 2016. The Draft RI Report identified several data gaps with respect to the Phase I Site characterization, background data evaluation, baseline human health risk assessment (BHHRA), and baseline ecological risk assessment (BERA). The majority of these data gaps were addressed during the Phase II RI field program. However, a data gap remains regarding the specific source (or sources) of PCE detected in on-Site groundwater. The source(s) cannot be conclusively determined from the existing data, and further investigation will be conducted as warranted during post-RI investigation activities.

The RI/FS Study Area investigation consists of a “Landside Investigation Area” component focused on the Site itself, and a “Waterside Investigation Area” component focused on the shoreline and sediments in the segment of the Anacostia River adjacent to and immediately downstream of the Site. To help guide the Landside Investigation activities, a total of 20 Target Areas (TAs) and seven overlapping Operational Areas were identified based on historical investigations and remediation, underground storage tank (UST) closures, and former and current operations. In addition, Pepco investigated potential impacts from alleged dredge spoils placement on the Anacostia Park property adjacent to the National Park Service (NPS) Kenilworth Maintenance Yard (KMY) property. Pepco also completed a background sampling program to establish Site-specific background conditions for soil, groundwater, Anacostia River surface water, and Anacostia River sediment.

A total of 1,060 soil samples, 109 groundwater samples, 449 sediment samples, 20 surface water samples, 21 toxicity testing samples, 21 macroinvertebrate community health samples, and 21 surficial sediment interstitial pore water samples were collected during the course of the RI. An additional 207 soil samples were collected and analyzed from the area adjacent to and beneath the cooling tower concrete basins to guide the removal of impacted soils around the basins. Although these samples were collected as part of the RI, they were not included in the RI dataset, because the soils had already been excavated. All samples collected during the RI field work were analyzed as outlined in the RI/FS Work Plan and its addenda (AECOM, 2012b; AECOM, 2014a; AECOM, 2014b; AECOM, 2016e); analytes included inorganic constituents (metals), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, and dioxins/furans. Forensic samples were collected from different environmental media to facilitate contaminant fingerprinting and help determine the Site contribution to contamination in River sediments. In addition to the above-described data collected by Pepco in support of the Benning Road RI, relevant data collected by DOEE as part of the Anacostia Rive Sediment Project (ARSP) RI sampling effort were also evaluated in the BHHRA, BERA, and the background evaluation conducted as part of the RI and included in this RI report.

There were only a few deviations from the approved Work Plan in the performance of the field activities. In the majority of cases, the deviations resulted in collection of additional data above and beyond the Work Plan requirements. Analytical data were validated in accordance with the U.S. Environmental Protection Agency (USEPA) guidelines. Only 520 results out of 207,453 evaluated (0.25% of the total) were rejected and are not usable for project decisions. More than 99.5% of the laboratory results were deemed valid and usable for project decisions.

The analytical data were used to define the nature and extent of potential impacts, perform a Site-specific background analysis, BHHRA and BERA, and forensic analysis. Key findings from the Landside and Waterside Investigation Area RI activities are presented below.

## 7.1 Geology and Hydrogeology

- The subsurface beneath the Site consists of three geologic units: (1) historical fill material used to level the Site, (2) the Patapsco Formation underlying the fill, and (3) Arundel Clay underlying the Patapsco Formation. Fill material thickness averages about 5 to 8 ft. across much of the Site, and up to 20 ft. along subsurface utilities. The Patapsco Formation consists of a variegated mixture of brown and gray clays, silts, sands, and gravels. The Arundel Clay is a distinct regional confining layer, composed of very stiff, fat, mottled maroon and dark gray clay. The Arundel Clay underlies the Site at a depth of between 45 and 85 feet below ground surface (ft. bgs), and generally dips toward the west. Investigations at the Site did not penetrate through the Arundel Clay, which is reported to be as much as 100 ft. thick.

- The subsurface investigation identified a silt-clay semi-confining layer underlying much of the Site and dividing the Patapsco Formation into an upper water-bearing zone (UWZ) and a lower water-bearing zone (LWZ). The top of the silt-clay layer was encountered between 25 and 40 ft. bgs, and the layer averaged about 6 ft. in thickness.
- The top of the water table aquifer (UWZ) generally ranges from 9 to 16 ft. bgs. The piezometric surface of the LWZ aquifer at the Site generally averages 0 to 2 ft. deeper than the UWZ water table.
- Groundwater elevation measurements at the Site indicate that the direction of groundwater flow in both aquifers is generally toward the River to the west, with slight local variations. Horizontal hydraulic gradients ranged from approximately 0.0008 to 0.01 in the UWZ, and approximately 0.002 to 0.02 in the LWZ.
- Evidence of tidal influence in groundwater at the Site was apparent in both the upper and lower aquifers. The greatest influence was observed at monitoring well MW-01 in the southwest corner of the Site, where groundwater levels in both the UWZ and LWZ varied by approximately 3 ft over a tidal cycle. Groundwater levels across the rest of the Site in both the UWZ and LWZ fluctuated by only 1 to 3 inches over a tidal cycle, and exhibited less fluctuation with increasing distance from the River.
- The results of aquifer testing conducted in eight well pairs distributed evenly across the Site indicate that hydraulic conductivities in the UWZ and LWZ range from approximately $10^{-6}$ to $10^{-5}$ meters per second, which is consistent with unconsolidated deposits of silty sands or fine sands.

## 7.2 Nature and Extent of Impacts

### 7.2.1 Landside Investigation Area

Site Soils Summary

To help guide the Landside Investigation Area activities, the Phase I RI identified 18 Target Areas. The Phase II RI expanded these to a total of 20 Target Areas and seven historical Operational Areas (which in most cases overlap with the Target Areas) on the Landside portion of the Site, based on Phase I RI data, historical investigations and remediation, UST closures, and former and current operations. An iterative surficial and sub-surficial sampling approach was used to delineate analytes horizontally and vertically within the Target and Operational Areas relative to risk-based screening levels. Pepco worked closely with DOEE to delineate Constituents of Interest (COIs) in all Target Areas.

Vanadium, polycyclic aromatic hydrocarbons (PAHs), diesel range organics (DRO), and PCBs were detected in surface and subsurface soils at concentrations exceeding screening levels and background levels in a number of the Target Areas.  Dioxin concentrations exceeded screening levels in the surface and subsurface soils, but were below background levels in the subsurface soils.  VOCs, gasoline range organics (GRO) and pesticides were not detected in soils at concentrations in excess of screening levels at any of the Target Areas.  All other COIs exceeded screening levels in soils, but were consistent with the background levels.

Groundwater Summary

- The investigation did not find any non-aqueous phase liquids in groundwater.
- Several metals were detected in the UWZ and LWZ at concentrations above screening levels, but were consistent with or below background levels.
- PCBs, PAHs, and dioxins were not detected at concentrations above screening levels.  One pesticide was detected at one location at concentrations slightly above screening levels in the most recent round of groundwater sampling.
- Two organic compounds, tetrachloroethylene (PCE) and methyl tert-butyl ether (MTBE), were detected in groundwater at concentrations in excess of their screening levels.
    - PCE and its daughter products were detected above screening levels in both UWZ and LWZ in the southcentral and southwestern portions of the Site, respectively.  Although both on-Site and off-Site sources have been considered, the exact source of the PCE is remains unknown at this time.
    - MTBE concentrations above screening levels were found in the northeast portion of the Site.  It is likely that this finding is attributable to a combination of potential residual from a former petroleum cleanup at the Kenilworth Fueling Island (TA 18) and off-Site leaking USTs located hydraulically upgradient of the Pepco Site.

The following is a summary of the Landside Investigation Area impacts and potential source areas:

| Target Area | Constituents of Interest | Potential Sources of Impacts |
|---|---|---|
| TA1<br>Former Sludge Dewatering Area | Vanadium, PCBs, PAHs, and dioxins largely surficial and shallow sub-surficial.  Vanadium impacts extend outside of TA1 over a larger former Coal Pile Area footprint to 3 ft below grade | Sludge from clarifiers, sludge from cooling tower basins, River water, and sediment processed in the clarifiers prior to use in cooling tower, and former coal pile; dioxins potentially from the DC Department of Public Works (DPW) incinerator upwind of the Site |

| Target Area | Constituents of Interest | Potential Sources of Impacts |
|---|---|---|
| TA4 Salvage Yard and Former Timber Pile Storage Area | PCBs, PAHs, and total petroleum hydrocarbons (TPH), largely to 5 ft below grade, some extend to 10 to 15 ft. | Historical activities and fill material |
| TA5 Former Cooling Tower Basins (East end of Cooling Tower #16) | PCBs and TPH to 6 ft below grade | PCB-containing caulk and potential historical dielectric fluid spill |
| TA10 Red Tag Storage Area | PCBs and dioxins in surface soils and shallow subsurface | PCBs from historical on-Site activities and dioxins potentially from the DC DPW incinerator upwind of the Site |
| TA11 Building 68 | PCBs to 4 ft below grade | Historical activities in TA10 and TA 11 |
| TA12 Building #57/Transformer Shop | PCBs and PAHs to five feet below grade | Historical operations involving electrical equipment, historical rail road operations, and/or coal tar paving sealants/fill soils |
| TA17 Storm Drain System | PCBs, PAHs, and metals | Historical industrial runoff, PCBs have not been detected in the ongoing NPDES stormwater discharges |
| TA18 Kenilworth Fueling Island | MTBE in groundwater | Residual from former cleanup and potential off-Site sources |
| TA19 PCE in Groundwater | PCE and its daughter products | The specific source (or sources) of PCE detected in on-Site groundwater cannot be conclusively determined from the existing data, and further investigation will be conducted during post-RI investigation activities |
| TA20 PAHs in Soil/Former Rail Yard and Laydown Area | PAHs largely to 5 ft below grade, some locations extend to 11 ft. | Former Rail Yard operations, coal tar paving sealants, and/or fill soils |

### 7.2.2 Anacostia Park

With the exception of arsenic, all concentrations of constituents in surface soils (composite and discrete) and subsurface soil samples were below screening levels at the Anacostia Park property located between the Site and the River and immediately south of the NPS KMY site. Arsenic concentrations in soils were consistent with background levels. Detected concentrations of all constituents in the Anacostia Park groundwater samples were generally below screening levels, with the exception of several metals and TPH-DRO. Metal concentrations, however, were close to or below background levels. These data indicate that (1) there are no adverse impacts from the alleged historical staging of dredge spoils on Anacostia Park, and (2) groundwater transport from the Site has not impacted the subsurface conditions at Anacostia Park.

### 7.2.3 Waterside Investigation Area

The Waterside Investigation Area focused on sediment and surface water in the portion of the River adjacent to the Site, as well as upstream sediment background locations in the Anacostia River. The major Waterside findings are as follows:

- The levels of constituents in Study Area surface water were below ecological screening levels, with the exception of dissolved barium, two PAH compounds, and 4,4'-DDT. However, Study Area concentrations of these COIs are consistent with Site-specific background conditions.
- Concentrations of several metals, pesticides, PAHs, and PCBs exceeded ecological screening levels in sediment in the Waterside Investigation Area. The elevated levels of these constituents are generally located in an approximately 4.2-acre Cove of the River (the Cove) into which Outfall 013 from the Site and three other outfalls not associated with the Site (referred to as non-Pepco outfalls) discharge.
- An evaluation of background conditions in a reach of the River approximately 0.5 miles upstream of the Site indicates that the levels of most COPCs in surface sediment in the Study Area were consistent with Site- specific background conditions. Waterside Investigation Area surficial sediment PCB concentrations exceed background concentrations in some locations. The highest concentrations of PCBs appear to be restricted to the Cove.

In most of the sediment cores, concentrations of key COIs decline to below screening levels and/or sediment background threshold values (BTVs) at depth indicating the characterization of the vertical extent of COIs in Waterside Investigation Area sediments is largely sufficient and complete. Additional interpretation of the core results will be provided in the Forensics Analysis and Source Evaluation Report.

- Multiple lines of evidence (including cesium cores, contaminant profiles, and grain size characterization) indicate that much of the Waterside Investigation Area, including the Cove, is net depositional.
- The total PCB maximum concentrations in cores occurred at approximately 2 ft bgs, corresponding to the 1963 $^{137}Cs$ peak. PCB concentrations in the surficial sediments are lower than those at depth.
- Surficial sediment pore water concentrations were generally similar in the Waterside Investigation Area and Site-specific background locations.

## 7.3 Evaluation of Contaminant Fate and Transport

There are limited pathways by which Site-related constituents may migrate from the Landside Investigation Area. Most of the Site surface is paved or otherwise stabilized; therefore, erosion and migration of eroded soils is not identified as a significant transport mechanism under existing Site conditions. Storm drains were sampled and groundwater discharges were evaluated to determine if these could serve as historical/current pathways for discharges to the River. Site data were compared to BTVs to help provide fate and transport context.

The findings are as follows:

- Concentrations of several metals, PAHs, TPH, PCBs, and low levels of pesticides were detected in storm drain residue and stormwater samples. Concentrations of COPCs in storm drain samples were mostly below BTVs and are consistent with typical industrial runoff.
- Storm drain residues sampled during the RI reflect accumulated sediments over a period of several decades. The presence of PCBs in storm drain residues in some locations suggests historical discharges from Outfall 013 may have contributed to PCB impacts in the Cove. Accumulated sediments were removed from the storm drains subsequent to the RI sampling and therefore do not represent a current potential source of contamination to the River. The Site currently employs various best management practices (BMPs) to control sediments and contaminants in stormwater discharged from the Site. Although sub-ppb levels of PCBs were detected in one stormwater sample collected from an upstream location during the RI, PCBs have not been detected in the stormwater discharges from Outfall 013 in the ongoing NPDES monitoring program.
- Groundwater beneath the Site discharges to the Anacostia River. Based on the low levels of COPC concentrations observed and the limited volume of COPCs discharged to the River, neither current nor historical groundwater discharges from the Site to sediment pore water or surface water are a significant contributor to the impacts in the Anacostia River.

Available information indicates numerous background and regional sources of COIs to the Anacostia River and/or the Site. Historical and existing off-Site sources of COPCs identified in the RI include:

- Regional transportation and fossil fuel burning;
- Historical open burning at Langston Golf Course and Kenilworth Landfill;
- Historic landfilling at Langston Golf Course and Kenilworth Landfill;
- Former trash incinerator adjacent to the Site;

- KMY and Trash Transfer Station outfalls to the Cove;
- Upstream non-point sources in the Anacostia Watershed from the northeast and northwest branches of the Anacostia and various tributaries;
- Historical off-Site discharges to the Cove via Piney Run prior to storm drain construction in the early 1950s;
- Off-Site sources of PCE including dry cleaners; and
- Urban runoff (through both storm drain outfalls and non-point sources)/combined sewer overflows.

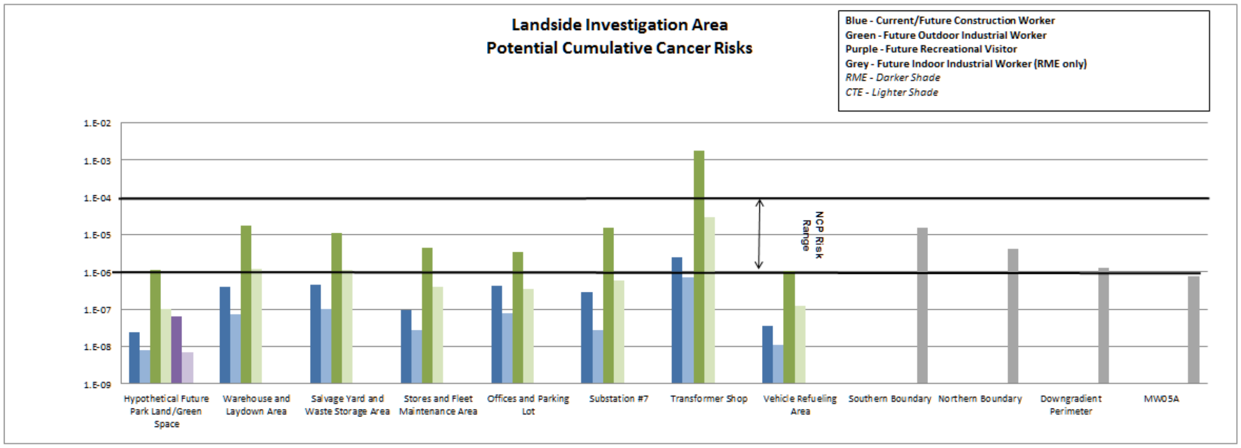
Several radiochemistry cores collected by DOEE as part of the ARSP RI indicate that there are high rates of sedimentation in the vicinity of the Waterside Investigation Area, with well-defined $^{137}Cs$ peaks and corresponding sedimentation rates that range from 1 to 3 centimeters per year (cm/yr). In addition, a radiochemistry core collected by Pepco in the Cove indicates a sediment deposition rate of approximately 1 cm/yr. Further, the grain size analysis in the Cove indicates that the Cove area is largely depositional.

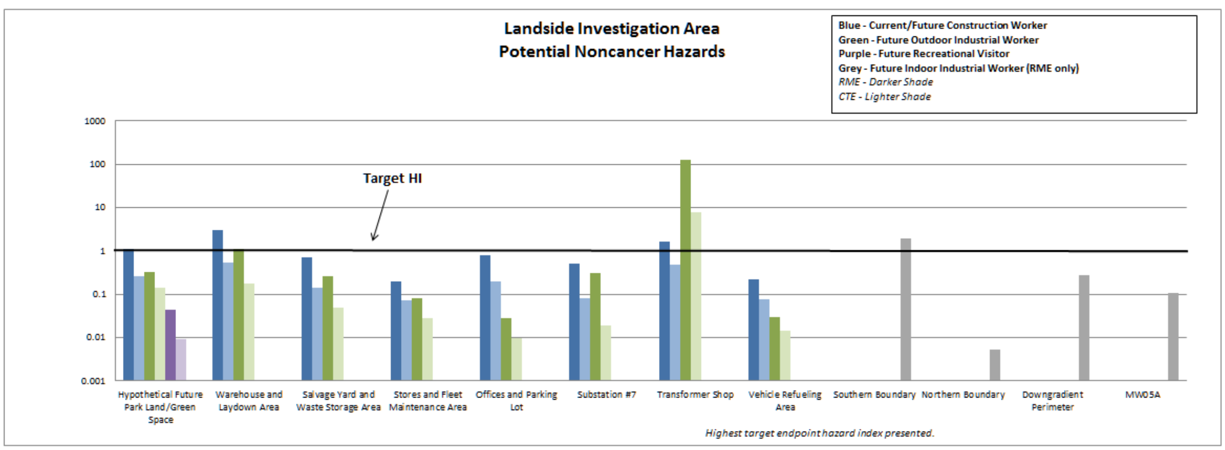
There is insufficient data to demonstrate any linkage between constituents in sediments, pore water, or surface water in the Waterside Investigation Area and fish tissue concentrations. Fish tissue samples were collected within a reach of the River substantially larger than the Waterside Instigation Area and the home range of many of the fish species sampled is even larger. The absence of co-located and contemporaneous fish and sediment samples precludes any rigorous assessment of the relationship between sediment concentrations and fish tissue concentrations in this area of the River. Moreover, any contribution from sediment and surface water in the Waterside Investigation Area, in particular the Cove, is likely to be small relative to other sources affecting fish tissue concentrations in the Anacostia River.

## 7.4 Baseline Human Health Risk Assessment (BHHRA)

### 7.4.1 Landside Investigation Area

Potential exposures to on-Site surface and subsurface soils are currently incomplete due to perimeter fencing, 24-hour Site security, and the presence of pavement or gravel across the vast majority of the Site. The current lack of access to soil is expected to continue into the foreseeable future. However, the potential for future direct contact exposures to surface and subsurface soil was evaluated, including a hypothetical scenario in which the western portion of the Site next to Anacostia Avenue is re-developed into park or green space. It was also assumed that a construction worker and a hypothetical future indoor worker may be exposed via inhalation of vapors from groundwater. Based on the evaluation of potential migration of constituents from groundwater to surface water, discharge of Site groundwater is not adversely impacting the Anacostia River.  The figures below present the potential carcinogenic risks and the noncarcinogenic hazard indexes (HIs) for landside receptors, including the current/future construction worker, future outdoor industrial worker, future indoor industrial worker, and future recreational visitor.




As indicated by the figures above, the majority of total potential carcinogenic risk and noncarcinogenic hazards for landside receptor scenarios are within or below the USEPA target cancer risk range of $10^{-6}$ to $10^{-4}$ and below a noncarcinogenic target endpoint HI of 1.  The table below presents the identified COCs with potential risks greater than $10^{-6}$ or a target endpoint HI of 1 for the Landside Investigation Area; the noncancer hazard value representing the highest target endpoint HI is presented.

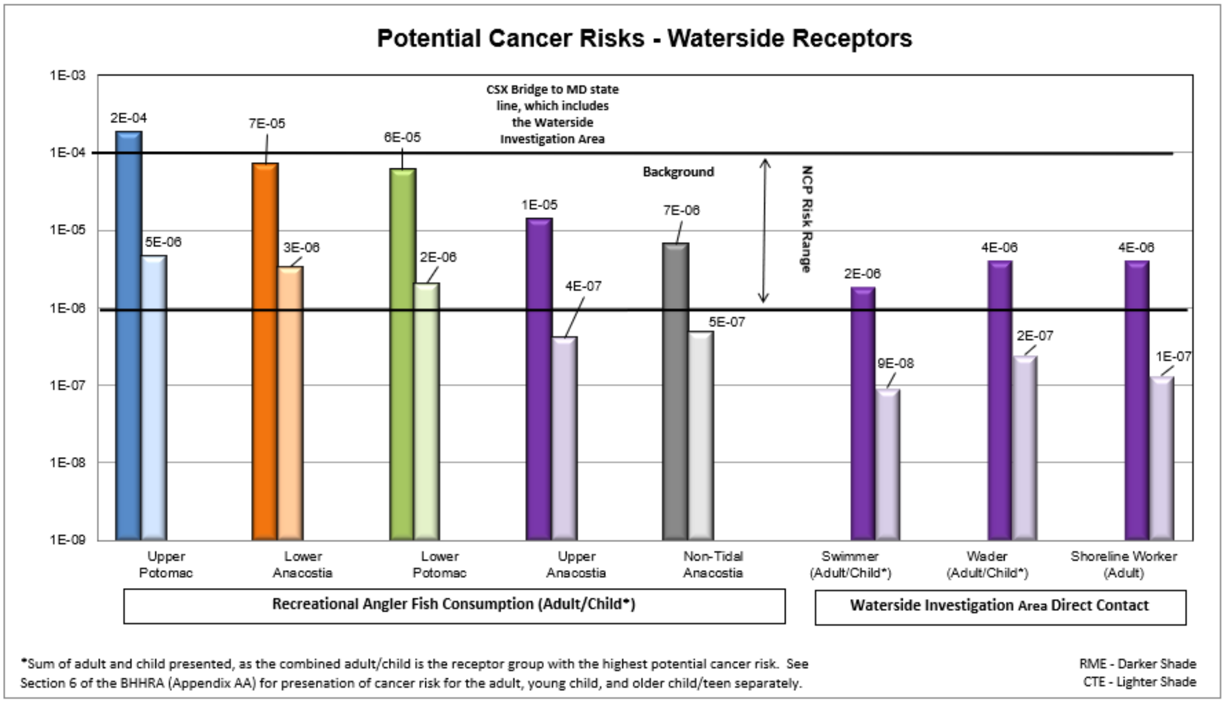
<table>
<tr><th rowspan="2">Potential COC</th><th rowspan="2">Cancer Risk/ HI</th><th colspan="4">Landside Investigation Area</th></tr>
<tr><th>Warehouse and Laydown Area</th><th>Salvage Yard and Storage Area</th><th>Substation #7</th><th>Transformer Shop</th></tr>
<tr><td>2,3,7,8-TCDD-TEQ</td><td>Risk</td><td>--</td><td>4E-06[a]</td><td>--</td><td>--</td></tr>
<tr><td>Vanadium</td><td>HI</td><td>3[b]</td><td>--</td><td>--</td><td>--</td></tr>
<tr><td rowspan="2">Total PCBs</td><td>Risk</td><td>5E-06[a]</td><td>2E-06[a]</td><td>4E-6[a]</td><td>2E-03[a]</td></tr>
<tr><td>HI</td><td>--</td><td>--</td><td>--</td><td>124[a]<br>1.6[b]</td></tr>
<tr><td colspan="6">Notes:<br>-- Indicates that cancer risk is less than $10^{-6}$ or noncancer HI is less than 1.<br>Blue highlighting indicates that cancer risk exceeds $10^{-6}$ but is less than or equal to $10^{-4}$.<br>Yellow highlighting indicates that risk exceeds $10^{-4}$ or the target endpoint HI exceeds 1.<br>[a] Future outdoor industrial worker surface soil (0-1 foot bgs).<br>[b] Current/future construction worker soil (0-16 feet bgs).</td></tr>
</table>

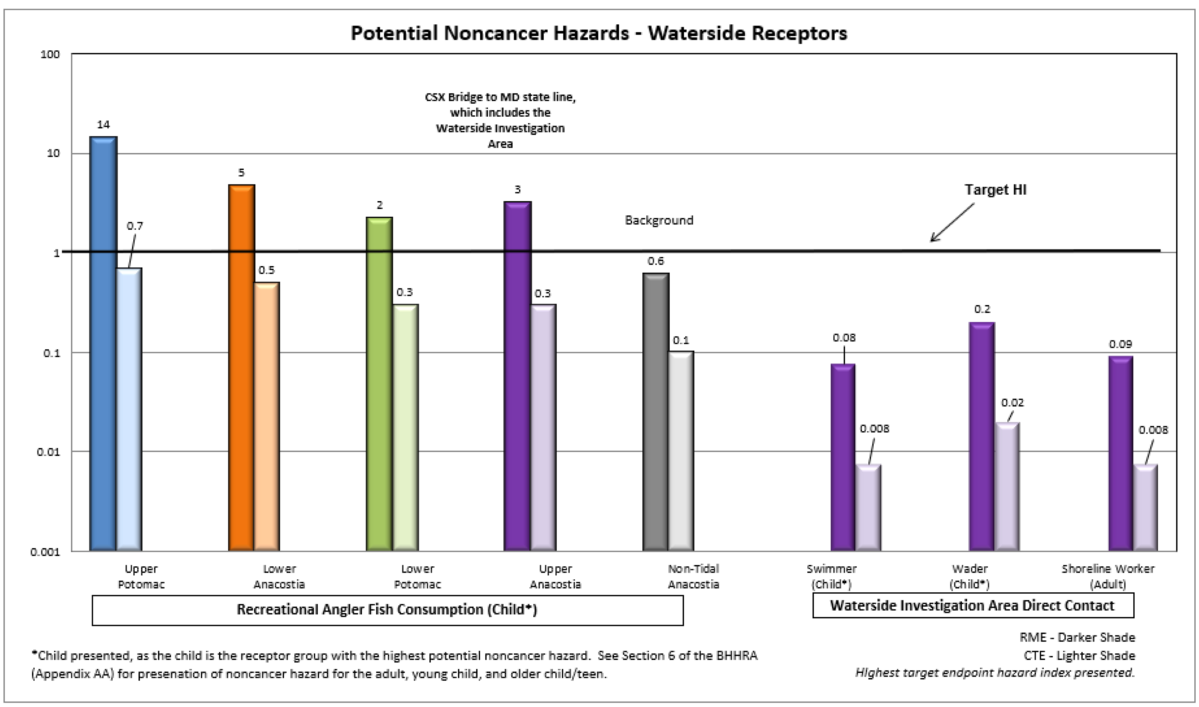
### 7.4.2 Waterside Investigation Area

The following potential receptors and exposure pathways were evaluated for the Waterside Investigation Area:

- **Current and future swimmers and waders** who may be exposed via incidental ingestion of and/or dermal contact with surface sediment and surface water.
- **Current and future shoreline workers** who may be exposed via incidental ingestion of and/or dermal contact with surface sediment and surface water.
- **Current and future anglers** who may be exposed via incidental ingestion of and dermal contact with surface sediment and surface water, and via consumption of Anacostia River fish.

The figures below present the potential carcinogenic risks and noncancer HI for waterside receptors. In addition to the Upper Anacostia which encompasses the Waterside Investigation Area, potential risks and hazards for fish consumption are also presented for several regional reaches to provide additional context for potential risks in the Waterside Investigation Area.


Potential Cancer Risks - Waterside Receptors
1E-03
1E-04
1E-05
1E-06
1E-07
1E-08
1E-09
2E-04
5E-06
7E-05
3E-06
6E-05
2E-06
1E-05
4E-07
7E-06
5E-07
2E-06
9E-08
4E-06
2E-07
4E-06
1E-07
CSX Bridge to MD state line, which includes the Waterside Investigation Area
Background
NCP Risk Range
Upper Potomac
Lower Anacostia
Lower Potomac
Upper Anacostia
Non-Tidal Anacostia
Swimmer (Adult/Child*)
Wader (Adult/Child*)
Shoreline Worker (Adult)
Recreational Angler Fish Consumption (Adult/Child*)
Waterside Investigation Area Direct Contact
*Sum of adult and child presented, as the combined adult/child is the receptor group with the highest potential cancer risk. See Section 6 of the BHHRA (Appendix AA) for presenation of cancer risk for the adult, young child, and older child/teen separately.
RME - Darker Shade
CTE - Lighter Shade


Potential Noncancer Hazards - Waterside Receptors
100
10
1
0.1
0.01
0.001
14
0.7
5
0.5
2
0.3
3
0.3
0.6
0.1
0.08
0.008
0.2
0.02
0.09
0.008
CSX Bridge to MD state line, which includes the Waterside Investigation Area
Background
Target HI
Upper Potomac
Lower Anacostia
Lower Potomac
Upper Anacostia
Non-Tidal Anacostia
Swimmer (Child*)
Wader (Child*)
Shoreline Worker (Adult)
Recreational Angler Fish Consumption (Child*)
Waterside Investigation Area Direct Contact
*Child presented, as the child is the receptor group with the highest potential noncancer hazard. See Section 6 of the BHHRA (Appendix AA) for presenation of noncancer hazard for the adult, young child, and older child/teen.
RME - Darker Shade
CTE - Lighter Shade
Highest target endpoint hazard index presented.

As indicated by the figures above, potential cancer risks are within the USEPA's target risk range of $10^{-6}$ to $10^{-4}$ with the exception of the RME scenario for the Upper Potomac River. The noncancer HI exceeds 1 in under the RME scenario in all areas except the Upper Non-Tidal Anacostia. As shown below, all of the chemicals identified as potential COCs in the Upper Anacostia area for recreational fish consumption are also identified in other regional reaches, and in many cases, at higher cancer risk and hazard levels.

| Chemical | Cancer Risk/ HI | Current/Future Recreational Angler Fish Consumption from Regional and Background Areas RME Scenario | | | |
|---|---|---|---|---|---|
| | | Regional Reaches | | | Background Reach |
| | | Lower Anacostia | Lower Potomac | Upper Potomac | Upstream Non-Tidal Anacostia |
| Arsenic | Risk | 2E-06 | 3E-05 | 3E-06 | -- |
| Total PCBs | Risk | 5E-05 | 2E-05 | 1E-04 | 3E-06 |
| | HI | 5 | 2 | 14 | -- |
| PCB-TEQ | Risk | 7E-05 | 3E-05 | 2E-04 | 4E-06 |
| | HI | 3 | -- | 9 | -- |
| 4,4-DDE | Risk | -- | -- | 4E-06 | |
| Dieldrin | Risk | 1E-05 | 5E-06 | 2E-05 | |
| Heptachlor epoxide | Risk | 2E-06 | -- | -- | |

Notes:
-- Indicates that cancer risk is less than or equal to $10^{-6}$ or noncancer HI is less than or equal to 1. Cancer risk is presented for the sum of the adult and the young child, and the noncancer HI is presented for the young child. The older child/teen risk and HI values are lower.
Blue highlighting indicates that cumulative cancer risk exceeds $10^{-6}$ but is less than or equal to $10^{-4}$.
Yellow highlighting indicates that cumulative cancer risk exceeds $10^{-4}$ or the target endpoint HI exceeds 1.
[a] Current/future recreational angler.

Overall, the BHHRA for recreational receptors show that PCBs in fish tissue is the dominant COPC and medium driving exposure risk; other COPCs including pesticides contribute negligibly to cumulative risk. Fish consumption cancer risks and noncancer hazards estimated using data collected by DOEE throughout the Anacostia and Potomac Rivers exceed $10^{-6}$ and an HI of 1; these findings suggest multiple sources of PCBs and other urban contaminants, including upstream of the extent of tidal influence of the Waterside Investigation Area.

### 7.4.3 BHHRA Conclusions

COPCs with a potential cancer risk above 1 x $10^{-6}$ or noncancer HI of 1 have been identified as summarized below.

| Potential COC | Landside | | | Waterside | |
|---|---|---|---|---|---|
| | Surface Soil Direct Contact | Subsurface Soil Direct Contact | Groundwater Vapor Intrusion | Fish Tissue Consumption | Sediment Direct Contact |
| TCDD-TEQ | **COC (a)** | Risk<$10^{-6}$ HI <1 | (i) | NA | **COC (g)** |
| Total PCBs | **COC (a,b,j)** | **COC (c)** | (i) | **COC (f)** | Risk<$10^{-6}$ HI <1 |
| PCB-TEQ | (h) | <SL | (i) | **COC (f)** | (h) |
| Dieldrin | <SL | <SL | (i) | **COC (f)** | <SL |
| Vanadium | HI<1 | **COC (b)** | (i) | <SL | HI<1 |
| Chloroform | ND | ND | **COC (d)** | NA | <SL |
| Tetrachloroethylene | <SL | <SL | **COC (e)** | NA | <SL |
| Trichloroethylene | ND | ND | **COC (e)** | NA | <SL |
| Vinyl Chloride | ND | ND | **COC (e)** | NA | <SL |

**Notes:**
< SL - maximum detected concentration below applicable screening level.
COC - Constituent of Concern; cancer risk is greater than $10^{-6}$ and/or noncancer hazard index is greater than 1.
NA - Not Analyzed.
ND - Not Detected.
(a) - Salvage Yard and Storage Area.
(b) - Warehouse and Laydown Area.
(c) - Transformer Shop.
(d) - Northern property boundary.
(e) - Southern property boundary.
(f) - Upper Anacostia River.
(g) - Waterside Investigation Area.
(h) - PCB-TEQ is evaluated only for fish tissue.
(i) - The potential exposure pathway for groundwater vapor intrusion. Non-volatile constituents were therefore not evaluated.
(j) - Substation #7.

The COCs listed above for fish tissue are based on measured fish tissue concentrations; no modeling from sediment to fish tissue was conducted for the BHHRA. The presence of bioaccumulative and biomagnifying COPCs in surficial sediment, surficial sediment pore water, and surface water within the Waterside Investigation Area indicates that there is a potential linkage between contaminants in these media and fish tissue. However, this linkage is uncertain due to the lack of information demonstrating sediment to fish tissue relationships in the River generally, and the small role that sediment and surface water in the Waterside Investigation Area likely play in COPC budgets and fish home ranges in the Anacostia River.

The results of the regional and background evaluation are indicative of a regional footprint of contamination that is reflected in the fish tissue body burdens. Because of the significant regional and background cancer risks and noncancer hazards compared to Site cancer risks and noncancer hazards, regional and background conditions need to be carefully considered in risk management decision-making for the Site.

As with all risk assessments, assumptions have been made about variables and processes that are not fully known, such as human behavior, chemical toxicity, or environmental concentrations. While the use of assumptions leads to uncertainty, it is important to note that the assumptions and approaches used in this BHHRA are conservative, such that risks are much more likely to be overestimated than underestimated.

## 7.5 Baseline Ecological Risk Assessment (BERA)

A BERA was conducted to evaluate the potential for risks to ecological receptors posed by COPCs in sediment in the Waterside Investigation Area.

Ecological exposure pathways evaluated in the BERA include:

- Direct contact with surface sediment and pore water by benthic macroinvertebrates;
- Bioaccumulation of biomagnifying COPCs by warmwater fish; and
- Ingestion of contaminated prey items (i.e., fish) and abiotic media (i.e., sediment) by selected vertebrate wildlife receptors (i.e., piscivorous birds and mammals).

### 7.5.1 Benthic Invertebrate Risk Characterization

The evaluation of the potential for risks to the benthic community due to Study Area-related COPCs considered multiple measurement endpoints, as described below.

- **Sediment Benchmark Screening**. Concentrations of several constituents (e.g., total PCBs, metals, and pesticides) in surficial sediment exceeded literature-derived benthic macroinvertebrate screening values in both the Waterside Investigation Area and the background area reaches of the Anacostia River evaluated in the BERA. PCBs concentrations in the Cove were elevated compared to elsewhere in the Waterside Investigation Area. However, the ranges of concentrations for most COPCs were similar to the ranges detected in background samples and to Site-specific BTVs.
- **Divalent Metal and PAH Bioavailability**. Evaluation of SEM, AVS, and TOC data indicates that divalent metals (cadmium , copper, lead, nickel,  and zinc) and PAHs (34 constituents) are not bioavailable in surficial sediment and therefore are not stressors of concern, with the possible exception of PAHs at one sampling station (SED7B).
- **Pore Water**. Evaluation of surficial sediment pore water using state-of-the-art technologies indicates that constituents are not present in pore water at concentrations that pose an ecological concern and that concentrations of pore water constituents in the Waterside Investigation Area and

the background area are similar to one another. PCBs were not present in pore water at concentrations indicative of ecological risk.

- **Toxicity Testing**. Testing was conducted with two species (midge and amphipod) to evaluate both lethal and sub-lethal impacts associated with sediment exposure. In general, amphipod and midge survival responses were similar among the five upstream background samples and the 15 Waterside Investigation Area samples. Only one sample (SED7B) had reduced amphipod survival relative to two upstream background samples. There were no differences between Waterside Investigation Area and background samples for midge survival. For the amphipod test, reduced growth was observed in the Cove sample SED7B relative to three background samples. For the midge test, two Cove samples, SED7B and SED7.5E, had reduced growth responses for both organisms relative to all background sample responses.
- **Benthic Community Survey**. The macroinvertebrate community survey provides a field based metric of community health. This analysis demonstrated no impacts associated with exposure to COPCs in the Waterside Investigation Area. In fact, the majority of benthic samples collected from the Waterside Investigation Area were more diverse and had higher bioassessment scores than those samples collected from the background area. [6]

The above lines of evidence were evaluated in a weight-of-evidence (WOE) framework to characterize potential risks to benthic receptors. This WOE framework considered the results of all components of the assessment methodology (i.e., the approach was designed to integrate the results of physical, biological, toxicological, and field measurement endpoints to draw risk-based conclusions). The results of this analysis indicate a low to indeterminate potential risk to benthic invertebrates, particularly in the Cove. For the most part, the BERA analysis indicates a lack of constituent bioavailability in surficial sediments. The results of the WOE for the benthic community also suggest that any incremental risks contributed by the Site are largely indistinguishable from the anthropogenic, urban background conditions that characterize the

[6] Three general groupings of benthic organisms were identified based on similarity of numbers of taxa: Waterside Investigation Area sediment samples located in the Cove, Waterside Investigation Area samples in the channel, and a third group consisting of upstream background and two Waterside Investigation Area samples in the channel. A statistical analysis of COPC concentrations measured in the fifteen Phase II 2017 samples collected in the Cove versus the channel indicated that concentrations of most chemicals are comparable in these two areas; however, boxplot comparisons illustrate higher median total PCB Aroclor and total PAH concentrations in the Cove samples (**Attachment K** of **Appendix BB**). Insufficient samples are available to compare concentrations of total PCB congeners in the Cove and the channel. Therefore, the use of PCB Aroclor results may underestimate EPCs as estimated by PCB congener analysis, and the use of PCB totals based on Aroclors results in some uncertainty in the sediment benchmark screening. In short-term bioassays, two samples (one from the channel and one from the Cove) had reduced growth responses for chironomids and/or amphipods relative to most to all background samples.

Anacostia River. In several of the comparisons considered in the WOE evaluation (e.g. macroinvertebrate community study), the potential for ecological risks in the upstream background area was actually slightly higher than the potential for ecological risks in the Waterside Investigation Area.

### 7.5.2 Fish Risk Characterization

One measurement endpoint was used to evaluate the assessment endpoint developed for the fish community: comparison of fish tissue concentrations to No Observed Effect Concentration (NOEC) and Low Observed Effect Concentration (LOEC) Critical Body Residues (CBRs). Maximum and average fish tissue EPCs fell below the maximum NOEC and LOEC CBRs for all COPCs. Because the fish tissue samples were not collected for the purpose of this BERA and no fish tissue samples were collected in the Waterside Investigation Area, the results of this evaluation are uncertain. In addition, comparisons of fish tissue samples collected upstream and downstream of the tissue samples selected to represent Waterside Investigation Area conditions indicate similar levels of all COPCs in fish tissue among Waterside Investigation Area, downstream areas, and upstream areas.

### 7.5.3 Wildlife Risk Characterization

The potential for risks to wildlife were evaluated through modeled dietary exposures, which indicated that HQs for the belted kingfisher, great blue heron, and raccoon were well below or equal to one for the most conservative exposure scenarios (i.e., considering maximum EPCs and NOAEL- and LOAEL-based TRVs). Based on these results, no risks to birds and mammals are expected through food chain exposure to COPCs in the Waterside Investigation Area.

### 7.5.4 BERA Summary

The following general conclusions can be made regarding the overall potential for risk.

- No receptors evaluated in the BERA exhibited a high potential for ecological risk. The majority of the risk assessment endpoints evaluated in the BERA fell within the lower portion of the matrices (“Indeterminate” to “No Potential for Ecological Risks”).
- For the most part, the potential for ecological risks in the Waterside Investigation Area are indistinguishable from the potential for risk in the background area.
- While there is a low to indeterminate risk to macroinvertebrates from exposure to COPCs, for the most part the data collected in support of this RI indicate that key COPCs are not bioavailable to macroinvertebrates. Further, the results of the WOE assessment for the benthic community also

suggests that any incremental risks contributed by the Site are largely indistinguishable from the anthropogenic, urban background conditions that characterize the Anacostia River as a whole.

- No potential risk was identified for fish. Fish tissue concentrations of all COPCs fell well below the majority of critical body residue (CBR) thresholds evaluated in the BERA. This finding is consistent with the fish tissue CBR evaluation presented in the ARSP RI (Tetra Tech, 2018). In addition, comparison of tissue residues from fish collected upstream and downstream of the samples selected to represent Study Area conditions are all similar to one another, suggesting no substantive differences between fish tissue residues near the Waterside Investigation Area and in the remainder of the Anacostia River.
- No potential risk was identified for wildlife. HQs for raccoon, great blue heron, and kingfisher were well below or equal to one for all of the conservative exposure scenarios evaluated in the BERA, which considered maximum EPCs and NOAEL- and LOAEL-based TRVs. These results are consistent with the wildlife risk evaluation in the ARSP RI (Tetra Tech, 2018).

The results of this BERA indicate that: (1) there are elevated levels of several constituents present in Anacostia River surficial sediment in the Waterside Investigation Area and the upstream background locations; (2) concentrations of several compounds (e.g., PCBs) are slightly higher in the Waterside Investigation Area, particularly in the Cove; however, the majority of compounds are present at concentrations consistent with upstream background conditions; (3) there is no potential for risk to fish, birds, or mammals from exposure to COPCs in the Waterside Investigation Area, and (4) the potential for ecological risk to benthic invertebrates is low to indeterminate.

## 7.6 Conclusions

A thorough characterization of the Study Area was completed through various RI activities. The majority of total potential carcinogenic risk and noncarcinogenic hazards for the landside receptor scenarios are within or below the USEPA target risk ($10^{-6}$ to $10^{-4}$) and below the noncarcinogenic target endpoint HI of 1, with the exception of Target Area #1 and the surrounding area, the Former Coal Pile Area footprint, the Former Salvage Yard (Target Area #4), Substation #7, and the transformer shop area (Target Area #12). Additionally, a data gap remains regarding the specific source (or sources) of PCE detected in on-Site groundwater, which cannot be conclusively determined from the existing data; further investigation will be conducted as warranted during post-RI investigation activities. A vapor intrusion pathway evaluation indicated no current exposure; however, vapor controls may be necessary for future buildings constructed in the vicinity of the PCE detections in groundwater. Within the Waterside Investigation Area, concentrations of several COPCs are elevated in the Cove into which Outfall 013 and three other non-Pepco outfalls discharge. The BERA identified low to indeterminate risk to the benthic macroinvertebrate community observed within the Cove, where COPC concentrations are higher than the background. The BHHRA identified PCBs in fish tissue to be the dominant COPC and medium driving the exposure risk. The contribution of other COPCs (pesticides and arsenic) to cumulative risk is negligible. Uncertainty exists regarding the relationship between concentrations of PCBs detected in fish tissue samples and PCBs detected in sediments within the Waterside Investigation Area.

### 7.7 Further Actions

The RI has identified areas where remediation may be warranted to address potential exposure risks exceeding the NCP cancer risk threshold of 1E-06 and/or the NCP non-cancer hazard index threshold of 1. Pepco will conduct a Feasibility Study to evaluate remedial alternatives for these areas, which may include both institutional controls and active remediation.

As part of the Feasibility Study process, Pepco identified the need for bench-scale Treatability Studies to support the evaluation of potential remedial alternatives to address sediments in the Waterside Investigation Area. These studies may include sediment dewatering studies, sediment treatability studies focused on analysis of sequestration agents (the use of amendments to reduce bioavailability of contaminants by sorption or biodegradation of contaminants) and other active and inert capping materials, and geotechnical evaluations to better understand sediment stability.

# 8 References


The Academy of Natural Sciences, 2001. Sediment Transport: Additional Chemical Analysis Study, Phase II. December 20, 2001.

AECOM, 2012a. Hazardous Materials Survey. March 2012. Amended April 2012.

AECOM, 2012b. Benning Road Facility Remedial Investigation and Feasibility Study (RI/FS) Work Plan (Final). December 2012.

AECOM, 2012c. Benning Road Facility Sampling and Analysis – Quality Assurance Project Plan (QAPP). December 2012.

AECOM, 2014a. Benning Road Facility RI/FS Work Plan Addendum #1 – Monitoring Well Installation Activities. March 2014.

AECOM, 2014b. Benning Road Facility RI/FS Work Plan Addendum #2 – Cooling Tower Concrete Basins Soil Sampling Activities. July 2014.

AECOM, 2015. Cooling Tower Basins Soil Removal Action Plan. July 2015.

AECOM, 2016a. Benning Road Facility Draft Remedial Investigation Report. February 2016.

AECOM, 2016b. Technical Memorandum #1 – Conceptual Site Model. Prepared for Pepco and Pepco Energy Services. September 2016.

AECOM, 2016c. Technical Memorandum #2 – Refined Background Evaluation Work Plan. Prepared for Pepco and Pepco Energy Services. October 2016.

AECOM, 2016d. Technical Memorandum #3 – Baseline Human Health and Ecological Risk Assessment Work Plan Addendum. Prepared for Pepco and Pepco Energy Services. September 2016.

AECOM, 2016e. RI/FS Work Plan Addendum #3 – Additional Field Investigations. Prepared for Pepco and Pepco Energy Services. October 2016.

AECOM, 2017. Cooling Tower Basins Remedial Action Completion Report, Pepco Benning Road Facility, Washington D.C. September 11, 2017.

Anacostia Watershed Toxics Alliance (AWTA). 2002. Charting a Course Toward Restoration: A Toxic Chemical Management Strategy for the Anacostia River.

Anacostia Watershed Toxics Alliance (AWTA). 2009. White Paper on PCB and PAH Contaminated Sediment in the Anacostia River. DRAFT FINAL. Anacostia Watershed Toxics Alliance. February 23, 2009.

ATSDR, 2006. Health Consultation. Kenilworth Park Landfill – South Side. Atlanta, Ga. January 23, 2006.

APEX. 2017. DC Department of Public Works NPDES Stormwater Monitoring. October 9, 2017.

Applied Physics Laboratory, the Johns Hopkins University, 1980. Quarterly Report for Energy Programs at the Johns Hopkins University Applied Physics Laboratory. July-September 1980.

ASTM. 2010. Standard Test Method for Measuring the Toxicity of Sediment-Associated Contaminants with Freshwater Invertebrates. E1706-05. ASTM International. Reapproved 2010. *Toxiological Profile for Polychlorinated Biphenyls. U.S. Department of Health and Human Services*. Public Health Service. https://www.atsdr.cdc.gov/ToxProfiles/tp17.pdf

Barbour, M.T., J. Gerritsen, B.D. Snyder, and J.B. Stribling. 1999. Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates and Fish, Second Edition. EPA 841-B-99-002. U.S. Environmental Protection Agency; Office of Water; Washington, D.C.

Berninger, J.P. and Tillitt, D.E., 2019. Polychlorinated biphenyl tissue-concentration thresholds for survival, growth, and reproduction in fish. Environmental toxicology and chemistry, 38(4), pp.712-736.

Burkhard, L. 2009. Estimation of Biota Sediment Accumulation Factor (BSAF) from Paired Observations of Chemical Concentrations in Biota and Sediment. U.S. Environmental Protection Agency, Ecological Risk Assessment Support Center, Cincinnati, OH. EPA/600/R-06/047.

Boehm, 2006. Boehm, P.D., *Polycyclic Aromatic Hydrocarbons (PAHs)* in Environmental Forensics: Contaminant Specific Guide, Morrison, R.D and Murphy,B.L. ed.s, Academic Press, 2006.

DC Department of Health, 2003. Final Total Maximum Daily Loads for Organics and Metals in the Anacostia River and Tributaries. August 2003.

DC Water Resources Research Center. 1993. Groundwater Water Resource Assessment Study for the District of Columbia.

Callahan, M.A., M.W. Slimak, N.W. Gabel, et al. 1979. Water-Related Environmental Fate of 129 Priority Pollutants. Volume I. EPA-440/4 79-029a. Washington, DC: U.S. Environmental Protection Agency (as cited in HSDB, 2004).

Choudry and Hutzinger. 1982. Photochemical Formation and Degradation of Polychlorinated Dibenzofurans and dibenzo-p-dioxins. Residue reviews 84:113-161. January 1982

Conestoga-Rovers and Associates, 2011. Decommissioning Plan Generating Facility, Pepco Energy Services. February 2011.

Conover, W.J. 1980. Practical Nonparametric Statistics.

CTI Consultants, Inc. 2009. Subsurface Investigation and Geotechnical Evaluation, Benning Substation.

Czuczwa, J.M. and Hites, R.A. 1986. Airborne dioxins and dibenzofurans: sources and fates. Environ. Sci. Technol. Vol. 20(2): 195-200.

District of Columbia Municipal Regulations (DCMR). 1994. *Water Quality Standards, Chapter 21 Section 1155.3*. March 4, 1994.

District of Columbia Municipal Regulations (DCMR). 1999. *Underground Storage tanks – Reporting of Releases, Investigation, Confirmation, Assessment and Corrective Action, Chapter 20-62.* October 1, 1999.

District of Columbia Municipal regulations (DCMR). 2013. *Water Quality Standards, Chapter 21-11 Section 1104.* November 1, 2013.

District of Columbia Water and Sewer Authority (DC Water). *2018. Clean Rivers Project News, Combined Sewer Overflow (CSO) Control Activities.* Biannual Report. April 2018.

DOEE, 2002. Total Maximum Daily Loads, Upper Anacostia River, Lower Anacostia River, District of Columbia, Total Suspended Solids. March 1, 2002.

DOEE, 2014. Final Remedial Investigation Work Plan, Anacostia River Sediment Project, Washington, DC. January 29, 2014.

DOEE, 2018. Draft Remedial Investigation Report, Anacostia River Sediment Project, Washington, DC. March 30, 2018.

Dashalakis, K.D., and T.P. O'Connor. 1995. Normalization and elemental sediment contamination in the coastal United States. Environmental Science and Technology, Vol, 29, No. 2, pp. 470-477.

EDR Radius Map with GeoCheck®, prepared for 3400 Benning Road NE, Washington, DC 20019, dated September 2, 2016. Inquiry number 4717486.2s. Report prepared by Environmental Data Resources Inc., 6 Armstrong Road, Shelton, Connecticut 06484, (800) 352-0050, www.edrnet.com.

EDR Aerial Photos Decade Package, prepared for 3400 Benning Road NE, Washington, DC 20019, dated April 18, 2016. Inquiry number 4593698.1. Report prepared by Environmental Data Resources Inc., 6 Armstrong Road, Shelton, Connecticut 06484, (800) 352-0050, www.edrnet.com.

Erickson, 2011. Erickson, M.D. and Kaley, R.G. *Applications of polychlorinated biphenyls*. Environmental Science Pollution Research, vol.18, pp135-151.

Fetter, C.W., 1988. Applied Hydrogeology. Merril Publishing Co.

Fetter, C.W., 2001. *Applied Hydrogeology, Fourth Edition*. Prentice-Hall, Inc. Upper Saddle River, NJ. 2001. pp. 400-402

Frame, 1996. Frame,G.M.,Cochran,J.W.,and Bowadt,S. *Complete PCB Congner Distributions of 17 Aroclor Mixtures Determined by 3 HRGS Systems Optimized for Comprehensive, Quantitative, Congener-Specific Analysis.* Journal of High Resolution Chromatography, vol.19, pp.657-668

Freeze, R.A. and Cherry, J.A., 1979. Groundwater. Prentice Hall.

Fritz and Weiss. 2009. Anacostia River: Summary of Six Possible Sources of Sediment Contamination. Retrieved April 2015 at http://www.anacostia.net/Archives/AWSC/documents/AWSC_23_Summary_Sources_Sediment_Contamination.pdf.

General Services Administration, 1975. Draft Environmental Impact Statement Government Printing Office Relocation. October 1975.

General Services Administration, 1978. Final Environmental Impact Statement. Statement number EDC 78005. October 27, 1978.

Geomatrix, Inc. 1988. Environmental and Geotechnical Study, Benning Road Generating Station.

GeoSea Consulting Ltd., 2000. Sediment Trend Analysis in the Anacostia River. November 2000.

Ghosh, U., N. Lombard, M. Bokare, A. Pinkney, L. Yonkos, and R. Harrison. 2019. Passive samplers and mussel deployment, monitoring, and sampling for organic constituents in Anacostia River tributaries: 2016-2018 Year 1 Interim Report. U.S. Fish and Wildlife Service, Chesapeake Bay Field Office, Annapolis, MD. CBFO-C19-02.

Greenhorne and O'Mara, Inc. 2010. Phase I Environmental Site Assessment, Improvements at the Benning Road Substation.

Groundwater & Environmental Services, Inc. (GES). 2018. Underground Storage Tank Removal Report. June 13, 2018.

Hemond, H. F. and E. J. Fechner. 1994. Chemical Fate and Transport in the Environment. Academic Press, San Diego, CA. 338 pp.

Hillis-Carnes Engineering Associates, Inc., 2010. Soil Investigation Factual Report, Pepco 230 kV Transmission Line, Benning Substation "A" to Ritchie Substation.

Hwang, 2006. Hwang,H.M., Foster,G.D., *Characterization of polycyclic aromatic hydrocarbons in urban stormwater runoff flowing into the tidal Anacostia River, Washington, DC, USA*. Environmental Pollution, vol.140, pp.416-426

Hwang, 2008. Hwang, H.M. and Foster, G.D. *Polychlorinated biphenyls in stormwater runoff entering the tidal Anacostia River, Washington, DC. through small urban catchments and combined sewer outfalls.* Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances and Environmental Engineering. Vol.43, Issue 6, pp.567-575

Jacques Whitford Company, Inc. 2003. Salvage Yard Soil Investigation, Benning Service Center. Washington, DC.

Jarvinen, A.W., and G.T. Ankley. 1999. *Linkage of effects to tissue residues: Development of a comprehensive database for aquatic organisms exposed to inorganic and organic chemicals*. SETAC Press, pp. 1-358.

Johnson, 2006. Johnson, G.W., Quensen, J.F., Chiarenzelli,J.R Metric ., and Hamilton, M.C. *Polychlorinated Biphenyls*, in Environmental Forensics: Contaminant Specific Guide, Morrison,R.D and Murphy, B.L., eds., Academic Press.

Johnson, 2008. Johnson, G.W., Hansen, L.G., Hamilton, M.C., Fowler, B., and Hermanson, M.H., *PCB,PCDD and PCDF congener profiles in two type of Aroclor 1254*. Environmental Toxicology and Pharmacology, vol.25, pp.156-163

Johnston, P.M. 1964. Geology and Ground-Water Resources of Washington, D.C., and Vicinity, prepared for the United States Department of the Interior, 1964.

Johnson Company, Inc. (JCO), 2012. Kenilworth Park Landfill Feasibility Study Report, NE Washington, DC. April 2007.

Judd, N., Tear, L., Toll, J. 2013. From Sediment to Tissue and Tissue to Sediment: An Evaluation of Statistical Bioaccumulation Models. Integrated Environmental Assessment and Management 10(1): 102-113.

Katz, C.N., A.R. Carlson and D.B. Chadwick. 2001. Draft Anacostia River Seepage and Pore water Survey Report. Space and Naval Warfare Systems Center (SPAWAR). 59 p.

Klamer, J.C., W.J.M. Hegeman, and F. Smedes. 1990. "Comparison of Grain Size Correction Procedures for Organic Micropollutants and Heavy Metals in Marine Sediments." Hydrobiologia, 208: 213-220.

Leister, D. and Baker, J., 1994. *Atmospheric Deposition of Organic Contaminants to the Chesapeake Bay*. Atmospheric Environment, v. 28, no. 8, pp. 1499-1520.

Lester, S. 1998. *Background Levels of Dioxin in Soil*. Center for Health, Environment & Justice.

Lichtenstein, E. and K. Schulz. 1959. Persistence of Some Chlorinated Hydrocarbon Insecticides as Influenced by Soil Types, Rate of Application and Temperature. J. Econ. Entomol. Vol. 52(1). February 1959.

Lohmann,2012. Critical review of low-density polyethylene's partitioning and diffusion coefficients for trace organic contaminants and implications for its use as a passive sampler. Environmental Science and. Technology.: Vol 46, pp. 606-618

Lombard, N., Bokare, M., Thodpanich, V., Magee, S., Ghosh, U. 2018. *Ongoing Inputs of Persistent Organic Pollutants to the Anacostia River*. Anacostia River Leadership Council for a Cleaner Anacostia River, September 13, 2018.

Love, J. 2009. Movement Patterns of Tournament Released Largemouth Bass (Micropterus salmoides): A Brief Meta-Analysis. Maryland Department of Natural Resources. May.

Mahler, 2005. Mahler, B.J., Van Metre, P.C.,Bashara,T.J., Wilson,J.T., and Johns, D.A. *Parking Lot Sealcoat: An Unrecognized Source of Urban Polycyclic Aromatic Hydrocarbons.* Environmental Science and Technology, vol.38, pp.5560-5566

Martin, M., Stephenson, M.D., Smith, D.R., Gutierrez-Galindo, E.A., and Flores Munoz, G. (1988). *Use of silver in mussels as a tracer of domestic wastewater discharge*. Marine Pollution Bulletin 19, 512–520.

McGee, B.L.; Pinkney, A.E.; Velinsky, D.J.; Ashley, J.T.F.; Fisher, D.J.; Ferrington, L.C.; and Norberg-King, T.J. 2009. Using the Sediment Quality Triad to characterize baseline conditions in the Anacostia River, Washington, DC, USA. Environ Monit Assess (2009) 156:51–67.

MDE (Maryland Department of the Environment) and District of Columbia Department of the Environment, Natural Resources Administration. 2007. Total Maximum Daily Loads of Sediment/Total Suspended Solids for the Anacostia River Basin, Montgomery and Prince George’s Counties, Maryland and The District of Columbia. Maryland Department of the Environment, Baltimore, MD, and District of Columbia Department of the Environment, Natural Resources Administration, Washington, DC.

MDNR, 2014. Maryland Biological Stream Survey Sampling Manual: Field Protocols. Maryland Department of Natural Resources, Chesapeake Bay and Watershed Programs.

Menzie, C. 1980. Reaction types in the environment. In: Hutzinger, O. (ed). Reactions and Processes. New York, NY: Springer-Verlag Berlin Heidelberg.

Michelson, T.C. and K. Bragdon-Cook. 1993. Organic Carbon Normalization for Sediment Data. Technical Information Memo, Washington State Department of Ecology.

Metropolitan Washington Council of Governments (MWCOG). 2007. Anacostia River Watershed: Environmental Condition and Restoration Overview. DRAFT. March 2007.

Montgomery, J.H., 1996. p,p-DDD, p,p-DDE, p,p-DDT physicochemical properties, Groundwater Chemicals Desk Reference (p.279-291).

National Oceanic and Atmospheric Administration (NOAA) National Climatic Data Center (NCDC). 2015. “Station Name: VA Washington Reagan AP.” Accessed March 5, 2015. www.ncdc.noaa.gov

National Park Service (NPS). 1995. The Reconstruction of Kenilworth Marsh – the Last Tidal Marsh in Washington, DC. Park Science, vol.15-1. 1995.

National Park Service (NPS). 2001. Preliminary Assessment/Site Investigation of Langston Golf Course, NE Washington, DC. Ecology & Environment, Inc. April 2001.

National Park Service (NPS). 2007. Final Remedial Investigation at the Kenilworth Park North Landfill, NE Washington, DC. Ecology & Environment, Inc. November 2007.

National Park Service (NPS). 2008. Final Remedial Investigation at the Kenilworth Park South Landfill, NE Washington, DC. Ecology & Environment, Inc. June 2008.

National Park Service (NPS). 2013. Proposed Plan for Cleanup of the Kenilworth Park Landfill Site. February 2013.

National Park Service (NPS). 2016. Supplemental Groundwater Study Report at the Kenilworth Park Landfill. The Johnson Company. November 2018.

National Research Council. 2008. Urban Stormwater Management in the United States. The National Academies Press, Washington, DC. 529 p.

NOAA Office of Coast Survey Navigation Chart #12289. 2010. Potomac River: Mattawoman Creek to Georgetown.

NPS, 2019a. Remedial Investigation Addendum Report. Final. Kenilworth Park Landfill. June 2019.

NPS, 2019b. Final NPS Tributary Sediment Sampling Study Report. Anacostia River Sediment Project Site. September 2019.

Pebesma, E.J., 2004. Multivariable geostatistics in S: the gstat package. Computers & Geosciences 30 (7), 683-691.

Pepco, 1985. Benning Generating Station Oil Spill Inspection Report.

Pepco, 1988. Benning Substation #7 Parking Area Cleanup Report.

Pepco, 1991. Benning Generating Station PCB Leaking Capacitor Cleanup Report.

Pepco, 1995a. Benning Generating Station PCB Cleanup Report.

Pepco, 1995b. Draft Study Plan for Surface Water and Sediment Analysis for Benning Road Generating Station Intake/Wetland Project. April 27, 1995.

Pepco, 1996,1997. Benning Wetland PCB Data.

Pepco, 2003. *Salvage Yard Soil Investigation: Benning Service Center*. Potomac Electric Power Company. November, 2003.

Phelps,2005. Phelps, H.L., *Identification of PCB, PAH, and Chlordane Source Areas in the Anacostia River Watershed.* DC Water Resources Research Center, Washington, DC.

Phelps,2008. Phelps,H.L., *Active Biomonitoring for PCB, PAH, and Chlordane Source Areas in the Anacostia River Watershed.* DC Water Resources Research Center, Washington, DC.

Pinkney, A.E. 2017. Analysis of contaminant concentrations in fish tissue collected from the waters of the District of Columbia. Final Report. CBFO-C14-03. U.S. Fish and Wildlife Service, Chesapeake Bay Field Office, Annapolis, MD. September 2014. Revised November 2017.

Power, E., and P. Chapman. 1992. "Assessing Sediment Quality." In: G.A. Burton (ed.), Sediment Toxicity Assessment. Lewis Publishers, Chelsea, MI. pp. 1-18.

Sakaris P.C., Jesien, R.V. and Pinkney. A.E. 2005. Brown Bullhead as an Indicator Species: Seasonal Movement Patterns and Home Ranges within the Anacostia River, Washington, D.C.

Scatena, F.N. 1987. Sediment Budgets and Delivery in a Suburban Watershed: Anacostia Watershed., Ph.D. Dissertation; Johns Hopkins University, Baltimore, MD.

SCS Engineers. 2000. Needs Assessment for Municipal Solid Waste Transfer for the District of Columbia. Final Report. Reston, VA. November.

Slater, 2013. Slater, G.F., Benson, A.A., Marvin, C., Muir, D. *PAH Fluxes to Siskiwit Revisited: Trends in Fluxes and Sources of Pyrogenic PAH and Perylene Constrained via Radiocarbon Analysis.* Environmental Science and Technology, vol. 47, pp.5066-5073

Smedes etal 2009. Smedes,P., P., Geerstma, R. W., van der Zande, T., and Booij, K. 2009. Polymer-water partition coefficients of hydrophobic compounds for passive sampling: Application of cosolvent models for validation. Environmental Science and Technology. Vol. 43, pp.7047-7054

SRC and NOAA. 2000. Interpretive summary of existing data relevant to potential contaminants of concern within the Anacostia River watershed. Syracuse Research Corporation, North Syracuse, NY and National Oceanic and Atmospheric Administration, Seattle, WA. June.

SSC (Space and Naval Warfare (SPAWAR) System Center). 2003. Final Implementation Guide for Assessing and Managing Contaminated Sediment at Navy Facilities. SPAWAR Systems Center (SSC) San Diego. NFESC User's Guide UG-2053-ENV. March 2003.

Stout, 2004. Stout, S.A, Uhler, A.D., Emsbo-Mattingly, S.D., *Comparative Evaluation of Background Anthropogenic Hydrocarbons in Surficial Sediments from Nine Urban Waterways*. Environmental Science and Technology, vol. 38, pp.2987-2994

Sullivan, M.P. and W.E. Brown, 1988. The tidal Anacostia model-Documentation of the hydrodynamics and water quality parameters. Prepared for the DC Dept. of Consumer and Reg. Affairs by the Metropolitan Washington Council of Governments, Washington, DC.

Takada, H., Onda, T., Ogura, N.,1990. Determination of polycyclic aromatic hydrocarbons in urban street dusts and their source materials by capillary gas chromatography. Environ. Sci. Technol. 24:1179–1186.

Tarone and Ware, 1977. Tarone-Ware Test.

Tetra Tech, 2016. Draft Phase 1 Remedial Investigation Report for the Anacostia River Sediment Project, Washington, DC.

TetraTech. 2018. Draft Remedial Investigation Report. Anacostia River Sediment Project. Washington D.C. Prepared for District of Columbia, Department of Energy and Environment. Prepared by TetraTech, Sterling, VA. March 30.

TPH Technology, Incorporated, 1996. Remediation Program Work Plan, Potomac Electric Power Company, 20K UST Remediation Project, Benning Road Facility. June 21, 1996.

TPH Technology, Incorporated, 1997a. Quarterly Remediation Status Report, Fourth Quarter 1996, Kenilworth Substation 20,000-Gallon UST Site, Benning Station. January 7, 1997.

TPH Technology, Incorporated, 1997b. Petition for Case Closure, Gasoline Remediation Project at PEPCO Kennilworth Substation, 20K UST Site. September 4, 1997.

Urban, J., Wikoff, D., Bunch A., and Haws, L., 2014. A Review of Background Dioxin Concentrations in Urban/Suburban and Rural Soils across the United States: Implications for Site Assessments and the Establishment of Soil Cleanup Levels. Science of the Total Environment, v. 466, pp. 586-597.

URS. 1999. Phase I Environmental Site Assessment of the Benning Generating Facility, Washington, DC

USACE, 2013. Hydrographic Surveying, U.S. Army Corps of Engineers, Office of Publications, Pub Number EM 1110-2-1003. November 30, 2013.

USEPA, 1988. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Office of Emergency and Remedial Response. USEPA 540/G-89/004. October 1988.

USEPA. 1992. Guidelines for exposure assessment. Federal register notice, vol. 57, no. 104, pp. 22888-22938. US Environmental Protection Agency, Washington, DC.

USEPA, 1997a. Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments (Interim Final). U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Office of Emergency and Remedial Response. USEPA 540/R-97/006. June 1997.

USEPA, 1997b. Superfund Program Representative Sampling Guidance, Volume 3: Biological, Appendix A: Checklist for Ecological Assessment/Sampling (Interim Final). U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Office of Emergency and Remedial Response. May 1997. Available at: http://www.epa.gov/oswer/riskassessment/ecorisk/pdf/appb.pdf.

USEPA, 1997c. Multi-Media Inspection Report, Pepco, Benning Road Generating Station, Washington, DC.

USEPA. 2000. Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates Second Edition. U.S. Environmental Protection Agency, Office of Research and Development, Office of Science and Technology. EPA 600/R-99-064. March 2000.

USEPA. 2002a. Role of background in the CERCLA cleanup program. OSWER 9285.6-07P. Office of Solid Waste and Emergency Response, Office of Emergency and Remedial Response, US Environmental Protection Agency, Washington, DC.

USEPA. 2002b. Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites. Office of Emergency and Remedial Response. EPA-540-R-01-003. September 2002

USEPA, 2005a. Contaminated Sediment Remediation Guidance. EPA-540-R-05-012, OSWER 9355.0-85, December 2005.

USEPA, 2005b. Section 319-Nonpoint Source Program Success Story-District of Columbia: Oil and Grease Water Quality Goals Achieved in DC Area Stream. http://water.epa.gov/polwaste/nps/success319/upload/2005_08_30_NPS_Success319_state_dc_hickey.pdf

USEPA. 2008. National Functional Guidelines for Superfund Organic Methods Data Review. Office of Superfund Remediation and Technology Innovation, US Environmental Protection Agency, Washington, DC. OSWER 9240.1-48. June.

USEPA, 2009. Final Site Inspection Report for the Pepco Benning Road Site, Washington, DC.

USEPA. 2015. ProUCL Version 5.1. Technical Guide. Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations. EPA/600/R-07/041. October. U.S. Environmental Protection Agency. Office of Research and Development. Washington, DC. October.

USEPA, 2017. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-540-R-2017-001. U.S. Environmental Protection Agency. Office of Superfund Remediation and Technology Innovation (OSRTI). Washington, DC. January 2017.

USEPA. 2018. Regional Screening Levels (RSLs) – Generic Tables. U.S Environmental Protection Agency, Washington DC. May 2018.

USGS, 2002. Lithologic Coring in the Lower Anacostia Tidal Watershed, Washington, DC Report 03-318.

USGS, 2019. Sediment and Chemical Contaminant Loads in Tributaries to the Anacostia River, Washington, District of Columbia, 2016-17. Reston, VA.

Van den Berg, G.A., Loch, J.P.G., Van der Heijdt, L.M, Zwolsman, J.J.G. 1998. Vertical Distribution of Acid-volatile sulfide and simultaneously extracted metals in a recent sedimentation areas of the river Meuse in the Netherlands. Environmental Toxicology and Chemistry, vol. 17, issue 4, pp. 758-763.

Van Metre, 2010. Van Metre, P.C., Mahler, B.J. *Contribution of PAHs from coal-tar pavement sealcoat and other sources to 40 U.S. lakes.* Science of the Total Environment, vol.409, pp.334-344

Van Ry, D., Gigliotti, C., Glenn, T., Nelson, E., Totten, L., and Eisenreich, S., 2002. Wet Deposition of Polychlorinated Biphenyls in Urban and Background Areas of the Mid-Atlantic States. Environmental Science & Technology, v. 36, pp. 3201-3209.

Velinsky, DJ, Cummins, JD. 1996. Distribution of Chemical Contaminants in 1993-1995 Wild Fish Species in the District of Columbia. ICPRB Report 96-1. Interstate Commission on the Potomac River Basin, Rockville, MD.

Velinsky, 2011. Velinsky, D.J., Riedel, G.F., Ashley, J.T.F., Cornwell, J.C., *Historical Contamination of the Anacostia River, Washington, D.C.* Environmental Monitoring and Assessment, vol. 183, pp.207-218, 307-328.

Wade, 1994. Wade, T.L., Velinsky, D.J., Reinharz, E., and Schlekat, C.E., *Tidal Sediments in the Washington, D.C. Area II. Distribution and Sources of Organic Contaminants*. Estuaries, Vol.17, No.2, pp.321-333.

Warner, A., Shepp, D.L., Corish, K., and Galli, J. 1997. An Existing Source Assessment of Pollutants to the Anacostia Watershed, prepared by the Metropolitan Washington Council of Governments, Washington, D.C.

WDNR, 2003. Consensus-Based Sediment Quality Guidelines Recommendations for Use & Application. Interim Guidance. Developed by the Contaminated Sediment Standing Team. WT-732 2003. December 2003

Woodard & Curran, 2019. Memorandum: Kenilworth Park South Landfill Human Health Risk Assessment Summary. Dedham, MA. May 30, 2019.

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# TABLES

**Table 1-1**
**Key RI/FS Project Milestones**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Action/Event | Date | Notes |
|---|---|---|
| Entry of Consent Decree by U.S. District Court | December 1, 2011 | |
| Pepco's Submission of Draft RI/FS SOW | December 21, 2011 | Draft SOW submitted more than a month ahead of deadline stated in CD |
| Pepco's Submission of Draft CIP | December 21, 2011 | Draft CIP submitted more than 6 months ahead of deadline stated in CD |
| DDOE Approval of RI/FS SOW | April 18, 2012 | |
| DDOE Approval of CIP | June 18, 2012 | |
| Pepco's Submission of Draft RI/FS Work Plans (including HSP, FSP, QAPP and CSM) | July 17, 2012 | |
| DDOE Approval of Final RI/FS Work Plans | December 28, 2012 | |
| Notify DDOE of the start of RI Field Work | January 11, 2013 | Within 15 days of DDOE approval of Final RI/FS Work Plans |
| Beginning of Phase I RI Field Work | January 25, 2013 | Not more than 30 days after DDOE approval of Final RI/FS Work Plans |
| Completion of Phase I RI Field Work | December 31, 2014 | |
| Pepco's Submission of Draft RI Report | April 30, 2015 | Not more than 120 days after completion of RI field work |
| Responses to Public Comments on Draft RI Report | August 23, 2016 | |
| DOEE Approval of RI Phase II Work Plans | October 11, 2016 | Also known as Work Plan Addendum #3 for Additional site Investigation |
| Beginning of RI Phase II Field Work | December 5, 2016 | Fieldwork began more than a month ahead of schedule |
| Completion of RI Phase II Field Work | July 9, 2018 | Subject to DOEE Final Approval |
| Pepco's Submission of Draft Final RI Report | November 5, 2018 | Subject to DOEE Approval of Field Work Completion |
| Pepco's Submission of Draft FS Report | January 4, 2019 | Not more than 180 days after completion of RI field work (or 120 days after approval of treatability study report, if required)[3] |
| DOEE Issuance of Record of Decision Regarding Cleanup Actions | Promptly after approval of final RI and FS reports | |
| DOEE & Pepco first Joint Status Report to the Court | May 23, 2013 | Approved by the Court on May 31, 2013 |
| Second Status Report to the Court | May 23, 2014 | The Court directed the parties to submit the next status report by May 24, 2015 |
| Third Status Report to the Court | May 22, 2015 | The Court directed the parties to submit the next status report on May 24, 2016 |
| Fourth Status Report to the Court | May 24, 2016 | The Court directed the parties to submit the next Status Report on May 31, 2017 |
| Fifth Status Report to the Court | May 31, 2017 | The Court directed the parties to submit a Supplemental Status Report on December 15, 2017 |

**Table 1-1**
**Key RI/FS Project Milestones**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Action/Event | Date | Notes |
|---|---|---|
| Supplemental Status Report to the Court | December 15, 2017 | The Court directed the parties to submit the next status report on or before July 09, 2018. |
| Sixth Status Report to the Court | July 9, 2018 | |

Notes:
1. Bold faced-entries indicate activities that will trigger request for public comment.
2. Dates are subject to change as project planning and implementation progresses. This document will
3. This schedule assumes treatability studies are not necessary. If a treatability study is required, the

CD - Consent Decree
CIP - Community Involvement Plan
CSM - Conceptual Site Model
FSP - Field Sampling Plan
FS - Feasibility Study
HSP - Health and Safety Plan
QAPP - Quality Assurance Project Plan
RI - Remedial Investigation
SOW - Scope of Work

**Table 1-2**
**Historical Removal Actions and Investigations**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Date | Incident / Investigation | Location | Activities |
|---|---|---|---|
| May-85 | **PCB Cleanup**: Underground pipe leaked waste transformer oil containing PCBs. | Underground pipe leading from Kenilworth Transformer Shop (Current Building 56) (See Target Area #8 in Table 1-3) | Removal of aboveground storage tank, associated piping, and excavation of PCB-contaminated material >5 ppm (approximately 288 cu ft). Aroclor 1260 was reported in 31% of the PCB results. Aroclor 1242 was reported in 18% of the PCB results. Aroclors were not identified for other total PCBs. |
| Sep-88 | **PCB Cleanup**: Soil contamination detected under concrete pad used to prepare off-line PCB capacitor banks for disposal in area formerly used to store used electrical equipment. | Parking lot located in the northeast portion of facility (See Target Area #7 in Table 1-3) | Removal of approximately 2500 cu ft (389 tons) of PCB-contaminated material (>5 ppm), including concrete slab. Specific Aroclors were not identified with the total PCB results. |
| 1989-91 | **UST Removals**: A total of 6 USTs were removed/closed in place during this period. | 550-gal #4 (south of bulk tank #1); 4,000-gal diesel (fuel island); 15K-gal #2 (est of Units 13 and 14); 2,000-gal used oil (Fleet Main.); 250-gal #4; 10K-gal Diesel (Fuel Island) (See Target Area #3 in Table 1-3) | All UST removals were inspected and approved for closure by the District. |
| Mar-91 | **PCB Cleanup**: PCB capacitor leaked approximately 8 pounds onto concrete surface and seeped through expansion joints. | Concrete covered area located between Buildings 42 and 61 (See Target Area #6 in Table 1-3) | Approximately 126 cu ft PCB contaminated soil (>25 ppm PCBs) were removed and backfilled. Concrete replaced. Specific Aroclors were not identified with the total PCB results. |
| Apr-95 | **PCB Cleanup**: PCB containing caulk and joint filler located inside colling tower structures were found to be impacting the cooling tower concrete basins, sludge and water inside the basins, and soil adjacent to the basin's wall expansion joints. Pre-cleanup sediment sampling results from cooling tower blowdown discharge location upstream of Outfall 013 indicated no PCBs above 1 ppm. | Unit 15 and 16 cooling tower basins and surrounding soil (See Target Area #5 in Table 1-3) | Approximately 185 cu ft of soil (>1-3 ppm) PCB was exacavated. Old joint filler and caulk were removed and the expansion joints and basin were double washed and rinsed. The basin was encapsulated with concrete sealant after all rinse water was removed. Aroclor 1254 was identified as predominant in soil and wipe samples. |

## Table 1-2
## Historical Removal Actions and Investigations
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Date | Incident / Investigation | Location | Activities |
|---|---|---|---|
| Sep-96 to Mar-97 | **Intake Dredging**: Dredging of Station Intake for creation of wetlands | Generating station intake and points up- and downstream | Intake area in the Anacostia River was dredged and the dredge spoils were used to construct wetlands. Pre- and post-dredge sediment samples exhibited total PCBs of 119-934 ppb. Specific Aroclors were not identified with the total PCB results. |
| Apr-97 | **USEPA Multi-media Inspection**: NPDES, RCRA and TSCA compliance inspection conducted by USEPA. | Entire facility | No compliance problems noted. PCBs at 0.25-3.13 ppm detected in residue samples from storm sewers inlets and outfalls. Elevated concentrations of heavy metals were also detected. Aroclor 1260 was identified as the dominant Aroclor in all river sediments and storm sewer samples analyzed. |
| Dec-99 | **Phase I Environmental Site Assessment**: conducted by PHI in anticipation of property transaction. | Entire facility | Recognized environmental concerns noted. Oil staining at two #4 and #2 fuel oil recirculation ASTs located east of the generating station. No concrete bottom noted in the containment areas. |
| Nov-03 | **Salvage Yard Investigation**: Soil investigation was completed in area formerly used for storing used electrical equipment. | Salvage yard located west of Buildings 75 and 88 (See Target Area #4 in Table 1-3) | Approximately 296 cu ft of PCB contaminated material (>1 ppm) was removed from the site. TPH-DRO was detected, but were below DCDOH requirements upon final excavation. |
| Jun-09 | **USEPA Site Inspection Report**: Site Inspection conducted during 2008-09 to determine further actions under CERCLA. | Former sludge dewatering area and the Anacostia River water and sediments (See Target Area #1 in Table 1-3) | Metals, PAHs and PCBs were detected in the former sludge dewatering area and in Anacostia River sediments at concentrations exceeding the screening levels. USEPA links the historical discharges at the site to contamination found in river sediments. Aroclors 1254 and 1260 were the only Aroclors reported detected. |

**Table 1-2**
**Historical Removal Actions and Investigations**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Date | Incident / Investigation | Location | Activities |
|---|---|---|---|
| Jan-10 | **Phase I ESA**: conducted in connection with substation expansion. | 18.5-acre area in the eastern and southern portions of the site that will be impacted by the substation expansion. | Conclusions noted potential for petroleum, metals and PCB impacts of subsurface soils and recommended sampling to develop proper health and safety and soils management procedures during construction. Specific Aroclors were not identified. |
| 2013 | **AST Removals:** four ASTs demolished. | AST #1, #2, #3 and #4 demolished (See Figure 1-4). | Four ASTs demolished and removed from the Site. |
| Jan-17 to May-17 | **PCB Cleanup:** Remediation of PCB impacted materials in the vicinity of the former CTs including the concrete basins and adjacent soils. | Location of the two former power plant CTs | Removal of 9,923 tons of soil and 6,666 tons of concrete debris for PCB waste disposal. Two storm water bioretention basins have been installed in the locations of the former CTs. Aroclors 1254 and 1260 were detected. |
| 2018 | **UST Removals:** two USTs were removed from the Site. | 20,000-gal diesel UST and 20,000-gal gasoline UST removed from the Benning Fuel Island. | The two USTs were removed and replaced with two 12,000-gal ASTs (gasoline and diesel). |

Notes:
USEPA - United States Environmental Protection Agency
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
ESA - environmental site assessment
DCDOH - District of Columbia Department of Health
UST - underground storage tank
PCB - polychlorinated biphenyl
TPH-DRO - total petroleum hydrocarbon-diesel range organics
PAH - polycyclic aromatic hydrocarbons
ppm - parts per million
ppb - parts per billion
cu ft - cubic feet
UST - underground storage tank
AST - above ground storage tank
CT - cooling tower

**Table 1-3**
**Target Areas and Operational Units**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| TA Area # | Name | Location | Comments |
|---|---|---|---|
| **Target Areas** | | | |
| 1 | Former Sludge Dewatering Area | Between Building 65 and Cooling Towers | Area exists in the former coal yard and was used as a decanting area for boiler fireside wash down for river sediment sludge from the clarifiers. In September 2008, TetraTech completed sampling to a depth of 1 ft bgs as part of a Site Inspection for USEPA. (USEPA, 2009; referred to as "USEPA SI Report") |
| 2 | Benning Fueling Island | Located east of Building # 32 | A 20,000 gallon gasoline UST and a 20,000 gallon diesel UST were installed in 1991 to hold fuel for fleet vehicles at the Benning Fueling Island. These tanks were removed in May 2018 and replaced with two 12,000 gallon ASTs (diesal and gasoline). In 1991, a 4,000 gallon diesel UST was removed in this area. Soil was found to be impacted and was removed according to a letter submitted by Pepco to DC DDOE. A 10,000 gallon diesel UST was removed in June 1991 with soil impact identified in the excavation. The impacted soil was reportedly excavated and the cases were closed with District approval. (URS, 1999). |
| 3 | Former 15,000 Gal UST and 50,000 Gal AST (No. 2 Fuel Oil) | East of Generating Station, south of cooling tower unit 15 | The UST was removed in 1989 and confirmatory samples showed TPH levels in excess of 100 mg/kg. A 20 ft by 20 ft area was excavated to 15 ft bgs where groundwater was encountered. An oil sheen was noted on the water table and the oil/water mixture was pumped out to the plant oil/water separator. The excavation was backfilled and a recovery well installed to recover any residual oil. DDOE issued Pepco a written notice of case closure on February 5, 1992.<br>The 50,000 gallon AST was constructed in 1968 and drained, cleaned, and removed in early 2013. |
| 4 | 2003 Salvage Yard Investigation | Salvage yard located west of Buildings #75 and #88 | Soil investigation and soil removal were completed in area formerly used for storing used electrical equipment. Jacques Whitford Company completed soil sampling down to a maximum depth of 5 feet. (Jacques Whitford Company, 2003) |
| 5 | Former Cooling Towers - 1995 and 2017 Cleanup Area | Former CT 15 and CT 16 basins and surrounding soil | During 1995, PCB containing caulk and joint filler located inside cooling tower structures were found to be impacting the cooling tower (CT) concrete basins, sludge and water inside the basins, and soil adjacent to the basin's wall expansion joints. Pre-cleanup sediment sampling results from cooling tower blowdown discharge location upstream of Outfall 013 indicated no PCBs above 1 ppm (Pepco, 1995). The cooling towers were demolished in early 2014. During 2017, the CT concrete basins and PCB-impacted soils in the vicinity of the former CTs. The CT removal activities are summarized in the Cooling Tower Basins Remedial Action Completion Report (AECOM, 2017). |
| 6 | 1991 Cleanup Area | Between Buildings # 41 and # 61 | PCB capacitor leaked approximately 8 pounds onto concrete surface and seeped through expansion joints.1991 report stated that there were multiple excavations and that PCB concentrations were not detected. (Pepco, 1991) |

**Table 1-3**
**Target Areas and Operational Units**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| TA Area # | Name | Location | Comments |
|---|---|---|---|
| **Target Areas (continued)** | | | |
| 7 | 1988 Parking Lot Cleanup Area | Parking lot located in the eastern portion of facility. | Soil contamination detected under concrete pad used to prepare off-line PCB capacitor banks for disposal in area formerly used to store used electrical equipment. The concrete pad was demolished and disposed followed by removal of soil to a depth of 12 inches below grade. The cleanup was performed and 19 truckloads of PCB impacted materials were disposed of at a Waste Management facility located in Model City, New York. (Pepco, 1988) |
| 8 | 1985 Excavation Area | Underground pipe leading from Kenilworth Transformer Shop (Current Building # 56) | Underground pipe leaked waste transformer oil containing PCBs. (Pepco, 1985) |
| 9 | Green Tag Storage Area | Storage Building #66 | Building utilized for temporary storage of drums containing sludge removed from manholes while they await analysis for PCB content. An area located outside and in front of building 66 is used to store empty transformer casings that were previously identified as non-PCB. At the time of the EPA inspection, all of the casings were marked with a green tag that indicated they were less than 50 mg/kg PCB. (USEPA, 1997). |
| 10 | Red Tag Storage Area | South of Building # 68 (PCB Storage Building) | The area is concrete and used for storage of empty transformer casings which had previously been identified with red tags as PCB contaminated (50 to 499 mg/kg). The casings are stored in this area until they are shipped off site for recycling. The EPA inspector noted no indications of spills or leaks in the area around the casings. (USEPA, 1997) |
| 11 | Building #68 (PCB Building) | Building #68 | Building used for storage of PCBs and hazardous waste in drums. The floor is concrete with a continuous concrete curb one foot high providing containment for 22,443 gallons. There were no leaks observed by the EPA inspector on or around the containers. Additionally, no staining was observed by the EPA inspector in Building 68. (USEPA, 1997) |
| 12 | Building #57 | Building #57 | Building houses two 10,000 gallon holding tanks for accumulating waste oil. All waste oil with a PCB concentration of less than 49 mg/kg is pumped to these tanks. Both tanks are located in a large concrete vault inside of the building. These tanks are reportedly inspected daily by Pepco personnel. Currently, accumulated oil is taken to a permitted off-site facility for disposal/recycling. In the past, oil was transported to Pepco's Morgantown Generating plant to be burned in their boilers. At the time of the EPA inspection, oil stains were observed on the outside of tank 1 and on the concrete floor in the vault area. A concrete sump located in the back corner of the vault area was also observed to be full of oil. The loading area is located on the ground level of the building just above the storage tank area. The loading area slopes downward from the front and drains back into the tanks via a drain. No cracks were observed in the concrete loading ramp. (USEPA, 1997) |

**Table 1-3**
**Target Areas and Operational Units**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| TA Area # | Name | Location | Comments |
|---|---|---|---|
| **Target Areas (continued)** | | | |
| 13 | Bulk Storage ASTs and Loading Rack | East of the Generating Station Building | Three ASTs located within dikes and on a clay floor with initial construction dates ranging from 1942 to 1968. Tank capacities ranged from 618,000 gallons to 1,984,000 gallons. In 1995 a HDPE liner covered with flowable fill was installed on the top of the clay floor. The tanks were upgraded with new steel bottoms in 1997 and 1999. TPH GRO and/or DRO was identified in soil samples collected in this area in January 2012 in connection with the proposed demolition of the tanks. (AECOM, 2012a). The three ASTs were demolished in early 2013. Additionally, two fuel oil USTs (250 and 550 gal) and one UST containing used oil (2,000 gal) were historically located in the area of the former ASTs (Target Area 13). These USTs have been removed. |
| 14 | Former Railroad Switchyard | Adjacent to southern property boundary and east of Building # 32. | According to the URS Phase I ESA dated December 1999, four transformers likely existed in this area. Soil staining was observed by URS during Site reconnaissance. PCBs were not reported by URS in two oil samples collected by Pepco from each of the transformers that remained. Additionally, a soil sample was collected by Pepco prior to demolition activities in the switchyard and no PCBs were reported. URS could not confirm the location or rationale for the soil sample collected by Pepco. (URS, 1999) |
| 15 | Generating Station Transformers | West of the Generating Station | According to the URS Phase I ESA dated December 1999, approximately 22 transformers with a total capacity of approximately 64,000 gallons were present in the vicinity of the Generating Station Building. Nineteen of these transformers were located on the exterior of the west side of the Generating Station. Pepco's 1993 SPCC-ERP indicates all large power transformers are surrounded by a concrete berm or pit capable of containing all the oil. In addition, the SPCC-ERP indicates some of the smaller service station transformers do not have containment pits or berms. No spills were reported in this area by URS (URS, 1999). All transformers were de-energized, drained to remove oil, and removed as part of the Power Plant building demolition. |
| 16 | Print Shop | Southern portion of Building # 32 | According to the URS Phase I ESA dated December 1999, the Print Shop stored small quantities (<5 gallons) of various solvents and chemicals. URS could not confirm how long the Print Shop had been in operation. URS reported that Pepco replaced hazardous products with non-hazardous substitutes as they became available. URS did not identify any floor drains in the print shop area. The facility had a silver recovery unit, which extracts silver from used developing chemicals. After the silver was extracted, the remaining non-hazardous fluids were discharged into the sanitary sewer with the approval of the POTW. Print Shop was dismantled and removed. Print Shop operations were relocated or contracted out. |

**Table 1-3**
**Target Areas and Operational Units**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| TA Area # | Name | Location | Comments |
|---|---|---|---|
| **Target Areas (continued)** | | | |
| 17 | Storm Drain System | Across the site | Based on a review of the USEPA 2009 SI Report, all process water generated on the Site is discharged into the main storm drain that extends across the Site from the southeast corner to the northwest. This pipe discharges through the main outfall (#013) leaving the facility into a pipe that goes under Anacostia Avenue and drains into the Anacostia River. According to the USEPA SI report, there have been no NPDES violations. However, sediment sampling in the discharge location closest to the former Sludge Dewatering Area is needed to evaluate potential for discharge of contaminants to the Anacostia River. A review of the First Quarter 2012 Discharge Monitoring Reports (DMR) indicates excursions of copper, zinc and iron, and no excursions of PCBs. Pepco is implementing a Total Maximum Daily Load (TMDL) Implementation Plan approved by the USEPA to identify and reduce the sources of metals in the storm water discharges from the facility. Pepco also analyzes for PCB congeners as required by the NPDES permit, for monitoring purposes only. |
| 18 | Kenilworth Fueling Island | Approximately 105 feet west of Building # 56 | In 1996, a leaking UST case was reported in this area resulting from a leaking pressurized pipe associated with the UST. A remediation system was installed to recover free product and the case was closed by DDOE in September 1997. The tank was removed in August 2012 and DDOE issued Pepco a Permanant Tank Closure Letter on November 1, 2012. |
| 19* | PCE and Naphthalene in Groundwater | Southwest of former Power Plant footprint | During RI sampling, PCE was detected in groundwater in MW-01B at 110 µg/l. Naphthalene was detected above its screening level in MW-01A/B and MW-02A/B. |
| 20* | PAHs in Soil | Southeast parking lot | During RI sampling, PAHs were detected above screening levels at 1.5-2.5 ft bgs and 9.5-10.5 ft bgs in DP-19. |

**Table 1-3**
**Target Areas and Operational Units**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| OA Area # | Name | Location | Comments |
|---|---|---|---|
| **Operational Areas** | | | |
| 1 | Timber Pole Storage Areas | Central portion (near Building #75) and eastern portion (south of Substation #7) | Timber poles appear to have been stored in these areas between approximately 1950 and 1970. No information exists on whether the timber poles were treated, and if so, where and with what chemicals. |
| 2 | Equipment Laydown Areas | Majority of eastern half of Site | Many open areas of the Site were historically used for equipment staging and storage. These laydown areas varied in shape, location, and the materials stored there. It is suspected that many different materials related to the electric transmission and distribution were stored in these areas, including timber poles, cable reels, switchgear, circuit breakers, batteries, transformers, capacitors, and other electrical distribution system components. |
| 3 | Vehicle Fleet Servicing Areas | Building #32, Building #75, Benning Fuel Island, Kenilworth Fuel Island | A fleet maintenance facility was historically located in Building #32, but was moved to Building #75 circa 2003. Both buildings either currently or formerly contained aboveground hydraulic lifts, lead acid batteries, motor oil, transmission fluid, antifreeze, and other materials and wastes typical to vehicle maintenance.<br>The Benning and Kenilworth Fuel Islands are designated as Target Areas #2 and 18, respectively, and are discussed above. |
| 4 | Coal Pile Area | Northwest corner of the Site | Coal was stored and used onsite from 1906 until the conversion to fuel oil in 1976. The coal pile was located in the northwest corner of the Site, but its size and approximate location changed over time. |
| 5 | Fuel Oil Storage Area | East of Building #32 and south of Cooling Tower #15 | These two former bulk fuel oil storage areas are designated Target Areas #3 and #13, and are discussed above. |
| 6 | Transformer Operations Areas | Four locations in the north-central and souteastern portions of the Site | Two of these areas (the Green Tag and Red Tag Storage Areas, designated Target Areas #9 and 10, respectively) are discussed above. Former Buildings #38 and 39 to the north of Building #88 housed the onsite transformer shops from the 1950s to mid-1980s, when they were moved to Building #56 in the southeast of the Site. Associated with the transformer shops, Building #57, which houses two 10,000 gal holding tanks for waste transformer oil, is designated Target Area #12 and is discussed above. |
| 7 | Chlorinated Solvent Storage and Usage Area | Southern portion of the former power plant building | In-person interviews revealed the use of degreasers SS25 and XL99, which are chlorinated solvents, in the southern portion of the former power plant building. Their use was discontinued in the 1980s. |

**Table 1-3**
**Target Areas and Operational Units**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

Notes:

| | |
|---|---|
| TA - Target Areas | PPE - Probable Point of Entry |
| OA = Operational Area | µg/kg - micrograms per kilogram |
| ft bgs - feet below ground surface | µg/L - micrograms per Liter |
| UST - underground storage tank | COPC - Contaminant of Potential Concern |
| LUST - leaking underground storage tank | NPDES - National Pollutant Discharge Elimination System |
| mg/kg - milligrams per kilogram | PAHs - Polycyclic aromatic hydrocarbons |
| TPH - Total Petroleum Hydrocarbons | SI - Site Inspection |
| GRO - gasoline range organics | USEPA - United States Environmental Protection Agency |
| DRO - diesel range organics | DDOE - District Department of the Environment |

PCBs - polychlorinated biphenyl s
TSS - total suspended solids
ft - feet
mg/L - milligrams/liter
HDPE - high density polyethylene liner
ASTs - Aboveground Storage Tanks
SPCC-ERP - Spill Prevention Control and Countermeasures - Emergency Response Plan
*These Target Areas added as a result of preliminary RI findings.

**Table 2-1**
**Permits Obtained for RI/FS Field Activities**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Permit Name | Issuing Agency | Permit Number | Purpose | Date Applied | 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 | DDOE | 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 |
| DCRA Permit 1 - On-site | DCRA | SB1700024 | On-site sampling | 10/26/2016 | 11/28/2016 |
| WMATA | WMATA | PCN# 251722 | On-site sampling within WMATA easement. | 11/21/2016 | 3/7/2017 |
| DOEE Approval | DOEE | N/A | DOEE approval required for background sampling on NPS property | 11/28/2016 | 12/13/2016 |
| DCRA Permit 2 - Kenilworth Maintenance Yard | DCRA | SB1700067 | Off-site sampling at Kenilworth Maintenance Yard (NPS) | 12/2/2016 | 3/29/2017 |
| DCRA Permit 3 - USDA | DCRA | SB1700132 | Background sampling at USDA Arboretum | 1/18/2017 | 2/1/2017 |
| DCRA Permit 4 - Anacostia Park West | DCRA | SB1700061 | Background sampling at Anacostia Park West (NPS) | 12/2/2016 | 3/29/2017 |
| DCRA Permit 5 - Anacostia Park East | DCRA | SB1700063 | Background sampling at Anacostia Park East (NPS) | 12/2/2016 | 3/29/2017 |
| DCRA Permit 6 - Aquatic Gardens | DCRA | SB1700133 | Background sampling at Aquatic Gardens (NPS) | 12/21/2016 | 2/1/2017 |
| DCRA Permit 7 - canceled | DCRA | N/A | N/A | N/A | N/A |

**Table 2-1**
**Permits Obtained for RI/FS Field Activities**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Permit Name | Issuing Agency | Permit Number | Purpose | Date Applied | Date Received |
|---|---|---|---|---|---|
| DCRA Permit 8 - Fort Chaplin Park | DCRA | SB1700059 | Background sampling at Fort Chaplin Park (NPS) | 12/2/2016 | 2/1/2017 |
| DCRA Permit 9 - Benning Rd NE | DCRA | SB1700060 | Background sampling at Fort Mahan Park (NPS) | 12/2/2016 | 2/1/2017 |
| DCRA Permit 10 - Ridge Rd SE | DCRA | SB1700058 | Background sampling at Fort Dupont Park (NPS) | 12/2/2016 | 2/1/2017 |
| DDOT Permit | DDOT | PA200858 | Background sampling at SE corner of Kenilworth Ave & Baker, NE | 2/14/2017 | 4/4/2017 |
| USDA Arboretum | USDA | FY-17-NA-010 | Background sampling at USDA Arboretum | 1/3/2017 | 1/4/2017 |
| NPS | NPS | NCR NACE 9500 1625 | Permit from NPS to cover all background sampling locations | 11/14/2016 | 2/16/2017 |
| USACE Approval | USACE | N/A | USACE approval following wetland delineation required by DCRA/DOEE for background sample locations on NPS properties | Wetland delineation report submitted - 3/20/17 | USACE approval - 3/23/17 |
| USACE - DC | USACE | CENAB-OP-RMS 2012-02685 | Sediment sampling locations in Anacostia River within DC jurisdiction | 11/3/2016 | 12/7/2016 |
| DOEE FWD | DOEE | None | Scientific research permit | 5/1/2017 | 5/2/2017 |
| DOEE WQC | DOEE | DC-16-018 | Water quality certification for USACE DC Permit | Forwarded USACE DC Permit to DOEE - 12/7/16 | Original Issue - 12/15/16 TOY Waiver - 5/2/17 |
| NPS - Sediment | NPS | NCR 9500-17-001 | NPS permit for sampling locations in the Anacostia River within DC jurisdiction | 11/3/2016 | 3/16/2017 |
| DCRA - Sediment Staging Area | DCRA | B1705170 | Sediment staging area for sampling in Anacostia River | 2/27/2017 | 2/27/2017 |
| USACE - MD | USACE | CENAB-OP-RMS 2012-61826 | Covered three sediment sampling locations in Anacostia River within MD jurisdiction | 11/3/2016 | 12/5/2016 |
| MD DNR | MD DNR | SCP201734A | Scientific collection permit | 5/1/2017 | 5/4/2017 |
| MDE Wetlands License | MDE | 17-0184 | Water quality certification and wetland license | 2/7/2017 | 6/5/2017 |
| DCRA Permit 11 - On-site | DCRA | SB1700388 | Additional on-site sampling | 7/12/2017 | 7/14/2017 |
| DCRA Permit 12 - Anacostia Park West | DCRA | SB1700387 | Additional sampling at Anacostia Park West | 7/11/2017 | 7/14/2017 |

**Table 2-1**
**Permits Obtained for RI/FS Field Activities**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Permit Name | Issuing Agency | Permit Number | Purpose | Date Applied | Date Received |
|---|---|---|---|---|---|
| DCRA Permit 13 - Anacostia Park East | DCRA | SB1700386 | Additional sampling at Anacostia Park East | 7/11/2017 | 7/14/2017 |
| NPS Permit Modification | NPS | NCR NACE 9500 1625 | Modification of Special Use Permit to cover additional NPS properties | Request sent - 6/28/2017 | 8/1/2017 |
| DCRA Permit 14 - Nature and Extent | DCRA | SB1800105 | Additional nature and extent sampling | 12/28/2017 | 1/8/2018 |
| NPS Permit Extension | NPS | NCR NACE 9500 1625 | Modification of Special Use Permit (NCR NACE 9500 1625) to cover arsenic sampling at the Kenilworth Maintenance Yard | Request sent - 4/9/18 | 4/20/2018 |

**Notes:**
USACE - US Army Corps of Engineers
DDOE - District Department of the Environment
NPS - National Parks Service
DCRA - Department of Consumer and Regulatory Affairs
*This permit received after conclusion of RI/FS field activities

# Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Phase I Landside Mobilization 1, Task 2: Surface Soil Sampling** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUSDP01 | SUS0100N | SO | N | 0.33 - 1 ft | 1323670.23 | 448434.09 | | | 2/4/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP01 | SUS0100R | SO | FD | 0.33 - 1 ft | 1323670.23 | 448434.09 | | | 2/4/2013 | | | | | | | | | | | | | | | X | | | X | | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP02 | SUS0200N | SO | N | 0.33 - 0.83 ft | 1323688.07 | 448977.16 | | | 2/4/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP03 | SUS0300N | SO | N | 0.5 - 1 ft | 1324026.35 | 448120.86 | | | 2/4/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP04 | SUS0400N | SO | N | 0 - 1 ft | 1324091.66 | 448808.97 | | | 2/4/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP05 | SUS0500N | SO | N | 0 - 1 ft | 1324087.93 | 449163.57 | Forensics | | 2/4/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | X | X | | | | X | | X | | | | | |
| SUSDP06 | SUS0600N | SO | N | 0 - 1 ft | 1324259.23 | 448063.28 | Forensics | | 2/5/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | X | X | | | | X | | | | | | | |
| SUSDP07 | SUS0700N | SO | N | 0 - 1 ft | 1324313.90 | 448780.43 | | | 2/5/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP08 | SUS0800N | SO | N | 0 - 1 ft | 1324319.35 | 448910.93 | Forensics | | 2/5/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | X | X | X | X | | | | X | | X | | X | | | |
| SUSDP09 | SUS0900N | SO | N | 0 - 1 ft | 1324624.17 | 448048.31 | | | 2/5/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP10 | SUS1000N | SO | N | 0.5 - 1 ft | 1324662.91 | 448784.82 | Forensics | | 2/5/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | X | X | X | X | | | | X | | | | X | | | |
| SUSDP11 | SUS1100N | SO | N | 0 - 1 ft | 1324624.65 | 449239.72 | | | 2/5/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP12 | SUS1200N | SO | N | 0 - 1 ft | 1324827.15 | 448435.68 | Forensics | | 2/6/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | X | X | | | | X | | | | | | | |
| SUSDP13 | SUS1300N | SO | N | 0 - 1 ft | 1324899.54 | 449245.86 | | | 2/5/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP14 | SUS1400N | SO | N | 0.17 - 1 ft | 1325250.39 | 448089.70 | | | 2/6/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP15 | SUS1500N | SO | N | 0.17 - 1 ft | 1325219.52 | 448484.64 | | | 2/6/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP16 | SUS1600N | SO | N | 0.5 - 1 ft | 1325155.21 | 448859.40 | | | 2/6/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP17 | SUS1700N | SO | N | 0.5 - 1 ft | 1325548.72 | 448588.91 | | | 2/6/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP18 | SUS1800N | SO | N | 0 - 1 ft | 1325531.22 | 448976.92 | | | 2/6/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP19 | SUS1900N | SO | N | 0.83 - 1 ft | 1325677.11 | 447862.07 | Forensics | | 2/6/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | X | X | | X | | | | X | | X | | X | | | |
| SUSDP20 | SUS2000N | SO | N | 0.42 - 1 ft | 1325651.50 | 448307.48 | Forensics | | 2/7/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | X | X | | | | X | | | | | | | |
| SUSDP21 | SUS2100N | SO | N | 1 - 1.75 ft | 1326039.45 | 447908.40 | Forensics | | 2/7/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | X | X | | | | X | | | | | | | |
| SUSDP23 | SUS2300N | SO | N | 0.5 - 1 ft | 1325902.86 | 448372.41 | | | 2/7/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP24 | SUS2400N | SO | N | 0 - 1 ft | 1325886.22 | 448915.42 | Forensics | | 2/7/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | X | | | | X | | X | | | | | |
| SUS25 | SUS2500N | SO | N | 0.5 - 1 ft | 1326293.73 | 448373.88 | | 39.27 | 2/7/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | X | X | | X | | | | X | | | | X | | | |
| **Phase I Landside Mobilization 1, Task 3: Storm Drain Sampling** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SD013 | SDW013N | WS | N | NA | 1324412.90 | 449252.20 | | | 10/7/2013 | X | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | | | | |
| SD013 | SDR013N | SE | N | NA | 1324412.90 | 449252.20 | | | 10/8/2013 | | | | | | | | | | | | | | | X | | | X | | X | | X | | X | X | X | X | | | | X | | X | | | | | |
| SDMH02 | SDWMH02N | WS | N | NA | 1323703.60 | 448503.40 | | | 10/7/2013 | X | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | | | | |
| SDPEPR1 | SDWPEPR1N | WS | N | NA | 1324719.20 | 448739.70 | | | 10/7/2013 | X | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | | | | |
| SDPEPR1 | SDWPEPR1R | WS | FD | NA | 1324719.20 | 448739.70 | | | 10/7/2013 | X | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | | | | |
| SDPEPR2 | SDWPEPR2N | WS | N | NA | 1325660.10 | 448281.30 | | | 10/7/2013 | X | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | | | | |
| SDPEPR3 | SDWPEPR3N | WS | N | NA | 1325253.50 | 448267.60 | | | 10/7/2013 | X | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | | | | |
| SDPEPR4 | SDWPEPR4N | WS | N | NA | 1325898.80 | 447966.50 | | | 10/7/2013 | X | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | | | | |
| SDPEPR4 | SDRPEPR4N | SE | N | NA | 1325898.80 | 447966.50 | | | 10/8/2013 | | | | | | | | | | | | | | | X | | | X | | X | | X | | X | X | X | X | | | | X | | X | | | | | |
| SDPEPR5 | SDWPEPR5N | WS | N | NA | 1325925.90 | 447899.30 | | | 10/7/2013 | X | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | | | | |
| SDPEPR5 | SDRPEPR5N | SE | N | NA | 1325925.90 | 447899.30 | | | 10/8/2013 | | | | | | | | | | | | | | | X | | | X | | X | | X | | X | X | | X | | | | X | | | | | | | |
| SDPEPR5 | SDRPEPR5R | SE | FD | NA | 1325925.90 | 447899.30 | | | 10/8/2013 | | | | | | | | | | | | | | | X | | | X | | X | | X | | X | X | | X | | | | X | | | | | | | |
| SDR101 | SDR101N | SE | N | NA | 1323703.60 | 448503.40 | | | 10/8/2013 | | | | | | | | | | | | | | | X | | | X | | X | | X | | X | X | | X | | | | X | | X | | | | | |
| SDW101 | SDW101N | WS | N | NA | 1323693.50 | 448741.10 | | | 10/7/2013 | X | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | | | | |

## Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phase I Landside Mobilization 1, Task 5: Geotechnical Soil Borings | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB1 | SB1, 5-7 | SO | | 5-7 ft | 448080.88 | 1324565.68 | | | 3/19/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB1 | SB1, 7-9 | SO | | 7-9 ft | 448080.88 | 1324565.68 | | | 3/19/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB1 | SB1, 15-17 | SO | | 15-17 ft | 448080.88 | 1324565.68 | | | 3/19/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB1 | SB1, 25-27 | SO | | 25-27 ft | 448080.88 | 1324565.68 | | | 3/19/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB1 | SB1, 30-32 | SO | | 30-32 ft | 448080.88 | 1324565.68 | | | 3/19/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB1 | SB1, 45-47 | SO | | 45-47 ft | 448080.88 | 1324565.68 | | | 3/19/2013 | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB1 | SB1, 65-67 | SO | | 65-67 ft | 448080.88 | 1324565.68 | | | 3/19/2013 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB1 | SB1, 75-77 | SO | | 75-77 ft | 448080.88 | 1324565.68 | | | 3/19/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB1 | SB1, 95-99 | SO | | 95-99 ft | 448080.88 | 1324565.68 | | | 3/19/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB1 | SB1, 70-72 | SO | | 70-72 ft | 448080.88 | 1324565.68 | | | 3/19/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB1 | SB1, 90-92 | SO | | 90-92 ft | 448080.88 | 1324565.68 | | | 3/19/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB2 | SB2, 11-13 | SO | | 11-13 ft | 448726.57 | 1323663.20 | | 16.93 | 3/27/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB2 | SB2, 20-22 | SO | | 20-22 ft | 448726.57 | 1323663.20 | | 16.93 | 3/27/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB2 | SB2, 35-37 | SO | | 35-37 ft | 448726.57 | 1323663.20 | | 16.93 | 3/27/2013 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB2 | SB2, 40-42 | SO | | 40-42 ft | 448726.57 | 1323663.20 | | 16.93 | 3/27/2013 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB2 | SB2, 50-52 | SO | | 50-52 ft | 448726.57 | 1323663.20 | | 16.93 | 3/27/2013 | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB2 | SB2, 55-57 | SO | | 55-57 ft | 448726.57 | 1323663.20 | | 16.93 | 3/27/2013 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB2 | SB2, 60-62 | SO | | 60-62 ft | 448726.57 | 1323663.20 | | 16.93 | 3/27/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB2 | SB2, 75-77 | SO | | 75-77 ft | 448726.57 | 1323663.20 | | 16.93 | 3/27/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB2 | SB2, 80-82 | SO | | 80-82 ft | 448726.57 | 1323663.20 | | 16.93 | 3/27/2013 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB2 | SB2, 85-87 | SO | | 85-87 ft | 448726.57 | 1323663.20 | | 16.93 | 3/27/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB2 | SB2, 87-93 | SO | | 87-93 ft | 448726.57 | 1323663.20 | | 16.93 | 3/27/2013 | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB3 | SB3, 9-11 | SO | | 9-11 ft | 449239.80 | 1324624.88 | | 20.01 | 3/14/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB3 | SB3, 15-17 | SO | | 15-17 ft | 449239.80 | 1324624.88 | | 20.01 | 3/14/2013 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB3 | SB3, 25-27 | SO | | 25-27 ft | 449239.80 | 1324624.88 | | 20.01 | 3/14/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB3 | SB3, 40-42 | SO | | 40-42 ft | 449239.80 | 1324624.88 | | 20.01 | 3/14/2013 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB3 | SB3, 50-52 | SO | | 50-52 ft | 449239.80 | 1324624.88 | | 20.01 | 3/14/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB3 | SB3, 60-62 | SO | | 60-62 ft | 449239.80 | 1324624.88 | | 20.01 | 3/14/2013 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB3 | SB3, 65-67 | SO | | 65-67 ft | 449239.80 | 1324624.88 | | 20.01 | 3/14/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB3 | SB3, 70-72 | SO | | 70-72 ft | 449239.80 | 1324624.88 | | 20.01 | 3/14/2013 | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB4 | SB4, 15-17 | SO | | 15-17 ft | 448370.51 | 1326248.97 | | | 3/26/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB4 | SB4, 20-22 | SO | | 20-22 ft | 448370.51 | 1326248.97 | | | 3/26/2013 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB4 | SB4, 25-27 | SO | | 25-27 ft | 448370.51 | 1326248.97 | | | 3/26/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB4 | SB4, 30-32 | SO | | 30-32 ft | 448370.51 | 1326248.97 | | | 3/26/2013 | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB4 | SB4, 45-47 | SO | | 45-47 ft | 448370.51 | 1326248.97 | | | 3/26/2013 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB4 | SB4, 55-57 | SO | | 55-57 ft | 448370.51 | 1326248.97 | | | 3/26/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB4 | SB4, 70-75 | SO | | 70-75 ft | 448370.51 | 1326248.97 | | | 3/26/2013 | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB4 | SB4, 65-67 | SO | | 65-67 ft | 448370.51 | 1326248.97 | | | 3/26/2013 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB5 | SB5, 5-7 | SO | | 5-7 ft | 448337.53 | 1325826.24 | | | 3/20/2018 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB5 | SB5, 9-11 | SO | | 9-11 ft | 448337.53 | 1325826.24 | | | 3/20/2018 | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB5 | SB5, 13-15 | SO | | 13-15 ft | 448337.53 | 1325826.24 | | | 3/20/2018 | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB5 | SB5, 15-17 | SO | | 15-17 ft | 448337.53 | 1325826.24 | | | 3/20/2018 | |X|X| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB5 | SB5, 35-37 | SO | | 35-37 ft | 448337.53 | 1325826.24 | | | 3/20/2018 | | |X| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB5 | SB5, 40-42 | SO | | 40-42 ft | 448337.53 | 1325826.24 | | | 3/20/2018 | | |X| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB5 | SB5, 55-60 | SO | | 55-60 ft | 448337.53 | 1325826.24 | | | 3/20/2018 | | |X| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Phase I Landside Mobilization 2, Task 1: DPT Subsurface Investigation (Soil)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DP26 | DPS2604N | SO | N | 3.5 - 4.5 ft | 1324598.97 | 448836.13 | | 22.36 | 3/28/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP26 | DPS2614N | SO | N | 13.5 - 14.5 ft | 1324598.97 | 448836.13 | | 22.36 | 3/29/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP26 | DPS2630N | SO | N | 29.5 - 30.5 ft | 1324598.97 | 448836.13 | | 22.36 | 3/29/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP27 | DPS2707N | SO | N | 6.5 - 7.5 ft | 1324421.53 | 448861.73 | | 22.08 | 3/26/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP27 | DPS2722N | SO | N | 21.5 - 22.5 ft | 1324421.53 | 448861.73 | | 22.08 | 3/26/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP27 | DPS2758N | SO | N | 57.5 - 58.5 ft | 1324421.53 | 448861.73 | | 22.08 | 3/26/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP28 | DPS2808N | SO | N | 7.5 - 8.5 ft | 1324197.54 | 448631.68 | | 22.73 | 4/2/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP28 | DPS2821N | SO | N | 20.5 - 21.5 ft | 1324197.54 | 448631.68 | | 22.73 | 4/2/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP28 | DPS2832N | SO | N | 31 - 33 ft | 1324197.54 | 448631.68 | | 22.73 | 4/2/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP29 | DPS2910N | SO | N | 9 - 11 ft | 1324524.98 | 448585.61 | | 23.21 | 4/2/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP29 | DPS2930N | SO | N | 29 - 31 ft | 1324524.98 | 448585.61 | | 23.21 | 4/2/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP29 | DPS2950N | SO | N | 49 - 51 ft | 1324524.98 | 448585.61 | | 23.21 | 4/2/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP30 | DPS3050N | SO | N | 49 - 51 ft | 1324149.06 | 448220.02 | | 23.62 | 4/3/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP30 | DPS3028N | SO | N | 27 - 29 ft | 1324149.06 | 448220.02 | | 23.62 | 4/3/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP31 | DPS3120N | SO | N | 19.5 - 20.5 ft | 1324152.00 | 448274.18 | | 23.73 | 4/1/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP31 | DPS3142N | SO | N | 41.5 - 42.5 ft | 1324152.00 | 448274.18 | | 23.73 | 4/1/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP32 | DPS3210N | SO | N | 9.5 - 10.5 ft | 1325446.88 | 448520.64 | | 29.19 | 4/1/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP32 | DPS3210R | SO | FD | 9.5 - 10.5 ft | 1325446.88 | 448520.64 | | 29.19 | 4/1/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP32 | DPS3230N | SO | N | 29.5 - 30.5 ft | 1325446.88 | 448520.64 | | 29.19 | 4/1/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP32 | DPS3243N | SO | N | 42.5 - 43.5 ft | 1325446.88 | 448520.64 | | 29.19 | 4/1/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP33 | DPS3315N | SO | N | 14 - 16 ft | 1325826.24 | 448337.53 | | 36.42 | 4/4/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP33 | DPS3335N | SO | N | 34 - 36 ft | 1325826.24 | 448337.53 | | 36.42 | 4/4/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP34 | DPS3405N | SO | N | 4.5 - 5.5 ft | 1326248.97 | 448370.51 | | 39.43 | 3/13/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP34 | DPS3418N | SO | N | 17.5 - 18.5 ft | 1326248.97 | 448370.51 | | 39.43 | 3/29/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP34 | DPS3445N | SO | N | 44.5 - 45.5 ft | 1326248.97 | 448370.51 | | 39.43 | 3/29/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP34 | DPS3460N | SO | N | 59.5 - 60.5 ft | 1326248.97 | 448370.51 | | 39.43 | 3/29/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP35 | DPS3515N | SO | N | 14.5 - 15.5 ft | 1326034.61 | 447902.07 | | 33.45 | 3/28/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP35 | DPS3534N | SO | N | 33.5 - 34.5 ft | 1326034.61 | 447902.07 | | 33.45 | 3/28/2013 | | | | | | | | | | | | | | |X| | |X| |X| |X| | |X| |X| | | |X| | | | | | | |
| DP36 | DPS3605N | SO | N | 4.5 - 5.5 ft | 1323668.75 | 448779.51 | | 17.62 | 5/17/2013 | | | | | | | | | | | | | | | | | | |X|X| |X| | |X| | | | | |X| | | | | | | |
| DP36 | DPS3610N | SO | N | 9.5 - 10.5 ft | 1323668.75 | 448779.51 | | 17.62 | 5/20/2013 | | | | | | | | | | | | | | | | | | |X|X| | | | |X| | | | | |X| | | | | | | |
| DP36 | DPS3615N | SO | N | 14.5 - 15.5 ft | 1323668.75 | 448779.51 | | 17.62 | 5/20/2013 | | | | | | | | | | | | | | | | | | |X|X| |X| | |X| | | | | |X| | | | | | | |
| DP36 | DPS3610N2 | SO | N | 9.5 - 10.5 ft | 1323668.75 | 448779.51 | | 17.62 | 6/13/2013 | | | | | | | | | | | | | | | | | | | | | |X| | | | |X| | | | | | | | | | | |
| DP38 | DPS3805N | SO | N | 4.5 - 5.5 ft | 1324339.39 | 448539.12 | | 23.11 | 5/16/2013 | | | | | | | | | | | | | | |X| | |X|X|X| |X| | |X| | | | | |X| | | | | | | |
| DP38 | DPS3810N | SO | N | 9.5 - 10.5 ft | 1324339.39 | 448539.12 | | 23.11 | 5/22/2013 | | | | | | | | | | | | | | | | | | |X|X| |X| | |X| | | | | |X| | | | | | | |
| DP38 | DPS3815N | SO | N | 14 - 15 ft | 1324339.39 | 448539.12 | | 23.11 | 5/22/2013 | | | | | | | | | | | | | | | | | | |X|X| |X| | |X| | | | | |X| | | | | | | |
| DP40 | DPS4003N | SO | N | 2.5 - 3.5 ft | 1324326.37 | 449009.85 | | 23.26 | 5/20/2013 | | | | | | | | | | | | | | |X| | |X|X|X| |X| | |X| | | | | |X| | | | | | | |
| DP40 | DPS4010N | SO | N | 9.5 - 10.5 ft | 1324326.37 | 449009.85 | | 23.26 | 5/28/2013 | | | | | | | | | | | | | | | | | | |X|X| |X| | |X| | | | | |X| | | | | | | |

# Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DP40 | DPS4015N | SO | N | 14.5 - 15.5 ft | 1324326.37 | 449009.85 | | 23.26 | 5/28/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | X | | | | | | | |
| DP40 | DPS4010N2 | SO | N | 9.5 - 10.5 ft | 1324326.37 | 449009.85 | | 23.26 | 6/10/2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DP42 | DPS4205N | SO | N | 4.5 - 5.5 ft | 1324349.24 | 449248.87 | | 19.59 | 5/21/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | X | | | | | | | |
| DP42 | DPS4210N | SO | N | 9.5 - 10.5 ft | 1324349.24 | 449248.87 | | 19.59 | 5/29/2013 | | | | | X | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | X | | | | | | | |
| DP42 | DPS4215N | SO | N | 14.5 - 15.5 ft | 1324349.24 | 449248.87 | | 19.59 | 5/29/2013 | | | | | X | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | X | | | | | | | |
| DP45 | DPS4503N | SO | N | 2.5 - 3.5 ft | 1325409.08 | 449077.83 | | 25.78 | 5/23/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | | | | | | | | |
| DP45 | DPS4510N | SO | N | 9.5 - 10.5 ft | 1325409.08 | 449077.83 | | 25.78 | 6/4/2013 | | | | | X | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | | | | | | | | |
| DP45 | DPS4515N | SO | N | 14.5 - 15.5 ft | 1325409.08 | 449077.83 | | 25.78 | 6/4/2013 | | | | | X | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | | | | | | | | |
| DP46 | DPS4605N | SO | N | 4.5 - 5.5 ft | 1325936.20 | 447842.90 | | | 5/22/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| DP46 | DPS4610N | SO | N | 9.5 - 10.5 ft | 1325936.20 | 447842.90 | | | 6/5/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | | | | | | | | |
| DP46 | DPS4615N | SO | N | 14.5 - 15.5 ft | 1325936.20 | 447842.90 | | | 6/5/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| DP47 | DPS4702N | SO | N | 1.5 - 2.5 ft | 1325809.57 | 448157.16 | | 31.90 | 5/28/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | | | | | | | | |
| DP47 | DPS4710N | SO | N | 9.5 - 10.5 ft | 1325809.57 | 448157.16 | | 31.90 | 6/5/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | | | | | | | | |
| DP47 | DPS4715N | SO | N | 14 - 15 ft | 1325809.57 | 448157.16 | | 31.90 | 6/5/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | | | | | | | | |
| SB3 | SBS0303N | SO | N | 2.5 - 3.5 ft | 1324624.88 | 449239.80 | Forensics | 20.01 | 3/13/2013 | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | | | X | | X | | | | | |
| SUSDP01 | DPS0103N | SO | N | 2.5 - 3.5 ft | 1323670.23 | 448434.09 | | | 5/20/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | X | X | | | | | | | | | | X | | | |
| SUSDP01 | DPS0110N | SO | N | 9.5 - 10.5 ft | 1323670.23 | 448434.09 | | | 5/20/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP01 | DPS0115N | SO | N | 14 - 15 ft | 1323670.23 | 448434.09 | | | 5/20/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP01 | DPS0110N2 | SO | N | 9.5 - 10.5 ft | 1323670.23 | 448434.09 | | | 6/13/2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| SUSDP02 | DPS0205N | SO | N | 4.5 - 5.5 ft | 1323688.07 | 448977.16 | | | 5/14/2013 | | | | | | | | | | | | | | | X | | | X | | X | | X | | X | X | | | | | | | | | | X | | | |
| SUSDP02 | DPS0210N | SO | N | 9.5 - 10.5 ft | 1323688.07 | 448977.16 | | | 5/20/2013 | | | | | | | | | | | | | | | | | | | X | X | | | | | X | | | | | | | | | | | | | |
| SUSDP02 | DPS0215N | SO | N | 14.5 - 15.5 ft | 1323688.07 | 448977.16 | | | 5/20/2013 | | | | | | | | | | | | | | | | | | | X | X | | | | | X | | | | | | | | | | | | | |
| SUSDP02 | DPS0210N2 | SO | N | 9.5 - 10.5 ft | 1323688.07 | 448977.16 | | | 6/13/2013 | | | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | | | | | | | | |
| SUSDP02 | DPS0215N2 | SO | N | 14.5 - 15.5 ft | 1323688.07 | 448977.16 | | | 6/13/2013 | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | |
| SUSDP03 | DPS0305N | SO | N | 4.5 - 5.5 ft | 1324026.35 | 448120.86 | | | 5/14/2013 | | | | | | | | | | | | | | | | | | | | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP03 | DPS0310N | SO | N | 9.5 - 10.5 ft | 1324026.35 | 448120.86 | | | 5/21/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP03 | DPS0310R | SO | FD | 9.5 - 10.5 ft | 1324026.35 | 448120.86 | | | 5/21/2013 | | | | | | | | | | | | | | | | | | | | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP03 | DPS0315N | SO | N | 14.5 - 15.5 ft | 1324026.35 | 448120.86 | | | 5/21/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP03 | DPS0310N2 | SO | N | 9.5 - 10.5 ft | 1324026.35 | 448120.86 | | | 6/11/2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| SUSDP04 | DPS0403N | SO | N | 2.5 - 3.5 ft | 1324091.66 | 448808.97 | Forensics | | 5/15/2013 | | | | | | | | | | | | | | | X | | | X | | X | | X | | | X | | X | | | | X | | X | | | | | |
| SUSDP04 | DPS0410N | SO | N | 9.5 - 10.5 ft | 1324091.66 | 448808.97 | | | 5/20/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP04 | DPS0415N | SO | N | 14.5 - 15.5 ft | 1324091.66 | 448808.97 | | | 5/20/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP05 | DPS0505N | SO | N | 4.5 - 5.5 ft | 1324087.93 | 449163.57 | | | 5/15/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP05 | DPS0510N | SO | N | 9.5 - 10.5 ft | 1324087.93 | 449163.57 | | | 5/21/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP05 | DPS0515N | SO | N | 14.5 - 15.5 ft | 1324087.93 | 449163.57 | Forensics | | 5/21/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | X | | | | | | | | | | | | |
| SUSDP05 | DPS0505N2 | SO | N | 4.5 - 5.5 ft | 1324087.93 | 449163.57 | | | 6/12/2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| SUSDP06 | DPS0605N | SO | N | 4.5 - 5.5 ft | 1324259.23 | 448063.28 | | | 5/15/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP06 | DPS0610N | SO | N | 9.5 - 10.5 ft | 1324259.23 | 448063.28 | | | 5/22/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP06 | DPS0615N | SO | N | 14.5 - 15.5 ft | 1324259.23 | 448063.28 | | | 5/22/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP07 | DPS0705N | SO | N | 4.5 - 5.5 ft | 1324313.90 | 448780.43 | | | 5/15/2013 | | | | | | | | | | | | | | | X | | | X | | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP07 | DPS0710N | SO | N | 9.5 - 10.5 ft | 1324313.90 | 448780.43 | | | 5/22/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP07 | DPS0715N | SO | N | 14.5 - 15.5 ft | 1324313.90 | 448780.43 | | | 5/22/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | X | | | | | | | |

## Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDP07 | DPS0715N2 | SO | N | 14.5 - 15.5 ft | 1324313.90 | 448780.43 | | | 6/12/2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| SUSDP08 | DPS0803N | SO | N | 2.5 - 3.5 ft | 1324319.35 | 448910.93 | | | 5/15/2013 | | | | | | | | | | | | | | | X | | | X | | X | | X | | X | X | | | | | | X | | | | X | | | |
| SUSDP08 | DPS0810N | SO | N | 9.5 - 10.5 ft | 1324319.35 | 448910.93 | | | 5/23/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP08 | DPS0815N | SO | N | 14.5 - 15.5 ft | 1324319.35 | 448910.93 | | | 5/23/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP09 | DPS0905N | SO | N | 4.5 - 5.5 ft | 1324624.17 | 448048.31 | | | 5/17/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | X | X | | | | | | | | | | X | | | |
| SUSDP09 | DPS0910N | SO | N | 9.5 - 10.5 ft | 1324624.17 | 448048.31 | | | 6/11/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP09 | DPS0915N | SO | N | 14.5 - 15.5 ft | 1324624.17 | 448048.31 | | | 6/11/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | | | | | | | | |
| SUSDP10 | DPS1005N | SO | N | 4.5 - 5.5 ft | 1324662.91 | 448784.82 | | | 5/15/2013 | | | | | | | | | | | | | | | | | | | | X | | X | | X | X | | | | | | | | | | X | | | |
| SUSDP10 | DPS1010N | SO | N | 9.5 - 10.5 ft | 1324662.91 | 448784.82 | | | 6/10/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP10 | DPS1015N | SO | N | 14.5 - 15.5 ft | 1324662.91 | 448784.82 | | | 6/10/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | | | | | | | | |
| SUSDP11 | DPS1105N | SO | N | 4.5 - 5.5 ft | 1324624.65 | 449239.72 | | | 5/14/2013 | | | | | | | | | | | | | | | X | | | X | | X | | X | | X | X | | | | | | | | | | X | | | |
| SUSDP11 | DPS1110N | SO | N | 9.5 - 10.5 ft | 1324624.65 | 449239.72 | | | 5/28/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | X | | | | | | | | | | | |
| SUSDP11 | DPS1115N | SO | N | 14.5 - 15.5 ft | 1324624.65 | 449239.72 | | | 5/28/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP12 | DPS1205N | SO | N | 4.5 - 5.5 ft | 1324827.15 | 448435.68 | Forensics | | 6/13/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | X | | X | | | | | |
| SUSDP12 | DPS1210N | SO | N | 9.5 - 10.5 ft | 1324827.15 | 448435.68 | | | 6/13/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP12 | DPS1215N | SO | N | 14.5 - 15.5 ft | 1324827.15 | 448435.68 | | | 6/13/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP13 | DPS1305N | SO | N | 4.5 - 5.5 ft | 1324899.54 | 449245.86 | | | 5/20/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP13 | DPS1310N | SO | N | 9.5 - 10.5 ft | 1324899.54 | 449245.86 | | | 5/29/2013 | | | | | X | | | | | | | | | | X | | | X | X | X | | X | | | X | | X | | | | | | | | | | | |
| SUSDP13 | DPS1315N | SO | N | 14.5 - 15.5 ft | 1324899.54 | 449245.86 | | | 5/29/2013 | | | | | X | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP13 | DPS1310N 060713 | SO | N | 9.5 - 10.5 ft | 1324899.54 | 449245.86 | | | 6/7/2013 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | |
| SUSDP14 | DPS1403N | SO | N | 2.5 - 3.5 ft | 1325250.39 | 448089.70 | | | 5/22/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP14 | DPS1410N | SO | N | 9.5 - 10.5 ft | 1325250.39 | 448089.70 | | | 6/6/2013 | | | | | | | | | | | | | | | | | | | | X | | X | | | X | | X | | | | | | | | | | | |
| SUSDP14 | DPS1415N | SO | N | 14.5 - 15.5 ft | 1325250.39 | 448089.70 | | | 6/6/2013 | | | | | | | | | | | | | | | | | | | | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP15 | DPS1504N | SO | N | 3.5 - 4.5 ft | 1325219.52 | 448484.64 | | | 5/21/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | | | | | | | | |
| SUSDP15 | DPS1510N | SO | N | 9.5 - 10.5 ft | 1325219.52 | 448484.64 | Forensics | | 6/6/2013 | | | | | | | | | | | | | | | | | | | | X | | X | | | X | X | X | | | | | | | | | | | |
| SUSDP15 | DPS1515N | SO | N | 14.5 - 15.5 ft | 1325219.52 | 448484.64 | | | 6/10/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP16 | DPS1605N | SO | N | 4.5 - 5.5 ft | 1325155.21 | 448859.40 | | | 5/15/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP16 | DPS1610N | SO | N | 9.5 - 10.5 ft | 1325155.21 | 448859.40 | | | 6/10/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP16 | DPS1615N | SO | N | 14.5 - 15.5 ft | 1325155.21 | 448859.40 | | | 6/10/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | | | | | | | | |
| SUSDP16 | DPS1615R | SO | FD | 14.5 - 15.5 ft | 1325155.21 | 448859.40 | | | 6/10/2013 | | | | | | | | | | | | | | | | | | | | X | | X | | | X | | X | | | | | | | | | | | |
| SUSDP17 | DPS1705N | SO | N | 4.5 - 5.5 ft | 1325548.72 | 448588.91 | | | 5/23/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | X | X | | | | | | | | | | X | | | |
| SUSDP17 | DPS1710N | SO | N | 9.5 - 10.5 ft | 1325548.72 | 448588.91 | | | 6/11/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | | | | | | | | |
| SUSDP17 | DPS1715N | SO | N | 14 - 15 ft | 1325548.72 | 448588.91 | | | 6/11/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP18 | DPS1803N | SO | N | 2.5 - 3.5 ft | 1325531.22 | 448976.92 | | | 5/23/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | X | X | | X | | | | | | | | X | | | |
| SUSDP18 | DPS1810N | SO | N | 9.5 - 10.5 ft | 1325531.22 | 448976.92 | | | 6/4/2013 | | | | | X | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP18 | DPS1818N | SO | N | 17.5 - 18.5 ft | 1325531.22 | 448976.92 | | | 6/4/2013 | | | | | X | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | | | | | | | | |
| SUSDP19 | DPS1902N | SO | N | 1.5 - 2.5 ft | 1325677.11 | 447862.07 | | | 5/23/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP19 | DPS1902R | SO | FD | 1.5 - 2.5 ft | 1325677.11 | 447862.07 | | | 5/23/2013 | | | | | | | | | | | | | | | X | | | X | | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP19 | DPS1910N | SO | N | 9.5 - 10.5 ft | 1325677.11 | 447862.07 | Forensics | | 6/5/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | X | | X | | | | | |
| SUSDP19 | DPS1915N | SO | N | 14.5 - 15.5 ft | 1325677.11 | 447862.07 | | | 6/5/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP19 | DPS1915R | SO | FD | 14.5 - 15.5 ft | 1325677.11 | 447862.07 | | | 6/5/2013 | | | | | | | | | | | | | | | | | | | | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP20 | DPS2005N | SO | N | 4.5 - 5.5 ft | 1325651.50 | 448307.48 | | | 5/30/2013 | | | | | X | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | | | | | | | | |

## Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDP20 | DPS2010N | SO | N | 9.5 - 10.5 ft | 1325651.50 | 448307.48 | | | 6/12/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP20 | DPS2018N | SO | N | 17.5 - 18.5 ft | 1325651.50 | 448307.48 | | | 6/12/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP22 | DPS2203N | SO | N | 2.5 - 3.5 ft | 1326045.35 | 448181.51 | | | 5/22/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP22 | DPS2210N | SO | N | 9.5 - 10.5 ft | 1326045.35 | 448181.51 | | | 6/12/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | | | | | | | | |
| SUSDP22 | DPS2215N | SO | N | 14.5 - 15.5 ft | 1326045.35 | 448181.51 | | | 6/12/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP22 | SUS2200N | SO | N | 0.5 - 1 ft | 1326045.35 | 448181.51 | Forensics | | 6/13/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | X | | X | | | | | |
| SUSDP23 | DPS2305N | SO | N | 4.5 - 5.5 ft | 1325902.86 | 448372.41 | | | 5/28/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP23 | DPS2310N | SO | N | 9.5 - 10.5 ft | 1325902.86 | 448372.41 | | | 6/12/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | | | | | | | | |
| SUSDP23 | DPS2315N | SO | N | 14.5 - 15.5 ft | 1325902.86 | 448372.41 | | | 6/12/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP24 | DPS2405N | SO | N | 4.5 - 5.5 ft | 1325886.22 | 448915.42 | | | 5/20/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP24 | DPS2405R | SO | FD | 4.5 - 5.5 ft | 1325886.22 | 448915.42 | | | 5/20/2013 | | | | | | | | | | | | | | | | | | | | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP24 | DPS2410N | SO | N | 9.5 - 10.5 ft | 1325886.22 | 448915.42 | | | 6/4/2013 | | | | | X | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP24 | DPS2415N | SO | N | 14.5 - 15.5 ft | 1325886.22 | 448915.42 | | | 6/4/2013 | | | | | X | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP24 | DPS2410R | SO | FD | 9.5 - 10.5 ft | 1325886.22 | 448915.42 | | | 6/4/2013 | | | | | X | | | | | | | | | | X | | | X | | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP37 | DPS3703N | SO | N | 2.5 - 3.5 ft | 1324207.01 | 448553.63 | | | 5/16/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP37 | DPS3710N | SO | N | 9.5 - 10.5 ft | 1324207.01 | 448553.63 | | | 5/23/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP37 | DPS3715N | SO | N | 14.5 - 15.5 ft | 1324207.01 | 448553.63 | | | 5/23/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP37 | DPS3710N2 | SO | N | 9.5 - 10.5 ft | 1324207.01 | 448553.63 | | | 6/10/2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| SUSDP39 | DPS3903N | SO | N | 2.5 - 3.5 ft | 1324489.85 | 448470.19 | Forensics | | 5/17/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | X | | | | X | | X | | | | | |
| SUSDP39 | DPS3910N | SO | N | 9.5 - 10.5 ft | 1324489.85 | 448470.19 | | | 5/22/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP39 | DPS3915N | SO | N | 14.5 - 15.5 ft | 1324489.85 | 448470.19 | | | 5/22/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP41 | DPS4103N | SO | N | 2.5 - 3.5 ft | 1324243.54 | 448900.74 | Forensics | | 5/22/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | X | | X | | | | | |
| SUSDP41 | DPS41 10N | SO | N | 9.5 - 10.5 ft | 1324243.54 | 448900.74 | | | 5/24/2013 | | | | | | | | | | | | | | | X | | | X | | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP41 | DPS41 15N | SO | N | 14.5 - 15.5 ft | 1324243.54 | 448900.74 | | | 5/24/2013 | | | | | | | | | | | | | | | X | | | X | | X | | X | | | X | | | | | | X | | | | | | | |
| SUSDP41 | DPS4110N | SO | N | 9.5 - 10.5 ft | 1324243.54 | 448900.74 | | | 6/3/2013 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | |
| SUSDP41 | DPS4115N | SO | N | 14.5 - 15.5 ft | 1324243.54 | 448900.74 | | | 6/3/2013 | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | |
| SUSDP43 | DPS4304N | SO | N | 3.5 - 4.5 ft | 1324763.02 | 448548.99 | | | 5/17/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP43 | DPS4310N | SO | N | 9.5 - 10.5 ft | 1324763.02 | 448548.99 | | | 6/7/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | | X | | | | | | | | | | | |
| SUSDP43 | DPS4315N | SO | N | 14.5 - 15.5 ft | 1324763.02 | 448548.99 | | | 6/7/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP44 | DPS4403N | SO | N | 2.5 - 3.5 ft | 1324717.06 | 448871.86 | Forensics | | 5/21/2013 | | | | | | | | | | | | | | | X | | | X | X | X | | X | | | X | X | X | | | | | | | | | | | |
| SUSDP44 | DPS4410N | SO | N | 9.5 - 10.5 ft | 1324717.06 | 448871.86 | | | 6/10/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| SUSDP44 | DPS4415N | SO | N | 14.5 - 15.5 ft | 1324717.06 | 448871.86 | | | 6/10/2013 | | | | | | | | | | | | | | | | | | | X | X | | X | | | X | | | | | | | | | | | | | |
| **Phase I Landside Mobilization 2, Task 1: DPT Subsurface Investigation (Groundwater)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DP26 | DPW26(25-30)N | WG | N | 25 - 30 ft | 1324598.97 | 448836.13 | | 22.36 | 3/29/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP27 | DPW27(48-58)N | WG | N | 48 - 58 ft | 1324421.53 | 448861.73 | | 22.08 | 3/26/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP28 | DPW2821N | WG | N | 20 - 22 ft | 1324197.54 | 448631.68 | | 22.73 | 4/2/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP28 | DPW2821R | WG | FD | 20 - 22 ft | 1324197.54 | 448631.68 | | 22.73 | 4/2/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP29 | DPW29(45-50)N | WG | N | 45 - 50 ft | 1324524.98 | 448585.61 | | 23.21 | 4/2/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP30 | DPW3028N | WG | N | 27 - 29 ft | 1324149.06 | 448220.02 | | 23.62 | 4/3/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP30 | DPW30(50-55)N | WG | N | 50 - 55 ft | 1324149.06 | 448220.02 | | 23.62 | 4/3/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP31 | DPW3120N | WG | N | 19.5 - 20.5 ft | 1324152.00 | 448274.18 | | 23.73 | 4/1/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP31 | DPW31(37-42)N | WG | N | 37 - 42 ft | 1324152.00 | 448274.18 | | 23.73 | 4/1/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DP32 | DPW32(38-43)N | WG | N | 38 - 43 ft | 1325446.88 | 448520.64 | | 29.19 | 4/1/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP33 | DPW33(27-32)N | WG | N | 27 - 32 ft | 1325826.24 | 448337.53 | | 36.42 | 4/4/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP34 | DPW3453N | WG | N | 52.5 - 54 ft | 1326248.97 | 448370.51 | | 39.43 | 3/29/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP35 | DPW3515N | WG | N | 14 - 16 ft | 1326034.61 | 447902.07 | | 33.45 | 3/28/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP36 | DPW3612-17N | WG | N | 12 - 17 ft | 1323668.75 | 448779.51 | | 17.62 | 5/20/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP38 | DPW3815-20N | WG | N | 15 - 20 ft | 1324339.39 | 448539.12 | | 23.11 | 5/23/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP40 | DPW4015-20N | WG | N | 15 - 20 ft | 1324326.37 | 449009.85 | | 23.26 | 5/28/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP40 | DPW4050-55N | WG | N | 50 - 55 ft | 1324326.37 | 449009.85 | | 23.26 | 5/28/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP42 | DPW4220-25N | WG | N | 20 - 25 ft | 1324349.24 | 449248.87 | | 19.59 | 5/29/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP45 | DPW4515-20N | WG | N | 15 - 20 ft | 1325409.08 | 449077.83 | | 25.78 | 6/4/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP46 | DPW4615-20N | WG | N | 15 - 20 ft | 1325936.20 | 447842.90 | | | 6/5/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP46 | DPW4637-42N | WG | N | 37 - 42 ft | 1325936.20 | 447842.90 | | | 6/5/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| DP47 | DPW4710-15N | WG | N | 10 - 15 ft | 1325809.57 | 448157.16 | | 31.90 | 6/5/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP01 | DPW0112-15N | WG | N | 12 - 15 ft | 1323670.23 | 448434.09 | | | 5/20/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP01 | DPW0112-15N2 | WG | N | 12 - 15 ft | 1323670.23 | 448434.09 | | | 6/13/2013 | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | X | | | |
| SUSDP02 | DPW0212-17N | WG | N | 12 - 17 ft | 1323688.07 | 448977.16 | | | 5/20/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP02 | DPW0212-17N2 | WG | N | 12 - 17 ft | 1323688.07 | 448977.16 | | | 6/13/2013 | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | X | | | |
| SUSDP03 | DPW0310-15N | WG | N | 10 - 15 ft | 1324026.35 | 448120.86 | | | 5/21/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP03 | DPW0347-52N | WG | N | 47 - 52 ft | 1324026.35 | 448120.86 | | | 5/22/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP04 | DPW0415-20N | WG | N | 15 - 20 ft | 1324091.66 | 448808.97 | | | 5/20/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP05 | DPW0514-19N | WG | N | 14 - 19 ft | 1324087.93 | 449163.57 | | | 5/21/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP05 | DPW0514-19R | WG | FD | 14 - 19 ft | 1324087.93 | 449163.57 | | | 5/21/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP06 | DPW0614.5-19.5N | WG | N | 14.5 - 19.5 ft | 1324259.23 | 448063.28 | | | 5/23/2013 | | | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | | | | | | | | |
| SUSDP07 | DPW0720-25N | WG | N | 20 - 25 ft | 1324313.90 | 448780.43 | | | 5/22/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP07 | DPW0743-48N | WG | N | 43 - 48 ft | 1324313.90 | 448780.43 | | | 5/22/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP08 | DPW0815-25N | WG | N | 15 - 25 ft | 1324319.35 | 448910.93 | | | 5/24/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP08 | DPW08 34-39N | WG | N | 34 - 39 ft | 1324319.35 | 448910.93 | | | 5/24/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP09 | DPW0925-30N | WG | N | 25 - 30 ft | 1324624.17 | 448048.31 | | | 6/11/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP09 | DPW0945-50N | WG | N | 45 - 50 ft | 1324624.17 | 448048.31 | | | 6/11/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP10 | DPW1015-20N | WG | N | 15 - 20 ft | 1324662.91 | 448784.82 | | | 6/10/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP11 | DPW1110-15N | WG | N | 10 - 15 ft | 1324624.65 | 449239.72 | | | 5/28/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP12 | DPW1215-20N | WG | N | 15 - 20 ft | 1324827.15 | 448435.68 | | | 6/13/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP13 | DPW1310-15N | WG | N | 10 - 15 ft | 1324899.54 | 449245.86 | | | 5/29/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP13 | DPW1345-50N | WG | N | 45 - 50 ft | 1324899.54 | 449245.86 | | | 5/29/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP13 | DPW1345-50R | WG | FD | 45 - 50 ft | 1324899.54 | 449245.86 | | | 5/29/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP14 | DPW1423-28N | WG | N | 23 - 28 ft | 1325250.39 | 448089.70 | | | 6/6/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP15 | DPW1520-25N | WG | N | 20 - 25 ft | 1325219.52 | 448484.64 | | | 6/6/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP16 | DPW1615-20N | WG | N | 15 - 20 ft | 1325155.21 | 448859.40 | | | 6/10/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP16 | DPW1615-20R | WG | FD | 15 - 20 ft | 1325155.21 | 448859.40 | | | 6/10/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP17 | DPW1713-18N | WG | N | 13 - 18 ft | 1325548.72 | 448588.91 | | | 6/11/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP18 | DPW1815-20N | WG | N | 15 - 20 ft | 1325531.22 | 448976.92 | | | 6/4/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP19 | DPW191944.5-49.5N | WG | N | 44.5 - 49.5 ft | 1325677.11 | 447862.07 | | | 6/5/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDP19 | DPW1915-20N | WG | N | 15 - 20 ft | 1325677.11 | 447862.07 | | | 6/5/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP20 | DPW2015-20N | WG | N | 13 - 20 ft | 1325651.50 | 448307.48 | | | 6/12/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP22 | DPW2215-20N | WG | N | 15 - 20 ft | 1326045.35 | 448181.51 | | | 6/12/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP23 | DPW2323-28N | WG | N | 23 - 28 ft | 1325902.86 | 448372.41 | | | 6/12/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP24 | DPW2415-20N | WG | N | 15 - 20 ft | 1325886.22 | 448915.42 | | | 6/4/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP24 | DPW2415-20R | WG | FD | 15 - 20 ft | 1325886.22 | 448915.42 | | | 6/4/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | | X | | | | X | | | | X | | | |
| SUSDP24 | DPW2448.5-53.5N | WG | N | 48.5 - 53.5 ft | 1325886.22 | 448915.42 | | | 6/4/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP37 | DPW3725-30N | WG | N | 25 - 30 ft | 1324207.01 | 448553.63 | | | 5/23/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP37 | DPW3713-18N | WG | N | 13 - 18 ft | 1324207.01 | 448553.63 | | | 5/23/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP39 | DPW3913-18N | WG | N | 13 - 18 ft | 1324489.85 | 448470.19 | | | 5/22/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP41 | DPW41 39-44N | WG | N | 39 - 44 ft | 1324243.54 | 448900.74 | | | 5/24/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP41 | DPW41 15-25N | WG | N | 15 - 25 ft | 1324243.54 | 448900.74 | | | 5/24/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP43 | DPW4315-20N | WG | N | 15 - 20 ft | 1324763.02 | 448548.99 | | | 6/6/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| SUSDP44 | DPW4413-18N | WG | N | 13 - 18 ft | 1324717.06 | 448871.86 | | | 6/10/2013 | | | | | | | | | | | | | | | X | | X | | | X | | X | | | X | | X | | | | X | | | | | | | |
| **Phase I Landside Mobilization 3, Task 1: PCE Source Investigation (Groundwater)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DPA1 | DPWA120-25N | WG | N | 20 - 25 ft | 1324383.30 | 448016.85 | | | 4/17/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPA2 | DPWA220-25N | WG | N | 20 - 25 ft | 1324467.15 | 447988.40 | | | 4/17/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPA2 | DPWA220-25R | WG | FD | 20 - 25 ft | 1324467.15 | 447988.40 | | | 4/17/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPA3 | DPWA325-30N | WG | N | 25 - 30 ft | 1324542.03 | 447989.57 | | | 4/16/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPA4 | DPWA425-30N | WG | N | 25 - 30 ft | 1324619.25 | 447981.38 | | | 4/16/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPA4 | DPWA445-50N | WG | N | 45 - 50 ft | 1324619.25 | 447981.38 | | | 4/18/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPA5 | DPWA525-30N | WG | N | 25 - 30 ft | 1324684.77 | 447976.70 | | | 4/16/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPA5 | DPWA525-30R | WG | FD | 25 - 30 ft | 1324684.77 | 447976.70 | | | 4/16/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPB10 | DPWB1025-30N | WG | N | 25 - 30 ft | 1325128.24 | 447916.30 | | | 4/17/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPB11 | DPWB1125-30N | WG | N | 25 - 30 ft | 1325211.33 | 447902.26 | | | 4/17/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPB12 | DPWB1225-30N | WG | N | 25 - 30 ft | 1325304.96 | 447894.06 | | | 4/17/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPB2 | DPWB220-25N | WG | N | 20 - 25 ft | 1324482.36 | 448074.98 | | | 4/17/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPB3 | DPWB325-30N | WG | N | 25 - 30 ft | 1324552.56 | 448065.62 | | | 4/16/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPB5 | DPWB525-30N | WG | N | 25 - 30 ft | 1324708.79 | 448039.23 | | | 4/16/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPB5 | DPWB545-50N | WG | N | 45 - 50 ft | 1324708.79 | 448039.23 | | | 4/18/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPB6 | DPWB625-30N | WG | N | 25 - 30 ft | 1324776.03 | 447980.21 | | | 4/16/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPB7 | DPWB730-35N | WG | N | 30 - 35 ft | 1324869.64 | 447962.66 | | | 4/16/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPB7 | DPWB750-55N | WG | N | 50 - 55 ft | 1324869.64 | 447962.66 | | | 4/18/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPB9 | DPWB925-30N | WG | N | 25 - 30 ft | 1325034.61 | 447933.85 | | | 4/17/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPC3 | DPWC325-30N | WG | N | 25 - 30 ft | 1324547.88 | 448129.97 | | | 4/16/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPC4 | DPWC425-30N | WG | N | 25 - 30 ft | 1324640.31 | 448119.44 | | | 4/16/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPC5 | DPWC525-30N | WG | N | 25 - 30 ft | 1324717.46 | 448111.74 | | | 4/16/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPC7 | DPWC730-35N | WG | N | 30 - 35 ft | 1324874.32 | 448067.96 | | | 4/17/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPC8 | DPWC830-35N | WG | N | 30 - 35 ft | 1324957.39 | 448055.09 | | | 4/17/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPC9 | DPWC930-35N | WG | N | 30 - 35 ft | 1325041.63 | 448036.84 | | | 4/18/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPD5 | DPWD525-30N | WG | N | 25 - 30 ft | 1324732.67 | 448190.16 | | | 4/18/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| DPD6 | DPWD630-35N | WG | N | 30 - 35 ft | 1324818.10 | 448167.92 | | | 4/17/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DPD7 | DPWD730-35N | WG | N | 30 - 35 ft | 1324902.37 | 448149.19 | | | 4/17/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| **Phase I Landside Mobilization 3, Task 3: Monitoring Well Sampling and Gauging** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MW01A | MW01AN | WG | N | | 1323686.71 | 448230.77 | | 12.48 | 11/5/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW01B | MW01BN | WG | N | | 1323686.71 | 448230.77 | | 12.51 | 11/5/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW02A | MW02AN | WG | N | | 1323684.71 | 448456.98 | | 13.48 | 11/5/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | | | | |
| MW02A | MW02AN2 | WG | N | | 1323684.71 | 448456.98 | | 13.48 | 12/19/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | |
| MW02B | MW02BN | WG | N | | 1323684.71 | 448456.98 | | 13.47 | 11/5/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | | | | |
| MW03A | MW03AN | WG | N | | 1323686.31 | 448809.39 | | 14.87 | 11/4/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW03B | MW03BN | WG | N | | 1323686.31 | 448809.39 | | 14.90 | 11/4/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW04A | MW04AN | WG | N | | 1323752.83 | 449113.68 | | 14.54 | 11/4/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW04A | MW04AN2 | WG | N | | 1323752.83 | 449113.68 | | 14.54 | 12/19/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | |
| MW04B | MW04BN | WG | N | | 1323753.04 | 449113.85 | | 14.53 | 11/4/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW05A | MW05AN | WG | N | | 1324032.04 | 448172.22 | | 20.00 | 11/4/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | | | | X | | | | X | | | | | | | |
| MW05A | MW05ANB | WG | FD | | 1324032.04 | 448172.22 | | 20.00 | 11/5/2014 | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | |
| MW05B | MW05BN | WG | N | | 1324032.04 | 448172.22 | | 20.15 | 11/4/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | | | | |
| MW05B | MW05BN2 | WG | N | | 1324032.04 | 448172.22 | | 20.15 | 12/19/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | |
| MW06A | MW06AN | WG | N | | 1324211.25 | 448553.86 | | 20.44 | 11/4/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | | | | |
| MW06A | MW06AR | WG | FD | | 1324211.25 | 448553.86 | | 20.44 | 11/4/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | | | | |
| MW06B | MW06BN | WG | N | | 1324211.25 | 448553.86 | | 20.43 | 11/4/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | | | | |
| MW07A | MW07AN | WG | N | | 1324287.51 | 448860.38 | | 18.87 | 11/5/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW07A | MW07AR | WG | FD | | 1324287.51 | 448860.38 | | 18.87 | 11/5/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| MW07A | MW07AN2 | WG | N | | 1324287.51 | 448860.38 | | 18.87 | 12/19/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | |
| MW07A | MW07AN2 BACKUP | WG | N | | 1324287.51 | 448860.38 | | 18.87 | 12/19/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | |
| MW07B | MW07BN | WG | N | | 1324287.51 | 448860.38 | | 18.89 | 11/4/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW08A | MW08AN | WG | N | | 1324070.34 | 449147.19 | | 16.93 | 11/10/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | | | | |
| MW08B | MW08BN | WG | N | | 1324070.31 | 449147.29 | | 16.93 | 11/5/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | | | | |
| MW08B | MW08BR | WG | FD | | 1324070.31 | 449147.29 | | 16.93 | 11/5/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | | | | |
| MW08B | MW08BN2 | WG | N | | 1324070.31 | 449147.29 | | 16.93 | 12/19/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | |
| MW09A | MW09AN | WG | N | | 1324895.99 | 448067.35 | | 36.05 | 11/3/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW09A | MW09AN2 | WG | N | | 1324895.99 | 448067.35 | | 36.05 | 12/19/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | |
| MW09B | MW09BN | WG | N | | 1324895.99 | 448067.35 | | 36.02 | 11/3/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW10A | MW10AN | WG | N | | 1324574.04 | 448707.16 | | 20.16 | 11/4/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | | | | |
| MW10B | MW10BN | WG | N | | 1324574.04 | 448707.16 | | 20.26 | 11/4/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | | | | |
| MW11A | MW11AN | WG | N | | 1324624.32 | 449241.15 | | 16.76 | 11/4/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW11A | MW11AN2 | WG | N | | 1324624.32 | 449241.15 | | 16.76 | 12/19/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | |
| MW11B | MW11BN | WG | N | | 1324624.32 | 449241.15 | | 16.67 | 11/4/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW12A | MW12AN | WG | N | | 1325765.39 | 447922.55 | | 30.80 | 11/3/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW12A | MW12AN2 | WG | N | | 1325765.39 | 447922.55 | | 30.80 | 12/19/2014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | |
| MW12B | MW12BN | WG | N | | 1325765.39 | 447922.55 | | 30.86 | 11/3/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW13A | MW13AN | WG | N | | 1325558.01 | 448449.69 | | 27.45 | 11/3/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW13B | MW13BN | WG | N | | 1325558.01 | 448449.69 | | 27.54 | 11/3/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| MW14A | MW14AN | WG | N | | 1325694.46 | 448965.11 | | 24.90 | 11/3/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | | | | |

# Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW14B | MW14BN | WG | N | | 1325694.46 | 448965.11 | | 24.87 | 11/3/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | | | | |
| MW15A | MW15AN | WG | N | | 1326303.08 | 448363.57 | | 35.92 | 11/3/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | | | | |
| MW15B | MW15BN | WG | N | | 1326303.08 | 448363.57 | | 35.92 | 11/3/2014 | | | | | | | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | | | | |
| **Phase I Waterside Mobilization 2, Task 1: Surface Water Sampling** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUW1B | SUW1BN | WS | N | | 1323022.01 | 447478.73 | | | 9/23/2013 | X | | | | | X | | | X | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| SUW2B | SUW2BN | WS | N | | 1323120.00 | 447932.70 | | | 9/23/2013 | X | | | | | | | | X | | | | | | X | | X | | | | | | | | X | | | | | | X | | | | | | | |
| SUW3C | SUW3CN | WS | N | | 1323124.13 | 448467.71 | | | 9/23/2013 | X | | | | | X | | | X | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| SUW4B | SUW4BN | WS | N | | 1323088.70 | 448900.28 | | | 9/24/2013 | X | | | | | | | | X | | | | | | X | | X | | | | | | | | X | | | | | | X | | | | | | | |
| SUW5C | SUW5CN | WS | N | | 1323337.14 | 449338.07 | | | 9/24/2013 | X | | | | | | | | X | | | | | | X | | X | | | | | | | | X | | | | | | X | | | | | | | |
| SUW7B | SUW7BN | WS | N | | 1323647.81 | 449847.44 | | | 9/24/2013 | X | | | | | X | | | X | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| SUW6B | SUW6BN | WS | N | | 1323424.78 | 449687.44 | | | 9/24/2013 | X | | | | | X | | | X | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| SUW6B | SUW6BR | WS | FD | | 1323424.78 | 449687.44 | | | 9/24/2013 | X | | | | | X | | | | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| SUW8B | SUW8BN | WS | N | | 1323699.75 | 450124.44 | | | 9/24/2013 | X | | | | | | | | X | | | | | | X | | X | | | | | | | | X | | | | | | X | | | | | | | |
| SUWBACK15 | SUWBACK15N | WS | N | | 1313502.26 | 439976.25 | | | 9/25/2013 | X | | | | | X | | | X | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| SUWBACK13 | SUWBACK13N | WS | N | | 1320694.37 | 442914.41 | | | 9/25/2013 | X | | | | | | | | X | | | | | | X | | X | | | | | | | | X | | | | | | X | | | | | | | |
| SUWBACK12 | SUWBACK12N | WS | N | | 1321502.15 | 444821.89 | | | 9/25/2013 | X | | | | | X | | | X | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| SUWBACK11 | SUWBACK11N | WS | N | | 1322284.05 | 446970.24 | | | 9/25/2013 | X | | | | | | | | X | | | | | | X | | X | | | | | | | | X | | | | | | X | | | | | | | |
| SUW9C | SUW9CN | WS | N | | 1323961.98 | 450423.72 | | | 9/25/2013 | X | | | | | | | | X | | | | | | X | | X | | | | | | | | X | | | | | | X | | | | | | | |
| SUW10B | SUW10BN | WS | N | | 1324041.53 | 450790.50 | | | 9/26/2013 | X | | | | | X | | | X | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| SUWBACK5 | SUWBACK5N | WS | N | | 1326967.67 | 454617.45 | | | 9/26/2013 | X | | | | | X | | | X | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| SUWBACK4 | SUWBACK4N | WS | N | | 1329783.99 | 457920.60 | | | 9/26/2013 | X | | | | | X | | | X | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| SUWBACK3 | SUWBACK3N | WS | N | | 1329107.33 | 462717.77 | | | 9/26/2013 | X | | | | | | | | X | | | | | | X | | X | | | | | | | | X | | | | | | X | | | | | | | |
| SUWBACK6 | SUWBACK6N | WS | N | | 1326311.59 | 454054.19 | | | 9/26/2013 | X | | | | | | | | X | | | | | | X | | X | | | | | | | | X | | | | | | X | | | | | | | |
| SUWBACK1 | SUWBACK1N | WS | N | | 1333186.62 | 470680.54 | | | 10/3/2013 | X | | | | | X | | | X | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| SUWBACK2 | SUWBACK2N | WS | N | | 1327084.09 | 465951.44 | | | 10/3/2013 | X | | | | | X | | | X | | | | | | X | | X | | | | | | | X | X | | X | | | | X | | | | X | | | |
| **Phase I Waterside Mobilization 2, Task 2: Surface Sediment Sampling** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SED1.5B | SED1.5B00N | SE | N | 0 - 0.5 ft | 1323208.90 | 447688.22 | Forensics | -3.14 | 11/6/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | X | | | | | X |
| SED1A | SED1A00N | SE | N | 0 - 0.5 ft | 1322949.33 | 447487.01 | | -4.34 | 11/6/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED1B | SED1B00N | SE | N | 0 - 0.5 ft | 1323022.01 | 447478.73 | | -11.16 | 11/6/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SED1C | SED1C00N | SE | N | 0 - 0.5 ft | 1323207.62 | 447452.22 | | -0.35 | 11/7/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED2.5B | SED2.5B00N | SE | N | 0 - 0.5 ft | 1323217.10 | 448285.96 | | -0.67 | 11/7/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED2A | SED2A00N | SE | N | 0 - 0.5 ft | 1323069.35 | 447930.53 | Forensics | -13.14 | 11/6/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | X | | | | | X | | | | | | | X |
| SED2B | SED2B00N | SE | N | 0 - 0.5 ft | 1323120.00 | 447932.70 | | -5.84 | 11/5/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED2C | SED2C00N | SE | N | 0 - 0.5 ft | 1323344.64 | 447937.51 | | -0.41 | 11/6/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SED3.5B | SED3.5B00N | SE | N | 0 - 0.5 ft | 1323056.80 | 448558.14 | | -15.19 | 11/12/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED3A | SED3A00N | SE | N | 0 - 0.5 ft | 1323010.07 | 448455.78 | | -11.22 | 11/7/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED3B | SED3B00N | SE | N | 0 - 0.5 ft | 1323062.88 | 448464.11 | | -14.70 | 11/8/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED3C | SED3C00N | SE | N | 0 - 0.5 ft | 1323124.13 | 448467.71 | | -2.75 | 11/7/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SED3C | SED3C00R | SE | FD | 0 - 0.5 ft | 1323124.13 | 448467.71 | | -2.75 | 11/7/2013 | | | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SED4.5B | SED4.5B00N | SE | N | 0 - 0.5 ft | 1323163.53 | 449128.77 | | -7.44 | 11/8/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED4A | SED4A00N | SE | N | 0 - 0.5 ft | 1322976.43 | 448917.18 | Forensics | -13.12 | 11/12/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | X | | | | | X |
| SED4B | SED4B00N | SE | N | 0 - 0.5 ft | 1323088.70 | 448900.28 | | -5.79 | 11/12/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |

# Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SED4B | SED4B00R | SE | FD | 0 - 0.5 ft | 1323088.70 | 448900.28 | | -5.79 | 11/12/2013 | | | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SED4C | SED4C00N | SE | N | 0 - 0.5 ft | 1323146.06 | 448888.08 | | -3.66 | 11/12/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED5.5B | SED5.5B00N | SE | N | 0 - 0.5 ft | 1323400.33 | 449512.52 | | -6.99 | 11/12/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED5A | SED5A00N | SE | N | 0 - 0.5 ft | 1323198.27 | 449411.76 | | -6.94 | 11/8/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED5B | SED5B00N | SE | N | 0 - 0.5 ft | 1323266.69 | 449349.09 | | -8.51 | 11/8/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED5C | SED5C00N | SE | N | 0 - 0.5 ft | 1323337.14 | 449338.07 | | -1.87 | 11/11/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED6.5D | SED6.5D00N | SE | N | 0 - 0.5 ft | 1323798.17 | 449651.75 | | 2.64 | 11/25/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED6.5E | SED6.5E00N | SE | N | 0 - 0.5 ft | 1323969.79 | 449649.36 | | 1.69 | 11/25/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SED6A | SED6A00N | SE | N | 0 - 0.5 ft | 1323401.29 | 449707.18 | | -6.12 | 11/13/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED6B | SED6B00N | SE | N | 0 - 0.5 ft | 1323424.78 | 449687.44 | | -7.64 | 11/13/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SED6B | SED6B00R | SE | FD | 0 - 0.5 ft | 1323424.78 | 449687.44 | | -7.64 | 11/13/2013 | | | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SED6C | SED6C00N | SE | N | 0 - 0.5 ft | 1323525.05 | 449590.24 | | -1.84 | 11/14/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED7.5D | SED7.5D00N | SE | N | 0 - 0.5 ft | 1323906.87 | 449865.94 | | 2.55 | 11/25/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED7.5E | SED7.5E00N | SE | N | 0 - 0.5 ft | 1324043.58 | 449782.68 | Forensics | 1.60 | 11/25/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | X | | | | | X | | | | | | | X |
| SED7A | SED7A00N | SE | N | 0 - 0.5 ft | 1323526.84 | 449965.98 | | -3.94 | 11/13/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED7B | SED7B00N | SE | N | 0 - 0.5 ft | 1323647.81 | 449847.44 | | -2.31 | 11/13/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SED7B | SED7B00R | SE | FD | 0 - 0.5 ft | 1323647.81 | 449847.44 | | -2.31 | 11/13/2013 | | | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SED7D | SED7D00N | SE | N | 0 - 0.5 ft | 1323814.32 | 449789.58 | | 2.26 | 11/25/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED7E | SED7E00N | SE | N | 0 - 0.5 ft | 1323942.71 | 449728.24 | Forensics | 1.81 | 11/25/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | X | | | | | X |
| SED7F | SED7F00N | SE | N | 0 - 0.5 ft | 1324119.87 | 449660.56 | Forensics | 2.11 | 11/25/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | X | | X | | | X |
| SED7G | SED7G00N | SE | N | 0 - 0.5 ft | 1324216.84 | 449619.14 | | 1.59 | 1/30/2014 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SED8.5B | SED8.5B00N | SE | N | 0 - 0.5 ft | 1323863.72 | 450263.69 | | -8.34 | 11/13/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED8A | SED8A00N | SE | N | 0 - 0.5 ft | 1323627.03 | 450167.52 | | -1.82 | 11/13/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED8B | SED8B00N | SE | N | 0 - 0.5 ft | 1323699.75 | 450124.44 | | -6.64 | 11/13/2013 | | | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED8C | SED8C00N | SE | N | 0 - 0.5 ft | 1323810.54 | 450062.60 | | -1.56 | 11/14/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SED8C | SED8C00R | SE | FD | 0 - 0.5 ft | 1323810.54 | 450062.60 | | -1.56 | 11/14/2013 | | | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SED9.5B | SED9.5B00N | SE | N | 0 - 0.5 ft | 1324031.21 | 450586.65 | Forensics | -1.60 | 11/11/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | X | | | | | X | | | | | | | X |
| SED9A | SED9A00N | SE | N | 0 - 0.5 ft | 1323815.06 | 450506.80 | | -4.25 | 11/11/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED9B | SED9B00N | SE | N | 0 - 0.5 ft | 1323894.15 | 450467.75 | | -9.20 | 11/11/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED9C | SED9C00N | SE | N | 0 - 0.5 ft | 1323961.98 | 450423.72 | | -1.67 | 11/11/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SED10A | SED10A00N | SE | N | 0 - 0.5 ft | 1323959.18 | 450826.25 | | -14.31 | 11/11/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SED10B | SED10B00N | SE | N | 0 - 0.5 ft | 1324041.53 | 450790.50 | | -7.99 | 11/11/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SED10C | SED10C00N | SE | N | 0 - 0.5 ft | 1324112.83 | 450738.10 | Forensics | 1.49 | 11/11/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | X | | | | | X |
| SEDBACK1 | SEDBACK100N | SE | N | 0 - 0.5 ft | 1333186.62 | 470680.54 | | -0.60 | 12/3/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SEDBACK11 | SEDBACK1100N | SE | N | 0 - 0.5 ft | 1322284.05 | 446970.24 | Forensics | -2.54 | 11/15/2013 | | X | | | | | | | | | | X | | X | X | | X | X | | | | | | | X | X | | | | | X | | X | | | | | X |
| SEDBACK12 | SEDBACK1200N | SE | N | 0 - 0.5 ft | 1321502.15 | 444821.89 | | -1.12 | 11/14/2013 | | X | | | | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SEDBACK12 | SEDBACK1200R | SE | FD | 0 - 0.5 ft | 1321502.15 | 444821.89 | | -1.12 | 11/14/2013 | | | | | | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SEDBACK13 | SEDBACK1300N | SE | N | 0 - 0.5 ft | 1320694.37 | 442914.41 | | -9.84 | 11/14/2013 | | X | | | | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |
| SEDBACK15 | SEDBACK1500N | SE | N | 0 - 0.5 ft | 1313502.26 | 439976.25 | | -6.01 | 11/12/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SEDBACK2 | SEDBACK200N | SE | N | 0 - 0.5 ft | 1327084.09 | 465951.44 | | -1.81 | 12/3/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SEDBACK2 | SEDBACK200R | SE | FD | 0 - 0.5 ft | 1327084.09 | 465951.44 | | -1.81 | 12/3/2013 | | | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SEDBACK3 | SEDBACK300N | SE | N | 0 - 0.5 ft | 1329107.33 | 462717.77 | | -0.44 | 11/15/2013 | | X | | | | | | | | | | X | | X | X | | X | X | | | | | | | X | | | | | | X | | | | | | | X |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEDBACK4 | SEDBACK400N | SE | N | 0 - 0.5 ft | 1329783.99 | 457920.60 | Forensics | -6.88 | 11/14/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | X | | X | | | X |
| SEDBACK5 | SEDBACK500N | SE | N | 0 - 0.5 ft | 1326967.67 | 454617.45 | Forensics | -5.29 | 11/14/2013 | | X | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | X | X | | | | X | | | | X | | | X |
| SEDBACK5 | SEDBACK500R | SE | FD | 0 - 0.5 ft | 1326967.67 | 454617.45 | | -5.29 | 11/14/2013 | | | | | X | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| SEDBACK6 | SEDBACK600N | SE | N | 0 - 0.5 ft | 1326311.59 | 454054.19 | Forensics | -0.51 | 11/15/2013 | | X | | | | | | | | | | X | | X | X | | X | X | | | | | | X | X | X | X | | | | X | | X | | X | | | X |
| WSED1 | WSED100N | SE | N | 0 - 0.5 ft | 1323146.52 | 448403.78 | | -1.68 | 11/15/2013 | | X | | | | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| WSED1 | WSED100R | SE | FD | 0 - 0.5 ft | 1323146.52 | 448403.78 | | -1.68 | 11/15/2013 | | | | | | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| WSED2 | WSED200N | SE | N | 0 - 0.5 ft | 1323124.83 | 448582.42 | | -1.53 | 11/15/2013 | | X | | | | | | | | | | X | | X | X | | X | X | | | | | | X | X | | X | | | | X | | | | X | | | X |
| **Phase I Waterside Mobilization 2, Task 3: Subsurface Sediment Samples/Vibracore Boring** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SED1.5B | SED1.5B01N | SE | N | 1 - 3 ft | 1323208.90 | 447688.22 | | -3.14 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED1.5B | SED1.5B03N | SE | N | 3 - 5 ft | 1323208.90 | 447688.22 | Forensics | -3.14 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | X | | | | | |
| SED1.5B | SED1.5B05N | SE | N | 5 - 7 ft | 1323208.90 | 447688.22 | | -3.14 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED1.5B | SED1.5B07N | SE | N | 7 - 9 ft | 1323208.90 | 447688.22 | | -3.14 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED1A | SED1A01N | SE | N | 1 - 3 ft | 1322949.33 | 447487.01 | | -4.34 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED1A | SED1A03N | SE | N | 3 - 5 ft | 1322949.33 | 447487.01 | | -4.34 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED1A | SED1A05N | SE | N | 5 - 7 ft | 1322949.33 | 447487.01 | | -4.34 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED1A | SED1A07N | SE | N | 7 - 9 ft | 1322949.33 | 447487.01 | | -4.34 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED1B | SED1B01N | SE | N | 1 - 3 ft | 1323022.01 | 447478.73 | | -11.16 | 11/6/2013 | | | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | | | | | X | | | | | | | |
| SED1B | SED1B03N | SE | N | 3 - 5 ft | 1323022.01 | 447478.73 | | -11.16 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED1B | SED1B05N | SE | N | 5 - 7 ft | 1323022.01 | 447478.73 | | -11.16 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED1B | SED1B07N | SE | N | 7 - 9 ft | 1323022.01 | 447478.73 | | -11.16 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED1C | SED1C01N | SE | N | 1 - 3 ft | 1323207.62 | 447452.22 | | -0.35 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED1C | SED1C03N | SE | N | 3 - 5 ft | 1323207.62 | 447452.22 | | -0.35 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED1C | SED1C05N | SE | N | 5 - 7 ft | 1323207.62 | 447452.22 | | -0.35 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED1C | SED1C07N | SE | N | 7 - 9 ft | 1323207.62 | 447452.22 | Forensics | -0.35 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | X | | | | | X | | | | | | | |
| SED2.5B | SED2.5B01N | SE | N | 1 - 3 ft | 1323217.10 | 448285.96 | | -0.67 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED2.5B | SED2.5B03N | SE | N | 3 - 5 ft | 1323217.10 | 448285.96 | | -0.67 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED2.5B | SED2.5B05N | SE | N | 5 - 7 ft | 1323217.10 | 448285.96 | Forensics | -0.67 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | X | | | | | X | | | | | | | |
| SED2.5B | SED2.5B07N | SE | N | 7 - 9 ft | 1323217.10 | 448285.96 | | -0.67 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED2A | SED2A01N | SE | N | 1 - 3 ft | 1323069.35 | 447930.53 | | -13.14 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED2A | SED2A03N | SE | N | 3 - 5 ft | 1323069.35 | 447930.53 | | -13.14 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED2A | SED2A05N | SE | N | 5 - 7 ft | 1323069.35 | 447930.53 | | -13.14 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED2A | SED2A07N | SE | N | 7 - 9 ft | 1323069.35 | 447930.53 | | -13.14 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED2B | SED2B07N | SE | N | 7 - 9 ft | 1323120.00 | 447932.70 | | -5.84 | 11/5/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED2B | SED2B01N | SE | N | 1 - 3 ft | 1323120.00 | 447932.70 | | -5.84 | 11/5/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED2B | SED2B03N | SE | N | 3 - 5 ft | 1323120.00 | 447932.70 | | -5.84 | 11/5/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED2B | SED2B05N | SE | N | 5 - 7 ft | 1323120.00 | 447932.70 | | -5.84 | 11/5/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED2C | SED2C01N | SE | N | 1 - 3 ft | 1323344.64 | 447937.51 | | -0.41 | 11/6/2013 | | X | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SED2C | SED2C03N | SE | N | 3 - 5 ft | 1323344.64 | 447937.51 | | -0.41 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED2C | SED2C05N | SE | N | 5 - 7 ft | 1323344.64 | 447937.51 | | -0.41 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED2C | SED2C07N | SE | N | 7 - 9 ft | 1323344.64 | 447937.51 | | -0.41 | 11/6/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3.5B | SED3.5B01N | SE | N | 1 - 3 ft | 1323056.80 | 448558.14 | | -15.19 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3.5B | SED3.5B03N | SE | N | 3 - 5 ft | 1323056.80 | 448558.14 | | -15.19 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |

## Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SED3.5B | SED3.5B05N | SE | N | 5 - 7 ft | 1323056.80 | 448558.14 | | -15.19 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3.5B | SED3.5B07N | SE | N | 7 - 9 ft | 1323056.80 | 448558.14 | | -15.19 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3A | SED3A01N | SE | N | 1 - 3 ft | 1323010.07 | 448455.78 | | -11.22 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3A | SED3A03N | SE | N | 3 - 5 ft | 1323010.07 | 448455.78 | | -11.22 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3A | SED3A05N | SE | N | 5 - 7 ft | 1323010.07 | 448455.78 | | -11.22 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3A | SED3A07N | SE | N | 7 - 9 ft | 1323010.07 | 448455.78 | | -11.22 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3B | SED3B01N | SE | N | 1 - 3 ft | 1323062.88 | 448464.11 | | -14.70 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3B | SED3B03N | SE | N | 3 - 5 ft | 1323062.88 | 448464.11 | | -14.70 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3B | SED3B05N | SE | N | 5 - 7 ft | 1323062.88 | 448464.11 | | -14.70 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3B | SED3B07N | SE | N | 7 - 9 ft | 1323062.88 | 448464.11 | | -14.70 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3C | SED3C01N | SE | N | 1 - 3 ft | 1323124.13 | 448467.71 | | -2.75 | 11/7/2013 | | X | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SED3C | SED3C01R | SE | FD | 1 - 3 ft | 1323124.13 | 448467.71 | | -2.75 | 11/7/2013 | | | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SED3C | SED3C03N | SE | N | 3 - 5 ft | 1323124.13 | 448467.71 | | -2.75 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3C | SED3C03R | SE | FD | 3 - 5 ft | 1323124.13 | 448467.71 | | -2.75 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3C | SED3C05N | SE | N | 5 - 7 ft | 1323124.13 | 448467.71 | | -2.75 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3C | SED3C05R | SE | FD | 5 - 7 ft | 1323124.13 | 448467.71 | | -2.75 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3C | SED3C07N | SE | N | 7 - 9 ft | 1323124.13 | 448467.71 | | -2.75 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED3C | SED3C07R | SE | FD | 7 - 9 ft | 1323124.13 | 448467.71 | | -2.75 | 11/7/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED4.5B | SED4.5B01N | SE | N | 1 - 3 ft | 1323163.53 | 449128.77 | | -7.44 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | X | X | | | | X | | X | | | | X | | | | | | | |
| SED4.5B | SED4.5B03N | SE | N | 3 - 5 ft | 1323163.53 | 449128.77 | | -7.44 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED4.5B | SED4.5B05N | SE | N | 5 - 7 ft | 1323163.53 | 449128.77 | | -7.44 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED4.5B | SED4.5B07N | SE | N | 7 - 9 ft | 1323163.53 | 449128.77 | | -7.44 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED4A | SED4A01N | SE | N | 1 - 3 ft | 1322976.43 | 448917.18 | | -13.12 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED4A | SED4A03N | SE | N | 3 - 5 ft | 1322976.43 | 448917.18 | | -13.12 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED4A | SED4A05N | SE | N | 5 - 7 ft | 1322976.43 | 448917.18 | | -13.12 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED4A | SED4A07N | SE | N | 7 - 9 ft | 1322976.43 | 448917.18 | | -13.12 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED4B | SED4B01N | SE | N | 1 - 3 ft | 1323088.70 | 448900.28 | | -5.79 | 11/12/2013 | | X | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SED4B | SED4B03N | SE | N | 3 - 5 ft | 1323088.70 | 448900.28 | | -5.79 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED4B | SED4B05N | SE | N | 5 - 7 ft | 1323088.70 | 448900.28 | | -5.79 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED4B | SED4B07N | SE | N | 7 - 9 ft | 1323088.70 | 448900.28 | | -5.79 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED4C | SED4C01N | SE | N | 1 - 3 ft | 1323146.06 | 448888.08 | | -3.66 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED4C | SED4C03N | SE | N | 3 - 5 ft | 1323146.06 | 448888.08 | | -3.66 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED4C | SED4C05N | SE | N | 5 - 7 ft | 1323146.06 | 448888.08 | | -3.66 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED4C | SED4C07N | SE | N | 7 - 9 ft | 1323146.06 | 448888.08 | | -3.66 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED5.5B | SED5.5B01N | SE | N | 1 - 3 ft | 1323400.33 | 449512.52 | | -6.99 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED5.5B | SED5.5B03N | SE | N | 3 - 5 ft | 1323400.33 | 449512.52 | | -6.99 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED5.5B | SED5.5B07N | SE | N | 7 - 9 ft | 1323400.33 | 449512.52 | | -6.99 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED5.5B | SED5.5B05N | SE | N | 5 - 7 ft | 1323400.33 | 449512.52 | | -6.99 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED5A | SED5A01N | SE | N | 1 - 3 ft | 1323198.27 | 449411.76 | | -6.94 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED5A | SED5A03N | SE | N | 3 - 5 ft | 1323198.27 | 449411.76 | | -6.94 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED5A | SED5A05N | SE | N | 5 - 7 ft | 1323198.27 | 449411.76 | | -6.94 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED5A | SED5A07N | SE | N | 7 - 9 ft | 1323198.27 | 449411.76 | | -6.94 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SED5B | SED5B01N | SE | N | 1 - 3 ft | 1323266.69 | 449349.09 | | -8.51 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B03N | SE | N | 3 - 5 ft | 1323266.69 | 449349.09 | | -8.51 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B05N | SE | N | 5 - 7 ft | 1323266.69 | 449349.09 | | -8.51 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B07N | SE | N | 7 - 9 ft | 1323266.69 | 449349.09 | | -8.51 | 11/8/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED5C | SED5C01N | SE | N | 1 - 3 ft | 1323337.14 | 449338.07 | | -1.87 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED5C | SED5C03N | SE | N | 3 - 5 ft | 1323337.14 | 449338.07 | | -1.87 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED5C | SED5C05N | SE | N | 5 - 7 ft | 1323337.14 | 449338.07 | | -1.87 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED5C | SED5C07N | SE | N | 7 - 9 ft | 1323337.14 | 449338.07 | | -1.87 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6.5D | SED6.5D01N | SE | N | 1 - 3 ft | 1323798.17 | 449651.75 | | 2.64 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6.5D | SED6.5D03N | SE | N | 3 - 4 ft | 1323798.17 | 449651.75 | | 2.64 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6.5D | SED6.5D05N | SE | N | 5 - 7 ft | 1323798.17 | 449651.75 | | 2.64 | 1/29/2014 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6.5D | SED6.5D07N | SE | N | 7 - 9 ft | 1323798.17 | 449651.75 | | 2.64 | 1/29/2014 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6.5E | SED6.5E01N | SE | N | 1 - 3 ft | 1323969.79 | 449649.36 | Forensics | 1.69 | 11/25/2013 | | X | | | X | | | | | | | X | | | X | | | X | | | | | | | X | X | X | | | | X | | | | | | | |
| SED6.5E | SED6.5E03N | SE | N | 3 - 5 ft | 1323969.79 | 449649.36 | | 1.69 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6.5E | SED6.5E05N | SE | N | 5 - 7 ft | 1323969.79 | 449649.36 | | 1.69 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6.5E | SED6.5E07N | SE | N | 7 - 8 ft | 1323969.79 | 449649.36 | | 1.69 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6.5E | SED6.5E01R | SE | FD | 1 - 3 ft | 1323969.79 | 449649.36 | | 1.69 | 11/25/2013 | | | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SED6A | SED6A01N | SE | N | 1 - 3 ft | 1323401.29 | 449707.18 | | -6.12 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6A | SED6A03N | SE | N | 3 - 5 ft | 1323401.29 | 449707.18 | | -6.12 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6A | SED6A05N | SE | N | 5 - 7 ft | 1323401.29 | 449707.18 | | -6.12 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6B | SED6B01N | SE | N | 1 - 3 ft | 1323424.78 | 449687.44 | | -7.64 | 11/13/2013 | | X | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SED6B | SED6B03N | SE | N | 3 - 5 ft | 1323424.78 | 449687.44 | | -7.64 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6B | SED6B05N | SE | N | 5 - 7 ft | 1323424.78 | 449687.44 | | -7.64 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6B | SED6B07N | SE | N | 7 - 9 ft | 1323424.78 | 449687.44 | | -7.64 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6C | SED6C 2' | SE | N | 2 - 2.5 ft | 1323525.05 | 449590.24 | | -1.84 | 11/14/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| SED6C | SED6C01N | SE | N | 1 - 3 ft | 1323525.05 | 449590.24 | | -1.84 | 11/14/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6C | SED6C03N | SE | N | 3 - 5 ft | 1323525.05 | 449590.24 | Forensics | -1.84 | 11/14/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | X | | | | | |
| SED6C | SED6C05N | SE | N | 5 - 7 ft | 1323525.05 | 449590.24 | | -1.84 | 11/14/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED6C | SED6C07N | SE | N | 7 - 9 ft | 1323525.05 | 449590.24 | | -1.84 | 11/14/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7.5D | SED7.5D01N | SE | N | 1 - 3 ft | 1323906.87 | 449865.94 | | 2.55 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7.5D | SED7.5D03N | SE | N | 3 - 5 ft | 1323906.87 | 449865.94 | Forensics | 2.55 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | X | | | | | X | | | | | | | |
| SED7.5D | SED7.5D05N | SE | N | 5 - 6.8 ft | 1323906.87 | 449865.94 | | 2.55 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7.5E | SED7.5E01N | SE | N | 1 - 3 ft | 1324043.58 | 449782.68 | | 1.60 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7.5E | SED7.5E03N | SE | N | 3 - 5 ft | 1324043.58 | 449782.68 | | 1.60 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7.5E | SED7.5E05N | SE | N | 5 - 7 ft | 1324043.58 | 449782.68 | | 1.60 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7.5E | SED7.5E07N | SE | N | 7 - 9 ft | 1324043.58 | 449782.68 | | 1.60 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7A | SED7A01N | SE | N | 1 - 3 ft | 1323526.84 | 449965.98 | | -3.94 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7A | SED7A03N | SE | N | 3 - 5 ft | 1323526.84 | 449965.98 | | -3.94 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7A | SED7A05N | SE | N | 5 - 7 ft | 1323526.84 | 449965.98 | | -3.94 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7A | SED7A07N | SE | N | 7 - 9 ft | 1323526.84 | 449965.98 | | -3.94 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7B | SED7B01N | SE | N | 1 - 3 ft | 1323647.81 | 449847.44 | | -2.31 | 11/13/2013 | | X | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SED7B | SED7B03N | SE | N | 3 - 5 ft | 1323647.81 | 449847.44 | | -2.31 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SED7B | SED7B05N | SE | N | 5 - 7 ft | 1323647.81 | 449847.44 | | -2.31 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7B | SED7B07N | SE | N | 7 - 9 ft | 1323647.81 | 449847.44 | | -2.31 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7D | SED7D01N | SE | N | 1 - 3 ft | 1323814.32 | 449789.58 | | 2.26 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7D | SED7D03N | SE | N | 3 - 5 ft | 1323814.32 | 449789.58 | | 2.26 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7D | SED7D05N | SE | N | 5 - 7 ft | 1323814.32 | 449789.58 | | 2.26 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7D | SED7D07N | SE | N | 7 - 9 ft | 1323814.32 | 449789.58 | | 2.26 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E01N | SE | N | 1 - 3 ft | 1323942.71 | 449728.24 | Forensics | 1.81 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | X | | | | | |
| SED7E | SED7E03N | SE | N | 3 - 5 ft | 1323942.71 | 449728.24 | | 1.81 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E05N | SE | N | 5 - 6 ft | 1323942.71 | 449728.24 | | 1.81 | 11/25/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7F | SED7F01N | SE | N | 1 - 3 ft | 1324119.87 | 449660.56 | | 2.11 | 11/25/2013 | | X | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | | | | | X | | | | | | | |
| SED7F | SED7F01N2 | SE | N | 1 - 3 ft | 1324119.87 | 449660.56 | | 2.11 | 12/3/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| SED7F | SED7F03N | SE | N | 3 - 5 ft | 1324119.87 | 449660.56 | | 2.11 | 1/29/2014 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7F | SED7F05N | SE | N | 5 - 7 ft | 1324119.87 | 449660.56 | | 2.11 | 1/29/2014 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7F | SED7F07N | SE | N | 7 - 9 ft | 1324119.87 | 449660.56 | | 2.11 | 1/29/2014 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7G | SED7G01N | SE | N | 1 - 3 ft | 1324216.84 | 449619.14 | | 1.59 | 1/30/2014 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7G | SED7G01R | SE | FD | 1 - 3 ft | 1324216.84 | 449619.14 | | 1.59 | 1/30/2014 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7G | SED7G03N | SE | N | 3 - 5 ft | 1324216.84 | 449619.14 | | 1.59 | 1/30/2014 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7G | SED7G05N | SE | N | 5 - 7 ft | 1324216.84 | 449619.14 | | 1.59 | 1/30/2014 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED7G | SED7G07N | SE | N | 7 - 9 ft | 1324216.84 | 449619.14 | | 1.59 | 1/30/2014 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED8.5B | SED8.5B01N | SE | N | 1 - 3 ft | 1323863.72 | 450263.69 | | -8.34 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED8.5B | SED8.5B03N | SE | N | 3 - 5 ft | 1323863.72 | 450263.69 | | -8.34 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED8.5B | SED8.5B05N | SE | N | 5 - 7 ft | 1323863.72 | 450263.69 | | -8.34 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED8.5B | SED8.5B07N | SE | N | 7 - 9 ft | 1323863.72 | 450263.69 | | -8.34 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED8A | SED8A01N | SE | N | 1 - 3 ft | 1323627.03 | 450167.52 | | -1.82 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED8A | SED8A03N | SE | N | 3 - 5 ft | 1323627.03 | 450167.52 | | -1.82 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED8A | SED8A05N | SE | N | 5 - 7 ft | 1323627.03 | 450167.52 | | -1.82 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED8A | SED8A07N | SE | N | 7 - 9 ft | 1323627.03 | 450167.52 | | -1.82 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED8B | SED8B01N | SE | N | 1 - 3 ft | 1323699.75 | 450124.44 | | -6.64 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED8B | SED8B03N | SE | N | 3 - 5 ft | 1323699.75 | 450124.44 | | -6.64 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED8B | SED8B05N | SE | N | 5 - 7 ft | 1323699.75 | 450124.44 | | -6.64 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED8B | SED8B07N | SE | N | 7 - 9 ft | 1323699.75 | 450124.44 | | -6.64 | 11/13/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED8C | SED8C01N | SE | N | 1 - 3 ft | 1323810.54 | 450062.60 | | -1.56 | 11/14/2013 | | X | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SED8C | SED8C03N | SE | N | 3 - 5 ft | 1323810.54 | 450062.60 | | -1.56 | 11/14/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED8C | SED8C05N | SE | N | 5 - 7 ft | 1323810.54 | 450062.60 | | -1.56 | 11/14/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED8C | SED8C07N | SE | N | 7 - 9 ft | 1323810.54 | 450062.60 | | -1.56 | 11/14/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED9.5B | SED9.5B01N | SE | N | 1 - 3 ft | 1324031.21 | 450586.65 | | -1.60 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED9.5B | SED9.5B03N | SE | N | 3 - 5 ft | 1324031.21 | 450586.65 | Forensics | -1.60 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | X | | | | | X | | | | | | | |
| SED9.5B | SED9.5B05N | SE | N | 5 - 7 ft | 1324031.21 | 450586.65 | | -1.60 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED9.5B | SED9.5B07N | SE | N | 7 - 9 ft | 1324031.21 | 450586.65 | | -1.60 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED9A | SED9A01N | SE | N | 1 - 3 ft | 1323815.06 | 450506.80 | | -4.25 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED9A | SED9A03N | SE | N | 3 - 5 ft | 1323815.06 | 450506.80 | | -4.25 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED9A | SED9A05N | SE | N | 5 - 7 ft | 1323815.06 | 450506.80 | | -4.25 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SED9B | SED9B01N | SE | N | 1 - 3 ft | 1323894.15 | 450467.75 | | -9.20 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED9B | SED9B03N | SE | N | 3 - 5 ft | 1323894.15 | 450467.75 | | -9.20 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED9B | SED9B05N | SE | N | 5 - 7 ft | 1323894.15 | 450467.75 | | -9.20 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED9C | SED9C01N | SE | N | 1 - 3 ft | 1323961.98 | 450423.72 | | -1.67 | 11/11/2013 | | | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SED9C | SED9C01R | SE | FD | 1 - 3 ft | 1323961.98 | 450423.72 | | -1.67 | 11/11/2013 | | | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SED9C | SED9C03N | SE | N | 3 - 5 ft | 1323961.98 | 450423.72 | | -1.67 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED9C | SED9C05N | SE | N | 5 - 7 ft | 1323961.98 | 450423.72 | | -1.67 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED9C | SED9C07N | SE | N | 7 - 9 ft | 1323961.98 | 450423.72 | | -1.67 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED10A | SED10A01N | SE | N | 1 - 3 ft | 1323959.18 | 450826.25 | | -14.31 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED10A | SED10A03N | SE | N | 3 - 5 ft | 1323959.18 | 450826.25 | | -14.31 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED10A | SED10A05N | SE | N | 5 - 7 ft | 1323959.18 | 450826.25 | | -14.31 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED10A | SED10A07N | SE | N | 7 - 9 ft | 1323959.18 | 450826.25 | | -14.31 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED10B | SED10B01N | SE | N | 1 - 3 ft | 1324041.53 | 450790.50 | | -7.99 | 11/11/2013 | | X | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SED10B | SED10B03N | SE | N | 3 - 5 ft | 1324041.53 | 450790.50 | | -7.99 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED10B | SED10B05N | SE | N | 5 - 6 ft | 1324041.53 | 450790.50 | | -7.99 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED10C | SED10C01N | SE | N | 1 - 3 ft | 1324112.83 | 450738.10 | | 1.49 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED10C | SED10C03N | SE | N | 3 - 5 ft | 1324112.83 | 450738.10 | | 1.49 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED10C | SED10C05N | SE | N | 5 - 7 ft | 1324112.83 | 450738.10 | | 1.49 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SED10C | SED10C07N | SE | N | 7 - 9 ft | 1324112.83 | 450738.10 | Forensics | 1.49 | 11/11/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | X | | | | | |
| SEDBACK11 | SEDBACK1101N | SE | N | 1 - 3 ft | 1322284.05 | 446970.24 | Forensics | -2.54 | 11/15/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | | | X | | | | | | | |
| SEDBACK11 | SEDBACK1103N | SE | N | 3 - 5 ft | 1322284.05 | 446970.24 | Forensics | -2.54 | 11/15/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | X | | | | | |
| SEDBACK11 | SEDBACK1105N | SE | N | 5 - 7 ft | 1322284.05 | 446970.24 | | -2.54 | 11/15/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SEDBACK12 | SEDBACK1201N | SE | N | 1 - 3 ft | 1321502.15 | 444821.89 | | -1.12 | 11/14/2013 | | X | | | | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SEDBACK12 | SEDBACK1203N | SE | N | 3 - 5 ft | 1321502.15 | 444821.89 | | -1.12 | 11/14/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SEDBACK12 | SEDBACK1205N | SE | N | 5 - 7 ft | 1321502.15 | 444821.89 | | -1.12 | 11/14/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SEDBACK12 | SEDBACK1207N | SE | N | 7 - 8 ft | 1321502.15 | 444821.89 | | -1.12 | 11/14/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SEDBACK13 | SEDBACK1301N | SE | N | 1 - 3 ft | 1320694.37 | 442914.41 | Forensics | -9.84 | 11/14/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | X | | | | | |
| SEDBACK13 | SEDBACK1303N | SE | N | 3 - 5 ft | 1320694.37 | 442914.41 | | -9.84 | 11/14/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SEDBACK13 | SEDBACK1305N | SE | N | 5 - 7 ft | 1320694.37 | 442914.41 | | -9.84 | 11/14/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SEDBACK13 | SEDBACK1307N | SE | N | 7 - 8 ft | 1320694.37 | 442914.41 | | -9.84 | 11/14/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SEDBACK15 | SEDBACK1501N | SE | N | 1 - 3 ft | 1313502.26 | 439976.25 | | -6.01 | 11/12/2013 | | X | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SEDBACK15 | SEDBACK1503N | SE | N | 3 - 5 ft | 1313502.26 | 439976.25 | Forensics | -6.01 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | X | | | | | |
| SEDBACK15 | SEDBACK1505N | SE | N | 5 - 7 ft | 1313502.26 | 439976.25 | | -6.01 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SEDBACK15 | SEDBACK1507N | SE | N | 7 - 9 ft | 1313502.26 | 439976.25 | | -6.01 | 11/12/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SEDBACK2 | SEDBACK201N | SE | N | 1 - 3 ft | 1327084.09 | 465951.44 | | -1.81 | 1/31/2014 | | X | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SEDBACK3 | SEDBACK303N | SE | N | 3 - 3.6 ft | 1329107.33 | 462717.77 | | -0.44 | 11/14/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SEDBACK3 | SEDBACK301N | SE | N | 1 - 3 ft | 1329107.33 | 462717.77 | | -0.44 | 11/15/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SEDBACK4 | SEDBACK401N | SE | N | 1 - 3 ft | 1329783.99 | 457920.60 | Forensics | -6.88 | 11/14/2013 | | X | | | X | | | | | | | X | | | X | | | X | | | | | | | X | X | X | | | | X | | | | | | | |
| SEDBACK4 | SEDBACK403N | SE | N | 3 - 4 ft | 1329783.99 | 457920.60 | | -6.88 | 11/14/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SEDBACK5 | SEDBACK501N | SE | N | 1 - 3 ft | 1326967.67 | 454617.45 | | -5.29 | 11/14/2013 | | X | | | X | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SEDBACK5 | SEDBACK503N | SE | N | 3 - 5 ft | 1326967.67 | 454617.45 | Forensics | -5.29 | 11/14/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | X | | | | | X | | X | | | | | |
| SEDBACK5 | SEDBACK505N | SE | N | 5 - 7 ft | 1326967.67 | 454617.45 | | -5.29 | 11/14/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEDBACK5 | SEDBACK507N | SE | N | 7 - 8 ft | 1326967.67 | 454617.45 | | -5.29 | 11/14/2013 | | | | | X | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SEDBACK6 | SEDBACK601N | SE | N | 1 - 3 ft | 1326311.59 | 454054.19 | | -0.51 | 11/15/2013 | | X | | | | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| SEDBACK6 | SEDBACK603N | SE | N | 3 - 5 ft | 1326311.59 | 454054.19 | | -0.51 | 11/15/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SEDBACK6 | SEDBACK605N | SE | N | 5 - 7 ft | 1326311.59 | 454054.19 | | -0.51 | 11/15/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SEDBACK6 | SEDBACK607N | SE | N | 7 - 9 ft | 1326311.59 | 454054.19 | | -0.51 | 11/15/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| WSED1 | WSED101N | SE | N | 1 - 3 ft | 1323146.52 | 448403.78 | | -1.68 | 11/15/2013 | | X | | | | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| WSED1 | WSED103N | SE | N | 3 - 5 ft | 1323146.52 | 448403.78 | | -1.68 | 11/15/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| WSED1 | WSED105N | SE | N | 5 - 7 ft | 1323146.52 | 448403.78 | | -1.68 | 11/15/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| WSED1 | WSED107N | SE | N | 7 - 9 ft | 1323146.52 | 448403.78 | | -1.68 | 11/15/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| WSED2 | WSED201N | SE | N | 1 - 3 ft | 1323124.83 | 448582.42 | | -1.53 | 11/15/2013 | | X | | | | | | | | | | X | | | X | | | X | | | | | | | X | | X | | | | X | | | | | | | |
| WSED2 | WSED203N | SE | N | 3 - 5 ft | 1323124.83 | 448582.42 | | -1.53 | 11/15/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| WSED2 | WSED205N | SE | N | 5 - 7 ft | 1323124.83 | 448582.42 | | -1.53 | 11/15/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| WSED2 | WSED207N | SE | N | 7 - 9 ft | 1323124.83 | 448582.42 | Forensics | -1.53 | 11/15/2013 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | | | X | | | | | | | |
| **Phase II Landside Mobilization 1, Task 1: Onsite Monitoring Well Redevelopment and Resampling** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MW01A | MW01A122216N | WG | N | | 1323686.71 | 448230.77 | | 12.48 | 12/22/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | X | | | | X | | | |
| MW01A | MW01A122216R | WG | FD | | 1323686.71 | 448230.77 | | 12.48 | 12/22/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | X | | | | X | | | |
| MW01A | MW01A042517N | WG | N | | 1323686.71 | 448230.77 | | 12.48 | 4/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | |
| MW01B | MW01B122216N | WG | N | | 1323686.71 | 448230.77 | | 12.51 | 12/22/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | X | | | | | | | |
| MW01B | MW01B042517N | WG | N | | 1323686.71 | 448230.77 | | 12.51 | 4/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | |
| MW02A | MW02A122216N | WG | N | | 1323684.71 | 448456.98 | | 13.48 | 12/22/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | X | | X | | X | | | | | |
| MW02B | MW02B122216N | WG | N | | 1323684.71 | 448456.98 | | 13.47 | 12/22/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | | | | |
| MW03A | MW03A122116N | WG | N | | 1323686.31 | 448809.39 | | 14.87 | 12/21/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | |
| MW03B | MW03B122116N | WG | N | | 1323686.31 | 448809.39 | | 14.90 | 12/21/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | |
| MW04A | MW04A122116N | WG | N | | 1323752.83 | 449113.68 | | 14.54 | 12/21/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | X | | | |
| MW04B | MW04B122116N | WG | N | | 1323753.04 | 449113.85 | | 14.53 | 12/21/2016 | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | | | | | | |
| MW05A | MW05A122116N | WG | N | | 1324032.04 | 448172.22 | | 20.00 | 12/21/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| MW05A | MW05A042517N | WG | N | | 1324032.04 | 448172.22 | | 20.00 | 4/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | |
| MW05B | MW05B122116N | WG | N | | 1324032.04 | 448172.22 | | 20.15 | 12/21/2016 | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| MW05B | MW05B042517N | WG | N | | 1324032.04 | 448172.22 | | 20.15 | 4/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | | |
| MW06A | MW06A122116N | WG | N | | 1324211.25 | 448553.86 | | 20.44 | 12/21/2016 | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| MW06A | MW06A122116R | WG | FD | | 1324211.25 | 448553.86 | | 20.44 | 12/21/2016 | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | |
| MW07A | MW07A122016N | WG | N | | 1324287.51 | 448860.38 | | 18.87 | 12/20/2016 | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | | | X | | | |
| MW07B | MW07B122016N | WG | N | | 1324287.51 | 448860.38 | | 18.89 | 12/20/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | X | | | |
| MW08A | MW08A122116N | WG | N | | 1324070.34 | 449147.19 | | 16.93 | 12/21/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | |
| MW08B | MW08B122116N | WG | N | | 1324070.31 | 449147.29 | | 16.93 | 12/21/2016 | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | | | | | | |
| MW09A | MW09A122116N | WG | N | | 1324895.99 | 448067.35 | | 36.05 | 12/21/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | X | | | |
| MW09A | MW09A042517N | WG | N | | 1324895.99 | 448067.35 | | 36.05 | 4/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | |
| MW09B | MW09B122116N | WG | N | | 1324895.99 | 448067.35 | | 36.02 | 12/21/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | X | | | |
| MW10B | MW10B122116N | WG | N | | 1324574.04 | 448707.16 | | 20.26 | 12/21/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| MW11A | MW11A122216N | WG | N | | 1324624.32 | 449241.15 | | 16.76 | 12/22/2016 | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | X | | | | | | | X | | | |
| MW11B | MW11B122216N | WG | N | | 1324624.32 | 449241.15 | | 16.67 | 12/22/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | X | | | |
| MW12A | MW12A122016N | WG | N | | 1325765.39 | 447922.55 | | 30.80 | 12/20/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW12B | MW12B122016N | WG | N | | 1325765.39 | 447922.55 | | 30.86 | 12/20/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| MW13A | MW13A122016N | WG | N | | 1325558.01 | 448449.69 | | 27.45 | 12/20/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| MW13B | MW13B122016N | WG | N | | 1325558.01 | 448449.69 | | 27.54 | 12/20/2016 | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | | |
| MW14A | MW14A122016N | WG | N | | 1325694.46 | 448965.11 | | 24.90 | 12/20/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | | | | |
| MW14B | MW14B122016N | WG | N | | 1325694.46 | 448965.11 | | 24.87 | 12/20/2016 | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | X | | | | | | | | | | |
| MW15A | MW15A122116N | WG | N | | 1326303.08 | 448363.57 | | 35.92 | 12/21/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | | | | |
| MW15B | MW15B122116N | WG | N | | 1326303.08 | 448363.57 | | 35.92 | 12/21/2016 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | | | | |
| **Phase II Landside Mobilization 1, Task 2: Onsite Nature and Extent Soil Delineation** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AST3A-1A | AST3A1A00N | SO | N | 0 - 1 ft | 1324467.62 | 448586.01 | | | 8/2/2017 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SB50303N-EAST | SB50303N-EAST | SO | N | | NA | NA | | | 2/15/2017 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SB50303N-North | SB50303N-NORTH | SO | N | 3 - 3.5 ft | 1324619.74 | 449248.35 | | | 2/15/2017 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | | | | | | | | | | |
| SUS061C | SUS061C00N | SO | N | 0 - 1 ft | 1324280.52 | 448056.58 | | | 3/13/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS061D | SUS061D00N | SO | N | 0 - 1 ft | 1324279.09 | 448015.56 | | | 3/13/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS061E | SUS061E00N | SO | N | 0 - 1 ft | 1324252.82 | 448022.19 | | | 3/13/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS061G | SUS061G00N | SO | N | 0 - 1 ft | 1324232.37 | 448066.77 | | | 3/13/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS08-2A | SUS082A00N | SO | N | 0 - 1 ft | 1324310.21 | 448958.97 | Forensics | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUS08-2B | SUS082B00N | SO | N | 0 - 1 ft | 1324341.46 | 448962.41 | Forensics | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUS08-2F | SUS082F00N | SO | N | 0 - 1 ft | 1324376.35 | 448892.50 | Forensics | | 3/22/2017 | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS08-2F | SUS082F00R | SO | FD | 0 - 1 ft | 1324376.35 | 448892.50 | | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS08-2H | SUS082H00N | SO | N | 0 - 1 ft | 1324347.54 | 448862.12 | Forensics | | 3/22/2017 | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS08-2I | SUS082I00N | SO | N | 0 - 1 ft | 1324327.38 | 448861.09 | Forensics | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS08-2I | SUS082I00R | SO | FD | 0 - 1 ft | 1324327.38 | 448861.09 | Forensics | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUS08-2J | SUS082J00N | SO | N | 0 - 1 ft | 1324295.53 | 448862.76 | Forensics | | 3/22/2017 | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS08-2J | SUS082J00R | SO | FD | 0 - 1 ft | 1324295.53 | 448862.76 | | | 3/22/2017 | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS08-2N | SUS082N00N | SO | N | 0 - 1 ft | 1324258.81 | 448928.68 | Forensics | | 3/22/2017 | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS08-2O | SUS082O00N | SO | N | 0 - 1 ft | 1324256.80 | 448957.62 | Forensics | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS08-2P | SUS082P00N | SO | N | 0 - 1 ft | 1324284.46 | 448958.96 | Forensics | | 3/22/2017 | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS10-2A | SUS102A00N | SO | N | 0 - 1 ft | 1324664.41 | 448839.02 | Forensics | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS10-2B | SUS102B00N | SO | N | 0 - 1 ft | 1324702.85 | 448839.45 | Forensics | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS10-2D | SUS102D00N | SO | N | 0 - 1 ft | 1324719.93 | 448810.65 | Forensics | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS10-2E | SUS102E00N | SO | N | 0 - 1 ft | 1324709.44 | 448783.10 | Forensics | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUS10-2F | SUS102F00N | SO | N | 0 - 1 ft | 1324710.18 | 448747.69 | Forensics | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUS10-2L | SUS102L00N | SO | N | 0 - 1 ft | 1324616.12 | 448752.72 | Forensics | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUS10-2M | SUS102M00N | SO | N | 0 - 1 ft | 1324616.25 | 448784.04 | Forensics | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUS10-2N | SUS102N00N | SO | N | 0 - 1 ft | 1324611.49 | 448814.57 | Forensics | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUS10-2O | SUS102O00N | SO | N | 0 - 1 ft | 1324613.58 | 448841.04 | Forensics | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUS10-2P | SUS102P00N | SO | N | 0 - 1 ft | 1324629.23 | 448833.08 | Forensics | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS19-2E | SUS192E00N | SO | N | 0 - 1 ft | 1325727.55 | 447859.88 | | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUS21-2D | SUS212D00N | SO | N | 0 - 1 ft | 1326086.71 | 447926.70 | | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS21-2E | SUS212E00N | SO | N | 0 - 1 ft | 1326100.23 | 447902.30 | | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS21-2I | SUS212I00N | SO | N | 0 - 1 ft | 1326041.25 | 447833.39 | | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS21-2J | SUS212J00N | SO | N | 0 - 1 ft | 1325999.56 | 447862.87 | | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUS21-2L | SUS212L00N | SO | N | 0 - 1 ft | 1325979.25 | 447861.09 | | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS21-2M | SUS212M00N | SO | N | 0 - 1 ft | 1325988.59 | 447896.36 | | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS21-2N | SUS212N00N | SO | N | 0 - 1 ft | 1325996.61 | 447942.76 | | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUSDP06 | SUS06F00N | SO | N | 0 - 1 ft | 1324259.23 | 448063.28 | Forensics | | 3/13/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | |X| |X| | | | | | | |
| SUSDP06 | DPS06F01N | SO | N | 1 - 2 ft | 1324259.23 | 448063.28 | Forensics | | 3/13/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | |X| |X| | | | | | | |
| SUSDP06 | DPS06F02-05N | SO | N | 2 - 5 ft | 1324259.23 | 448063.28 | Forensics | | 3/13/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | |X| |X| | | | | | | |
| SUSDP08-2G | SUS082G00N | SO | N | 0 - 1 ft | 1324375.03 | 448864.60 | Forensics | | 3/22/2017 | | | | | | | | | | | | | | |X| | | | | | | | | |X| | | | | | | | | |X| | | |
| SUSDP19-2D | SUS192D00N | SO | N | 0 - 1 ft | 1325733.14 | 447879.86 | | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | |
| SUSDP19-2D | SUS192D00R | SO | FD | 0 - 1 ft | 1325733.14 | 447879.86 | | | 3/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | |
| SUSDP19-2M | SUS192M00N | SO | N | 0 - 1 ft | 1325618.56 | 447873.44 | | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | |
| SUSDP19-2M | SUS192M02N | SO | N | 2 - 3 ft | 1325618.56 | 447873.44 | | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | |
| SUSDP19-2N | SUS192N00N | SO | N | 0 - 1 ft | 1325619.56 | 447903.91 | | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | |
| SUSDP19-2N | SUS192N02N | SO | N | 2 - 3 ft | 1325619.56 | 447903.91 | | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | |
| SUSDP19-2O | SUS192O00N | SO | N | 0 - 1 ft | 1325619.16 | 447930.94 | | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | |
| SUSDP19-2O | SUS192O02N | SO | N | 2 - 3 ft | 1325619.16 | 447930.94 | | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | |
| SUSDP19-2P | SUS192P00N | SO | N | 0 - 1 ft | 1325659.63 | 447922.99 | | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | |
| SUSDP19-2P | SUS192P02N | SO | N | 2 - 3 ft | 1325659.63 | 447922.99 | | | 3/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | |
| SUS05-1D | SUS05ID00N | SO | N | 0 - 1 ft | 1324109.57 | 449133.33 | | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS05-1F | SUS05IF00N | SO | N | 0 - 1 ft | 1324060.85 | 449133.28 | | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS08-1B | SUS081B00N | SO | N | 0 - 1 ft | 1324334.66 | 448940.44 | | | 1/24/2017 | | | | | | | | | | | | | | |X| | |X| | | | | | |X| | | | | | | | | | | | | |
| SUS08-1D | SUS081D00N2 | SO | N | 0 - 1 ft | 1324337.55 | 448888.98 | | | 6/29/2018 | | | | | | | | | | | | | | |X|X| | | | | | | | | | | | | | | | | | | | | | |
| SUS08-1H | SUS081H00N2 | SO | N | 0 - 1 ft | 1324283.33 | 448936.08 | | | 6/29/2018 | | | | | | | | | | | | | | |X|X| | | | | | | | | | | | | | | | | | | | | | |
| SUS08-1H | SUS081H00R2 | SO | N | 0 - 1 ft | 1324283.33 | 448936.08 | | | 6/29/2018 | | | | | | | | | | | | | | |X|X| | | | | | | | | | | | | | | | | | | | | | |
| SUS10-1H | SUS101H00N | SO | N | 0 - 1 ft | 1324631.59 | 448811.34 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS12-1B | SUS121B00N | SO | N | 0 - 1 ft | 1324862.77 | 448454.75 | | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS12-1D | SUS121D00N | SO | N | 0 - 1 ft | 1324860.56 | 448407.30 | | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS12-1F | SUS121F00N | SO | N | 0 - 1 ft | 1324814.31 | 448413.96 | | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS12-1H | SUS121H00N | SO | N | 0 - 1 ft | 1324817.65 | 448451.67 | | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS181C | SUS181C00R | SO | FD | 0 - 1 ft | 1325546.51 | 448976.35 | | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS201A | SUS201A00N | SO | N | 0 - 1 ft | 1325650.33 | 448344.58 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS201B | SUS201B00N | SO | N | 0 - 1 ft | 1325677.21 | 448339.64 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS201B | SUS201B00R | SO | FD | 0 - 1 ft | 1325677.21 | 448339.64 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS201C | SUS201C00N | SO | N | 0 - 1 ft | 1325677.36 | 448310.63 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS201D | SUS201D00N | SO | N | 0 - 1 ft | 1325677.39 | 448292.97 | | | 2/2/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS201E | SUS201E00N | SO | N | 0 - 1 ft | 1325648.88 | 448284.09 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS201F | SUS201F00N | SO | N | 0 - 1 ft | 1325624.26 | 448282.30 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS201G | SUS201G00N | SO | N | 0 - 1 ft | 1325625.18 | 448311.86 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS201H | SUS201H00N | SO | N | 0 - 1 ft | 1325625.46 | 448342.97 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS21-1A | SUS211A00N | SO | N | 0 - 1 ft | 1326042.65 | 447930.23 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS21-1B | SUS211B00N | SO | N | 0 - 1 ft | 1326063.05 | 447930.51 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS21-1E | SUS211E00N | SO | N | 0 - 1 ft | 1326027.90 | 447886.68 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |
| SUS21-1F | SUS211F00N | SO | N | 0 - 1 ft | 1326004.84 | 447881.56 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | |X| | | | | | | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUS21-1G | SUS211G00N | SO | N | 0 - 1 ft | 1326013.82 | 447903.75 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS21-1H | SUS211H00N | SO | N | 0 - 1 ft | 1326027.75 | 447935.10 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS44-1A | SUS441A00N | SO | N | 1.5 - 2.5 ft | 1324718.81 | 448891.50 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS44-1B | SUS441B00N | SO | N | 1.5 - 2.5 ft | 1324740.02 | 448890.73 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS44-1C | SUS441C00N | SO | N | 1.5 - 2.5 ft | 1324734.80 | 448870.82 | | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS44-1E | SUS441E00N | SO | N | 1.5 - 2.5 ft | 1324713.97 | 448852.75 | | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS44-1F | SUS441F00N | SO | N | 1.5 - 2.5 ft | 1324699.67 | 448852.56 | | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUS44-1G | SUS441G00N | SO | N | 1.5 - 2.5 ft | 1324701.94 | 448874.50 | | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP04 | DPS04F10-15N | SO | N | 10 - 15 ft | 1324091.66 | 448808.97 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP04-1A | DPS041A02N | SO | N | 2 - 3 ft | 1324095.73 | 448834.07 | | | 8/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP04-1A | DPS041A03N | SO | N | 3 - 4 ft | 1324095.73 | 448834.07 | | | 8/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP04-1A | DPS041A04N | SO | N | 4 - 5 ft | 1324095.73 | 448834.07 | | | 8/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP04-1C | DPS041C02N | SO | N | 2 - 3 ft | 1324116.34 | 448809.68 | | | 8/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP04-1C | DPS041C03N | SO | N | 3 - 4 ft | 1324116.34 | 448809.68 | | | 8/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP04-1C | DPS041C04N | SO | N | 4 - 5 ft | 1324116.34 | 448809.68 | | | 8/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP04-1E | DPS041E02N | SO | N | 2 - 3 ft | 1324092.60 | 448783.89 | | | 8/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP04-1E | DPS041E03N | SO | N | 3 - 4 ft | 1324092.60 | 448783.89 | | | 8/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP04-1E | DPS041E04N | SO | N | 4 - 5 ft | 1324092.60 | 448783.89 | | | 8/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP04-1G | DPS041G02N | SO | N | 2 - 3 ft | 1324066.24 | 448809.30 | | | 8/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP04-1G | DPS041G03N | SO | N | 3 - 4 ft | 1324066.24 | 448809.30 | | | 8/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP04-1G | DPS041G04N | SO | N | 4 - 5 ft | 1324066.24 | 448809.30 | | | 8/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP04-1G | DPS041G05N | SO | N | 5 - 6 ft | 1324066.24 | 448809.30 | | | 8/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP04-2I | DPS042I02N | SO | N | 2 - 3 ft | 1324095.97 | 448766.55 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP05-1C | SUS05IC00N | SO | N | 0 - 1 ft | 1324112.78 | 449160.88 | | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP05-1C | SUS051C00N2 | SO | N | 0 - 1 ft | 1324112.78 | 449160.88 | | | 7/31/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP05-1C | DPS051C01N | SO | N | 1 - 2 ft | 1324112.78 | 449160.88 | | | 7/31/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP05-1E | SUS05IE00N | SO | N | 0 - 1 ft | 1324082.50 | 449133.52 | | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP05-1E | SUS051E00N2 | SO | N | 0 - 1 ft | 1324082.50 | 449133.52 | | | 7/31/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP05-1E | DPS051E01N | SO | N | 1 - 2 ft | 1324082.50 | 449133.52 | | | 7/31/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP05-1G | SUS05IG00N | SO | N | 0 - 1 ft | 1324059.32 | 449160.00 | | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP05-1G | SUS051G00N2 | SO | N | 0 - 1 ft | 1324059.32 | 449160.00 | | | 7/31/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP05-1G | DPS051G01N | SO | N | 1 - 2 ft | 1324059.32 | 449160.00 | | | 7/31/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP05-1G | DPS051G02N | SO | N | 2 - 3 ft | 1324059.32 | 449160.00 | | | 7/31/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP05-2M | SUS052M00N | SO | N | 0 - 1 ft | 1324034.11 | 449159.28 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP05-2M | DPS052M01N | SO | N | 1 - 2 ft | 1324034.11 | 449159.28 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP08 | SUS0800N2 | SO | N | 0 - 1 ft | 1324319.35 | 448910.93 | | | 6/29/2018 | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | |
| SUSDP08-1E | DPS081E01N | SO | N | 1 - 2 ft | 1324313.53 | 448888.29 | | | 8/2/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP08-1E | DPS081E01R | SO | FD | 1 - 2 ft | 1324313.53 | 448888.29 | | | 8/2/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP08-1E | SUS081E00N2 | SO | N | 0 - 1 ft | 1324313.53 | 448888.29 | | | 6/29/2018 | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | |
| SUSDP08-2G | DPS082G01N | SO | N | 1 - 2 ft | 1324375.03 | 448864.60 | Forensics | | 8/3/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUSDP08-2G | DPS082G01R | SO | FD | 1 - 2 ft | 1324375.03 | 448864.60 | Forensics | | 8/3/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUSDP08-3I | SUS083I00N | SO | N | 0 - 1 ft | 1324393.87 | 448865.00 | Forensics | | 8/2/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |

# Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDP08-3K | SUS083K00N | SO | N | 0 - 1 ft | 1324370.71 | 448836.15 | Forensics | | 8/3/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUSDP10-3F | SUS103F00N | SO | N | 0 - 1 ft | 1324734.69 | 448809.87 | Forensics | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUSDP10-3F | DPS103F01N | SO | N | 1 - 2 ft | 1324734.69 | 448809.87 | Forensics | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUSDP10-3G | SUS103G00N | SO | N | 0 - 1 ft | 1324734.02 | 448783.65 | Forensics | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUSDP10-3G | DPS103G01N | SO | N | 1 - 2 ft | 1324734.02 | 448783.65 | Forensics | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUSDP10-3G | DPS103G02N | SO | N | 2 - 3 ft | 1324734.02 | 448783.65 | Forensics | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUSDP10-3X | SUS103X00N | SO | N | 0 - 1 ft | 1324629.12 | 448860.90 | Forensics | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUSDP10-3X | SUS103X00R | SO | FD | 0 - 1 ft | 1324629.12 | 448860.90 | | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP10-3X | DPS103X01N | SO | N | 1 - 2 ft | 1324629.12 | 448860.90 | | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP10-3X | DPS103X02N | SO | N | 2 - 3 ft | 1324629.12 | 448860.90 | | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP10-3X | DPS103X03N | SO | N | 3 - 4 ft | 1324629.12 | 448860.90 | | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP10-3X | DPS103X04N | SO | N | 4 - 5 ft | 1324629.12 | 448860.90 | | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP10-4E | DPS104E01R | SO | FD | 1 - 2 ft | 1324759.19 | 448791.92 | Forensics | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUSDP10-4E | DPS104E01N | SO | N | 1 - 2 ft | 1324759.19 | 448791.92 | Forensics | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUSDP10-4NW | SUS104NW00N | SO | N | 0 - 1 ft | 1324606.79 | 448882.30 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP10-4NW | DPS104NW01N | SO | N | 1 - 2 ft | 1324606.79 | 448882.30 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP10-4NW | DPS104NW02N | SO | N | 2 - 3 ft | 1324606.79 | 448882.30 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP10-4NW | DPS104NW03N | SO | N | 3 - 4 ft | 1324606.79 | 448882.30 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP11-1A | SUS111A00N | SO | N | 0 - 1 ft | 1324625.00 | 449258.54 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1A | DPS111A01N | SO | N | 1 - 2 ft | 1324625.00 | 449258.54 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1A | DPS111A02N | SO | N | 2 - 3 ft | 1324625.00 | 449258.54 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1A | DPS111A03N | SO | N | 3 - 4 ft | 1324625.00 | 449258.54 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1A | DPS111A04N | SO | N | 4 - 5 ft | 1324625.00 | 449258.54 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1A | DPS111A05N | SO | N | 5 - 6 ft | 1324625.00 | 449258.54 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1A | DPS111A06N | SO | N | 6 - 7 ft | 1324625.00 | 449258.54 | | | 3/28/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | | | | | | | | | | |
| SUSDP11-1B | SUS111B00N | SO | N | 0 - 1 ft | 1324675.32 | 449257.33 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1B | DPS111B01N | SO | N | 1 - 2 ft | 1324675.32 | 449257.33 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1B | DPS111B02N | SO | N | 2 - 3 ft | 1324675.32 | 449257.33 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1B | DPS111B03N | SO | N | 3 - 4 ft | 1324675.32 | 449257.33 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1B | DPS111B04N | SO | N | 4 - 5 ft | 1324675.32 | 449257.33 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1B | DPS111B05N | SO | N | 5 - 6 ft | 1324675.32 | 449257.33 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1H | SUS111H00N | SO | N | 0 - 1 ft | 1324575.29 | 449258.37 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1H | DPS111H01N | SO | N | 1 - 2 ft | 1324575.29 | 449258.37 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1H | DPS111H02N | SO | N | 2 - 3 ft | 1324575.29 | 449258.37 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1H | DPS111H03N | SO | N | 3 - 4 ft | 1324575.29 | 449258.37 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1H | DPS111H04N | SO | N | 4 - 5 ft | 1324575.29 | 449258.37 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1H | DPS111H05N | SO | N | 5 - 6 ft | 1324575.29 | 449258.37 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-1H | DPS111H01R | SO | FD | 1 - 2 ft | 1324575.29 | 449258.37 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | |
| SUSDP11-2A | SUS112A00N | SO | N | 0 - 1 ft | 1324626.42 | 449279.29 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-2A | DPS112A01N | SO | N | 1 - 2 ft | 1324626.42 | 449279.29 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-2A | DPS112A02N | SO | N | 2 - 3 ft | 1324626.42 | 449279.29 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-2A | DPS112A03N | SO | N | 3 - 4 ft | 1324626.42 | 449279.29 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDP11-2A | DPS112A04N | SO | N | 4 - 5 ft | 1324626.42 | 449279.29 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-2A | DPS112A05N | SO | N | 5 - 6 ft | 1324626.42 | 449279.29 | Forensics | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP11-2D | SUS112D00N | SO | N | 0 - 1 ft | 1324725.28 | 449262.94 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP11-2D | DPS112D01N | SO | N | 1 - 2 ft | 1324725.28 | 449262.94 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP11-2N | SUS112N00N | SO | N | 0 - 1 ft | 1324525.11 | 449258.83 | | | 4/6/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP11-2N | DPS112N01N | SO | N | 1 - 2 ft | 1324525.11 | 449258.83 | | | 4/6/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP11-2N | DPS112N02N | SO | N | 2 - 3 ft | 1324525.11 | 449258.83 | | | 4/6/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP12-1A | SUS121A00N | SO | N | 0 - 1 ft | 1324836.56 | 448457.47 | | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP12-1A | SUS121A00R | SO | FD | 0 - 1 ft | 1324836.56 | 448457.47 | | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP12-1A | SUS121A00N2 | SO | N | 0 - 1 ft | 1324836.56 | 448457.47 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1A | DPS121A01N | SO | N | 1 - 2 ft | 1324836.56 | 448457.47 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP12-1A | DPS121A01R | SO | FD | 1 - 2 ft | 1324836.56 | 448457.47 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1A | DPS121A02N | SO | N | 2 - 3 ft | 1324836.56 | 448457.47 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP12-1A | DPS121A03N | SO | N | 3 - 4 ft | 1324836.56 | 448457.47 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP12-1A | DPS121A04N | SO | N | 4 - 5 ft | 1324836.56 | 448457.47 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP12-1A | DPS121A10N | SO | N | 10 - 11 ft | 1324836.56 | 448457.47 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1A | DPS121A11N | SO | N | 11 - 12 ft | 1324836.56 | 448457.47 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1A | DPS121A12N | SO | N | 12 - 13 ft | 1324836.56 | 448457.47 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1A | DPS121A13N | SO | N | 13 - 14 ft | 1324836.56 | 448457.47 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1A | DPS121A14N | SO | N | 14 - 15 ft | 1324836.56 | 448457.47 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1C | SUS121C00N | SO | N | 0 - 1 ft | 1324860.36 | 448430.40 | | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP12-1C | SUS121C00N2 | SO | N | 0 - 1 ft | 1324860.36 | 448430.40 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1C | DPS121C01N | SO | N | 1 - 2 ft | 1324860.36 | 448430.40 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP12-1C | DPS121C02N | SO | N | 2 - 3 ft | 1324860.36 | 448430.40 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP12-1C | DPS121C03N | SO | N | 3 - 4 ft | 1324860.36 | 448430.40 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP12-1C | DPS121C04N | SO | N | 4 - 5 ft | 1324860.36 | 448430.40 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP12-1C | DPS121C05N | SO | N | 5 - 6 ft | 1324860.36 | 448430.40 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1C | DPS121C10N | SO | N | 10 - 11 ft | 1324860.36 | 448430.40 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1C | DPS121C11N | SO | N | 11 - 12 ft | 1324860.36 | 448430.40 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1E | SUS121E00N | SO | N | 0 - 1 ft | 1324839.87 | 448407.52 | | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP12-1E | SUS121E00N2 | SO | N | 0 - 1 ft | 1324839.87 | 448407.52 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1E | SUS121E00R2 | SO | FD | 0 - 1 ft | 1324839.87 | 448407.52 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1E | DPS121E01N | SO | N | 1 - 2 ft | 1324839.87 | 448407.52 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1E | DPS121E02N | SO | N | 2 - 3 ft | 1324839.87 | 448407.52 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP12-1E | DPS121E03N | SO | N | 3 - 4 ft | 1324839.87 | 448407.52 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP12-1E | DPS121E04N | SO | N | 4 - 5 ft | 1324839.87 | 448407.52 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP12-1E | DPS121E10N | SO | N | 10 - 11 ft | 1324839.87 | 448407.52 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1E | DPS121E11N | SO | N | 11 - 12 ft | 1324839.87 | 448407.52 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1E | DPS121E12N | SO | N | 12 - 13 ft | 1324839.87 | 448407.52 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1E | DPS121E13N | SO | N | 13 - 14 ft | 1324839.87 | 448407.52 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1E | DPS121E14N | SO | N | 14 - 15 ft | 1324839.87 | 448407.52 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1G | SUS121G00N | SO | N | 0 - 1 ft | 1324809.44 | 448432.80 | | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |

# Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDP12-1G | SUS121G00N2 | SO | N | 0 - 1 ft | 1324809.44 | 448432.80 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1G | DPS121G01N | SO | N | 1 - 2 ft | 1324809.44 | 448432.80 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1G | DPS121G02N | SO | N | 2 - 3 ft | 1324809.44 | 448432.80 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP12-1G | DPS121G03N | SO | N | 3 - 4 ft | 1324809.44 | 448432.80 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP12-1G | DPS121G04N | SO | N | 4 - 5 ft | 1324809.44 | 448432.80 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP12-1G | DPS121G10N | SO | N | 10 - 11 ft | 1324809.44 | 448432.80 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1G | DPS121G11N | SO | N | 11 - 12 ft | 1324809.44 | 448432.80 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1G | DPS121G11R | SO | FD | 11 - 12 ft | 1324809.44 | 448432.80 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1G | DPS121G12N | SO | N | 12 - 13 ft | 1324809.44 | 448432.80 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1G | DPS121G13N | SO | N | 13 - 14 ft | 1324809.44 | 448432.80 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-1G | DPS121G14N | SO | N | 14 - 15 ft | 1324809.44 | 448432.80 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-2K | SUS122K00N | SO | N | 0 - 1 ft | 1324781.08 | 448387.96 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-2K | DPS122K01N | SO | N | 1 - 2 ft | 1324781.08 | 448387.96 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-3A | SUS123A00N | SO | N | 0 - 1 ft | 1324828.67 | 448504.73 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-3A | DPS123A01N | SO | N | 1 - 2 ft | 1324828.67 | 448504.73 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-3A | DPS123A02N | SO | N | 2 - 3 ft | 1324828.67 | 448504.73 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP12-3A | DPS123A10N | SO | N | 10 - 11 ft | 1324828.67 | 448504.73 | | | 3/28/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP15-1C | SUS151C00N | SO | N | 0 - 1 ft | 1325252.30 | 448484.32 | | | 8/14/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP15-1C | DPS151C01N | SO | N | 1 - 2 ft | 1325252.30 | 448484.32 | | | 8/14/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP15-1C | DPS151C01R | SO | FD | 1 - 2 ft | 1325252.30 | 448484.32 | | | 8/14/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP15-1C | DPS151C02N | SO | N | 2 - 3 ft | 1325252.30 | 448484.32 | | | 8/14/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP15-1C | DPS151C03N | SO | N | 3 - 4 ft | 1325252.30 | 448484.32 | | | 8/14/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP15-1C | DPS151C05N | SO | N | 5 - 6 ft | 1325252.30 | 448484.32 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP15-1C | DPS151C06N | SO | N | 6 - 7 ft | 1325252.30 | 448484.32 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP15-1C | DPS151C07N | SO | N | 7 - 8 ft | 1325252.30 | 448484.32 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP15-1C | DPS151C08N | SO | N | 8 - 9 ft | 1325252.30 | 448484.32 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP15-1C | DPS151C09N | SO | N | 9 - 10 ft | 1325252.30 | 448484.32 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP15-1C | DPS151C10N | SO | N | 10 - 11 ft | 1325252.30 | 448484.32 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP15-1G | SUS151G00N | SO | N | 0 - 1 ft | 1325194.48 | 448483.84 | | | 8/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP15-1G | DPS151G01N | SO | N | 1 - 2 ft | 1325194.48 | 448483.84 | | | 8/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP15-1G | DPS151G05N | SO | N | 5 - 6 ft | 1325194.48 | 448483.84 | | | 8/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP15-1G | DPS151G06N | SO | N | 6 - 7 ft | 1325194.48 | 448483.84 | | | 8/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP15-1G | DPS151G07N | SO | N | 7 - 8 ft | 1325194.48 | 448483.84 | | | 8/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP15-1G | DPS151G08N | SO | N | 8 - 9 ft | 1325194.48 | 448483.84 | | | 8/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP15-1G | DPS151G09N | SO | N | 9 - 10 ft | 1325194.48 | 448483.84 | | | 8/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP15-1G | DPS151G10N | SO | N | 10 - 11 ft | 1325194.48 | 448483.84 | | | 8/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP19-1A | SUS191A00N | SO | N | 0 - 1 ft | 1325678.88 | 447889.24 | | | 2/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1A | DPS191A02N | SO | N | 2 - 3 ft | 1325678.88 | 447889.24 | | | 2/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1A | DPS191A10N | SO | N | 10 - 11 ft | 1325678.88 | 447889.24 | | | 2/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1A | DPS191A15N | SO | N | 15 - 16 ft | 1325678.88 | 447889.24 | | | 2/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1B | SUS191B00N | SO | N | 0 - 1 ft | 1325701.28 | 447887.72 | | | 2/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1B | DPS191B02N | SO | N | 2 - 3 ft | 1325701.28 | 447887.72 | | | 2/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDP19-1B | DPS191B10N | SO | N | 10 - 11 ft | 1325701.28 | 447887.72 | | | 2/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1B | DPS191B15N | SO | N | 15 - 16 ft | 1325701.28 | 447887.72 | | | 2/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1C | SUS191C00N | SO | N | 0 - 1 ft | 1325702.57 | 447857.37 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1C | SUS191C00R | SO | FD | 0 - 1 ft | 1325702.57 | 447857.37 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1C | SUS191C02N | SO | N | 2 - 3 ft | 1325702.57 | 447857.37 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1C | SUS191C02R | SO | FD | 2 - 3 ft | 1325702.57 | 447857.37 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1C | DPS191C10N | SO | N | 10 - 11 ft | 1325702.57 | 447857.37 | | | 2/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1C | DPS191C15N | SO | N | 15 - 16 ft | 1325702.57 | 447857.37 | | | 2/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1D | SUS191D00N | SO | N | 0 - 1 ft | 1325692.69 | 447833.81 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1D | DPS191D01N | SO | N | 1 - 2 ft | 1325692.69 | 447833.81 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1D | DPS191D01R | SO | FD | 1 - 2 ft | 1325692.69 | 447833.81 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1D | DPS191D02N | SO | N | 2 - 3 ft | 1325692.69 | 447833.81 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1D | DPS191D03N | SO | N | 3 - 4 ft | 1325692.69 | 447833.81 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1D | DPS191D04N | SO | N | 4 - 5 ft | 1325692.69 | 447833.81 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1D | DPS191D05N | SO | N | 5 - 6 ft | 1325692.69 | 447833.81 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1F | DPS191F01N | SO | N | 1 - 2 ft | 1325644.66 | 447840.60 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1F | DPS191F02N | SO | N | 2 - 3 ft | 1325644.66 | 447840.60 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1F | DPS191F03N | SO | N | 3 - 4 ft | 1325644.66 | 447840.60 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1F | DPS191F04N | SO | N | 4 - 5 ft | 1325644.66 | 447840.60 | | | 8/22/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1G | SUS191G00N | SO | N | 0 - 1 ft | 1325648.01 | 447868.63 | | | 2/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1G | DPS191G02N | SO | N | 2 - 3 ft | 1325648.01 | 447868.63 | | | 2/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1G | DPS191G10N | SO | N | 10 - 11 ft | 1325648.01 | 447868.63 | | | 2/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1G | DPS191G15N | SO | N | 15 - 16 ft | 1325648.01 | 447868.63 | | | 2/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1H | SUS191H00N | SO | N | 0 - 1 ft | 1325653.40 | 447895.65 | | | 2/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1H | DPS191H02N | SO | N | 2 - 3 ft | 1325653.40 | 447895.65 | | | 2/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1H | DPS191H10N | SO | N | 10 - 11 ft | 1325653.40 | 447895.65 | | | 2/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-1H | DPS191H15N | SO | N | 15 - 16 ft | 1325653.40 | 447895.65 | | | 2/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2D | DPS192D01N | SO | N | 1 - 2 ft | 1325733.14 | 447879.86 | | | 8/17/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2D | DPS192D02N | SO | N | 2 - 3 ft | 1325733.14 | 447879.86 | | | 8/17/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2D | DPS192D03N | SO | N | 3 - 4 ft | 1325733.14 | 447879.86 | | | 8/17/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2D | DPS192D04N | SO | N | 4 - 5 ft | 1325733.14 | 447879.86 | | | 8/17/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2D | DPS192D05N | SO | N | 5 - 6 ft | 1325733.14 | 447879.86 | | | 8/17/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2M | DPS192M03N | SO | N | 3 - 4 ft | 1325618.56 | 447873.44 | | | 8/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2M | DPS192M03R | SO | FD | 3 - 4 ft | 1325618.56 | 447873.44 | | | 8/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2M | DPS192M04N | SO | N | 4 - 5 ft | 1325618.56 | 447873.44 | | | 8/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2M | DPS192M05N | SO | N | 5 - 6 ft | 1325618.56 | 447873.44 | | | 8/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2O | DPS192O03N | SO | N | 3 - 4 ft | 1325619.16 | 447930.94 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2O | DPS192O04N | SO | N | 4 - 5 ft | 1325619.16 | 447930.94 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2O | DPS192O05N | SO | N | 5 - 6 ft | 1325619.16 | 447930.94 | | | 8/23/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2O | DPS192O06N | SO | N | 6 - 7 ft | 1325619.16 | 447930.94 | | | 3/28/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2O | DPS192O07N | SO | N | 7 - 8 ft | 1325619.16 | 447930.94 | | | 3/28/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2O | DPS192O10N | SO | N | 10 - 11 ft | 1325619.16 | 447930.94 | | | 3/28/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |

# Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDP19-2O | DPS192O11N | SO | N | 11 - 12 ft | 1325619.16 | 447930.94 | | | 3/28/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2P | DPS192P03N | SO | N | 3 - 4 ft | 1325659.63 | 447922.99 | | | 8/17/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2P | DPS192P04N | SO | N | 4 - 5 ft | 1325659.63 | 447922.99 | | | 8/17/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-2P | DPS192P05N | SO | N | 5 - 6 ft | 1325659.63 | 447922.99 | | | 8/17/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3F | DPS193F01N | SO | N | 1 - 2 ft | 1325761.23 | 447872.88 | | | 8/18/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3F | DPS193F02N | SO | N | 2 - 3 ft | 1325761.23 | 447872.88 | | | 8/18/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3F | DPS193F03N | SO | N | 3 - 4 ft | 1325761.23 | 447872.88 | | | 8/18/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3F | DPS193F04N | SO | N | 4 - 5 ft | 1325761.23 | 447872.88 | | | 8/18/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3F | DPS193F05N | SO | N | 5 - 6 ft | 1325761.23 | 447872.88 | | | 8/18/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3S | SUS193S00N | SO | N | 0 - 1 ft | 1325581.45 | 447878.32 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3S | DPS193S01N | SO | N | 1 - 2 ft | 1325581.45 | 447878.32 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3S | DPS193S01R | SO | FD | 1 - 2 ft | 1325581.45 | 447878.32 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3S | DPS193S02N | SO | N | 2 - 3 ft | 1325581.45 | 447878.32 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3S | DPS193S03N | SO | N | 3 - 4 ft | 1325581.45 | 447878.32 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3S | DPS193S04N | SO | N | 4 - 5 ft | 1325581.45 | 447878.32 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3S | DPS193S05N | SO | N | 5 - 6 ft | 1325581.45 | 447878.32 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3V | DPS193V01N | SO | N | 1 - 2 ft | 1325595.71 | 447958.44 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3V | DPS193V02N | SO | N | 2 - 3 ft | 1325595.71 | 447958.44 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3V | DPS193V03N | SO | N | 3 - 4 ft | 1325595.71 | 447958.44 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3V | DPS193V04N | SO | N | 4 - 5 ft | 1325595.71 | 447958.44 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3V | DPS193V05N | SO | N | 5 - 6 ft | 1325595.71 | 447958.44 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3X | DPS193X01N | SO | N | 1 - 2 ft | 1325660.35 | 447949.89 | | | 8/18/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3X | DPS193X02N | SO | N | 2 - 3 ft | 1325660.35 | 447949.89 | | | 8/18/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3X | DPS193X03N | SO | N | 3 - 4 ft | 1325660.35 | 447949.89 | | | 8/18/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3X | DPS193X04N | SO | N | 4 - 5 ft | 1325660.35 | 447949.89 | | | 8/18/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-3X | DPS193X05N | SO | N | 5 - 6 ft | 1325660.35 | 447949.89 | | | 8/18/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4N | SUS194N00N | SO | N | 0 - 1 ft | 1325664.31 | 447997.13 | | | 1/26/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4N | DPS194N01N | SO | N | 1 - 2 ft | 1325664.31 | 447997.13 | | | 1/26/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4N | DPS194N02N | SO | N | 2 - 3 ft | 1325664.31 | 447997.13 | | | 1/26/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4N | DPS194N02R | SO | FD | 2 - 3 ft | 1325664.31 | 447997.13 | | | 1/26/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4N | DPS194N03N | SO | N | 3 - 4 ft | 1325664.31 | 447997.13 | | | 1/26/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4N | DPS194N04N | SO | N | 4 - 5 ft | 1325664.31 | 447997.13 | | | 1/26/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4N | DPS194N05N | SO | N | 5 - 6 ft | 1325664.31 | 447997.13 | | | 1/26/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4N | DPS194N06N | SO | N | 6 - 7 ft | 1325664.31 | 447997.13 | | | 3/28/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4N | DPS194N07N | SO | N | 7 - 8 ft | 1325664.31 | 447997.13 | | | 3/28/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4N | DPS194N10N | SO | N | 10 - 11 ft | 1325664.31 | 447997.13 | | | 3/28/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4N | DPS194N11N | SO | N | 11 - 12 ft | 1325664.31 | 447997.13 | | | 3/28/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4NW | SUS194NW00N | SO | N | 0 - 1 ft | 1325561.19 | 448018.53 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4NW | DPS194NW01N | SO | N | 1 - 2 ft | 1325561.19 | 448018.53 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4NW | DPS194NW02N | SO | N | 2 - 3 ft | 1325561.19 | 448018.53 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4NW | DPS194NW03N | SO | N | 3 - 4 ft | 1325561.19 | 448018.53 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4NW | DPS194NW04N | SO | N | 4 - 5 ft | 1325561.19 | 448018.53 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |

# Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDP19-4NW | DPS194NW05N | SO | N | 5 - 6 ft | 1325561.19 | 448018.53 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4NW | DPS194NW06N | SO | N | 6 - 7 ft | 1325561.19 | 448018.53 | | | 3/28/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4NW | DPS194NW07N | SO | N | 7 - 8 ft | 1325561.19 | 448018.53 | | | 3/28/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4NW | DPS194NW10N | SO | N | 10 - 11 ft | 1325561.19 | 448018.53 | | | 3/28/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4NW | DPS194NW11N | SO | N | 11 - 12 ft | 1325561.19 | 448018.53 | | | 3/28/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4W | SUS194W00N | SO | N | 0 - 1 ft | 1325525.12 | 447875.01 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4W | DPS194W01N | SO | N | 1 - 2 ft | 1325525.12 | 447875.01 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4W | DPS194W01R | SO | FD | 1 - 2 ft | 1325525.12 | 447875.01 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4W | DPS194W02N | SO | N | 2 - 3 ft | 1325525.12 | 447875.01 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4W | DPS194W03N | SO | N | 3 - 4 ft | 1325525.12 | 447875.01 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4W | DPS194W04N | SO | N | 4 - 5 ft | 1325525.12 | 447875.01 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-4W | DPS194W05N | SO | N | 5 - 6 ft | 1325525.12 | 447875.01 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5N | SUS195N00N | SO | N | 0 - 1 ft | 1325666.07 | 448060.85 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5N | DPS195N01N | SO | N | 1 - 2 ft | 1325666.07 | 448060.85 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5N | DPS195N02N | SO | N | 2 - 3 ft | 1325666.07 | 448060.85 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5N | DPS195N03N | SO | N | 3 - 4 ft | 1325666.07 | 448060.85 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5N | DPS195N04N | SO | N | 4 - 5 ft | 1325666.07 | 448060.85 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5N | DPS195N05N | SO | N | 5 - 6 ft | 1325666.07 | 448060.85 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5NW | SUS195NW00N | SO | N | 0 - 1 ft | 1325509.01 | 448093.41 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5NW | DPS195NW01N | SO | N | 1 - 2 ft | 1325509.01 | 448093.41 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5NW | DPS195NW02N | SO | N | 2 - 3 ft | 1325509.01 | 448093.41 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5NW | DPS195NW03N | SO | N | 3 - 4 ft | 1325509.01 | 448093.41 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5NW | DPS195NW04N | SO | N | 4 - 5 ft | 1325509.01 | 448093.41 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5NW | DPS195NW05N | SO | N | 5 - 6 ft | 1325509.01 | 448093.41 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5W | SUS195W00N | SO | N | 0 - 1 ft | 1325477.01 | 447891.38 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5W | DPS195W01N | SO | N | 1 - 2 ft | 1325477.01 | 447891.38 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5W | DPS195W02N | SO | N | 2 - 3 ft | 1325477.01 | 447891.38 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5W | DPS195W03N | SO | N | 3 - 4 ft | 1325477.01 | 447891.38 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-5W | DPS195W04N | SO | N | 4 - 5 ft | 1325477.01 | 447891.38 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-6N | SUS196N00N | SO | N | 0 - 1 ft | 1325656.18 | 448114.90 | | | 3/15/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-6N | DPS196N01N | SO | N | 1 - 2 ft | 1325656.18 | 448114.90 | | | 3/15/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-6N | DPS196N02N | SO | N | 2 - 3 ft | 1325656.18 | 448114.90 | | | 3/15/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-6N | DPS196N03N | SO | N | 3 - 4 ft | 1325656.18 | 448114.90 | | | 3/15/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-6N | DPS196N04N | SO | N | 4 - 5 ft | 1325656.18 | 448114.90 | | | 3/15/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-6NW | SUS196NW00N | SO | N | 0 - 1 ft | 1325459.80 | 448155.78 | | | 3/15/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-6NW | DPS196NW01N | SO | N | 1 - 2 ft | 1325459.80 | 448155.78 | | | 3/15/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-6NW | DPS196NW02N | SO | N | 2 - 3 ft | 1325459.80 | 448155.78 | | | 3/15/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-6NW | DPS196NW03N | SO | N | 3 - 4 ft | 1325459.80 | 448155.78 | | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-6NW | DPS196NW04N | SO | N | 4 - 5 ft | 1325459.80 | 448155.78 | | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-6NW | DPS196NW05N | SO | N | 5 - 6 ft | 1325459.80 | 448155.78 | | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-6W | SUS196W00N | SO | N | 0 - 1 ft | 1325427.49 | 447898.64 | | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-6W | DPS196W01N | SO | N | 1 - 2 ft | 1325427.49 | 447898.64 | | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |

# Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDP19-6W | DPS196W02N | SO | N | 2 - 3 ft | 1325427.49 | 447898.64 | | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-6W | DPS196W03N | SO | N | 3 - 4 ft | 1325427.49 | 447898.64 | | | 3/16/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7N | SUS197N00N | SO | N | 0 - 1 ft | 1325663.16 | 448158.39 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7N | DPS197N01N | SO | N | 1 - 2 ft | 1325663.16 | 448158.39 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7N | DPS197N02N | SO | N | 2 - 3 ft | 1325663.16 | 448158.39 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7N | DPS197N02R | SO | FD | 2 - 3 ft | 1325663.16 | 448158.39 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7N | DPS197N03N | SO | N | 3 - 4 ft | 1325663.16 | 448158.39 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7N | DPS197N04N | SO | N | 4 - 5 ft | 1325663.16 | 448158.39 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7NW | SUS197NW00N | SO | N | 0 - 1 ft | 1325414.81 | 448200.55 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7NW | DPS197NW01N | SO | N | 1 - 2 ft | 1325414.81 | 448200.55 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7NW | DPS197NW02N | SO | N | 2 - 3 ft | 1325414.81 | 448200.55 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7NW | DPS197NW03N | SO | N | 3 - 4 ft | 1325414.81 | 448200.55 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7NW | DPS197NW04N | SO | N | 4 - 5 ft | 1325414.81 | 448200.55 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7W | SUS197W00N | SO | N | 0 - 1 ft | 1325377.32 | 447903.12 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7W | DPS197W01N | SO | N | 1 - 2 ft | 1325377.32 | 447903.12 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7W | DPS197W02N | SO | N | 2 - 3 ft | 1325377.32 | 447903.12 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7W | DPS197W03N | SO | N | 3 - 4 ft | 1325377.32 | 447903.12 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7W | DPS197W04N | SO | N | 4 - 5 ft | 1325377.32 | 447903.12 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP19-7W | DPS197W05N | SO | N | 5 - 6 ft | 1325377.32 | 447903.12 | | | 4/5/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP21-1C | SUS211C00N | SO | N | 0 - 1 ft | 1326050.65 | 447909.33 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP21-1C | SUS211C00N2 | SO | N | 0 - 1 ft | 1326050.65 | 447909.33 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP21-1C | DPS211C01N | SO | N | 1 - 2 ft | 1326050.65 | 447909.33 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP21-1C | DPS211C02N | SO | N | 2 - 3 ft | 1326050.65 | 447909.33 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP21-1C | DPS211C03N | SO | N | 3 - 4 ft | 1326050.65 | 447909.33 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP21-3A | DPS213A01N | SO | N | 1 - 2 ft | 1326031.48 | 447992.22 | | | 8/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP21-3A | DPS213A02N | SO | N | 2 - 3 ft | 1326031.48 | 447992.22 | | | 8/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP21-3G | SUS213G00N | SO | N | 0 - 1 ft | 1326110.03 | 447895.61 | Forensics | | 8/28/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | | | X | | | | | | | |
| SUSDP21-3G | DPS213G01N | SO | N | 1 - 2 ft | 1326110.03 | 447895.61 | | | 8/28/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP21-3G | DPS213G02N | SO | N | 2 - 3 ft | 1326110.03 | 447895.61 | | | 8/28/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP21-3M | SUS213M00N | SO | N | 0 - 1 ft | 1326045.73 | 447829.51 | Forensics | | 8/28/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | | | X | | | | | | | |
| SUSDP21-3M | DPS213M01N | SO | N | 1 - 2 ft | 1326045.73 | 447829.51 | | | 8/28/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP21-3M | DPS213M02N | SO | N | 2 - 3 ft | 1326045.73 | 447829.51 | | | 8/28/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP21-3M | DPS213M03N | SO | N | 3 - 4 ft | 1326045.73 | 447829.51 | | | 8/28/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP21-3M | DPS213M04N | SO | N | 4 - 5 ft | 1326045.73 | 447829.51 | | | 8/28/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP21-3Q | SUS213Q00N | SO | N | 0 - 1 ft | 1325934.85 | 447856.82 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP21-3T | DPS213T01N | SO | N | 1 - 2 ft | 1325963.13 | 447939.82 | | | 8/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP21-3T | DPS213T02N | SO | N | 2 - 3 ft | 1325963.13 | 447939.82 | | | 8/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP21-3T | DPS213T03N | SO | N | 3 - 4 ft | 1325963.13 | 447939.82 | | | 8/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP21-3V | DPS213V01N | SO | N | 1 - 2 ft | 1325970.50 | 447975.41 | | | 8/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP21-5W | SUS215W00N | SO | N | 0 - 1 ft | 1325877.44 | 447912.71 | | | 1/26/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP21-5W | DPS215W01N | SO | N | 1 - 2 ft | 1325877.44 | 447912.71 | | | 1/26/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP21-5W | DPS215W02N | SO | N | 2 - 3 ft | 1325877.44 | 447912.71 | | | 1/26/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDP21-6W | SUS216W00N | SO | N | 0 - 1 ft | 1325846.60 | 447916.14 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP21-6W | DPS216W01N | SO | N | 1 - 2 ft | 1325846.60 | 447916.14 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP21-6W | DPS216W01R | SO | FD | 1 - 2 ft | 1325846.60 | 447916.14 | | | 2/21/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP43-2J | SUS432J00N | SO | N | 0 - 1 ft | 1324735.90 | 448493.79 | | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP43-2J | DPS432J01N | SO | N | 1 - 2 ft | 1324735.90 | 448493.79 | | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP43-2J | DPS432J02N | SO | N | 2 - 3 ft | 1324735.90 | 448493.79 | | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP43-2J | DPS432J03N | SO | N | 3 - 4 ft | 1324735.90 | 448493.79 | | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP43-2J | DPS432J04N | SO | N | 4 - 5 ft | 1324735.90 | 448493.79 | | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP43-2M | SUS432M00N | SO | N | 0 - 1 ft | 1324708.61 | 448535.24 | | | 8/9/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP43-2M | DPS432M01N | SO | N | 1 - 2 ft | 1324708.61 | 448535.24 | | | 8/9/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP43-2M | DPS432M02N | SO | N | 2 - 3 ft | 1324708.61 | 448535.24 | | | 8/9/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP43-2M | DPS432M03N | SO | N | 3 - 4 ft | 1324708.61 | 448535.24 | | | 8/9/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP43-2M | DPS432M04N | SO | N | 4 - 5 ft | 1324708.61 | 448535.24 | | | 8/9/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP43-3A | DPS433A01N | SO | N | 1 - 2 ft | 1324764.25 | 448623.32 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | | | X | | | | | | | |
| SUSDP43-3A | DPS433A02N | SO | N | 2 - 3 ft | 1324764.25 | 448623.32 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP43-3A | DPS433A03N | SO | N | 3 - 4 ft | 1324764.25 | 448623.32 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP43-3A | DPS433A04N | SO | N | 4 - 5 ft | 1324764.25 | 448623.32 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP43-3P | SUS433P00N | SO | N | 0 - 1 ft | 1324725.50 | 448431.10 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP43-3P | DPS433P01N | SO | N | 1 - 2 ft | 1324725.50 | 448431.10 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP43-3P | DPS433P02N | SO | N | 2 - 3 ft | 1324725.50 | 448431.10 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP43-3T | SUS433T00N | SO | N | 0 - 1 ft | 1324667.56 | 448566.93 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP43-3T | DPS433T01N | SO | N | 1 - 2 ft | 1324667.56 | 448566.93 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP43-4NW | DPS434NW01N | SO | N | 1 - 2 ft | 1324646.98 | 448580.85 | | | 2/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP43-4NW | DPS434NW02N | SO | N | 2 - 3 ft | 1324646.98 | 448580.85 | | | 2/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP43-4SW | SUS434SW00N | SO | N | 0 - 1 ft | 1324673.89 | 448415.79 | | | 2/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP43-4SW | DPS434SW01N | SO | N | 1 - 2 ft | 1324673.89 | 448415.79 | | | 2/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP43-4SW | DPS434SW02N | SO | N | 2 - 3 ft | 1324673.89 | 448415.79 | | | 2/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP43-5NW | SUS435NW00N | SO | N | 0 - 1 ft | 1324618.67 | 448605.21 | | | 3/15/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP43-5NW | DPS435NW01N | SO | N | 1 - 2 ft | 1324618.67 | 448605.21 | | | 3/15/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP44-1D | SUS441D00N | SO | N | 1.5 - 2.5 ft | 1324730.55 | 448849.57 | | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP44-1D | DPS441D01N | SO | N | 1 - 2 ft | 1324730.55 | 448849.57 | Forensics | | 8/9/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUSDP44-1D | DPS441D02N | SO | N | 2 - 3 ft | 1324730.55 | 448849.57 | | | 8/9/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP44-1D | DPS441D03N | SO | N | 3 - 4 ft | 1324730.55 | 448849.57 | | | 8/9/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP44-1H | SUS441H00N | SO | N | 1.5 - 2.5 ft | 1324703.62 | 448892.64 | | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP44-1H | DPS441H02N | SO | N | 2 - 3 ft | 1324703.62 | 448892.64 | | | 8/9/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP44-1H | DPS441H03N | SO | N | 3 - 4 ft | 1324703.62 | 448892.64 | | | 8/9/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP44-2N | DPS442N01N | SO | N | 1 - 2 ft | 1324696.18 | 448892.38 | Forensics | | 8/9/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUSDP44-2N | DPS442N02N | SO | N | 2 - 3 ft | 1324696.18 | 448892.38 | | | 8/9/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP44-2N | DPS442N02R | SO | FD | 2 - 3 ft | 1324696.18 | 448892.38 | | | 8/9/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP48-1C | SUS481C00N | SO | N | 0 - 1 ft | 1325244.46 | 448345.86 | | | 8/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP48-1C | DPS481C01N | SO | N | 1 - 2 ft | 1325244.46 | 448345.86 | | | 8/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP48-1E | DPS481E01N | SO | N | 1 - 2 ft | 1325218.19 | 448319.24 | | | 8/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |

# Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDP48-1G | DPS481G01N | SO | N | 1 - 2 ft | 1325185.71 | 448345.59 | | | 8/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP48-2E | SUS482E00N | SO | N | 0 - 1 ft | 1325274.15 | 448343.97 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP48-2E | DPS482E01N | SO | N | 1 - 2 ft | 1325274.15 | 448343.97 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP49 | DPS4901N | SO | N | 1 - 2 ft | 1324939.37 | 448475.33 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP49 | DPS4901R | SO | FD | 1 - 2 ft | 1324939.37 | 448475.33 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP49 | DPS4902N | SO | N | 2 - 3 ft | 1324939.37 | 448475.33 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP49-1C | SUS491C00N | SO | N | 0 - 1 ft | 1324964.26 | 448474.34 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP49-1C | DPS491C01N | SO | N | 1 - 2 ft | 1324964.26 | 448474.34 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP49-1C | DPS491C02N | SO | N | 2 - 3 ft | 1324964.26 | 448474.34 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP49-1E | SUS491E00N | SO | N | 0 - 1 ft | 1324942.27 | 448444.52 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP49-1E | DPS491E01N | SO | N | 1 - 2 ft | 1324942.27 | 448444.52 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP49-1E | DPS491E02N | SO | N | 2 - 3 ft | 1324942.27 | 448444.52 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP49-1E | DPS491E03N | SO | N | 3 - 4 ft | 1324942.27 | 448444.52 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP49-1E | DPS491E04N | SO | N | 4 - 5 ft | 1324942.27 | 448444.52 | | | 8/11/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDP50 | DPS5001N | SO | N | 1 - 2 ft | 1324848.39 | 448598.52 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | | | X | | | | | | | |
| SUSDP50 | DPS5001R | SO | FD | 1 - 2 ft | 1324848.39 | 448598.52 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SUSDP50 | DPS5002N | SO | N | 2 - 3 ft | 1324848.39 | 448598.52 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | | | X | | | | | | | |
| SUSDP50-2A | SUS502A00N | SO | N | 0 - 1 ft | 1324851.34 | 448652.69 | | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SUSDP50-2A | DPS502A02N | SO | N | 2 - 3 ft | 1324851.34 | 448652.69 | | | 8/8/2017 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SUSDP50-2A | DPS502A01N | SO | N | 1 - 2 ft | 1324851.34 | 448652.69 | | | 8/15/2017 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SUSDP50-3A | SUS503A00N | SO | N | 0 - 1 ft | 1324852.92 | 448672.62 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SUSDP50-3A | DPS503A01N | SO | N | 1 - 2 ft | 1324852.92 | 448672.62 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SUSDP51 | SUS51F00N | SO | N | 0 - 1 ft | 1325047.03 | 448745.81 | | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDP64 | DPS6401N | SO | N | 1 - 2 ft | 1324922.32 | 448581.83 | | | 8/10/2017 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | | | | | | | | | | |
| SUSDP65 | SUS6500N | SO | N | 0 - 1 ft | 1325094.21 | 448487.74 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDP65 | DPS6501N | SO | N | 1 - 2 ft | 1325094.21 | 448487.74 | | | 1/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPCT16-1C | SUSCT161C00N | SO | N | 0 - 1 ft | 1324640.48 | 449141.01 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPCT16-1C | DPCT161C01N | SO | N | 1 - 2 ft | 1324640.48 | 449141.01 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPCT16-1C | DPCT161C02N | SO | N | 2 - 3 ft | 1324640.48 | 449141.01 | Forensics | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | |
| SUSDPCT16-1C | DPCT161C03N | SO | N | 3 - 4 ft | 1324640.48 | 449141.01 | Forensics | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | |
| SUSDPCT16-1C | DPCT161C04N | SO | N | 4 - 5 ft | 1324640.48 | 449141.01 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SUSDPCT16-1E | SUSCT161E00N | SO | N | 0 - 1 ft | 1324610.82 | 449117.35 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPCT16-1E | DPCT161E01N | SO | N | 1 - 2 ft | 1324610.82 | 449117.35 | Forensics | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-1E | DPCT161E02N | SO | N | 2 - 3 ft | 1324610.82 | 449117.35 | Forensics | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | |
| SUSDPCT16-1G | SUSCT161G00N | SO | N | 0 - 1 ft | 1324591.54 | 449144.43 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPCT16-1G | DPCT161G01N | SO | N | 1 - 2 ft | 1324591.54 | 449144.43 | Forensics | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-1G | DPCT161G02N | SO | N | 2 - 3 ft | 1324591.54 | 449144.43 | Forensics | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-1G | DPCT161G03N | SO | N | 3 - 4 ft | 1324591.54 | 449144.43 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SUSDPCT16-1G | DPCT161G04N | SO | N | 4 - 5 ft | 1324591.54 | 449144.43 | | | 2/1/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SUSDPCT16-2E | SUSCT162E00N | SO | N | 0 - 1 ft | 1324669.43 | 449137.96 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-2E | DPSCT162E01N | SO | N | 1 - 2 ft | 1324669.43 | 449137.96 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-2E | DPSCT162E02N | SO | N | 2 - 3 ft | 1324669.43 | 449137.96 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | |

# Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDPCT16-2E | DPSCT162E03N | SO | N | 3 - 4 ft | 1324669.43 | 449137.96 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | |
| SUSDPCT16-2E | DPSCT162E04N | SO | N | 4 - 5 ft | 1324669.43 | 449137.96 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | X | | | | | | | | | |
| SUSDPCT16-2I | SUSCT162I00N | SO | N | 0 - 1 ft | 1324615.29 | 449096.22 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-2I | DPSCT162I01N | SO | N | 1 - 2 ft | 1324615.29 | 449096.22 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-2I | DPSCT162I02N | SO | N | 2 - 3 ft | 1324615.29 | 449096.22 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | |
| SUSDPCT16-2I | DPSCT162I03N | SO | N | 3 - 4 ft | 1324615.29 | 449096.22 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | |
| SUSDPCT16-2I | DPSCT162I04N | SO | N | 4 - 5 ft | 1324615.29 | 449096.22 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | |
| SUSDPCT16-2M | SUSCT162M00N | SO | N | 0 - 1 ft | 1324566.60 | 449145.05 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-2M | DPSCT162M01N | SO | N | 1 - 2 ft | 1324566.60 | 449145.05 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-2M | DPSCT162M02N | SO | N | 2 - 3 ft | 1324566.60 | 449145.05 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-2M | DPSCT162M03N | SO | N | 3 - 4 ft | 1324566.60 | 449145.05 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-2M | DPSCT162M04N | SO | N | 4 - 5 ft | 1324566.60 | 449145.05 | Forensics | | 2/22/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-3Q | SUSCT163Q00N | SO | N | 0 - 1 ft | 1324538.67 | 449098.97 | | | 6/29/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPCT16-3Q | SUSCT163Q00R | SO | N | 0 - 1 ft | 1324538.67 | 449098.97 | | | 6/29/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPCT16-3Q | DPSCT163Q01N | SO | N | 1 - 2 ft | 1324538.67 | 449098.97 | | | 6/29/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPCT16-3Q | DPSCT163Q02N | SO | N | 2 - 3 ft | 1324538.67 | 449098.97 | | | 6/29/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPCT16-3R | SUSCT163R00N | SO | N | 0 - 1 ft | 1324539.51 | 449123.73 | | | 5/31/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | | | | | | | | | | |
| SUSDPCT16-3R | DPSCT163R01N | SO | N | 1 - 2 ft | 1324539.51 | 449123.73 | | | 5/31/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | | | | | | | | | | |
| SUSDPCT16-3R | DPSCT163R02N | SO | N | 2 - 3 ft | 1324539.51 | 449123.73 | | | 5/31/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | | | | | | | | | | |
| SUSDPCT16-3R | DPSCT163R03N | SO | N | 3 - 4 ft | 1324539.51 | 449123.73 | | | 5/31/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SUSDPCT16-3R | DPSCT163R03R | SO | FD | 3 - 4 ft | 1324539.51 | 449123.73 | | | 5/31/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SUSDPCT16-3R | DPSCT163R04N | SO | N | 4 - 5 ft | 1324539.51 | 449123.73 | | | 5/31/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SUSDPCT16-3S | SUSCT163S00N | SO | N | 0 - 1 ft | 1324540.35 | 449147.04 | Forensics | | 3/15/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-3S | DPSCT163S01N | SO | N | 1 - 2 ft | 1324540.35 | 449147.04 | Forensics | | 3/15/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-3S | DPSCT163S02N | SO | N | 2 - 3 ft | 1324540.35 | 449147.04 | Forensics | | 3/15/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | X | | | X | X | | | | | |
| SUSDPCT16-3S | DPSCT163S03N | SO | N | 3 - 4 ft | 1324540.35 | 449147.04 | Forensics | | 3/15/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-3S | DPSCT163S04N | SO | N | 4 - 5 ft | 1324540.35 | 449147.04 | Forensics | | 3/15/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDPCT16-4W | SUSCT164W00N | SO | N | 0 - 1 ft | 1324517.38 | 449147.59 | | | 4/6/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | | | | | | | | | | |
| SUSDPCT16-4W | DPSCT164W01N | SO | N | 1 - 2 ft | 1324517.38 | 449147.59 | | | 4/6/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPCT16-4W | DPSCT164W02N | SO | N | 2 - 3 ft | 1324517.38 | 449147.59 | | | 4/6/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | X | | | | | | | | | | | | | |
| SUSDPCT16-4W | DPSCT164W03N | SO | N | 3 - 4 ft | 1324517.38 | 449147.59 | | | 4/6/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SUSDPCT16-4W | DPSCT164W04N | SO | N | 4 - 5 ft | 1324517.38 | 449147.59 | | | 4/6/2018 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| SUSDPGD21-C3 | SUSGD21C300N | SO | N | 0 - 1 ft | 1325974.27 | 447791.84 | | | 7/2/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-C3 | DPSGD21C301N | SO | N | 1 - 2 ft | 1325974.27 | 447791.84 | | | 7/2/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-C3 | DPSGD21C302N | SO | N | 2 - 3 ft | 1325974.27 | 447791.84 | | | 7/2/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-C3 | DPSGD21C303N | SO | N | 3 - 4 ft | 1325974.27 | 447791.84 | | | 7/2/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-C5 | SUSGD21C500N | SO | N | 0 - 1 ft | 1325964.07 | 447805.33 | | | 5/31/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-C5 | DPSGD21C501N | SO | N | 1 - 2 ft | 1325964.07 | 447805.33 | | | 5/31/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-C5 | DPSGD21C502N | SO | N | 2 - 3 ft | 1325964.07 | 447805.33 | | | 5/31/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-C5 | DPSGD21C503N | SO | N | 3 - 4 ft | 1325964.07 | 447805.33 | | | 5/31/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-C5 | DPSGD21C504N | SO | N | 4 - 5 ft | 1325964.07 | 447805.33 | | | 5/31/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-D1 | SUSGD21D100N | SO | N | 0 - 1 ft | 1325994.56 | 447789.83 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |

# Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDPGD21-D1 | DPSGD21D101N | SO | N | 1 - 2 ft | 1325994.56 | 447789.83 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-D1 | DPSGD21D102N | SO | N | 2 - 3 ft | 1325994.56 | 447789.83 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-D1 | DPSGD21D103N | SO | N | 3 - 4 ft | 1325994.56 | 447789.83 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-D1 | DPSGD21D104N | SO | N | 4 - 5 ft | 1325994.56 | 447789.83 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-E1 | SUSGD21E100N | SO | N | 0 - 1 ft | 1326003.15 | 447794.95 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-E1 | DPSGD21E101N | SO | N | 1 - 2 ft | 1326003.15 | 447794.95 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-E1 | DPSGD21E102N | SO | N | 2 - 3 ft | 1326003.15 | 447794.95 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-E1 | DPSGD21E103N | SO | N | 3 - 4 ft | 1326003.15 | 447794.95 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-E1 | DPSGD21E104N | SO | N | 4 - 5 ft | 1326003.15 | 447794.95 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-F1 | SUSGD21F100N | SO | N | 0 - 1 ft | 1326011.74 | 447800.07 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-F1 | DPSGD21F101N | SO | N | 1 - 2 ft | 1326011.74 | 447800.07 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-F1 | DPSGD21F102N | SO | N | 2 - 3 ft | 1326011.74 | 447800.07 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-F1 | DPSGD21F103N | SO | N | 3 - 4 ft | 1326011.74 | 447800.07 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-F1 | DPSGD21F104N | SO | N | 4 - 5 ft | 1326011.74 | 447800.07 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-G1 | SUSGD21G100N | SO | N | 0 - 1 ft | 1326020.33 | 447805.20 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-G1 | DPSGD21G101N | SO | N | 1 - 2 ft | 1326020.33 | 447805.20 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-G1 | DPSGD21G102N | SO | N | 2 - 3 ft | 1326020.33 | 447805.20 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-G1 | DPSGD21G103N | SO | N | 3 - 4 ft | 1326020.33 | 447805.20 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-G1 | DPSGD21G104N | SO | N | 4 - 5 ft | 1326020.33 | 447805.20 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-G1 | DPSGD21G105N | SO | N | 5 - 6 ft | 1326020.33 | 447805.20 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-G2 | SUSGD21G200N | SO | N | 0 - 1 ft | 1326014.92 | 447810.29 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-G2 | DPSGD21G201N | SO | N | 1 - 2 ft | 1326014.92 | 447810.29 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-G2 | DPSGD21G202N | SO | N | 2 - 3 ft | 1326014.92 | 447810.29 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-H1 | SUSGD21H100N | SO | N | 0 - 1 ft | 1326028.86 | 447811.54 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-H1 | DPSGD21H101N | SO | N | 1 - 2 ft | 1326028.86 | 447811.54 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-H1 | DPSGD21H102N | SO | N | 2 - 3 ft | 1326028.86 | 447811.54 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-H2 | SUSGD21H200N | SO | N | 0 - 1 ft | 1326022.60 | 447817.73 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-H2 | DPSGD21H201N | SO | N | 1 - 2 ft | 1326022.60 | 447817.73 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-H2 | DPSGD21H202N | SO | N | 2 - 3 ft | 1326022.60 | 447817.73 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| SUSDPGD21-I1 | SUSGD21I100N | SO | N | 0 - 1 ft | 1326035.24 | 447818.30 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-I1 | DPSGD21I101N | SO | N | 1 - 2 ft | 1326035.24 | 447818.30 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-I1 | DPSGD21I101R | SO | FD | 1 - 2 ft | 1326035.24 | 447818.30 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-I1 | DPSGD21I102N | SO | N | 2 - 3 ft | 1326035.24 | 447818.30 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-I1 | DPSGD21I103N | SO | N | 3 - 4 ft | 1326035.24 | 447818.30 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDPGD21-I2 | SUSGD21I200N | SO | N | 0 - 1 ft | 1326028.98 | 447824.49 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-I2 | DPSGD21I201N | SO | N | 1 - 2 ft | 1326028.98 | 447824.49 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-I2 | DPSGD21I202N | SO | N | 2 - 3 ft | 1326028.98 | 447824.49 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-J1 | SUSGD21J100N | SO | N | 0 - 1 ft | 1326042.23 | 447825.02 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-J1 | DPSGD21J101N | SO | N | 1 - 2 ft | 1326042.23 | 447825.02 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-J1 | DPSGD21J101R | SO | FD | 1 - 2 ft | 1326042.23 | 447825.02 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-J1 | DPSGD21J102N | SO | N | 2 - 3 ft | 1326042.23 | 447825.02 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-J1 | DPSGD21J103N | SO | N | 3 - 4 ft | 1326042.23 | 447825.02 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDPGD21-J1 | DPSGD21J104N | SO | N | 4 - 5 ft | 1326042.23 | 447825.02 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDPGD21-J1 | DPSGD21J105N | SO | N | 5 - 6 ft | 1326042.23 | 447825.02 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDPGD21-J2 | SUSGD21J200N | SO | N | 0 - 1 ft | 1326035.68 | 447832.31 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-J2 | DPSGD21J201N | SO | N | 1 - 2 ft | 1326035.68 | 447832.31 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-J2 | DPSGD21J202N | SO | N | 2 - 3 ft | 1326035.68 | 447832.31 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-J2 | DPSGD21J203N | SO | N | 3 - 4 ft | 1326035.68 | 447832.31 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDPGD21-K1 | SUSGD21K100N | SO | N | 0 - 1 ft | 1326050.48 | 447832.31 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-K1 | DPSGD21K101N | SO | N | 1 - 2 ft | 1326050.48 | 447832.31 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-K1 | DPSGD21K102N | SO | N | 2 - 3 ft | 1326050.48 | 447832.31 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-K1 | DPSGD21K103N | SO | N | 3 - 4 ft | 1326050.48 | 447832.31 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDPGD21-K1 | DPSGD21K104N | SO | N | 4 - 5 ft | 1326050.48 | 447832.31 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDPGD21-K1 | DPSGD21K105N | SO | N | 5 - 6 ft | 1326050.48 | 447832.31 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDPGD21-K1.5 | SUSGD21K1.500N | SO | N | 0 - 1 ft | 1326045.64 | 447837.41 | | | 1/26/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-K1.5 | DPSGD21K1.501N | SO | N | 1 - 2 ft | 1326045.64 | 447837.41 | | | 1/26/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-K1.5 | DPSGD21K1.502N | SO | N | 2 - 3 ft | 1326045.64 | 447837.41 | | | 1/26/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-K1.5 | DPSGD21K1.503N | SO | N | 3 - 4 ft | 1326045.64 | 447837.41 | | | 1/26/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDPGD21-K1.5 | DPSGD21K1.504N | SO | N | 4 - 5 ft | 1326045.64 | 447837.41 | | | 1/26/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDPGD21-K2 | SUSGD21K200N | SO | N | 0 - 1 ft | 1326043.08 | 447839.96 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-K2 | DPSGD21K201N | SO | N | 1 - 2 ft | 1326043.08 | 447839.96 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-K2 | DPSGD21K202N | SO | N | 2 - 3 ft | 1326043.08 | 447839.96 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-L1 | SUSGD21L100N | SO | N | 0 - 1 ft | 1326058.16 | 447839.94 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-L1 | DPSGD21L101N | SO | N | 1 - 2 ft | 1326058.16 | 447839.94 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-L1 | DPSGD21L102N | SO | N | 2 - 3 ft | 1326058.16 | 447839.94 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-L1 | DPSGD21L103N | SO | N | 3 - 4 ft | 1326058.16 | 447839.94 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDPGD21-L1 | DPSGD21L104N | SO | N | 4 - 5 ft | 1326058.16 | 447839.94 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDPGD21-L2 | SUSGD21L200N | SO | N | 0 - 1 ft | 1326050.39 | 447847.09 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-L2 | DPSGD21L201N | SO | N | 1 - 2 ft | 1326050.39 | 447847.09 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-L2 | DPSGD21L201R | SO | FD | 1 - 2 ft | 1326050.39 | 447847.09 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-L2 | DPSGD21L202N | SO | N | 2 - 3 ft | 1326050.39 | 447847.09 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-L2 | DPSGD21L203N | SO | N | 3 - 4 ft | 1326050.39 | 447847.09 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDPGD21-L2 | DPSGD21L204N | SO | N | 4 - 5 ft | 1326050.39 | 447847.09 | | | 2/20/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDPGD21-M1 | SUSGD21M100N | SO | N | 0 - 1 ft | 1326065.26 | 447847.81 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-M1 | DPSGD21M101N | SO | N | 1 - 2 ft | 1326065.26 | 447847.81 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-M1 | DPSGD21M101R | SO | FD | 1 - 2 ft | 1326065.26 | 447847.81 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-M1 | DPSGD21M102N | SO | N | 2 - 3 ft | 1326065.26 | 447847.81 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-M1 | DPSGD21M103N | SO | N | 3 - 4 ft | 1326065.26 | 447847.81 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDPGD21-M1 | DPSGD21M104N | SO | N | 4 - 5 ft | 1326065.26 | 447847.81 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| SUSDPGD21-M2 | SUSGD21M200N | SO | N | 0 - 1 ft | 1326057.90 | 447854.61 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-M2 | DPSGD21M201N | SO | N | 1 - 2 ft | 1326057.90 | 447854.61 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-M2 | DPSGD21M201R | SO | FD | 1 - 2 ft | 1326057.90 | 447854.61 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-M2 | DPSGD21M202N | SO | N | 2 - 3 ft | 1326057.90 | 447854.61 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | X | | | | | | | |
| SUSDPGD21-M2 | DPSGD21M203N | SO | N | 3 - 4 ft | 1326057.90 | 447854.61 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |

# Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDPGD21-M2 | DPSGD21M204N | SO | N | 4 - 5 ft | 1326057.90 | 447854.61 | | | 3/14/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | | | |
| SUSDPGD21-N1 | SUSGD21N100N | SO | N | 0 - 1 ft | 1326071.99 | 447854.74 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | |X | | | | | | | |
| SUSDPGD21-N1 | DPSGD21N101N | SO | N | 1 - 2 ft | 1326071.99 | 447854.74 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | |X | | | | | | | |
| SUSDPGD21-N1 | DPSGD21N102N | SO | N | 2 - 3 ft | 1326071.99 | 447854.74 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | | | |
| SUSDPGD21-N1 | DPSGD21N103N | SO | N | 3 - 4 ft | 1326071.99 | 447854.74 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | | | |
| SUSDPGD21-N2 | SUSGD21N200N | SO | N | 0 - 1 ft | 1326064.23 | 447861.53 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | |X | | | | | | | |
| SUSDPGD21-N2 | DPSGD21N201N | SO | N | 1 - 2 ft | 1326064.23 | 447861.53 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | |X | | | | | | | |
| SUSDPGD21-N2 | DPSGD21N201R | SO | FD | 1 - 2 ft | 1326064.23 | 447861.53 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | |X | | | | | | | |
| SUSDPGD21-N2 | DPSGD21N202N | SO | N | 2 - 3 ft | 1326064.23 | 447861.53 | | | 4/4/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | | | |
| SUSDPGD21-P1 | SUSGD21P100N | SO | N | 0 - 1 ft | 1326087.96 | 447871.29 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | |X | | | | | | | |
| SUSDPGD21-P1 | DPSGD21P101N | SO | N | 1 - 2 ft | 1326087.96 | 447871.29 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | |X | | | | | | | |
| SUSDPGD21-P1 | DPSGD21P101R | SO | FD | 1 - 2 ft | 1326087.96 | 447871.29 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | |X | | | | | | | |
| SUSDPGD21-P1 | DPSGD21P102N | SO | N | 2 - 3 ft | 1326087.96 | 447871.29 | | | 5/30/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | |X | | | | | | | |
| SUSDPGD21-R1 | SUSGD21R100N | SO | N | 0 - 1 ft | 1326106.28 | 447890.25 | | | 1/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | |X | | | | | | | |
| SUSDPGD21-R1 | SUSGD21R100R | SO | FD | 0 - 1 ft | 1326106.28 | 447890.25 | | | 1/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | | | | | | | | | |
| SUSDPGD21-R1 | DPSGD21R101N | SO | N | 1 - 2 ft | 1326106.28 | 447890.25 | | | 1/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | |X | | | | | | | |
| SUSDPGD21-R1 | DPSGD21R102N | SO | N | 2 - 3 ft | 1326106.28 | 447890.25 | | | 1/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | | | |
| SUSDPGD21-R1 | DPSGD21R103N | SO | N | 3 - 4 ft | 1326106.28 | 447890.25 | | | 1/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | | | |
| SUSDPGD21-R2 | SUSGD21R200N | SO | N | 0 - 1 ft | 1326099.44 | 447896.43 | | | 1/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | |X | | | | | | | |
| SUSDPGD21-R2 | DPSGD21R201N | SO | N | 1 - 2 ft | 1326099.44 | 447896.43 | | | 1/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | |X | | | | | | | |
| SUSDPGD21-R2 | DPSGD21R202N | SO | N | 2 - 3 ft | 1326099.44 | 447896.43 | | | 1/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | | | |
| SUSDPGD21-R2 | DPSGD21R203N | SO | N | 3 - 4 ft | 1326099.44 | 447896.43 | | | 1/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | | | |
| SUSDPGD21-S1 | SUSGD21S100N | SO | N | 0 - 1 ft | 1326112.54 | 447896.81 | | | 1/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | | | | | | | | | |
| SUSDPGD21-S1 | DPSGD21S101N | SO | N | 1 - 2 ft | 1326112.54 | 447896.81 | | | 1/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | |X | | | | | | | |
| SUSDPGD21-S1 | DPSGD21S102N | SO | N | 2 - 3 ft | 1326112.54 | 447896.81 | | | 1/23/2018 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | | | |
| SUSDPGD21-S2 | SUSGD21S200N | SO | N | 0 - 1 ft | 1326106.56 | 447903.36 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | | | | | | | | | |
| SUSDPGD21-S2 | DPSGD21S201N | SO | N | 1 - 2 ft | 1326106.56 | 447903.36 | | | 1/24/2018 | | | | | | | | | | | | | | | | | | | | | | | | |X | | | | | | | | | | | | | |
| TA1A1 | SUSTAIAI00N | SO | N | 0 - 1 ft | 1324113.66 | 448760.84 | | | 1/24/2017 | | | | | | | | | | | | | | |X | | |X | | | | | | | | | | | | | | | | | | | | |
| TA1A3 | SUSTAIA300N | SO | N | 0 - 1 ft | 1324218.07 | 448793.02 | | | 1/24/2017 | | | | | | | | | | | | | | |X | | |X | | | | | | | | | | | | | | | | | | | | |
| TA1A7 | SUSTAIA700N | SO | N | 0 - 1 ft | 1324413.72 | 448757.67 | | | 1/24/2017 | | | | | | | | | | | | | | |X | | |X | | | | | | | | | | | | | | | | | | | | |
| TA1A9 | SUSTAIA900N | SO | N | 0 - 1 ft | 1324520.00 | 448762.20 | | | 1/24/2017 | | | | | | | | | | | | | | |X | | |X | | | | | | | | | | | | | | | | | | | | |
| TA1C1 | SUSTAICI00N | SO | N | 0 - 1 ft | 1324115.85 | 448862.43 | | | 1/24/2017 | | | | | | | | | | | | | | |X | | |X | | | | | | | | | | | | | | | | | | | | |
| TA1C3 | SUSTAIC300N | SO | N | 0 - 1 ft | 1324219.53 | 448854.29 | | | 1/24/2017 | | | | | | | | | | | | | | |X | | |X | | | | | | | | | | | | | | | | | | | | |
| TA1C4 | SUSTAIC400N | SO | N | 0 - 1 ft | 1324260.74 | 448859.07 | | | 1/24/2017 | | | | | | | | | | | | | | |X | | |X | | | | | | | | | | | | | | | | | | | | |
| TA1C4 | SUSTA1C400N2 | SO | N | 0 - 1 ft | 1324260.74 | 448859.07 | | | 6/29/2018 | | | | | | | | | | | | | | |X |X | | | | | | | | | | | | | | | | | | | | | | |
| TA1C5 | SUSTAIC500N | SO | N | 0 - 1 ft | 1324312.39 | 448859.68 | | | 1/24/2017 | | | | | | | | | | | | | | |X | | |X | | | | | | | | | | | | | | | | | | | | |
| TA1C5 | SUSTA1C500N2 | SO | N | 0 - 1 ft | 1324312.39 | 448859.68 | | | 6/29/2018 | | | | | | | | | | | | | | |X |X | | | | | | | | | | | | | | | | | | | | | | |
| TA1C7 | SUSTAI C700N | SO | N | 0 - 1 ft | 1324414.77 | 448854.00 | | | 1/24/2017 | | | | | | | | | | | | | | |X | | |X | | | | | | | | | | | | | | | | | | | | |
| TA1C9 | SUSTAIC900N | SO | N | 0 - 1 ft | 1324520.92 | 448844.84 | | | 1/24/2017 | | | | | | | | | | | | | | |X | | |X | | | | | | | | | | | | | | | | | | | | |
| TA1E0 | DPSTA1E0001N | SO | N | 1 - 2 ft | 1324064.34 | 448960.18 | | | 8/1/2017 | | | | | | | | | | | | | | |X | | |X | | | | | | | | | | | | | | | | | | | | |
| TA1E0 | DPSTA1E0002N | SO | N | 2 - 3 ft | 1324064.34 | 448960.18 | | | 8/1/2017 | | | | | | | | | | | | | | |X | | |X | | | | | | | | | | | | | | | | | | | | |
| TA1E0 | DPSTA1E0003N | SO | N | 3 - 4 ft | 1324064.34 | 448960.18 | | | 8/1/2017 | | | | | | | | | | | | | | |X | | |X | | | | | | | | | | | | | | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TA1E1 | SUSTAIEI00N | SO | N | 0 - 1 ft | 1324111.62 | 448961.30 | | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1E1 | DPSTA1E0101N | SO | N | 1 - 2 ft | 1324111.62 | 448961.30 | | | 7/31/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1E1 | SUSTA1E100N2 | SO | N | 0 - 1 ft | 1324111.62 | 448961.30 | | | 6/29/2018 | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | |
| TA1E10 | SUSTA1E1000N | SO | N | 0 - 1 ft | 1324577.18 | 448955.80 | | | 8/8/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1E10 | SUSTA1E1000R | SO | FD | 0 - 1 ft | 1324577.18 | 448955.80 | | | 8/8/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1E10 | DPSTA1E1001N | SO | N | 1 - 2 ft | 1324577.18 | 448955.80 | | | 8/8/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1-E11 | SUSTA1E1100N | SO | N | 0 - 1 ft | 1324616.15 | 448950.77 | | | 1/30/2018 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1-E11 | SUSTA1E1100R | SO | FD | 0 - 1 ft | 1324616.15 | 448950.77 | | | 1/30/2018 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1E3 | SUSTAIE300N | SO | N | 0 - 1 ft | 1324216.87 | 448962.02 | | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1E4 | SUSTAIE400N | SO | N | 0 - 1 ft | 1324255.92 | 448962.40 | | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1E5 | SUSTAIE500N | SO | N | 0 - 1 ft | 1324306.33 | 448959.82 | | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1E7 | SUSTAI E700N | SO | N | 0 - 1 ft | 1324426.52 | 448955.28 | | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1E9 | SUSTAI E900N | SO | N | 0 - 1 ft | 1324514.82 | 448947.70 | | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1E9 | DPSTA1E0901N | SO | N | 1 - 2 ft | 1324514.82 | 448947.70 | | | 8/3/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1E9 | SUSTA1E900N2 | SO | N | 0 - 1 ft | 1324514.82 | 448947.70 | | | 6/29/2018 | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | |
| TA1F4 | SUSTAIF400N | SO | N | 0 - 1 ft | 1324276.32 | 449010.65 | | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1F4 | SUSTA1F400N2 | SO | N | 0 - 1 ft | 1324276.32 | 449010.65 | | | 6/29/2018 | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | |
| TA1F5 | SUSTAIF500N | SO | N | 0 - 1 ft | 1324328.61 | 449012.91 | | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1G1 | SUSTAIGI00N | SO | N | 0 - 1 ft | 1324119.96 | 449069.08 | | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1G10 | SUSTA1G1000N | SO | N | 0 - 1 ft | 1324566.88 | 449062.09 | | | 8/4/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1G10 | DPSTA1G1001N | SO | N | 1 - 2 ft | 1324566.88 | 449062.09 | | | 8/4/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1G3 | SUSTAIG300N | SO | N | 0 - 1 ft | 1324221.56 | 449061.18 | | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1G5 | SUSTAIG500N | SO | N | 0 - 1 ft | 1324329.08 | 449051.19 | | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1G7 | SUSTAIG700N | SO | N | 0 - 1 ft | 1324420.45 | 449045.05 | | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1G9 | SUSTAIG900N | SO | N | 0 - 1 ft | 1324522.94 | 449067.33 | | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1G9 | DPSTA1G0901N | SO | N | 1 - 2 ft | 1324522.94 | 449067.33 | | | 8/4/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1G9 | DPSTA1G0902N | SO | N | 2 - 3 ft | 1324522.94 | 449067.33 | | | 8/4/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1G9 | SUSTA1G900N2 | SO | N | 0 - 1 ft | 1324522.94 | 449067.33 | | | 6/29/2018 | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | |
| TA1H9 | SUSTA1H0900N | SO | N | 0 - 1 ft | 1324523.72 | 449094.64 | | | 8/4/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| TA1H9 | DPSTA1H0901N | SO | N | 1 - 2 ft | 1324523.72 | 449094.64 | | | 8/4/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | |
| SUSDP19-3V | SUS193V00N | SO | N | 0 - 1 ft | 1325595.71 | 447958.44 | | | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| **Phase II Landside Mobilization 1, Task 3: Onsite Soil Forensics Sampling** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB2 | SBS0200N | SO | N | 0 - 1 ft | 1323663.20 | 448726.57 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SB2 | SBS0201N | SO | N | 1 - 2 ft | 1323663.20 | 448726.57 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SB2 | SBS0202-05N | SO | N | 2 - 5 ft | 1323663.20 | 448726.57 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SB2 | SBS0205-10N | SO | N | 5 - 10 ft | 1323663.20 | 448726.57 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SB2 | SBS0210-15N | SO | N | 10 - 15 ft | 1323663.20 | 448726.57 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUS08-1A | SUS081A00N | SO | N | 0 - 1 ft | 1324310.88 | 448937.30 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | X | | | | | | | | | | X | | | |
| SUS08-1B | SUS081B00N2 | SO | N | 0 - 1 ft | 1324334.66 | 448940.44 | Forensics | | 2/3/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | X | | | | | | | | | | X | | | |
| SUS08-1C | SUS081C00N | SO | N | 0 - 1 ft | 1324334.57 | 448914.51 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | X | | | | | | | | | | X | | | |
| SUS08-1D | SUS081D00N | SO | N | 0 - 1 ft | 1324337.55 | 448888.98 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | X | | | | | | | | | | X | | | |
| SUS08-1F | SUS081F00N | SO | N | 0 - 1 ft | 1324287.99 | 448885.36 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | X | | | | | | | | | | X | | | |

# Table 2-2
## Landside and Waterside Data Collection Program
## Benning Road Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUS08-1G | SUS081G00N | SO | N | 0 - 1 ft | 1324287.23 | 448911.84 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | X | | | | | | | | | | X | | | |
| SUS08-1H | SUS081H00N | SO | N | 0 - 1 ft | 1324283.33 | 448936.08 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | X | | | | | | | | | | X | | | |
| SUS10-1A | SUS101A00N | SO | N | 0 - 1 ft | 1324662.61 | 448809.30 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS10-1B | SUS101B00N | SO | N | 0 - 1 ft | 1324686.33 | 448810.82 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS10-1B | SUS101B00R | SO | FD | 0 - 1 ft | 1324686.33 | 448810.82 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS10-1C | SUS101C00N | SO | N | 0 - 1 ft | 1324683.90 | 448782.99 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS10-1D | SUS101D00N | SO | N | 0 - 1 ft | 1324685.07 | 448749.42 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS10-1E | SUS101E00N | SO | N | 0 - 1 ft | 1324660.80 | 448758.04 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS10-1F | SUS101F00N | SO | N | 0 - 1 ft | 1324635.69 | 448760.23 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS10-1G | SUS101G00N | SO | N | 0 - 1 ft | 1324635.56 | 448784.18 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS10-1H | SUS101H00N2 | SO | N | 0 - 1 ft | 1324631.59 | 448811.34 | Forensics | | 2/3/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | |
| SUS181A | SUS181A00N | SO | N | 0 - 1 ft | 1325529.97 | 448998.15 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS181B | SUS181B00N | SO | N | 0 - 1 ft | 1325546.56 | 448995.24 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS181C | SUS181C00N | SO | N | 0 - 1 ft | 1325546.51 | 448976.35 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS181D | SUS181D00N | SO | N | 0 - 1 ft | 1325546.82 | 448956.27 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS181E | SUS181E00N | SO | N | 0 - 1 ft | 1325530.94 | 448949.91 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS181F | SUS181F00N | SO | N | 0 - 1 ft | 1325514.20 | 448969.06 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS181G | SUS181G00N | SO | N | 0 - 1 ft | 1325503.55 | 448980.70 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUS181H | SUS181H00N | SO | N | 0 - 1 ft | 1325502.60 | 449003.26 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | X | | | |
| SUSDP02 | SUS02F00N | SO | N | 0 - 1 ft | 1323688.07 | 448977.16 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP02 | DPS02F01N | SO | N | 1 - 2 ft | 1323688.07 | 448977.16 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP02 | DPS02F02-05N | SO | N | 2 - 5 ft | 1323688.07 | 448977.16 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP04 | SUS04F00N | SO | N | 0 - 1 ft | 1324091.66 | 448808.97 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP04 | DPS04F01N | SO | N | 1 - 2 ft | 1324091.66 | 448808.97 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP04 | DPS04F01R | SO | FD | 1 - 2 ft | 1324091.66 | 448808.97 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP04 | DPS04F02-05N | SO | N | 2 - 5 ft | 1324091.66 | 448808.97 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | | | | | | | |
| SUSDP04 | DPS04F05-10N | SO | N | 5 - 10 ft | 1324091.66 | 448808.97 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | X | X | | | | | |
| SUSDP05 | SUS05F00N | SO | N | 0 - 1 ft | 1324087.93 | 449163.57 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP05 | DPS05F01N | SO | N | 1 - 2 ft | 1324087.93 | 449163.57 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SUSDP05 | DPS05F02-05N | SO | N | 2 - 5 ft | 1324087.93 | 449163.57 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP08 | SUS08F00N | SO | N | 0 - 1 ft | 1324319.35 | 448910.93 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP08 | DPS08F01N | SO | N | 1 - 2 ft | 1324319.35 | 448910.93 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SUSDP08 | DPS08F02-05N | SO | N | 2 - 5 ft | 1324319.35 | 448910.93 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP08 | DPS08F05-10N | SO | N | 5 - 10 ft | 1324319.35 | 448910.93 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SUSDP08 | DPS08F10-15N | SO | N | 10 - 15 ft | 1324319.35 | 448910.93 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP08-1E | SUS081E00N | SO | N | 0 - 1 ft | 1324313.53 | 448888.29 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | X | | | | | | | | | | X | | | |
| SUSDP08-1E | SUS081E00R | SO | FD | 0 - 1 ft | 1324313.53 | 448888.29 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | X | | | | | | | | | | X | | | |
| SUSDP10 | DPS10F01N | SO | N | 1 - 2 ft | 1324662.91 | 448784.82 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP10 | DPS10F02-05N | SO | N | 2 - 5 ft | 1324662.91 | 448784.82 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP10 | SUS10F00N | SO | N | 0 - 1 ft | 1324662.91 | 448784.82 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP11 | SUS11F00N | SO | N | 0 - 1 ft | 1324624.65 | 449239.72 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP11 | DPS11F01N | SO | N | 1 - 2 ft | 1324624.65 | 449239.72 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDP11 | DPS11F02-05N | SO | N | 2 - 5 ft | 1324624.65 | 449239.72 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP11 | DPS11F05-10N | SO | N | 5 - 10 ft | 1324624.65 | 449239.72 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | | | | | | | | |
| SUSDP12 | SUS12F00N | SO | N | 0 - 1 ft | 1324827.15 | 448435.68 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SUSDP12 | DPS12F01N | SO | N | 1 - 2 ft | 1324827.15 | 448435.68 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP12 | DPS12F02-05N | SO | N | 2 - 5 ft | 1324827.15 | 448435.68 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SUSDP12 | DPS12F05-10N | SO | N | 5 - 10 ft | 1324827.15 | 448435.68 | Forensics | | 1/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP12 | DPS12F10-15N | SO | N | 10 - 15 ft | 1324827.15 | 448435.68 | Forensics | | 1/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SUSDP12 | DPS12F15N | SO | N | 14.5 - 15.5 ft | 1324827.15 | 448435.68 | Forensics | | 1/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | |
| SUSDP15 | SUS15F00N | SO | N | 0 - 1 ft | 1325219.52 | 448484.64 | Forensics | | 1/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP15 | DPS15F01N | SO | N | 1 - 2 ft | 1325219.52 | 448484.64 | Forensics | | 1/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SUSDP15 | DPS15F02-05N | SO | N | 2 - 5 ft | 1325219.52 | 448484.64 | Forensics | | 1/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP15 | DPS15F05-10N | SO | N | 5 - 10 ft | 1325219.52 | 448484.64 | Forensics | | 2/2/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SUSDP15 | DPS15F10-15N | SO | N | 10 - 15 ft | 1325219.52 | 448484.64 | Forensics | | 2/2/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SUSDP15 | DPS15F15N | SO | N | 14.5 - 15.5 ft | 1325219.52 | 448484.64 | Forensics | | 2/2/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | |
| SUSDP18 | SUS18F00N | SO | N | 0 - 1 ft | 1325531.22 | 448976.92 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP18 | DPS18F01N | SO | N | 1 - 2 ft | 1325531.22 | 448976.92 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP18 | DPS18F02-05N | SO | N | 2 - 5 ft | 1325531.22 | 448976.92 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP19 | SUS19F00N | SO | N | 0 - 1 ft | 1325677.11 | 447862.07 | Forensics | | 1/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SUSDP19 | DPS19F01N | SO | N | 1 - 2 ft | 1325677.11 | 447862.07 | Forensics | | 1/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP19 | DPS19F02-05N | SO | N | 2 - 5 ft | 1325677.11 | 447862.07 | Forensics | | 1/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP19 | DPS19F05-10N | SO | N | 5 - 10 ft | 1325677.11 | 447862.07 | Forensics | | 2/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SUSDP19 | DPS19F10-15N | SO | N | 10 - 15 ft | 1325677.11 | 447862.07 | Forensics | | 2/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP20 | SUS20F00N | SO | N | 0 - 1 ft | 1325651.50 | 448307.48 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP20 | DPS20F01N | SO | N | 1 - 2 ft | 1325651.50 | 448307.48 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP20 | DPS20F02-05N | SO | N | 2 - 5 ft | 1325651.50 | 448307.48 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP20 | DPS20F15N | SO | N | 14.5 - 15.5 ft | 1325651.50 | 448307.48 | Forensics | | 1/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | |
| SUSDP21 | SUS21F00N | SO | N | 0 - 1 ft | 1326039.45 | 447908.40 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP21 | DPS21F01N | SO | N | 1 - 2 ft | 1326039.45 | 447908.40 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SUSDP21 | DPS21F02-05N | SO | N | 2 - 5 ft | 1326039.45 | 447908.40 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP21 | DPS21F05-10N | SO | N | 5 - 10 ft | 1326039.45 | 447908.40 | Forensics | | 2/2/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP37 | SUS37F00N | SO | N | 0 - 1 ft | 1324207.01 | 448553.63 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SUSDP37 | DPS37F01N | SO | N | 1 - 2 ft | 1324207.01 | 448553.63 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SUSDP37 | DPS37F02-05N | SO | N | 2 - 5 ft | 1324207.01 | 448553.63 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP39 | SUS39F00N | SO | N | 0 - 1 ft | 1324489.85 | 448470.19 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP39 | DPS39F01N | SO | N | 1 - 2 ft | 1324489.85 | 448470.19 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SUSDP39 | DPS39F02-05N | SO | N | 2 - 5 ft | 1324489.85 | 448470.19 | Forensics | | 1/25/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP39 | DPS39F05-10N | SO | N | 5 - 10 ft | 1324489.85 | 448470.19 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP39 | DPS39F10-15N | SO | N | 10 - 15 ft | 1324489.85 | 448470.19 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP41 | SUS41F00N | SO | N | 0 - 1 ft | 1324243.54 | 448900.74 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP41 | DPS41F01N | SO | N | 1 - 2 ft | 1324243.54 | 448900.74 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP41 | DPS41F02-05N | SO | N | 2 - 5 ft | 1324243.54 | 448900.74 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP41 | DPS41F05-10N | SO | N | 5 - 10 ft | 1324243.54 | 448900.74 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SUSDP41 | DPS41F10-15N | SO | N | 10 - 15 ft | 1324243.54 | 448900.74 | Forensics | | 1/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP43 | SUS43F00N | SO | N | 0 - 1 ft | 1324763.02 | 448548.99 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SUSDP43 | DPS43F01N | SO | N | 1 - 2 ft | 1324763.02 | 448548.99 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP43 | DPS43F02-05N | SO | N | 2 - 5 ft | 1324763.02 | 448548.99 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SUSDP43 | DPS43F05-10N | SO | N | 5 - 10 ft | 1324763.02 | 448548.99 | Forensics | | 1/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SUSDP43 | DPS43F10-15N | SO | N | 10 - 15 ft | 1324763.02 | 448548.99 | Forensics | | 1/30/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP44 | SUS44F00N | SO | N | 1.5 - 2.5 ft | 1324717.06 | 448871.86 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP44 | DPS44F01N | SO | N | 2.5 - 3.5 ft | 1324717.06 | 448871.86 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SUSDP44 | DPS44F01R | SO | FD | 2.5 - 3.5 ft | 1324717.06 | 448871.86 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | |
| SUSDP44 | DPS44F02-05N | SO | N | 3.5 - 5 ft | 1324717.06 | 448871.86 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP44 | DPS44F02-05R | SO | FD | 3.5 - 5 ft | 1324717.06 | 448871.86 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | |
| SUSDP48 | SUS4800N | SO | N | 0 - 1 ft | 1325216.80 | 448346.01 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | X | X | X | | | X | | | X | | | | X | | | |
| SUSDP48 | SUS4800R | SO | FD | 0 - 1 ft | 1325216.80 | 448346.01 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | X | X | X | | | X | | | X | | | | X | | | |
| SUSDP48 | SUS48F00N | SO | N | 0 - 1 ft | 1325216.80 | 448346.01 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | | | | | | | |
| SUSDP48 | DPS48F01N | SO | N | 1 - 2 ft | 1325216.80 | 448346.01 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP48 | DPS48F01R | SO | FD | 1 - 2 ft | 1325216.80 | 448346.01 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP48 | DPS48F02-05N | SO | N | 2 - 5 ft | 1325216.80 | 448346.01 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP48 | DPS48F02-05R | SO | FD | 2 - 5 ft | 1325216.80 | 448346.01 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP48 | DPS48F05-10N | SO | N | 5 - 10 ft | 1325216.80 | 448346.01 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SUSDP48 | DPS48F10-15N | SO | N | 10 - 15 ft | 1325216.80 | 448346.01 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP49 | SUS4900N | SO | N | 0 - 1 ft | 1324939.37 | 448475.33 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | X | X | X | | | X | | | X | | | | X | | | |
| SUSDP50 | SUS5000N | SO | N | 0 - 1 ft | 1324848.39 | 448598.52 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | X | X | X | | | X | | | X | | | | X | | | |
| SUSDP51 | SUS5100N | SO | N | 0 - 1 ft | 1325047.03 | 448745.81 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | X | X | X | | | X | X | | X | | | | X | | | |
| SUSDP51 | DPS51F01N | SO | N | 1 - 2 ft | 1325047.03 | 448745.81 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP51 | DPS51F02-05N | SO | N | 2 - 5 ft | 1325047.03 | 448745.81 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP51 | DPS51F05-10N | SO | N | 5 - 10 ft | 1325047.03 | 448745.81 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP51 | DPS51F10-15N | SO | N | 10 - 15 ft | 1325047.03 | 448745.81 | Forensics | | 1/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP52 | SUS5200N | SO | N | 0 - 1 ft | 1325244.87 | 448758.54 | Forensics | | 1/26/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | X | X | X | | | X | | | X | | | | X | | | |
| SUSDP53 | SUS53F00N | SO | N | 0 - 1 ft | 1325144.63 | 447972.38 | Forensics | | 1/31/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP53 | DPS53F01N | SO | N | 1 - 2 ft | 1325144.63 | 447972.38 | Forensics | | 1/31/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP53 | DPS53F02-05N | SO | N | 2 - 5 ft | 1325144.63 | 447972.38 | Forensics | | 1/31/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP53 | DPS53F05-10N | SO | N | 5 - 10 ft | 1325144.63 | 447972.38 | Forensics | | 2/2/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SUSDP53 | DPS53F10-15N | SO | N | 10 - 15 ft | 1325144.63 | 447972.38 | Forensics | | 2/2/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| **Phase II Landside Mobilization 1, Task 4: Onsite DPT Groundwater Investigation** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUSDP52 | DPW5215-20N | WG | N | 15 - 20 ft | 1325244.87 | 448758.54 | | | 2/3/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| SUSDP52 | DPW5245-50N | WG | N | 45 - 50 ft | 1325244.87 | 448758.54 | | | 2/3/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP54 | DPW5415-20N | WG | N | 15 - 20 ft | 1325783.51 | 448123.21 | | | 2/2/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP54 | DPW5438-42N | WG | N | 38 - 42 ft | 1325783.51 | 448123.21 | | | 2/2/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP55 | DPW5515-20N | WG | N | 15 - 20 ft | 1325582.28 | 448101.27 | | | 2/2/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP55 | DPW5515-20R | WG | FD | 15 - 20 ft | 1325582.28 | 448101.27 | | | 2/2/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP55 | DPW5538-42N | WG | N | 38 - 42 ft | 1325582.28 | 448101.27 | | | 2/2/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP56 | DPW5615-20N | WG | N | 15 - 20 ft | 1325378.32 | 448274.13 | | | 2/3/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DP56 | DPW5630-35N | WG | N | 30 - 35 ft | 1325378.32 | 448274.13 | | | 2/3/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP57 | DPW5715-20N | WG | N | 15 - 20 ft | 1325486.89 | 448403.81 | | | 2/3/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP57 | DPW5715-20R | WG | FD | 15 - 20 ft | 1325486.89 | 448403.81 | | | 2/3/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP57 | DPW5740-45N | WG | N | 40 - 45 ft | 1325486.89 | 448403.81 | | | 2/3/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP58 | DPW5815-20N | WG | N | 15 - 20 ft | 1325291.95 | 448513.69 | | | 2/6/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP58 | DPW5845-50N | WG | N | 45 - 50 ft | 1325291.95 | 448513.69 | | | 2/6/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP59 | DPW5915-20N | WG | N | 15 - 20 ft | 1325226.12 | 449005.36 | | | 2/3/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP59 | DPW5945-50N | WG | N | 45 - 50 ft | 1325226.12 | 449005.36 | | | 2/3/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP60 | DPW6015-20N | WG | N | 15 - 20 ft | 1325286.02 | 449250.85 | | | 2/6/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP60 | DPW6045-50N | WG | N | 45 - 50 ft | 1325286.02 | 449250.85 | | | 2/6/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP61 | DPW6115-20N | WG | N | 15 - 20 ft | 1324851.35 | 448698.31 | | | 2/6/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP61 | DPW6145-50N | WG | N | 45 - 50 ft | 1324851.35 | 448698.31 | | | 2/6/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP62 | DPW6215-20N | WG | N | 15 - 20 ft | 1324778.29 | 448744.99 | | | 2/6/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP62 | DPW6215-20R | WG | FD | 15 - 20 ft | 1324778.29 | 448744.99 | | | 2/6/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP62 | DPW6245-50N | WG | N | 45 - 50 ft | 1324778.29 | 448744.99 | | | 2/6/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP63 | DPW6315-20N | WG | N | 15 - 20 ft | 1324609.40 | 448881.51 | | | 2/6/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DP63 | DPW6345-50N | WG | N | 45 - 50 ft | 1324609.40 | 448881.51 | | | 2/6/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19B3 | DPWTA19B315-20N | WG | N | 15 - 20 ft | 1323733.98 | 448232.48 | | | 2/7/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19B3 | DPWTA19B345-50N | WG | N | 45 - 50 ft | 1323733.98 | 448232.48 | | | 2/7/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | | |
| TA19C1 | DPWTA19C115-20N | WG | N | 15 - 20 ft | 1323644.69 | 448271.78 | | | 2/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | | |
| TA19C1 | DPWTA19C145-50N | WG | N | 45 - 50 ft | 1323644.69 | 448271.78 | | | 2/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | | |
| TA19C2 | DPWTA19C215-20N | WG | N | 15 - 20 ft | 1323678.50 | 448290.97 | | | 2/7/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19C2 | DPWTA19C245-50N | WG | N | 45 - 50 ft | 1323678.50 | 448290.97 | | | 2/7/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19C3 | DPWTA19C315-20N | WG | N | 15 - 20 ft | 1323738.61 | 448317.07 | | | 2/7/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19C3 | DPWTA19C345-50N | WG | N | 45 - 50 ft | 1323738.61 | 448317.07 | | | 2/7/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19E1 | DPWTA19E115-20N | WG | N | 15 - 20 ft | 1323628.39 | 448517.03 | | | 2/7/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19E1 | DPWTA19E145-50N | WG | N | 45 - 50 ft | 1323628.39 | 448517.03 | | | 2/7/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19E2 | DPWTA19E215-20N | WG | N | 15 - 20 ft | 1323697.80 | 448502.81 | | | 2/7/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19E2 | DPWTA19E245-50N | WG | N | 45 - 50 ft | 1323697.80 | 448502.81 | | | 2/7/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19A1 | DPWTA19A115-20N | WG | N | 15 - 20 ft | 1323638.69 | 448159.26 | | | 3/20/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19A1 | DPWTA19A144-49N | WG | N | 44 - 49 ft | 1323638.69 | 448159.26 | | | 3/20/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19A2 | DPWTA19A215-20N | WG | N | 15 - 20 ft | 1323674.51 | 448148.18 | | | 3/20/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19A2 | DPWTA19A245-50N | WG | N | 45 - 50 ft | 1323674.51 | 448148.18 | | | 3/20/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19A3 | DPWTA19A315-20N | WG | N | 15 - 20 ft | 1323728.76 | 448158.39 | | | 3/20/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19A3 | DPWTA19A345-50N | WG | N | 45 - 50 ft | 1323728.76 | 448158.39 | | | 3/20/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | X | | | | | | | | |
| TA19D1 | DPWTA19D115-20N | WG | N | 15 - 20 ft | 1323632.35 | 448464.46 | | | 3/3/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19D1 | DPWTA19D145-50N | WG | N | 45 - 50 ft | 1323632.35 | 448464.46 | | | 3/3/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19D3 | DPWTA19D315-20N | WG | N | 15 - 20 ft | 1323735.95 | 448425.64 | | | 3/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| TA19D3 | DPWTA19D345-50N | WG | N | 45 - 50 ft | 1323735.95 | 448425.64 | | | 3/8/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DPOS-01 | DPWOS0116-20N | WG | N | 16 - 20 ft | 1325160.10 | 449465.76 | | 9.47 | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DPOS-01 | DPWOS0146-50N | WG | N | 46 - 50 ft | 1325160.10 | 449465.76 | | 9.47 | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DPOS-02 | DPWOS0224-28N | WG | N | 24 - 28 ft | 1325283.62 | 449445.87 | | 21.73 | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DPOS-02 | DPWOS0216-20N | WG | N | 16 - 20 ft | 1325283.62 | 449445.87 | | 21.73 | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DPOS-02 | DPWOS0246-50R | WG | FD | 46 - 50 ft | 1325283.62 | 449445.87 | | 21.73 | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DPOS-02 | DPWOS0246-50N | WG | N | 46 - 50 ft | 1325283.62 | 449445.87 | | 21.73 | 8/24/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DPOS-03 | DPWOS0312-16N | WG | N | 12 - 16 ft | 1325465.16 | 449323.38 | | 23.41 | 8/21/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| DPOS-03 | DPWOS0346-50N | WG | N | 46 - 50 ft | 1325465.16 | 449323.38 | | 23.41 | 8/21/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | |
| **Phase II Landside Mobilization 2, Task 1: Background Soil Sampling** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SOBACK01 | SOBACK0100N | SO | N | 0 - 1 ft | 1319864.18 | 453387.05 | Forensics | | 2/28/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | X | | X | X | | |
| SOBACK01 | SOBACK0103N | SO | N | 3 - 4 ft | 1319864.18 | 453387.05 | Forensics | | 2/28/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK02 | SOBACK0200N | SO | N | 0 - 1 ft | 1328627.26 | 447619.60 | Forensics | | 2/28/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | X | | X | X | | |
| SOBACK02 | SOBACK0203N | SO | N | 3 - 4 ft | 1328627.26 | 447619.60 | Forensics | | 2/28/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK03 | SOBACK0300N | SO | N | 0 - 1 ft | 1329214.24 | 444497.88 | Forensics | | 3/2/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | X | | X | X | X | | X | X | | |
| SOBACK03 | SOBACK0303N | SO | N | 3 - 4 ft | 1329214.24 | 444497.88 | Forensics | | 3/2/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK04/ DPBACK04 | SOBACK0400N | SO | N | 0 - 1 ft | 1323248.40 | 445546.29 | Forensics | | 4/5/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK04/ DPBACK04 | SOBACK0403N | SO | N | 3 - 4 ft | 1323248.40 | 445546.29 | Forensics | | 4/5/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | X | | X | X | X | | X | X | | |
| SOBACK05/ DPBACK15 | SOBACK0500N | SO | N | 0 - 1 ft | 1320831.45 | 447594.39 | Forensics | | 4/5/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK05/ DPBACK15 | SOBACK0503N | SO | N | 3 - 4 ft | 1320831.45 | 447594.39 | Forensics | | 4/5/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | X | | X | X | X | | X | X | | |
| SOBACK06 | SOBACK0600N | SO | N | 0 - 1 ft | 1320783.91 | 451508.96 | Forensics | | 2/28/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | X | | X | X | | |
| SOBACK06 | SOBACK0603N | SO | N | 3 - 4 ft | 1320783.91 | 451508.96 | Forensics | | 2/28/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK07 | SOBACK0700N | SO | N | 0 - 1 ft | 1321557.44 | 453527.57 | Forensics | | 2/27/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK07 | SOBACK0703N | SO | N | 3 - 4 ft | 1321557.44 | 453527.57 | Forensics | | 2/27/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK08/ DPBACK12 | SOBACK0800N | SO | N | 0 - 1 ft | 1323513.39 | 446903.48 | Forensics | | 4/5/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK08/ DPBACK12 | SOBACK0803N | SO | N | 3 - 4 ft | 1323513.39 | 446903.48 | Forensics | | 4/5/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK09 | SOBACK0900N | SO | N | 0 - 1 ft | 1327403.24 | 447472.65 | Forensics | | 3/6/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK09 | SOBACK0903N | SO | N | 3 - 4 ft | 1327403.24 | 447472.65 | Forensics | | 3/6/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK10/ DPBACK01 | SOBACK1000N | SO | N | 0 - 1 ft | 1324538.28 | 442393.07 | Forensics | | 3/3/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | X | | X | X | | |
| SOBACK10/ DPBACK01 | SOBACK1003N | SO | N | 3 - 4 ft | 1324538.28 | 442393.07 | Forensics | | 3/3/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK11 | SOBACK1100N | SO | N | 0 - 1 ft | 1325016.99 | 446512.25 | Forensics | | 4/7/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK11 | SOBACK1103N | SO | N | 3 - 4 ft | 1325016.99 | 446512.25 | Forensics | | 4/7/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK12/ DPBACK09 | SOBACK1200N | SO | N | 0 - 1 ft | 1327368.99 | 451106.18 | Forensics | | 4/4/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | X | | X | X | | |
| SOBACK12/ DPBACK09 | SOBACK1203N | SO | N | 3 - 4 ft | 1327368.99 | 451106.18 | Forensics | | 4/4/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK13 | SOBACK1300N | SO | N | 0 - 1 ft | 1322878.35 | 444258.44 | Forensics | | 4/5/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | X | | X | X | | |
| SOBACK13 | SOBACK1303N | SO | N | 3 - 4 ft | 1322878.35 | 444258.44 | Forensics | | 4/5/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | X | | X | X | X | | X | X | | |
| SOBACK14 | SOBACK1400N | SO | N | 0 - 1 ft | 1323622.17 | 453759.47 | Forensics | | 3/3/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | X | | X | X | | |
| SOBACK14 | SOBACK1400R | SO | FD | 0 - 1 ft | 1323622.17 | 453759.47 | Forensics | | 3/3/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK14 | SOBACK1403N | SO | N | 3 - 4 ft | 1323622.17 | 453759.47 | Forensics | | 3/3/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK15 | SOBACK1500N | SO | N | 0 - 1 ft | 1324917.01 | 454385.13 | Forensics | | 2/27/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK15 | SOBACK1503N | SO | N | 3 - 4 ft | 1324917.01 | 454385.13 | Forensics | | 2/27/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK16 | SOBACK1600N | SO | N | 0 - 1 ft | 1324848.90 | 455005.08 | Forensics | | 2/27/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK16 | SOBACK1600R | SO | FD | 0 - 1 ft | 1324848.90 | 455005.08 | Forensics | | 2/27/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK16 | SOBACK1603N | SO | N | 3 - 4 ft | 1324848.90 | 455005.08 | Forensics | | 2/27/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK17/ DPBACK05 | SOBACK1700N | SO | N | 0 - 1 ft | 1329476.81 | 454066.94 | Forensics | | 2/28/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | X | | X | X | X | | X | X | | |
| SOBACK17/ DPBACK05 | SOBACK1703N | SO | N | 3 - 4 ft | 1329476.81 | 454066.94 | Forensics | | 2/28/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SOBACK18/ DPBACK13 | SOBACK1800N | SO | N | 0 - 1 ft | 1321086.38 | 446369.96 | Forensics | | 4/5/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | X | | X | X | | X | X | X | | X | X | | |
| SOBACK18/ DPBACK13 | SOBACK1803N | SO | N | 3 - 4 ft | 1321086.38 | 446369.96 | Forensics | | 4/5/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | X | | X | X | X | | X | X | | |
| SOBACK19F | SOBACK19F00N | SO | N | 0 - 1 ft | 1325107.84 | 449700.48 | Forensics | | 4/4/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | X | | X | X | | |
| SOBACK19F | SOBACK19F03N | SO | N | 3 - 4 ft | 1325107.84 | 449700.48 | Forensics | | 4/4/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | X | | X | X | | |
| SU-BK-01 | SU-BK-0100N | SO | N | 0 - 1 ft | 1327237.88 | 454392.00 | Forensics | | 4/4/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SU-BK-01 | SU-BK-0103N | SO | N | 3 - 4 ft | 1327237.88 | 454392.00 | Forensics | | 4/4/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SU-BK-02 | SU-BK-0200N | SO | N | 0 - 1 ft | 1328149.06 | 454777.51 | Forensics | | 4/4/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | X | | X | X | | |
| SU-BK-02 | SU-BK-0203N | SO | N | 3 - 4 ft | 1328149.06 | 454777.51 | Forensics | | 4/4/2017 | | X | | | | | | | | | | | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| **Phase II Landside Mobilization 2, Task 2: Background DPT Groundwater Sampling** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DPBACK14 | DPWBACK1415-19N | WG | N | 15 - 19 ft | 1328627.63 | 446794.67 | | | 3/8/2017 | | | | | | | | | | | | | | | X | | X | | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK08/ DPBACK12 | DPWBACK1221-25N | WG | N | 21 - 25 ft | 1323513.39 | 446903.48 | | | 4/18/2017 | | | | | | | | | | | | | | | X | | X | | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK10/DPBACK01 | DPWBACK0105-09N | WG | N | 5 - 9 ft | 1324538.28 | 442393.07 | | | 3/7/2017 | | | | | | | | | | | | | | | X | | X | | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK12/DPBACK09 | DPWBACK0916-20N | WG | N | 16 - 20 ft | 1327368.99 | 451106.18 | | | 4/18/2017 | | | | | | | | | | | | | | | X | | X | | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK17/ DPBACK05 | DPWBACK0513-17N | WG | N | 13 - 17 ft | 1329476.81 | 454066.94 | | | 3/2/2017 | | | | | | | | | | | | | | | X | | X | | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK17/ DPBACK05 | DPWBACK0513-17R | WG | FD | 13 - 17 ft | 1329476.81 | 454066.94 | | | 3/2/2017 | | | | | | | | | | | | | | | X | | X | | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK18/ DPBACK13 | DPWBACK1306-10N | WG | N | 6 - 10 ft | 1321086.38 | 446369.96 | | | 4/19/2017 | | | | | | | | | | | | | | | X | | X | | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK18/ DPBACK13 | DPWBACK1341-45N | WG | N | 41 - 45 ft | 1321086.38 | 446369.96 | | | 4/20/2017 | | | | | | | | | | | | | | | X | | X | | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| DPBACK10 | DPWBACK1016-20N | WG | N | 16 - 20 ft | 1320862.14 | 445123.10 | | | 8/30/2017 | | | | | | | | | | | | | | | X | | X | | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| DPBACK10 | DPWBACK1042-46N | WG | N | 42 - 46 ft | 1320862.14 | 445123.10 | | | 8/30/2017 | | | | | | | | | | | | | | | X | | X | | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| DPBACK16 | DPWBACK1620-24N | WG | N | 20 - 24 ft | 1320555.10 | 444160.27 | | | 8/29/2017 | | | | | | | | | | | | | | | X | | X | | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| DPBACK16 | DPWBACK1640-44N | WG | N | 40 - 44 ft | 1320555.10 | 444160.27 | | | 8/29/2017 | | | | | | | | | | | | | | | X | | X | | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK04/ DPBACK04 | DPWBACK0420-24N | WG | N | 20 - 24 ft | 1323248.40 | 445546.29 | | | 8/22/2017 | | | | | | | | | | | | | | | X | | X | | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK05/ DPBACK15 | DPWBACK1524-28N | WG | N | 24 - 28 ft | 1320831.45 | 447594.39 | | | 8/28/2017 | | | | | | | | | | | | | | | X | | X | | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| SOBACK05/ DPBACK15 | DPWBACK1550-54N | WG | N | 50 - 54 ft | 1320831.45 | 447594.39 | | | 8/28/2017 | | | | | | | | | | | | | | | X | | X | | | X | | | | X | X | | | X | | | X | | | | X | X | | |
| **Phase II Landside Mobilization 3, Task 1: Kenilworth Maintenance Yard Surface Soil Sampling** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| KMY02 | SUSKMY0200N | SO | N | 0 - 1 ft | 1323528.19 | 449429.81 | | | 5/15/2018 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | |
| KMY03 | SUSKMY0300N | SO | N | 0 - 1 ft | 1323477.83 | 449326.78 | | | 5/15/2018 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | |
| KMY03 | SUSKMY0300R | SO | FD | 0 - 1 ft | 1323477.83 | 449326.78 | | | 5/15/2018 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | |
| KMY04 | SUSKMY0400N | SO | N | 0 - 1 ft | 1323417.88 | 449254.71 | | | 5/15/2018 | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | |
| KMY05 | SUSKMY0500N | SO | N | 0 - 1 ft | 1323356.20 | 449161.27 | | | 5/15/2018 | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | |
| KMY07 | SUSKMY0700N | SO | N | 0 - 1 ft | 1323323.26 | 448847.05 | | | 5/15/2018 | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | |
| KMY08 | SUSKMY0800N | SO | N | 0 - 1 ft | 1323328.15 | 448771.01 | | | 5/15/2018 | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | |
| KMY09 | SUSKMY0900N | SO | N | 0 - 1 ft | 1323312.83 | 448628.53 | | | 5/15/2018 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | |
| KMY10 | SUSKMY1000N | SO | N | 0 - 1 ft | 1323389.65 | 448450.96 | | | 5/15/2018 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | |
| KMY12 | SUSKMY1200N | SO | N | 0 - 1 ft | 1323555.94 | 448678.33 | | | 5/15/2018 | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | |
| KMY13 | SUSKMY1300N | SO | N | 0 - 1 ft | 1323483.63 | 448619.10 | | | 5/15/2018 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | |
| KMY14 | SUSKMY1400N | SO | N | 0 - 1 ft | 1323549.43 | 448589.47 | | | 5/15/2018 | | | | | | | | | | | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | |
| KMY15 | SUSKMY1500N | SO | N | 0 - 1 ft | 1323529.61 | 448482.53 | | | 5/15/2018 | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | | | | | | |
| KMY-DU01 | SUSNPSMI0100N | SO | N | 0 - 1 ft | 1323505.30 | 449363.66 | Forensics | | 4/12/2017 | | | | | | | | | | | | | | | X | | | X | | X | | X | | X | X | X | | | X | | X | X | X | | X | | | |
| KMY-DU02 | SUSNPSMI0200N | SO | N | 0 - 1 ft | 1323341.50 | 448717.63 | Forensics | | 4/12/2017 | | | | | | | | | | | | | | | X | | | X | | X | | X | | X | X | X | | | X | | X | X | X | | X | | | |
| KMY-DU03 | SUSNPSMI0300N | SO | N | 0 - 1 ft | 1323559.22 | 448663.73 | Forensics | | 4/13/2017 | | | | | | | | | | | | | | | X | | | X | | X | | X | | X | X | X | | | X | | X | X | X | | X | | | |
| KMY-DU03 | SUSNPSMI0300N1 | SO | N | 0 - 1 ft | 1323559.22 | 448663.73 | Forensics | | 4/13/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | X | | | | | | X | | | | X | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KMY-DU03 | SUSNPSMI0300N2 | SO | N | 0 - 1 ft | 1323559.22 | 448663.73 | Forensics | | 4/13/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | X | | | | | | X | | | | X | | | |
| KMY-DU03 | SUSNPSMI0300N3 | SO | N | 0 - 1 ft | 1323559.22 | 448663.73 | Forensics | | 4/13/2017 | | | | | | | | | | | | | | | X | | | X | | | | | | | X | | | | | | X | | | | X | | | |
| KMY-DU03 | SUSNPSMI0300R1 | SO | FD | 0 - 1 ft | 1323559.22 | 448663.73 | Forensics | | 4/13/2017 | | | | | | | | | | | | | | | X | | | X | | X | | X | | X | X | | | | | | X | | | | X | | | |
| KMY-DU03 | SUSNPSMI0300R2 | SO | FD | 0 - 1 ft | 1323559.22 | 448663.73 | Forensics | | 4/13/2017 | | | | | | | | | | | | | | | X | | | X | | X | | X | | X | X | | | | | | X | | | | X | | | |
| **Phase II Landside Mobilization 3, Task 2: Kenilworth Maintenance Yard Discrete Subsurface Soil and Groundwater Sampling** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| KMY-DU01 | DPSNPS0105N | SO | N | 5 - 6 ft | 1323505.30 | 449363.66 | | | 4/20/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | | X | | | | | | | |
| KMY-DU01 | DPSNPS0110N | SO | N | 10 - 11 ft | 1323505.30 | 449363.66 | | | 4/20/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | | X | | | | | | | |
| KMY-DU01 | DPSNPS0115N | SO | N | 15 - 16 ft | 1323505.30 | 449363.66 | | | 4/20/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | | X | | | | | | | |
| KMY-DU01 | DPWNPS0108-12N | WG | N | | 1323505.30 | 449363.66 | | | 4/20/2017 | | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | X | | X | X | | X | X | X | | X | | | |
| KMY-DU02 | DPSNPS0205N | SO | N | 5 - 6 ft | 1323341.50 | 448717.63 | | | 4/21/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | | X | | | | | | | |
| KMY-DU02 | DPSNPS0210N | SO | N | 10 - 11 ft | 1323341.50 | 448717.63 | | | 4/21/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | | X | | | | | | | |
| KMY-DU02 | DPSNPS0215N | SO | N | 15 - 16 ft | 1323341.50 | 448717.63 | | | 4/21/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | | X | | | | | | | |
| KMY-DU02 | DPWNPS0210-14N | WG | N | | 1323341.50 | 448717.63 | | | 4/21/2017 | | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | X | | X | X | | X | X | X | | X | | | |
| KMY-DU03 | DPSNPS0305N | SO | N | 5 - 6 ft | 1323559.22 | 448663.73 | | | 4/21/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | | X | | | | | | | |
| KMY-DU03 | DPSNPS0310N | SO | N | 10 - 11 ft | 1323559.22 | 448663.73 | | | 4/21/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | | X | | | | | | | |
| KMY-DU03 | DPSNPS0315N | SO | N | 15 - 16 ft | 1323559.22 | 448663.73 | | | 4/21/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | | X | | | | | | | |
| KMY-DU03 | DPWNPS0315-19N | WG | N | | 1323559.22 | 448663.73 | | | 4/21/2017 | | | | | | | | | | | | | | | X | | X | | | X | | X | | X | X | X | | X | X | | X | X | X | | X | | | |
| **Phase II Landside Mobilization 3, Task 3: Kenilworth Maintenance Yard Geotechnical Boring** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB6 | SB6, 10-12 | SO | N | 10 - 12 ft | 1323479.00 | 448670.25 | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB6 | SB6, 24-25 | SO | N | 24 - 25 ft | 1323479.00 | 448670.25 | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB6 | SB6, 31-33 | SO | N | 31 - 33 ft | 1323479.00 | 448670.25 | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB6 | SB6, 44-46 | SO | N | 44 - 46 ft | 1323479.00 | 448670.25 | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB6 | SB6, 49-51 | SO | N | 49 - 51 ft | 1323479.00 | 448670.25 | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB6 | SB6, 51-53 | SO | N | 51 - 53 ft | 1323479.00 | 448670.25 | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SB6 | SB6, 63-65 | SO | N | 63 - 65 ft | 1323479.00 | 448670.25 | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Cooling Towers 2017 (Separate Project)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CT16SO9G | CT16S09G-12 | SO | N | 1 - 2 ft | 1324615.28 | 449146.69 | | | 3/1/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| CT16SO9H | CT16S09H01N | SO | N | 1 - 2 ft | 1324617.65 | 449144.99 | | 16.26 | 8/4/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| CT16SO9H | CT16SO9H02N | SO | N | 2 - 3 ft | 1324617.65 | 449144.99 | | 16.26 | 8/4/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| CT16SO9I | CT16SO9I01N | SO | N | 1 - 2 ft | 1324618.45 | 449139.60 | | 13.92 | 8/4/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| CT16SO9I | CT16SO9I02N | SO | N | 2 - 3 ft | 1324618.45 | 449139.60 | | 13.92 | 8/4/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | |
| CT16SO9I | CT16SO9I03N | SO | N | 3 - 4 ft | 1324618.45 | 449139.60 | Forensics | 13.92 | 8/4/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | |
| CT16SO9I | CT16SO9I04N | SO | N | 4 - 5 ft | 1324618.45 | 449139.60 | | 13.92 | 8/4/2017 | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | | | | | | | | |
| **Phase II Waterside Mobilization 2, Task 1: Waterside Investigation Area Surface Sediment Sampling** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SED6C | SED6C00EN | SE | N | 0 - 0.33 ft | 1323525.05 | 449590.24 | Near-Site | | 6/7/2017 | | X | | | | | | | | | | X | | X | X | | X | X | | X | | | | X | X | | | | | | | | X | | X | | | X |
| SED8C | SED8C00EN | SE | N | 0 - 0.33 ft | 1323810.54 | 450062.60 | Near-Site | -1.56 | 6/7/2017 | | X | | | | | | | | | | X | | X | X | | X | X | | X | | | | X | X | | | | | | | | X | | X | | | X |
| SED7B | SED7B00EN | SE | N | 0 - 0.33 ft | 1323647.81 | 449847.44 | Near-Site | -2.31 | 6/7/2017 | | X | | | | | | | | | | X | | X | X | | X | X | | X | | | | X | X | | | | | | | | X | | X | | | X |
| SED7F | SED7F00EN | SE | N | 0 - 0.33 ft | 1324119.87 | 449660.56 | Near-Site | 2.11 | 6/8/2017 | | X | | | | | | | | | | X | | X | X | | X | X | | X | | | | X | X | X | | | | | | | X | | X | | | X |
| SED7.5E | SED7.5E00EN | SE | N | 0 - 0.33 ft | 1324043.58 | 449782.68 | Near-Site | 1.60 | 6/8/2017 | | X | | | | | | | | | | X | | X | X | | X | X | | X | | | | X | X | X | | | | | | | X | | X | | | X |
| SED6.5E | SED6.5E00EN | SE | N | 0 - 0.33 ft | 1323969.79 | 449649.36 | Near-Site | 1.69 | 6/8/2017 | | X | | | | | | | | | | X | | X | X | | X | X | | X | | | | X | X | X | | | | | | | X | | X | | | X |
| SED7E | SED7E00EN | SE | N | 0 - 0.33 ft | 1323942.71 | 449728.24 | Near-Site | | 6/8/2017 | | X | | | | | | | | | | X | | X | X | | X | X | | X | | | | X | X | X | | | | | | | X | | X | | | X |
| SED6B | SED6B00EN | SE | N | 0 - 0.33 ft | 1323424.78 | 449687.44 | Near-Site | -7.64 | 6/8/2017 | | X | | | | | | | | | | X | | X | X | | X | X | | X | | | | X | X | X | | | | | | | X | | X | | | X |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Ammonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SED6A | SED6A00EN | SE | N | 0 - 0.33 ft | 1323401.29 | 449707.18 | Near-Site | -6.12 | 6/8/2017 |  | X |  |  |  |  |  |  |  |  |  | X |  | X | X |  | X | X |  | X |  |  |  | X | X | X |  |  |  |  |  |  | X |  | X |  |  | X |
| SED7.5D | SED7.5D00EN | SE | N | 0 - 0.33 ft | 1323906.87 | 449865.94 | Near-Site | 2.55 | 6/9/2017 |  | X |  |  |  |  |  |  |  |  |  | X |  | X | X |  | X | X |  | X |  |  |  | X | X |  |  |  |  |  |  |  | X |  | X |  |  | X |
| SED7D | SED7D00EN | SE | N | 0 - 0.33 ft | 1323814.32 | 449789.58 | Near-Site | 2.26 | 6/9/2017 |  | X |  |  |  |  |  |  |  |  |  | X |  | X | X |  | X | X |  | X |  |  |  | X | X |  |  |  |  |  |  |  | X |  | X |  |  | X |
| SED6.5D | SED6.5D00EN | SE | N | 0 - 0.33 ft | 1323798.17 | 449651.75 | Near-Site | 2.64 | 6/9/2017 |  | X |  |  |  |  |  |  |  |  |  | X |  | X | X |  | X | X |  | X |  |  |  | X | X |  |  |  |  |  |  |  | X |  | X |  |  | X |
| SED8A | SED8A00EN | SE | N | 0 - 0.33 ft | 1323627.03 | 450167.52 | Near-Site | -1.82 | 6/9/2017 |  | X |  |  |  |  |  |  |  |  |  | X |  | X | X |  | X | X |  | X |  |  |  | X | X |  |  |  |  |  |  |  | X |  | X |  |  | X |
| SED7A | SED7A00EN | SE | N | 0 - 0.33 ft | 1323526.84 | 449965.98 | Near-Site | -3.94 | 6/9/2017 |  | X |  |  |  |  |  |  |  |  |  | X |  | X | X |  | X | X |  | X |  |  |  | X | X |  |  |  |  |  |  |  | X |  | X |  |  | X |
| SED8B | SED8B00EN | SE | N | 0 - 0.33 ft | 1323699.75 | 450124.44 | Near-Site | -6.64 | 6/9/2017 |  | X |  |  |  |  |  |  |  |  |  | X |  | X | X |  | X | X |  | X |  |  |  | X | X |  |  |  |  |  |  |  | X |  | X |  |  | X |
| SED6C | PW6C00EN | WPO | N |  | 1323525.05 | 449590.24 |  |  | 7/26/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SED8C | PW8C00EN | WPO | N |  | 1323810.54 | 450062.60 |  | -1.56 | 7/26/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SED7B | PW7B00EN | WPO | N |  | 1323647.81 | 449847.44 |  | -2.31 | 7/26/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SED7F | PW7F00EN | WPO | N |  | 1324119.87 | 449660.56 |  | 2.11 | 7/26/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SED7.5E | PW7.5E00EN | WPO | N |  | 1324043.58 | 449782.68 |  | 1.60 | 7/26/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SED6.5E | PW6.5E00EN | WPO | N |  | 1323969.79 | 449649.36 |  | 1.69 | 7/26/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SED7E | PW7E00EN | WPO | N |  | 1323942.71 | 449728.24 |  |  | 7/26/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SED6B | PW6B00EN | WPO | N |  | 1323424.78 | 449687.44 |  | -7.64 | 7/26/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SED6A | PW6A00EN | WPO | N |  | 1323401.29 | 449707.18 |  | -6.12 | 7/26/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SED7.5D | PW7.5D00EN | WPO | N |  | 1323906.87 | 449865.94 |  | 2.55 | 7/26/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SED7D | PW7D00EN | WPO | N |  | 1323814.32 | 449789.58 |  | 2.26 | 7/26/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SED6.5D | PW6.5D00EN | WPO | N |  | 1323798.17 | 449651.75 |  | 2.64 | 7/26/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SED8A | PW8A00EN | WPO | N |  | 1323627.03 | 450167.52 |  | -1.82 | 7/26/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SED7A | PW7A00EN | WPO | N |  | 1323526.84 | 449965.98 |  | -3.94 | 7/26/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SED8B | PW8B00EN | WPO | N |  | 1323699.75 | 450124.44 |  | -6.64 | 7/26/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| **Phase II Waterside Mobilization 2, Task 2: Background and Forensics Surface and Subsurface Sediment Sampling** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SEDBACK16 | SEDBACK1600N | SE | N | 0 - 0.33 ft | 1329539.61 | 461605.35 | Background |  | 6/12/2017 |  | X |  |  |  |  |  |  |  |  |  | X |  | X | X |  | X | X |  | X |  |  |  | X | X | X |  | X | X |  | X | X | X |  | X |  | X | X |
| SEDBACK16 | PWBACK1600N | WPO | N |  | 1329539.61 | 461605.35 |  |  | 6/12/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SEDBACK17 | SEDBACK1700N | SE | N | 0 - 0.33 ft | 1329694.41 | 459358.19 | Background |  | 6/12/2017 |  | X |  |  |  |  |  |  |  |  |  | X |  | X | X |  | X | X |  | X |  |  |  | X | X | X |  | X | X |  | X | X | X |  | X |  | X | X |
| SEDBACK17 | PWBACK1700N | WPO | N |  | 1329694.41 | 459358.19 |  |  | 6/12/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SEDBACK18 | SEDBACK1800N | SE | N | 0 - 0.33 ft | 1329623.25 | 456839.30 | Background |  | 6/12/2017 |  | X |  |  |  |  |  |  |  |  |  | X |  | X | X |  | X | X |  | X |  |  |  | X | X | X |  | X | X |  | X | X | X |  | X |  | X | X |
| SEDBACK18 | PWBACK1800N | WPO | N |  | 1329623.25 | 456839.30 |  |  | 6/12/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SEDBACK19 | SEDBACK1900N | SE | N | 0 - 0.33 ft | 1328365.16 | 455288.85 | Background |  | 6/13/2017 |  | X |  |  |  |  |  |  |  |  |  | X |  | X | X |  | X | X |  | X |  |  |  | X | X | X |  | X | X |  | X | X | X |  | X |  | X | X |
| SEDBACK19 | PWBACK1900N | WPO | N |  | 1328365.16 | 455288.85 |  |  | 6/13/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SEDBACK19 | SEDBACK1900R | SE | FD | 0 - 0.33 ft | 1328365.16 | 455288.85 | Background |  | 6/13/2017 |  |  |  |  |  |  |  |  |  |  |  | X |  | X | X |  | X | X |  | X |  |  |  | X | X | X |  | X | X |  | X | X | X |  | X |  | X | X |
| SEDBACK19 | PWBACK1900R | WPO | FD |  | 1328365.16 | 455288.85 |  |  | 6/13/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SEDBACK20 | SEDBACK2000N | SE | N | 0 - 0.33 ft | 1325556.64 | 454320.61 | Background |  | 6/13/2017 |  | X |  |  |  |  |  |  |  |  |  | X |  | X | X |  | X | X |  | X |  |  |  | X | X | X |  | X | X |  | X | X | X |  | X |  | X | X |
| SEDBACK20 | PWBACK2000N | WPO | N |  | 1325556.64 | 454320.61 |  |  | 6/13/2017 | X |  |  |  |  |  | X | X |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  | X |  |  |  |  |
| SEDBACK20 | SEDBACK2000R | SE | FD | 0 - 0.33 ft | 1325556.64 | 454320.61 | Background |  | 6/13/2017 |  |  |  |  |  |  |  |  |  |  |  | X |  | X | X |  | X | X |  | X |  |  |  | X | X | X |  | X | X |  | X | X | X |  | X |  | X | X |
| SEDBACK21 | SEDBACK2100N | SE | N | 0 - 0.33 ft | 1324615.04 | 452024.48 | Background |  | 6/13/2017 |  | X |  |  |  |  |  |  |  |  |  | X |  |  | X |  |  | X |  | X |  |  |  | X | X | X |  | X | X |  | X | X | X |  | X |  | X |  |
| SEDBACK21 | SEDBACK2101N | SE | N | 1 - 3 ft | 1324615.04 | 452024.48 | Background |  | 6/14/2017 |  | X |  |  |  |  |  |  |  |  |  | X |  |  | X |  |  | X |  | X |  |  |  | X | X |  |  | X |  |  | X |  |  |  | X |  | X |  |
| SEDBACK21 | SEDBACK2103N | SE | N | 3 - 5 ft | 1324615.04 | 452024.48 | Background |  | 6/14/2017 |  | X |  |  |  |  |  |  |  |  |  | X |  |  | X |  |  | X |  | X |  |  |  | X | X |  |  | X |  |  | X |  |  |  | X |  | X |  |
| SED5C | SED5C00FN | SE | N | 0 - 1 ft | 1323337.14 | 449338.07 | Forensics | -1.87 | 6/14/2017 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  | X |  | X | X | X |  |  |  |  |  |
| SED5C | SED5C02FN | SE | N | 2 - 3 ft | 1323337.14 | 449338.07 | Forensics | -1.87 | 6/14/2017 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |
| SED5C | SED5C04FN | SE | N | 4 - 5 ft | 1323337.14 | 449338.07 | Forensics | -1.87 | 6/14/2017 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  | X |  | X |  |  |  |  |  |  |  |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SED5C | SED5C06FN | SE | N | 6 - 7 ft | 1323337.14 | 449338.07 | Forensics | -1.87 | 6/14/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | | | | | | |
| SED5C | SED5C08FN | SE | N | 8 - 9 ft | 1323337.14 | 449338.07 | Forensics | -1.87 | 6/14/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED4C | SED4C00FN | SE | N | 0 - 1 ft | 1323146.06 | 448888.08 | Forensics | -3.66 | 6/14/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED4C | SED4C02FN | SE | N | 2 - 3 ft | 1323146.06 | 448888.08 | Forensics | -3.66 | 6/14/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED4C | SED4C04FN | SE | N | 4 - 5 ft | 1323146.06 | 448888.08 | Forensics | -3.66 | 6/14/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SED4C | SED4C06FN | SE | N | 6 - 7 ft | 1323146.06 | 448888.08 | Forensics | -3.66 | 6/14/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED4C | SED4C08FN | SE | N | 8 - 9 ft | 1323146.06 | 448888.08 | Forensics | -3.66 | 6/14/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SED4B | SED4B00FN | SE | N | 0 - 1 ft | 1323088.70 | 448900.28 | Forensics | -5.79 | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED4B | SED4B02FN | SE | N | 2 - 3 ft | 1323088.70 | 448900.28 | Forensics | -5.79 | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SED4B | SED4B04FN | SE | N | 4 - 5 ft | 1323088.70 | 448900.28 | Forensics | -5.79 | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SED4B | SED4B06FN | SE | N | 6 - 7 ft | 1323088.70 | 448900.28 | Forensics | -5.79 | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED4B | SED4B07FN | SE | N | 7 - 8 ft | 1323088.70 | 448900.28 | Forensics | -5.79 | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | |
| SED1.5B | SED1.5B00FN | SE | N | 0 - 1 ft | 1323208.90 | 447688.22 | Forensics | -3.14 | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SED1.5B | SED1.5B02FN | SE | N | 2 - 3 ft | 1323208.90 | 447688.22 | Forensics | -3.14 | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED1.5B | SED1.5B04FN | SE | N | 4 - 5 ft | 1323208.90 | 447688.22 | Forensics | -3.14 | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED1.5B | SED1.5B06FN | SE | N | 6 - 7 ft | 1323208.90 | 447688.22 | Forensics | -3.14 | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF02 | SEDREF0200N | SE | N | 0 - 1 ft | 1323199.71 | 447498.74 | Forensics | | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF02 | SEDREF0202N | SE | N | 2 - 3 ft | 1323199.71 | 447498.74 | Forensics | | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF02 | SEDREF0202R | SE | FD | 2 - 3 ft | 1323199.71 | 447498.74 | Forensics | | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | | | | | | | |
| SEDREF02 | SEDREF0204N | SE | N | 4 - 5 ft | 1323199.71 | 447498.74 | Forensics | | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF02 | SEDREF0206N | SE | N | 6 - 7 ft | 1323199.71 | 447498.74 | Forensics | | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SEDREF03 | SEDREF0300N | SE | N | 0 - 1 ft | 1322638.73 | 445798.70 | Forensics | | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF03 | SEDREF0302N | SE | N | 2 - 3 ft | 1322638.73 | 445798.70 | Forensics | | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SEDREF03 | SEDREF0304N | SE | N | 4 - 5 ft | 1322638.73 | 445798.70 | Forensics | | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF03 | SEDREF0306N | SE | N | 6 - 7 ft | 1322638.73 | 445798.70 | Forensics | | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF03 | SEDREF0306R | SE | FD | 6 - 7 ft | 1322638.73 | 445798.70 | Forensics | | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF03 | SEDREF0308N | SE | N | 8 - 9 ft | 1322638.73 | 445798.70 | Forensics | | 6/15/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF04 | SEDREF0400N | SE | N | 0 - 1 ft | 1322717.03 | 445793.70 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF04 | SEDREF0402N | SE | N | 2 - 3 ft | 1322717.03 | 445793.70 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | | | | | | | |
| SEDREF04 | SEDREF0404N | SE | N | 4 - 5 ft | 1322717.03 | 445793.70 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF04 | SEDREF0404R | SE | FD | 4 - 5 ft | 1322717.03 | 445793.70 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF04 | SEDREF0406N | SE | N | 6 - 7 ft | 1322717.03 | 445793.70 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF04 | SEDREF0408N | SE | N | 8 - 9 ft | 1322717.03 | 445793.70 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF05 | SEDREF0500N | SE | N | 0 - 1 ft | 1322846.27 | 445796.27 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF05 | SEDREF0502N | SE | N | 2 - 3 ft | 1322846.27 | 445796.27 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF05 | SEDREF0504N | SE | N | 4 - 5 ft | 1322846.27 | 445796.27 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF05 | SEDREF0504R | SE | FD | 4 - 5 ft | 1322846.27 | 445796.27 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF05 | SEDREF0506N | SE | N | 6 - 7 ft | 1322846.27 | 445796.27 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF05 | SEDREF0508N | SE | N | 8 - 9 ft | 1322846.27 | 445796.27 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF06 | SEDREF0600N | SE | N | 0 - 1 ft | 1322461.05 | 444613.49 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF06 | SEDREF0602N | SE | N | 2 - 3 ft | 1322461.05 | 444613.49 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SEDREF06 | SEDREF0604N | SE | N | 4 - 5 ft | 1322461.05 | 444613.49 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEDREF06 | SEDREF0606N | SE | N | 6 - 7 ft | 1322461.05 | 444613.49 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF06 | SEDREF0608N | SE | N | 8 - 9 ft | 1322461.05 | 444613.49 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF07 | SEDREF0700N | SE | N | 0 - 1 ft | 1322239.64 | 444275.61 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF07 | SEDREF0702N | SE | N | 2 - 3 ft | 1322239.64 | 444275.61 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SEDREF07 | SEDREF0704N | SE | N | 4 - 5 ft | 1322239.64 | 444275.61 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF07 | SEDREF0706N | SE | N | 6 - 7 ft | 1322239.64 | 444275.61 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF07 | SEDREF0708N | SE | N | 8 - 9 ft | 1322239.64 | 444275.61 | Forensics | | 6/16/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF08 | SEDREF0800N | SE | N | 0 - 1 ft | 1322362.06 | 444295.41 | Forensics | | 6/19/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF08 | SEDREF0802N | SE | N | 2 - 3 ft | 1322362.06 | 444295.41 | Forensics | | 6/19/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SEDREF08 | SEDREF0804N | SE | N | 4 - 5 ft | 1322362.06 | 444295.41 | Forensics | | 6/19/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF08 | SEDREF0806N | SE | N | 6 - 7 ft | 1322362.06 | 444295.41 | Forensics | | 6/19/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF08 | SEDREF0808N | SE | N | 8 - 9 ft | 1322362.06 | 444295.41 | Forensics | | 6/19/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF01 | SEDREF0100N | SE | N | 0 - 1 ft | 1323134.14 | 447475.05 | Forensics | | 6/19/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SEDREF01 | SEDREF0102N | SE | N | 2 - 3 ft | 1323134.14 | 447475.05 | Forensics | | 6/19/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDREF01 | SEDREF0104N | SE | N | 4 - 5 ft | 1323134.14 | 447475.05 | Forensics | | 6/19/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SED5B | SED5B00FN | SE | N | 0 - 1 ft | 1323266.69 | 449349.09 | Forensics | | 6/19/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED5B | SED5B02FN | SE | N | 2 - 3 ft | 1323266.69 | 449349.09 | Forensics | | 6/19/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | X | X | | | | | |
| SED5B | SED5B04FN | SE | N | 4 - 5 ft | 1323266.69 | 449349.09 | Forensics | | 6/19/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED5B | SED5B06FN | SE | N | 6 - 7 ft | 1323266.69 | 449349.09 | Forensics | | 6/19/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SEDBACK20 | SEDBACK2001N | SE | N | 1 - 3 ft | 1325556.64 | 454320.61 | Background | | 6/20/2017 | | X | | | | | | | | | | X | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | | X | |
| SEDBACK20 | SEDBACK2001R | SE | FD | 1 - 3 ft | 1325556.64 | 454320.61 | Background | | 6/20/2017 | | | | | | | | | | | | X | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | | X | |
| SEDBACK20 | SEDBACK2003N | SE | N | 3 - 5 ft | 1325556.64 | 454320.61 | Background | | 6/20/2017 | | X | | | | | | | | | | X | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | | X | |
| SEDBACK19 | SEDBACK1901N | SE | N | 1 - 3 ft | 1328365.16 | 455288.85 | Background | | 6/20/2017 | | X | | | | | | | | | | X | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | | X | |
| SEDBACK18 | SEDBACK1801N | SE | N | 1 - 3 ft | 1329623.25 | 456839.30 | Background | | 6/21/2017 | | X | | | | | | | | | | X | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | | X | |
| SEDBACK17 | SEDBACK1701N | SE | N | 1 - 3 ft | 1329694.41 | 459358.19 | Background | | 6/21/2017 | | X | | | | | | | | | | X | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | | X | |
| SEDBACK17 | SEDBACK1701R | SE | FD | 1 - 3 ft | 1329694.41 | 459358.19 | Background | | 6/21/2017 | | | | | | | | | | | | X | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | X | | X | |
| SEDBACK16 | SEDBACK1601N | SE | N | 1 - 3 ft | 1329539.61 | 461605.35 | Background | | 6/22/2017 | | X | | | | | | | | | | X | | | X | | | X | | X | | | | X | X | | | X | | | X | | | | | | X | |
| SED6.5D | SED6.5D00FN | SE | N | 0 - 1 ft | 1323798.17 | 449651.75 | Forensics | 2.64 | 6/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SED6.5D | SED6.5D02FN | SE | N | 2 - 3 ft | 1323798.17 | 449651.75 | Forensics | 2.64 | 6/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED6.5D | SED6.5D04FN | SE | N | 4 - 5 ft | 1323798.17 | 449651.75 | Forensics | 2.64 | 6/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED6.5D | SED6.5D08FN | SE | N | 8 - 9 ft | 1323798.17 | 449651.75 | Forensics | 2.64 | 6/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED7D | SED7D00FN | SE | N | 0 - 1 ft | 1323814.32 | 449789.58 | Forensics | 2.26 | 6/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SED7D | SED7D02FN | SE | N | 2 - 3 ft | 1323814.32 | 449789.58 | Forensics | 2.26 | 6/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED7D | SED7D04FN | SE | N | 4 - 5 ft | 1323814.32 | 449789.58 | Forensics | 2.26 | 6/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | X | | | X | | X | X | X | | | | | |
| SED7D | SED7D06FN | SE | N | 6 - 7 ft | 1323814.32 | 449789.58 | Forensics | 2.26 | 6/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED7D | SED7D08FN | SE | N | 8 - 9 ft | 1323814.32 | 449789.58 | Forensics | 2.26 | 6/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| SED6.5D | SED6.5D06FN | SE | N | 6 - 7 ft | 1323798.17 | 449651.75 | Forensics | 2.64 | 6/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| **Phase II Waterside Mobilization 2, Task 3: High Resolution Coring** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SED5B | SED5B00AN | SE | N | 0 - 0.33 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | X | | | X | | X | X | X | | | | | |
| SED5B | SED5B00BN | SE | N | 0.33 - 0.67 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B00CN | SE | N | 0.67 - 1 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B01AN | SE | N | 1 - 1.33 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SED5B | SED5B01AR | SE | FD | 1 - 1.33 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| SED5B | SED5B01BN | SE | N | 1.33 - 1.67 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | X | | | X | | X | X | X | | | | | |
| SED5B | SED5B01BR | SE | FD | 1.33 - 1.67 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| SED5B | SED5B01CN | SE | N | 1.67 - 2 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B01CR | SE | FD | 1.67 - 2 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| SED5B | SED5B02AN | SE | N | 2 - 2.33 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B02BN | SE | N | 2.33 - 2.67 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B02CN | SE | N | 2.67 - 3 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B03AN | SE | N | 3 - 3.33 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B03BN | SE | N | 3.33 - 3.67 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B03CN | SE | N | 3.67 - 4 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | X | | | X | | X | X | X | | | | | |
| SED5B | SED5B04AN | SE | N | 4 - 4.33 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B04BN | SE | N | 4.33 - 4.67 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B04CN | SE | N | 4.67 - 5 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B05AN | SE | N | 5 - 5.33 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B05BN | SE | N | 5.33 - 5.67 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B05CN | SE | N | 5.67 - 6 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED5B | SED5B06AN | SE | N | 6 - 6.33 ft | 1323266.69 | 449349.09 | HRC | -8.51 | 6/20/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C00AN | SE | N | 0 - 0.33 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | X | | | X | | X | X | X | | | | | |
| SED1.5C | SED1.5C00AR | SE | FD | 0 - 0.33 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| SED1.5C | SED1.5C00BN | SE | N | 0.33 - 0.67 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C00CN | SE | N | 0.67 - 1 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | X | | | | | X | | X | | | | | |
| SED1.5C | SED1.5C01AN | SE | N | 1 - 1.33 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C01BN | SE | N | 1.33 - 1.67 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | X | | | X | | X | X | X | | | | | |
| SED1.5C | SED1.5C01CN | SE | N | 1.67 - 2 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C02AN | SE | N | 2 - 2.33 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C02AR | SE | FD | 2 - 2.33 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C02BN | SE | N | 2.33 - 2.67 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C02BR | SE | FD | 2.33 - 2.67 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C02CN | SE | N | 2.67 - 3 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C02CR | SE | FD | 2.67 - 3 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C03AN | SE | N | 3 - 3.33 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C03BN | SE | N | 3.33 - 3.67 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | X | | | X | | X | X | X | | | | | |
| SED1.5C | SED1.5C03CN | SE | N | 3.67 - 4 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C04AN | SE | N | 4 - 4.33 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | X | | | X | | X | X | X | | | | | |
| SED1.5C | SED1.5C04BN | SE | N | 4.33 - 4.67 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C04CN | SE | N | 4.67 - 5 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C05AN | SE | N | 5 - 5.33 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C05BN | SE | N | 5.33 - 5.67 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C05CN | SE | N | 5.67 - 6 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | X | | X | X | X | | | | | |
| SED1.5C | SED1.5C06AN | SE | N | 6 - 6.33 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C06BN | SE | N | 6.33 - 6.67 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |

**Table 2-2**
**Landside and Waterside Data Collection Program**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Matrix[1] | Sample Type[2] | Depth Interval | Easting | Northing | Sample Category | Surface Elevation | Sample Date | Hardness (SM2340) | Grain Size (D422) | Atterberg Limits | Hydraulic Conductivity (lab) | Total Residue (E160.3) | HEM - Oil & Grease (E1664B) | Amonia (E350.1) | PTOC (E440) | Field Parameters | Gamma Radioassay | DOC (SM5310C) | TOC (LKTOC) | Polonium-210 (PO-01-RC) | Metals (SW6010) | Metals (SW6020A) | Chromium (VI) (SW7199) | Mercury (SW7470A) | Mercury (SW7471B) | Metals (field XRF) | TPH-DRO (SW8015C) | TPH-GRO (SW8015B) | TPH-GRO (SW8015C) | TPH-GRO (SW8015D) | OCP (SW8081B LL) | Aroclor PCBs (SW8082A) | PCBs (E1668C) | VOCs (SW8260B) | VOCs (SW8260C) | NH VOCs (M8015D) | CSIA (VOCs) (PAE-CSIA-004) | SVOCs (SW8270D LL) | SVOCs (SW8270DM SIM) | PAHs (ID-0016) | PAHs (D7363-13) | PCDDs/PCDFs (SW8290A) | Total Cyanide (SW9012B) | Free Cyanide (SW9014) | Sulfide (SW9034) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SED1.5C | SED1.5C06CN | SE | N | 6.67 - 7 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED1.5C | SED1.5C07AN | SE | N | 7 - 7.33 ft | 1323331.98 | 447788.51 | HRC | | 6/21/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E00AN | SE | N | 0 - 0.33 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | X | | X | X | | | | | | |
| SED7E | SED7E00BN | SE | N | 0.33 - 0.67 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E00CN | SE | N | 0.67 - 1 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E01AN | SE | N | 1 - 1.33 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E01BN | SE | N | 1.33 - 1.67 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E01CN | SE | N | 1.67 - 2 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | X | | | X | | X | X | X | | | | | |
| SED7E | SED7E02AN | SE | N | 2 - 2.33 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E02AR | SE | FD | 2 - 2.33 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E02BN | SE | N | 2.33 - 2.67 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E02BR | SE | FD | 2.33 - 2.67 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | | | | | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E02CN | SE | N | 2.67 - 3 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E03AN | SE | N | 3 - 3.33 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E03BN | SE | N | 3.33 - 3.67 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E03CN | SE | N | 3.67 - 4 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E04AN | SE | N | 4 - 4.33 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | X | | | X | | X | X | X | | | | | |
| SED7E | SED7E04BN | SE | N | 4.33 - 4.67 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E04CN | SE | N | 4.67 - 5 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E05AN | SE | N | 5 - 5.33 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E05BN | SE | N | 5.33 - 5.67 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E05CN | SE | N | 5.67 - 6 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E06AN | SE | N | 6 - 6.33 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E06BN | SE | N | 6.33 - 6.67 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E06CN | SE | N | 6.67 - 7 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | X | | X | X | X | | | | | |
| SED7E | SED7E07AN | SE | N | 7 - 7.33 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E07BN | SE | N | 7.33 - 7.67 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED7E | SED7E07CN | SE | N | 7.67 - 8 ft | 1323942.71 | 449728.24 | HRC | 1.81 | 6/22/2017 | | | | | | | | | | X | | | X | | X | | | X | | X | | | | | X | | | | | | X | | | | | | | |
| SED6.5D | SED6.5D06FN | SE | N | 6 - 7 ft | 1323798.17 | 449651.75 | Forensics | 2.64 | 6/27/2017 | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | X | | X | | | | | | | |
| **Phase II Waterside Mobilization 4: City Storm Drain Sediment Sampling** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDRF025074 | SDRF025074N | SE | N | 0 - 1 ft | 1323364.83 | 445500.89 | Storm Drain | | 7/25/2017 | | X | | | | | | | | | | X | | | X | | | X | | | | | | X | X | X | | X | X | | X | X | X | | X | | X | |
| SDRF025074 | SDRF025074R | SE | FD | 0 - 1 ft | 1323364.83 | 445500.89 | Storm Drain | | 7/25/2017 | | X | | | | | | | | | | X | | | X | | | X | | | | | | X | X | X | | X | X | | X | X | X | | X | | X | |
| SDRF477827 | SDRF477827N | SE | N | 0 - 1 ft | 1323268.08 | 446101.04 | Storm Drain | | 7/25/2017 | | X | | | | | | | | | | X | | | X | | | X | | | | | | X | X | X | | X | X | | X | X | X | | X | | X | |

Notes:
1. Matrix: SE = Sediment, SO = Soil, WG = Groundwater, WPO = Pore Water
2. Sample Type: N = Field Sample, FD = Field Duplicate
3. X and Y coordinates are presented in US Survey Feet, North American Datum 83, State Plane Zone Maryland
DPS = Direct Push Soil
DPW = Direct Push Water
CT = Cooling Towers
KMY = Kenilworth Maintenance Yard
PW = Pore Water
SED = River Sediment

SD = Storm Drain
SOBACK = Soil Background
SUS = Surface Soil
TA = Target Area
PTOC = Particulate Organic Carbon
TOC = Total Organic Carbon
HRC = High Resolution Core
DOC = Dissolved Organic Carbon

OCP = Organoclorine Pestacides
NH = Nonhalogenated
NA = Not Available
N = Normal Sample
PCDD = Polychlorinated dibenzodioxins
PCDF = Polychlorinated dibenzofurans
VOC = Volatile Organic Compound
PCB = polychlorinated biphenyl

**Table 2-3**
**Monitoring Well Details**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Nested Well | Northing (MD State Plane ft) | Easting (MD State Plane ft) | Surface Elevation (NAVD88 ft) | Well ID | Riser Elevation (NAVD88 ft) | Total Depth (ft bgs) | Screened Interval (ft bgs) |
|---|---|---|---|---|---|---|---|
| MW-01 | 448230.768 | 1323686.707 | 12.881 | MW-01A | 12.476 | 35 | 10-35 |
| | | | | MW-02B | 12.509 | 52 | 40-52 |
| MW-02 | 448456.975 | 1323684.706 | 13.819 | MW-02A | 13.479 | 28 | 8-28 |
| | | | | MW-02B | 13.471 | 53 | 38-53 |
| MW-03 | 448809.394 | 1323686.307 | 15.123 | MW-03A | 14.87 | 25 | 10-25 |
| | | | | MW-03B | 14.897 | 50 | 40-50 |
| MW-04 | 449128.159 | 1323723.78 | 14.893 | MW-04A | 14.593 | 26 | 6-26 |
| | | | | MW-04B | 14.573 | 44 | 34-44 |
| MW-05 | 448172.221 | 1324032.042 | 20.611 | MW-05A | 19.995 | 20 | 10-20 |
| | | | | MW-05B | 20.147 | 58 | 41-56 |
| MW-06 | 448553.855 | 1324211.253 | 20.959 | MW-06A | 20.435 | 28 | 8-28 |
| | | | | MW-06B | 20.429 | 56 | 41-56 |
| MW-07 | 448860.381 | 1324287.511 | 19.093 | MW-07A | 18.865 | 28 | 8-28 |
| | | | | MW-07B | 18.887 | 51 | 36-51 |
| MW-08 | 449146.902 | 1324070.237 | 17.115 | MW-08A | 16.719 | 25 | 10-25 |
| | | | | MW-08B | 16.758 | 60 | 50-60 |
| MW-09 | 448067.345 | 1324895.994 | 36.36 | MW-09A | 36.046 | 38 | 18-38 |
| | | | | MW-09B | 36.024 | 66 | 51-66 |
| MW-10 | 448707.159 | 1324574.043 | 20.563 | MW-10A | 20.157 | 30 | 10-30 |
| | | | | MW-10B | 20.255 | 56 | 41-56 |
| MW-11 | 449241.152 | 1324624.32 | 17.146 | MW-11A | 16.763 | 42 | 27-42 |
| | | | | MW-11B | 16.674 | 62 | 50-62 |
| MW-12 | 447922.55 | 1325765.393 | 31.144 | MW-12A | 30.799 | 29 | 9-29 |
| | | | | MW-12B | 30.86 | 46 | 38-46 |
| MW-13 | 448449.691 | 1325558.014 | 27.851 | MW-13A | 27.445 | 20 | 8-20 |
| | | | | MW-13B | 27.54 | 45 | 30-45 |
| MW-14 | 448965.107 | 1325694.459 | 25.243 | MW-14A | 24.902 | 27 | 7-27 |
| | | | | MW-14B | 24.865 | 57 | 39-57 |
| MW-15 | 448363.567 | 1326303.084 | 36.363 | MW-15A | 35.92 | 38 | 28-38 |
| | | | | MW-15B | 35.92 | 60 | 50-60 |

Notes:
ft bgs - feet below ground surface
MW - Monitoring Well

**Table 3-1**
**Summary of Historical Development**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd. NE**
**Washington DC**

| Year | Development |
|---|---|
| 1906 | Original generating station constructed in southwest corner of the Site. Coal storage area existed to the northwest of the generating station. Railroad spur constructed entering the Site from the east.<br>Surrounding properties primarily underdeveloped. |
| 1937 | Generating station has been extended northward. |
| 1942 | No. 6 fuel oil aboveground storage tank (AST) #1 constructed to the east of the generating station. |
| 1949 | Residential structures have been developed to the south and northeast of the Site. |
| 1951 | No. 6 fuel oil AST #2 and the retired Substation 14 have been constructed. |
| 1957 | Warehouses, administrative offices, and other facilities have been constructed onsite. |
| 1965 | Generating station has been expanded northward. No. 6 fuel oil AST #3 has been constructed. Substation 41 has been constructed.<br>North of the Site the Washington D.C. Municipal Incinerating Station has been constructed. |
| 1970 | Cooling towers have been constructed in the northwest portion of the Site. Oil burning Units #15 and #16 are brought on line circa 1970.<br>National Parks Service Kenilworth Maintenance Yard has been developed to the northwest of the Site. |
| 1976 | Pepco stops using coal circa 1976. A sludge dewatering pond is constructed in place of the former coal storage area. |
| 1981 | Substation 7 has been constructed. Building #65 warehouse has been constructed. |
| 1988 | Building #57, which houses two 10,000 gallon tanks for PCB contaminated mineral oil, has been constructed. Administrative building #59 has been constructed. |
| 1996 | Pepco conducts cooling water intake dredging in the Anacostia River to the southwest of the Site |
| 2013 | ASTs #1, #2, #3, and #4 demolished |
| 2014 - 2015 | Generating station and cooling tower superstructures demolished |
| 2016 | Cooling tower basins and PCB-impacted soil removed |
| 2017 | Two storm water bioretention basins installed in the location of the former cooling towers |
| 2018 | Two 20,000-gal USTs (gasoline and diesel) removed and replaced with two 12,000-gal ASTs (gasoline and diesel) |

Sources:
URS Phase I Site Assessment of the Benning Generating Station (1999) and aerial photographs obtained from Environmental Data Resources, Inc. (2015)

UST - underground storage tank
AST - above ground storage tank

**Table 3-2**
**Geotechnical Results Summary**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location | Depth (ft) | Grain Size Analysis | | | Liquid Limit | Plastic Limit | K (cm/s) |
|---|---|---|---|---|---|---|---|
| | | % Gravel | % Sand | % Silt & Clay | | | |
| **Landside** | | | | | | | |
| *SB1 | 5-7 | 61.2% | 38.6% | 0.1% | NP | NP | |
| SB1 | 7-9 | 0.0% | 6.1% | 93.9% | 60 | 26 | |
| *SB1 | 15-17 | 7.5% | 91.3% | 1.2% | 28.6 | 23.1 | |
| *SB1 | 25-27 | 14.4% | 66.8% | 18.8% | NP | NP | |
| SB1 | 30-32 | 0.3% | 80.5% | 19.2% | NP | NP | |
| *SB1 | 45-47 | 0.0% | 77.8% | 22.2% | 61.2 | 35.9 | 3.71E-08 |
| *SB1 | 65-67 | | | | 29.9 | 21.9 | |
| *SB1 | 75-77 | 0.0% | 77.5% | 22.5% | NP | NP | |
| *SB1 | 95-99 | 0.0% | 95.6% | 4.4% | NP | NP | |
| SB1 | 70-72 | 0.0% | 50.7% | 49.3% | 0.23 | 0.14 | |
| SB1 | 90-92 | 0.0% | 4.5% | 95.5% | 0.53 | 0.32 | |
| *SB2 | 11-13 | 2.7% | 97.1% | 0.2% | NP | NP | |
| *SB2 | 20-22 | 45.6% | 54.3% | 0.1% | NP | NP | |
| *SB2 | 35-37 | | | | 36.3 | 23.6 | |
| *SB2 | 40-42 | | | | NP | NP | |
| *SB2 | 50-52 | 23.3% | 54.0% | 22.7% | NP | NP | 5.50E-08 |
| *SB2 | 55-57 | | | | 30.7 | 22 | |
| SB2 | 60-62 | 0.0% | 50.2% | 49.8% | 26 | 18 | |
| SB2 | 75-77 | 0.0% | 31.0% | 69.0% | 33 | 17 | |
| *SB2 | 80-82 | | | | 27.7 | 22.9 | |
| SB2 | 85-87 | 0.0% | 5.1% | 94.9% | 56 | 0.21 | |
| *SB2 | 87-93 | 0.0% | 39.1% | 60.9% | 70.1 | 27.6 | 7.72E-08 |
| *SB3 | 9-11 | 59.7% | 39.5% | 0.8% | NP | NP | |
| *SB3 | 15-17 | | | | 38.9 | 30.4 | |
| *SB3 | 25-27 | 42.3% | 55.8% | 1.9% | NP | NP | |
| *SB3 | 40-42 | | | | 33.5 | 20.5 | |
| SB3 | 50-52 | 0.0% | 72.9% | 27.1% | NP | NP | |
| *SB3 | 60-62 | | | | 79.1 | 31.8 | |
| SB3 | 65-67 | 0.0% | 22.9% | 77.1% | 39 | 16 | |
| *SB3 | 70-72 | 17.9% | 62.1% | 20.0% | | | |
| *SB4 | 15-17 | 0.0% | 98.5% | 1.5% | NP | NP | |
| *SB4 | 20-22 | | | | 77.5 | 27.2 | |
| SB4 | 25-27 | 0.0% | 4.8% | 95.2% | 36 | 21 | |
| *SB4 | 30-32 | 26.0% | 73.8% | 0.3% | | | |
| *SB4 | 45-47 | | | | 40.7 | 23.9 | |
| *SB4 | 55-57 | 0.0% | 99.5% | 0.5% | NP | NP | |
| *SB4 | 70-75 | 0.0% | 98.2% | 1.8% | 88.5 | 41 | 7.07E-07 |
| SB4 | 65-67 | 0.0% | 1.1% | 98.9% | 84 | 24 | |
| *SB5 | 5-7 | 4.8% | 94.8% | 0.4% | NP | NP | |
| *SB5 | 9-11 | | | | 18.3 | 18 | |
| *SB5 | 13-15 | 57.5% | 42.5% | 0.0% | NP | NP | |
| SB5 | 15-17 | 0.0% | 2.6% | 97.4% | 48 | 24 | |

**Table 3-2**
**Geotechnical Results Summary**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location | Depth (ft) | Grain Size Analysis | | | Liquid Limit | Plastic Limit | K (cm/s) |
|---|---|---|---|---|---|---|---|
| | | % Gravel | % Sand | % Silt & Clay | | | |
| *SB5 | 35-37 | | | | NP | NP | |
| *SB5 | 40-42 | | | | 76.5 | 44.8 | |
| *SB5 | 55-60 | | | | 70.9 | 29.3 | |
| SB6 | 10-12 | 0.0% | 0.0% | 19.8% | | | |
| SB6 | 24-25 | 0.0% | 0.0% | 8.0% | | | |
| SB6 | 31-33 | 0.0% | 11.9% | 88.1% | 45 | 19 | |
| SB6 | 44-46 | 6.4% | 62.6% | 31.0% | 24 | 14 | |
| SB6 | 49-51 | 0.0% | 0.0% | 38.7% | | | |
| SB6 | 51-53 | 21.9% | 23.0% | 55.2% | 36 | 16 | |
| SB6 | 63-65 | 0.5% | 2.1% | 97.4% | 52 | 21 | |
| **Waterside** | | | | | | | |
| SED1A00N | 0-0.5 | 0.0% | 12.0% | 88.0% | | | |
| SED1B00N | 0-0.5 | 0.0% | 7.2% | 92.8% | | | |
| SED1C00N | 0-0.5 | 0.0% | 62.0% | 38.0% | | | |
| SED1.5B00N | 0-0.5 | 0.0% | 34.0% | 66.0% | | | |
| SED2A00N | 0-0.5 | 32.5% | 29.7% | 37.8% | | | |
| SED2B00N | 0-0.5 | 0.4% | 51.4% | 48.2% | | | |
| SED2C00N | 0-0.5 | 0.0% | 52.6% | 47.4% | | | |
| SED2C01N | 1-3 | 0.0% | 11.5% | 88.5% | | | |
| SED2.5B00N | 0-0.5 | 0.2% | 69.5% | 30.3% | | | |
| SED3A00N | 0-0.5 | 0.1% | 13.6% | 86.3% | | | |
| SED3B00N | 0-0.5 | 0.0% | 91.8% | 8.2% | | | |
| SED3C00N | 0-0.5 | 0.0% | 65.7% | 34.3% | | | |
| SED3C01N | 1-3 | 0.0% | 56.2% | 43.8% | | | |
| SED3.5B00N | 0-0.5 | 0.1% | 87.1% | 12.8% | | | |
| SED4A00N | 0-0.5 | 0.3% | 24.1% | 75.6% | | | |
| SED4B00N | 0-0.5 | 7.7% | 52.5% | 39.8% | | | |
| SED4B01N | 1-3 | 0.0% | 7.9% | 92.1% | | | |
| SED4C00N | 0-0.5 | 0.0% | 14.3% | 85.7% | | | |
| SED4.5B00N | 0-0.5 | 0.0% | 19.4% | 80.6% | | | |
| SED5A00N | 0-0.5 | 0.0% | 37.0% | 63.0% | | | |
| SED5B00N | 0-0.5 | 5.2% | 18.7% | 76.1% | | | |
| SED5C00N | 0-0.5 | 0.0% | 7.4% | 92.6% | | | |
| SED5.5B00N | 0-0.5 | 0.0% | 8.5% | 91.5% | | | |
| SED6A00N | 0-0.5 | 0.0% | 64.6% | 35.4% | | | |
| SED6B00N | 0-0.5 | 0.0% | 64.7% | 35.3% | | | |
| SED6B01N | 1-3 | 0.0% | 19.6% | 80.4% | | | |
| SED6C00N | 0-0.5 | 0.0% | 12.5% | 87.5% | | | |
| SED6.5D00N | 0-0.5 | 3.6% | 34.5% | 61.9% | | | |
| SED6.5E00N | 0-0.5 | 6.0% | 39.4% | 54.6% | | | |
| SED6.5E01N | 1-3 | 0.3% | 15.7% | 84.0% | | | |
| SED7A00N | 0-0.5 | 0.0% | 30.2% | 69.8% | | | |
| SED7B00N | 0-0.5 | 0.0% | 15.2% | 84.8% | | | |

**Table 3-2**
**Geotechnical Results Summary**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location | Depth (ft) | Grain Size Analysis | | | Liquid Limit | Plastic Limit | K (cm/s) |
|---|---|---|---|---|---|---|---|
| | | % Gravel | % Sand | % Silt & Clay | | | |
| SED7B01N | 1-3 | 0.0% | 8.7% | 91.3% | | | |
| SED7D00N | 0-0.5 | 0.1% | 20.0% | 79.9% | | | |
| SED7E00N | 0-0.5 | 4.2% | 56.6% | 39.2% | | | |
| SED7F00N | 0-0.5 | 3.5% | 47.1% | 49.4% | | | |
| SED7F01N | 1-3 | 28.1% | 66.4% | 5.5% | | | |
| SED7G00N | 0-0.5 | 22.4% | 71.8% | 5.8% | | | |
| SED7.5D00N | 0-0.5 | 0.0% | 2.8% | 97.2% | | | |
| SED7.5E00N | 0-0.5 | 0.9% | 14.9% | 84.2% | | | |
| SED8A00N | 0-0.5 | 0.0% | 23.4% | 76.6% | | | |
| SED8B00N | 0-0.5 | 0.0% | 66.9% | 33.1% | | | |
| SED8C00N | 0-0.5 | 0.0% | 31.0% | 69.0% | | | |
| SED8C01N | 1-3 | 0.0% | 10.3% | 89.7% | | | |
| SED8.5B00N | 0-0.5 | 0.0% | 46.4% | 53.6% | | | |
| SED9A00N | 0-0.5 | 0.0% | 14.6% | 85.4% | | | |
| SED9B00N | 0-0.5 | 0.0% | 35.5% | 64.5% | | | |
| SED9C00N | 0-0.5 | 0.0% | 46.1% | 53.9% | | | |
| SED9.500N | 0-0.5 | 0.0% | 41.2% | 58.8% | | | |
| SED10A00N | 0-0.5 | 0.0% | 17.8% | 82.2% | | | |
| SED10B00N | 0-0.5 | 1.2% | 77.6% | 21.2% | | | |
| SED10B01N | 1-3 | 0.0% | 83.5% | 16.5% | | | |
| SED10C00N | 0-0.5 | 0.0% | 54.8% | 45.2% | | | |
| SEDBACK100N | 0-0.5 | 42.9% | 53.8% | 3.3% | | | |
| SEDBACK200N | 0-0.5 | 11.3% | 87.7% | 1.0% | | | |
| SEDBACK201N | 1-3 | 27.9% | 48.0% | 24.1% | | | |
| SEDBACK2 2.5'-3' | 2.5-3 | 12.0% | 75.8% | 12.2% | | | |
| SEDBACK300N | 0-0.5 | 9.8% | 88.4% | 1.8% | | | |
| SEDBACK3 4'-4.5' | 4-4.5 | 11.2% | 13.4% | 75.4% | 56 | 18 | |
| SEDBACK400N | 0-0.5 | 0.0% | 37.5% | 62.5% | | | |
| SEDBACK401N | 1-3 | 0.0% | 14.2% | 85.8% | | | |
| SEDBACK500N | 0-0.5 | 0.0% | 74.3% | 25.7% | | | |
| SEDBACK501N | 1-3 | 0.0% | 11.5% | 88.5% | | | |
| SEDBACK600N | 0-0.5 | 0.0% | 17.3% | 82.7% | | | |
| SEDBACK601N | 1-3 | 0.0% | 21.9% | 78.1% | | | |
| SEDBACK1100N | 0-0.5 | 0.0% | 3.2% | 96.8% | | | |
| SEDBACK1200N | 0-0.5 | 0.0% | 5.8% | 94.2% | | | |
| SEDBACK1201N | 1-3 | 0.0% | 5.8% | 94.2% | | | |
| SEDBACK1300N | 0-0.5 | 0.0% | 48.2% | 51.8% | | | |
| SEDBACK1500N | 0-0.5 | 19.1% | 67.1% | 13.8% | | | |
| SEDBACK1501N | 1-3 | 2.9% | 58.6% | 38.5% | | | |
| WSED101N | 1-3 | 0.0% | 41.9% | 58.1% | | | |
| WSED100N | 0-0.5 | 0.0% | 60.2% | 39.8% | | | |
| WSED201N | 1-3 | 0.0% | 62.8% | 37.2% | | | |
| WSED200N | 0-0.5 | 0.0% | 39.3% | 60.7% | | | |

**Table 3-2**
**Geotechnical Results Summary**
**Benning Road Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location | Depth (ft) | Grain Size Analysis | | | Liquid Limit | Plastic Limit | K (cm/s) |
|---|---|---|---|---|---|---|---|
| | | % Gravel | % Sand | % Silt & Clay | | | |
| SDRF025074N | | 12.5% | 71.4% | 16.1% | | | |
| SDRF025074R | | 8.3% | 79.8% | 11.9% | | | |
| SDRF477827N | | 1.3% | 96.4% | 2.3% | | | |
| SED6.5D00EN | | 5.2% | 57.2% | 37.6% | | | |
| SED6.5E00EN | 0-0.5 | 19.8% | 52.8% | 27.4% | | | |
| SED6A00EN | 0-0.5 | 0.0% | 44.7% | 55.3% | | | |
| SED6B00EN | 0-0.5 | 0.0% | 59.0% | 41.0% | | | |
| SED6C00EN | 0-0.5 | 4.6% | 11.8% | 83.6% | | | |
| SED7.5D00EN | 0-0.5 | 1.0% | 18.9% | 80.1% | | | |
| SED7.5E00EN | 0-0.5 | 0.0% | 40.7% | 59.3% | | | |
| SED7A00EN | 0-0.5 | 2.5% | 18.3% | 79.2% | | | |
| SED7B00EN | 0-0.5 | 0.0% | 3.1% | 96.9% | | | |
| SED7D00EN | 0-0.5 | 0.3% | 18.0% | 81.7% | | | |
| SED7E00EN | 0-0.5 | 4.6% | 64.2% | 31.2% | | | |
| SED7F00EN | 0-0.5 | 0.0% | 49.9% | 50.1% | | | |
| SED8A00EN | 0-0.5 | 1.7% | 8.3% | 90.0% | | | |
| SED8B00EN | 0-0.5 | 6.0% | 59.7% | 34.3% | | | |
| SED8C00EN | 0-0.5 | 3.5% | 18.9% | 77.6% | | | |
| SEDBACK1600N | 0-0.5 | 12.1% | 47.5% | 40.4% | | | |
| SEDBACK1601N | 0-1 | 2.7% | 64.2% | 33.1% | | | |
| SEDBACK1700N | 0-0.5 | 18.2% | 32.1% | 49.7% | | | |
| SEDBACK1701N | 1-2 | 0.0% | 28.4% | 71.6% | | | |
| SEDBACK1800N | 0-0.5 | 11.7% | 51.5% | 36.8% | | | |
| SEDBACK1801N | 1-2 | 0.0% | 48.0% | 52.0% | | | |
| SEDBACK1900N | 0-0.5 | 71.9% | 20.7% | 7.4% | | | |
| SEDBACK1901N | 0-1 | 11.1% | 78.3% | 10.6% | | | |
| SEDBACK2000N | 0-0.5 | 0.0% | 82.7% | 17.3% | | | |
| SEDBACK2001N | 1-2 | 1.5% | 86.6% | 12.0% | | | |
| SEDBACK2003N | 3-4 | 2.1% | 83.1% | 14.8% | | | |
| SEDBACK2100N | 0-0.5 | 0.0% | 70.8% | 29.2% | | | |
| SEDBACK2101N | 1-3 | 20.3% | 61.9% | 17.9% | | | |
| SEDBACK2103N | 3-3.5 | 0.0% | 65.9% | 34.1% | | | |

Notes:
*These sample analyzed by Craig Testing, Inc. All other samples analyzed by GeoTesting Express, Inc., except SB-6
SB-6 analyzed by AECOM, Germantown, MD. SED6 and following analyzed by TestAmerica Laboratories, Inc.
K = Hydraulic Conductivity
cm/s = centimeters per second
NP = non-plastic
A blank cell indicates that the sample was not analyzed for this parameter.

**Table 3-3**
**Monitoring Well Vertical Hydraulic Gradients**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Well ID | Vertical Hydraulic Gradient | |
|---|---|---|
| | Magnitude | Flow Direction |
| MW-1 | 0.0004 | down |
| MW-2 | 0.0058 | up |
| MW-3 | 0.0115 | down |
| MW-4 | 0.0121 | down |
| MW-5 | 0.0771 | down |
| MW-6 | 0.0128 | up |
| MW-7 | 0.0070 | up |
| MW-8 | 0.0360 | down |
| MW-9 | 0.0555 | down |
| MW-10 | 0.0103 | down |
| MW-11 | 0.0628 | down |
| MW-12 | 0.0111 | down |
| MW-13 | 0.0696 | down |
| MW-14 | 0.1300 | down |
| MW-15 | 0.1182 | down |

Notes:
Groundwater elevation data collected on September 28, 2017
Gradients are for mid-tide conditions
EPA On-line Tools for Site Assessment Calculation, Vertical Gradient Calculator,
https://www3.epa.gov/ceampubl/learn2model/part-two/onsite/vgradient.html
Hydraulic gradient presented as screen mid-point values (M:M).

**Table 3-4**
**Aquifer Testing Hydraulic Conductivities**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Test | MW-1A | MW-1B | MW-3A | MW-3B | MW-6A | MW-6B | MW-9A | MW-9B |
|---|---|---|---|---|---|---|---|---|
| 1st Slug In | *2.75E-03 | 5.16E-05 | 8.022E-05 | 8.01E-05 | 0.0000173 | 0.0000268 | 3.544E-06 | 1.434E-05 |
| 1st Slug Out | 2.6E-05 | 5.41E-05 | 0.0000565 | 7.03E-05 | 2.399E-05 | 1.901E-05 | 3.158E-06 | 2.824E-05 |
| 2nd Slug In | 2.82E-05 | 5.57E-05 | 5.023E-05 | 7.01E-05 | 2.221E-05 | 2.869E-05 | 3.815E-06 | 2.547E-05 |
| 2nd Slug Out | 2.74E-05 | 5.97E-05 | 5.748E-05 | 5.11E-05 | 2.251E-05 | 2.498E-05 | 3.759E-06 | 2.012E-05 |
| 3rd Slug In | 2.75E-05 | 7.12E-05 | 4.915E-05 | 9.75E-05 | 0.0000213 | 2.324E-05 | 3.515E-06 | 2.477E-05 |
| 3rd Slug Out | 2.78E-05 | 5.47E-05 | 5.104E-05 | 6.48E-05 | 1.976E-05 | 1.652E-05 | 3.624E-06 | 2.28E-05 |
| **Average** | **2.74E-05** | **5.78E-05** | **5.744E-05** | **7.23E-05** | **2.118E-05** | **2.321E-05** | **3.569E-06** | **2.262E-05** |

| Test | MW-10A | MW-10B | MW-11A | MW-11B | MW-13A | MW-13B | MW-15A | MW-15B |
|---|---|---|---|---|---|---|---|---|
| 1st Slug In | 1.1E-05 | *1.18E-03 | 1.376E-05 | 3.33E-05 | 1.196E-05 | 2.618E-05 | 7.522E-05 | *2.40E-03 |
| 1st Slug Out | 1.17E-05 | 2.78E-05 | 1.278E-05 | 2.15E-05 | 1.285E-05 | 2.632E-05 | 3.295E-05 | 1.462E-05 |
| 2nd Slug In | 1.17E-05 | 2.56E-05 | 2.109E-05 | 2.16E-05 | 0.0000124 | 2.687E-05 | 1.191E-05 | 1.757E-05 |
| 2nd Slug Out | 1.07E-05 | 2.22E-05 | 1.388E-05 | 2.02E-05 | 1.229E-05 | 2.668E-05 | 1.243E-05 | 1.242E-05 |
| 3rd Slug In | 1.07E-05 | 2.19E-05 | 1.903E-05 | 2.33E-05 | 1.376E-05 | 2.713E-05 | 3.524E-05 | 1.623E-05 |
| 3rd Slug Out | 1.09E-05 | 2.46E-05 | 1.377E-05 | 2.24E-05 | 1.187E-05 | 2.641E-05 | 2.233E-05 | *1.04E-03 |
| **Average** | **1.11E-05** | **2.44E-05** | **1.572E-05** | **2.37E-05** | **1.252E-05** | **2.66E-05** | **3.168E-05** | **1.521E-05** |

Notes:
Hydraulic Conductivities (K) are given in units of feet per second
*These values were statistical outliers and were not used in the calculation of average hydraulic conductivities

**Table 4-1**
**Surface Soil Results**
**Inorganic Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | SUS08-1A | SUS08-1B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Location ID | SUS08-1A | SUS08-1B |
| | | | | | | | | | | | | Sample ID | SUS081A00N | SUS081B00N |
| | | | | | | | | | | | | Depth | 0 - 1 ft | 0 - 1 ft |
| | | | | | | | | | | | | Sample Date | 1/24/2017 | 1/24/2017 |
| | | | | | | | | | | | | Type | N | N |
| Aluminum | mg/kg | 110000 | SW6020A | 7429-90-5 | 37000 | 820 | 6600 | 5000 | SUSDP08-1E | 70 | 70 | | **8500** | **8200** |
| Antimony | mg/kg | 47 | SW6020A | 7440-36-0 | 11 | 0.066 | 0.7 | 0.39 | TA1E1 | 56 | 70 | | **0.99** | **0.17 J** |
| Arsenic | mg/kg | 3 | SW6020A | 7440-38-2 | 190 | 0.65 | 15 | 7.2 | SUSDP08-1E | 70 | 70 | | **3.1 J** | **3.1 J** |
| Barium | mg/kg | 22000 | SW6020A | 7440-39-3 | 870 | 14 | 96 | 56 | SUSDP08-1E | 70 | 70 | | **63** | **54** |
| Beryllium | mg/kg | 230 | SW6020A | 7440-41-7 | 1.8 | 0.11 | 0.5 | 0.41 | TA1E1 | 70 | 70 | | **0.33** | **0.32** |
| Cadmium | mg/kg | 98 | SW6020A | 7440-43-9 | 7.1 | 0.02 | 0.64 | 0.21 | SUSDP01 | 65 | 70 | | **0.22** | < 0.11 U |
| Calcium | mg/kg | EN | SW6020A | 7440-70-2 | 150000 | 310 | 24000 | 12000 | SUSDP23 | 70 | 70 | | **50000** | **50000** |
| Chromium | mg/kg | 180000 | SW6020A | 7440-47-3 | 400 | 3.7 | 42 | 19 | SUSDP08-1E | 81 | 81 | | **24 J** | **21 J** |
| Chromium, hexavalent | mg/kg | 6.3 | SW7199 | 18540-29-9 | 0.6 | 0.18 | 0.34 | 0.25 | SUS08-1D | 3 | 11 | | | |
| Cobalt | mg/kg | 35 | SW6020A | 7440-48-4 | 240 | 2 | 19 | 6.7 | TA1G9 | 70 | 70 | | **5.9** | **4.1** |
| Copper | mg/kg | 4700 | SW6020A | 7440-50-8 | 2700 | 3.8 | 130 | 27 | SUSDP08-1E | 70 | 70 | | **16** | **13** |
| Iron | mg/kg | 82000 | SW6020A | 7439-89-6 | 78000 | 4200 | 16000 | 13000 | TA1E1 | 70 | 70 | | **12000** | **11000** |
| Lead | mg/kg | 800 | SW6020A | 7439-92-1 | 2000 | 4.4 | 130 | 54 | TA1E1 | 70 | 70 | | **41** | **35** |
| Magnesium | mg/kg | EN | SW6020A | 7439-95-4 | 76000 | 270 | 9000 | 4300 | SUSDP23 | 70 | 70 | | **5100** | **4200** |
| Manganese | mg/kg | 2600 | SW6020A | 7439-96-5 | 6600 | 10 | 380 | 170 | SUSDP08-1E | 70 | 70 | | **240** | **130** |
| Mercury | mg/kg | 35 | SW7471B | 7439-97-6 | 1.9 | 0.0068 | 0.13 | 0.075 | TA1E1 | 67 | 70 | | **0.053** | **0.063** |
| Nickel | mg/kg | 2200 | SW6020A | 7440-02-0 | 8000 | 2.2 | 340 | 25 | TA1G9 | 70 | 70 | | **31** | **16** |
| Potassium | mg/kg | EN | SW6020A | 7440-09-7 | 2400 | 130 | 670 | 670 | SUS08-1G | 70 | 70 | | **920** | **840** |
| Selenium | mg/kg | 580 | SW6020A | 7782-49-2 | 9.1 | 0.087 | 0.91 | 0.47 | TA1E1 | 67 | 70 | | **0.30 J** | **0.18 J** |
| Silver | mg/kg | 580 | SW6020A | 7440-22-4 | 0.61 | 0.018 | 0.14 | 0.08 | TA1C5 | 48 | 70 | | **0.044 J** | **0.044 J** |
| Sodium | mg/kg | EN | SW6020A | 7440-23-5 | 1300 | 45 | 230 | 130 | TA1G9 | 66 | 70 | | **130** | **100** |
| Thallium | mg/kg | 1.2 | SW6020A | 7440-28-0 | 0.46 | 0.033 | 0.16 | 0.14 | TA1E7 | 42 | 70 | | < 0.12 U | < 0.11 U |
| Vanadium | mg/kg | 580 | SW6020A | 7440-62-2 | 42000 | 3.4 | 1500 | 57 | TA1E1 | 77 | 77 | | **44** | **35** |
| Zinc | mg/kg | 35000 | SW6020A | 7440-66-6 | 3000 | 6.1 | 210 | 56 | SUSDP08-1E | 70 | 70 | | **44 J** | **32 J** |

# Table 4-1
# Surface Soil Results
# Inorganic Concentrations in Surface Soils
# Benning Road Facility RI/FS Project
# 3400 Benning Road, NE
# Washington, DC 20019

| | | | Location ID | SUS08-1B | SUS08-1C | SUS08-1D | SUS08-1D | SUS08-1F | SUS08-1G | SUS08-1H | SUS08-1H | SUS08-1H | SUS08-2F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS081B00N2 | SUS081C00N | SUS081D00N | SUS081D00N2 | SUS081F00N | SUS081G00N | SUS081H00N | SUS081H00N2 | SUS081H00R2 | SUS082F00N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 2/3/2017 | 1/24/2017 | 1/24/2017 | 6/29/2018 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 6/29/2018 | 6/29/2018 | 3/22/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | **5500** | **7000** | **18000** | | **6700** | **11000** | **18000** | | | |
| Antimony | mg/kg | 47 | | **0.21 J** | **0.14 J** | **0.72** | | **0.74** | **0.34** | **1.0** | | | |
| Arsenic | mg/kg | 3 | | **2.1** | **2.4 J** | **24 J** | | **6.8 J** | **3.4 J** | **27 J** | | | |
| Barium | mg/kg | 22000 | | **46** | **51** | **160** | | **62** | **89** | **530** | | | |
| Beryllium | mg/kg | 230 | | **0.27** | **0.29** | **0.90** | | **0.27** | **0.56** | **0.60** | | | |
| Cadmium | mg/kg | 98 | | **0.14** | < 0.12 U | **0.92** | | **0.16** | **0.15** | **0.90** | | | |
| Calcium | mg/kg | EN | | **45000** | **45000** | **60000** | | **30000** | **38000** | **17000** | | | |
| Chromium | mg/kg | 180000 | | **18** | **20 J** | **80 J** | **69** | **23 J** | **30 J** | **66 J** | **42** | **53** | |
| Chromium, hexavalent | mg/kg | 6.3 | | | | | **0.60** | | | | **0.25 J** | **0.18 J** | |
| Cobalt | mg/kg | 35 | | **3.8** | **4.3** | **18** | | **5.9** | **9.1** | **30** | | | |
| Copper | mg/kg | 4700 | | **17** | **15** | **120** | | **24** | **28** | **170** | | | |
| Iron | mg/kg | 82000 | | **9400** | **10000** | **18000** | | **14000** | **18000** | **21000** | | | |
| Lead | mg/kg | 800 | | **30** | **29** | **89** | | **61** | **57** | **76** | | | |
| Magnesium | mg/kg | EN | | **12000 J** | **4700** | **13000** | | **3700** | **5900** | **4300** | | | |
| Manganese | mg/kg | 2600 | | **200** | **120** | **1000** | | **130** | **320** | **440** | | | |
| Mercury | mg/kg | 35 | | **0.054** | **0.063** | **0.15** | | **0.090** | **0.066** | **0.16** | | | |
| Nickel | mg/kg | 2200 | | **23** | **24** | **300** | | **87** | **52** | **700** | | | |
| Potassium | mg/kg | EN | | **620** | **740** | **1100** | | **980** | **2400** | **610** | | | |
| Selenium | mg/kg | 580 | | < 0.69 U | < 0.59 U | **1.6** | | **3.1** | **0.48 J** | **1.2** | | | |
| Silver | mg/kg | 580 | | **0.043 J** | **0.043 J** | **0.30** | | **0.13** | **0.081 J** | **0.26** | | | |
| Sodium | mg/kg | EN | | **140** | **110** | **170** | | **110** | **140** | **64** | | | |
| Thallium | mg/kg | 1.2 | | **0.057 J** | < 0.12 U | **0.12** | | < 0.11 U | **0.17** | **0.13** | | | |
| Vanadium | mg/kg | 580 | | **64** | **23** | **900** | | **260** | **190** | **1300** | | | **23 J** |
| Zinc | mg/kg | 35000 | | **24** | **31 J** | **310 J** | | **43 J** | **72 J** | **280 J** | | | |

**Table 4-1**
**Surface Soil Results**
**Inorganic Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUS08-2H | SUS08-2J | SUS08-2J | SUS08-2N | SUS08-2P | SUS25 | SUSDP01 | SUSDP01 | SUSDP02 | SUSDP03 | SUSDP04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS082H00N | SUS082J00N | SUS082J00R | SUS082N00N | SUS082P00N | SUS2500N | SUS0100N | SUS0100R | SUS0200N | SUS0300N | SUS0400N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.5 - 1 ft | 0.33 - 1 ft | 0.33 - 1 ft | 0.33 - 0.83 ft | 0.5 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 3/22/2017 | 3/22/2017 | 3/22/2017 | 3/22/2017 | 3/22/2017 | 2/7/2013 | 2/4/2013 | 2/4/2013 | 2/4/2013 | 2/4/2013 | 2/4/2013 |
| | | | Type | N | N | FD | N | N | N | N | FD | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | | | | | | **2900** | **2800** | **2700** | **3600** | **1500** | **4400** |
| Antimony | mg/kg | 47 | | | | | | | < 0.22 UJ | **0.36 J** | **0.39 J** | < 0.21 UJ | **0.24 J** | < 0.23 UJ |
| Arsenic | mg/kg | 3 | | | | | | | **2.6 J** | **2.6 J** | **1.9 J** | **1.8 J** | **6.3 J** | **7.7 J** |
| Barium | mg/kg | 22000 | | | | | | | **23 J** | **230 J** | **32 J** | **15 J** | **56 J** | **56 J** |
| Beryllium | mg/kg | 230 | | | | | | | **0.24** | **0.38** | **0.35** | **0.18** | **0.30** | **0.45 J** |
| Cadmium | mg/kg | 98 | | | | | | | **0.093 J** | **4.6 J** | **7.1 J** | **0.073 J** | **0.29 J** | **0.27 J** |
| Calcium | mg/kg | EN | | | | | | | **28000** | **8300** | **5700** | **2100** | **16000** | **42000** |
| Chromium | mg/kg | 180000 | | | | | | | **6.3** | **9.2** | **7.8** | **11** | **3.7** | **19** |
| Chromium, hexavalent | mg/kg | 6.3 | | | | | | | | | | | | |
| Cobalt | mg/kg | 35 | | | | | | | **3.1 J** | **92 J** | **52 J** | **130 J** | **3.2 J** | **7.2 J** |
| Copper | mg/kg | 4700 | | | | | | | **5.7 J** | **230 J** | **51 J** | **14 J** | **32 J** | **45 J** |
| Iron | mg/kg | 82000 | | | | | | | **8100** | **13000** | **9300** | **8100** | **4800** | **12000** |
| Lead | mg/kg | 800 | | | | | | | **12** | **1100** | **1300** | **9.1** | **42** | **70** |
| Magnesium | mg/kg | EN | | | | | | | **17000** | **920** | **840** | **790** | **6600** | **18000 J** |
| Manganese | mg/kg | 2600 | | | | | | | **140** | **200** | **170** | **36** | **62** | **260** |
| Mercury | mg/kg | 35 | | | | | | | **0.020 J** | **0.040 J** | **0.045 J** | **0.029 J** | **0.064 J** | **0.26 J** |
| Nickel | mg/kg | 2200 | | | | | | | **3.6** | **12** | **11** | **8.7** | **7.2** | **72 J** |
| Potassium | mg/kg | EN | | | | | | | **750** | **370** | **370** | **210** | **140** | **670** |
| Selenium | mg/kg | 580 | | | | | | | **0.16 J** | **0.14 J** | **0.089 J** | **0.087 J** | **0.44 J** | **0.60 J** |
| Silver | mg/kg | 580 | | | | | | | < 0.11 U | < 0.11 U | **0.12** | < 0.11 U | < 0.12 U | < 0.12 U |
| Sodium | mg/kg | EN | | | | | | | < 290 U | **790** | **700** | **370** | **920** | **120** |
| Thallium | mg/kg | 1.2 | | | | | | | < 0.11 U | < 0.11 U | < 0.11 U | < 0.11 U | < 0.12 U | **0.13** |
| Vanadium | mg/kg | 580 | | **59 J** | **1900 J** | **930 J** | **1400 J** | **56 J** | **11 J** | **58 J** | **47 J** | **16 J** | **9.9 J** | **140 J** |
| Zinc | mg/kg | 35000 | | | | | | | **17 J** | **1300 J** | **1700 J** | **20 J** | **58 J** | **59 J** |

**Table 4-1**
**Surface Soil Results**
**Inorganic Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP05 | SUSDP06 | SUSDP07 | SUSDP08 | SUSDP08 | SUSDP08-1E | SUSDP08-1E | SUSDP08-1E | SUSDP08-2G | SUSDP09 | SUSDP10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS0500N | SUS0600N | SUS0700N | SUS0800N | SUS0800N2 | SUS081E00N | SUS081E00R | SUS081E00N2 | SUS082G00N | SUS0900N | SUS1000N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.5 - 1 ft |
| | | | Sample Date | 2/4/2013 | 2/5/2013 | 2/5/2013 | 2/5/2013 | 6/29/2018 | 1/24/2017 | 1/24/2017 | 6/29/2018 | 3/22/2017 | 2/5/2013 | 2/5/2013 |
| | | | Type | N | N | N | N | N | N | FD | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | 2400 | 1700 | 6200 | 16000 | | 37000 J | 25000 | | | 3800 | 2200 |
| Antimony | mg/kg | 47 | | 0.49 J | 0.38 J | < 0.23 UJ | < 0.26 UJ | | 1.6 J | 1.4 | | | < 0.21 UJ | < 0.22 UJ |
| Arsenic | mg/kg | 3 | | 7.3 J | 11 J | 3.0 J | 12 J | | 190 J | 110 J | | | 2.2 J | 13 J |
| Barium | mg/kg | 22000 | | 39 J | 56 J | 65 J | 110 J | | 870 J | 740 | | | 32 J | 41 J |
| Beryllium | mg/kg | 230 | | 0.38 | 0.41 | 0.28 | 0.54 | | 0.97 | 1.0 | | | 0.25 | 0.53 |
| Cadmium | mg/kg | 98 | | 0.19 J | 0.58 J | 0.20 J | 0.73 J | | 3.2 J | 2.4 | | | 0.11 J | 0.12 J |
| Calcium | mg/kg | EN | | 3500 | 970 | 55000 | 55000 | | 82000 J | 49000 | | | 12000 | 16000 |
| Chromium | mg/kg | 180000 | | 10 | 5.9 | 33 | 60 | 27 | 400 J | 210 J | 160 | | 11 | 12 |
| Chromium, hexavalent | mg/kg | 6.3 | | | | | | < 0.36 U | | | < 0.38 U | | | |
| Cobalt | mg/kg | 35 | | 4.6 J | 5.9 J | 8.2 J | 23 J | | 67 J | 47 | | | 4.6 J | 9.6 J |
| Copper | mg/kg | 4700 | | 26 J | 27 J | 20 J | 190 J | | 2700 J | 1900 | | | 12 J | 21 J |
| Iron | mg/kg | 82000 | | 8000 | 5600 | 11000 | 18000 | | 47000 J | 34000 | | | 8100 | 10000 |
| Lead | mg/kg | 800 | | 22 | 97 | 38 | 91 | | 200 | 160 | | | 23 | 33 |
| Magnesium | mg/kg | EN | | 1500 | 1500 | 21000 | 16000 | | 5200 J | 4200 | | | 3400 | 9600 |
| Manganese | mg/kg | 2600 | | 150 | 49 | 270 | 690 | | 6600 | 5100 | | | 130 | 210 |
| Mercury | mg/kg | 35 | | 0.059 J | 0.075 J | 0.11 J | 0.19 J | | 0.14 J | 0.16 | | | 0.043 J | 0.043 J |
| Nickel | mg/kg | 2200 | | 16 | 28 | 97 | 610 | | 460 J | 380 | | | 19 | 9.8 |
| Potassium | mg/kg | EN | | 230 | 130 | 1000 | 750 | | 1300 J | 1100 | | | 780 | 370 |
| Selenium | mg/kg | 580 | | 0.38 J | 0.36 J | 0.20 J | 0.51 J | | 0.94 | 0.82 | | | 0.11 J | 0.68 J |
| Silver | mg/kg | 580 | | < 0.11 U | < 0.11 U | < 0.12 U | 0.25 | | 0.33 | 0.31 | | | < 0.10 U | < 0.11 U |
| Sodium | mg/kg | EN | | 49 | 49 J | 370 J | 150 J | | 340 J | 280 | | | 360 J | 76 J |
| Thallium | mg/kg | 1.2 | | < 0.11 U | 0.14 | < 0.12 U | < 0.13 U | | 0.13 J | 0.11 J | | | < 0.10 U | 0.16 |
| Vanadium | mg/kg | 580 | | 75 J | 20 J | 45 J | 1700 J | | 1500 J | 900 | | 52 J | 16 J | 22 J |
| Zinc | mg/kg | 35000 | | 33 J | 87 J | 45 J | 240 J | | 3000 J | 1600 J | | | 22 J | 44 J |

## Table 4-1
## Surface Soil Results
## Inorganic Concentrations in Surface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP11 | SUSDP12 | SUSDP13 | SUSDP14 | SUSDP15 | SUSDP16 | SUSDP17 | SUSDP18 | SUSDP19 | SUSDP20 | SUSDP21 | SUSDP23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS1100N | SUS1200N | SUS1300N | SUS1400N | SUS1500N | SUS1600N | SUS1700N | SUS1800N | SUS1900N | SUS2000N | SUS2100N | SUS2300N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.17 - 1 ft | 0.17 - 1 ft | 0.5 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0.83 - 1 ft | 0.42 - 1 ft | 1 - 1.75 ft | 0.5 - 1 ft |
| | | | Sample Date | 2/5/2013 | 2/6/2013 | 2/5/2013 | 2/6/2013 | 2/6/2013 | 2/6/2013 | 2/6/2013 | 2/6/2013 | 2/6/2013 | 2/7/2013 | 2/7/2013 | 2/7/2013 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | 2200 | 4100 | 2800 | 4100 | 4900 | 2600 | 3700 | 3200 | 5000 | 2100 | 2300 | 1500 |
| Antimony | mg/kg | 47 | | 0.21 J | 0.49 J | 0.22 J | < 0.24 UJ | 0.36 J | < 0.23 UJ | < 0.22 UJ | < 0.22 UJ | 0.26 J | 0.31 J | < 0.22 UJ | < 0.21 UJ |
| Arsenic | mg/kg | 3 | | 3.6 J | 14 J | 12 J | 3.7 J | 5.7 J | 3.2 J | 3.0 J | 7.0 J | 3.0 J | 33 J | 1.7 J | 0.65 J |
| Barium | mg/kg | 22000 | | 57 J | 79 J | 58 J | 70 J | 67 J | 24 J | 43 J | 36 J | 55 J | 74 J | 27 J | 14 J |
| Beryllium | mg/kg | 230 | | 0.17 | 0.37 | 0.26 | 0.32 | 0.40 | 0.28 | 0.37 | 0.40 | 0.34 | 0.33 | 0.15 | 0.11 |
| Cadmium | mg/kg | 98 | | 0.52 J | 3.5 J | 0.80 J | 0.26 J | 0.30 J | 0.064 J | 0.047 J | 0.14 J | 0.22 J | 0.63 J | 0.11 J | 0.062 J |
| Calcium | mg/kg | EN | | 86000 | 12000 | 5400 | 3800 | 2800 | 41000 | 440 | 2300 | 12000 | 59000 | 110000 | 150000 |
| Chromium | mg/kg | 180000 | | 20 | 14 | 27 | 11 | 13 | 6.0 | 7.3 | 7.1 | 11 | 10 | 7.3 | 5.0 |
| Chromium, hexavalent | mg/kg | 6.3 | | | | | | | | | | | | | |
| Cobalt | mg/kg | 35 | | 4.4 J | 4.4 J | 15 J | 5.0 J | 4.8 J | 3.2 J | 3.1 J | 3.8 J | 11 J | 4.6 J | 2.7 J | 3.7 J |
| Copper | mg/kg | 4700 | | 35 J | 280 J | 38 J | 16 J | 23 J | 5.9 J | 6.3 J | 12 J | 49 J | 29 J | 11 J | 3.8 J |
| Iron | mg/kg | 82000 | | 7500 | 9400 | 10000 | 9700 | 12000 | 8700 | 8600 | 7700 | 13000 | 9500 | 6200 | 4200 |
| Lead | mg/kg | 800 | | 53 | 380 | 140 | 32 J | 56 | 11 | 11 | 21 | 170 | 89 | 65 | 5.5 |
| Magnesium | mg/kg | EN | | 48000 | 6700 | 24000 | 1800 | 2000 | 24000 | 360 | 1700 | 3300 | 35000 | 53000 | 76000 |
| Manganese | mg/kg | 2600 | | 280 | 120 | 190 | 260 J | 110 | 150 | 58 | 220 | 170 | 120 | 260 | 370 |
| Mercury | mg/kg | 35 | | 0.10 J | 0.14 J | 0.098 J | 0.054 J | 0.088 J | 0.057 J | 0.051 J | 0.080 J | 0.081 J | 0.11 J | 0.075 J | < 0.033 UJ |
| Nickel | mg/kg | 2200 | | 33 | 27 | 230 | 19 | 19 | 2.2 | 3.4 | 7.7 | 30 | 14 | 16 | 12 |
| Potassium | mg/kg | EN | | 340 | 320 | 660 | 630 | 650 | 290 | 270 | 280 | 720 | 340 | 420 | 700 |
| Selenium | mg/kg | 580 | | 0.30 J | 0.59 J | 0.47 J | 0.26 J | 0.33 J | 0.23 J | 0.28 J | 0.38 J | 0.19 J | 1.7 J | 0.13 J | 0.26 J |
| Silver | mg/kg | 580 | | 0.17 | 0.23 | 0.24 | < 0.12 U | < 0.11 U | < 0.11 U | < 0.11 U | < 0.11 U | < 0.11 U | < 0.11 U | < 0.11 U | < 0.10 U |
| Sodium | mg/kg | EN | | 120 J | 59 | 130 J | 160 | 170 | 60 | 48 | 160 | 160 | 84 | < 390 U | < 96 U |
| Thallium | mg/kg | 1.2 | | < 0.11 U | 0.18 | 0.17 | < 0.12 U | 0.14 | < 0.11 U | < 0.11 U | < 0.11 U | < 0.11 U | 0.25 | < 0.11 U | < 0.10 U |
| Vanadium | mg/kg | 580 | | 78 J | 36 J | 35 J | 23 J | 26 J | 11 J | 12 J | 13 J | 19 J | 21 J | 9.7 J | 3.4 J |
| Zinc | mg/kg | 35000 | | 110 J | 390 J | 110 J | 33 J | 65 J | 15 J | 13 J | 78 J | 66 J | 36 J | 32 J | 9.9 J |

**Table 4-1**
**Surface Soil Results**
**Inorganic Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP24 | SUSDP48 | SUSDP48 | SUSDP49 | SUSDP50 | SUSDP51 | SUSDP52 | TA1A1 | TA1A3 | TA1A7 | TA1A9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS2400N | SUS4800N | SUS4800R | SUS4900N | SUS5000N | SUS5100N | SUS5200N | SUSTAIAI00N | SUSTAIA300N | SUSTAIA700N | SUSTAIA900N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 2/7/2013 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 |
| | | | Type | N | N | FD | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | **4200** | **6700** | **9400** | **5600** | **1900** | **5700** | **3000** | **6100** | **5100** | **6900** | **6000** |
| Antimony | mg/kg | 47 | | < 0.23 UJ | **0.59** | **0.62** | **0.39** | **0.44** | **0.17 J** | **0.14 J** | **0.47** | **0.14 J** | **0.55** | **0.23** |
| Arsenic | mg/kg | 3 | | **3.8 J** | **4.8 J** | **6.4 J** | **7.5 J** | **7.1 J** | **5.1 J** | **4.1 J** | **14 J** | **6.3 J** | **11 J** | **9.5 J** |
| Barium | mg/kg | 22000 | | **52 J** | **42** | **49** | **48** | **44** | **32** | **14** | **95** | **51** | **49** | **54** |
| Beryllium | mg/kg | 230 | | **0.33** | **0.53** | **0.63** | **0.67** | **0.58** | **0.49** | **0.37** | **0.75** | **0.60** | **0.91** | **0.71** |
| Cadmium | mg/kg | 98 | | **0.31 J** | **0.17** | **0.27** | **0.21** | **0.31** | **0.042 J** | < 0.11 U | **0.29** | **0.25** | **0.14** | **0.17** |
| Calcium | mg/kg | EN | | **2900** | **1600 J** | **2500 J** | **3700 J** | **1900 J** | **740 J** | **430 J** | **19000** | **9800** | **15000** | **2900** |
| Chromium | mg/kg | 180000 | | **14** | **19** | **24** | **18** | **14** | **15** | **12** | **31 J** | **13 J** | **17 J** | **17 J** |
| Chromium, hexavalent | mg/kg | 6.3 | | | | | | | | | | | | |
| Cobalt | mg/kg | 35 | | **4.7 J** | **5.8** | **7.9** | **7.1** | **17** | **3.9** | **2.0** | **12** | **4.9** | **13** | **8.0** |
| Copper | mg/kg | 4700 | | **14 J** | **30 J** | **35 J** | **54 J** | **25 J** | **8.1 J** | **7.2 J** | **27** | **16** | **31** | **30** |
| Iron | mg/kg | 82000 | | **9800** | **19000** | **22000** | **20000** | **20000** | **19000** | **18000** | **15000** | **13000** | **25000** | **19000** |
| Lead | mg/kg | 800 | | **95** | **65** | **72** | **60** | **64** | **9.8** | **4.4** | **79** | **24** | **55** | **36** |
| Magnesium | mg/kg | EN | | **2900** | **1800 J** | **3000 J** | **1700 J** | **1000 J** | **630 J** | **450 J** | **5500** | **1500** | **1300** | **1000** |
| Manganese | mg/kg | 2600 | | **160** | **90** | **110** | **160** | **500** | **93** | **42** | **280** | **130** | **160** | **130** |
| Mercury | mg/kg | 35 | | **0.10 J** | **0.049** | **0.051** | **0.062** | < 0.030 U | **0.037** | **0.0068 J** | **0.26** | **0.097** | **0.043** | **0.14** |
| Nickel | mg/kg | 2200 | | **12** | **17 J** | **31 J** | **20 J** | **14 J** | **4.7 J** | **2.6 J** | **120** | **18** | **18** | **19** |
| Potassium | mg/kg | EN | | **830** | **710** | **770** | **830** | **400** | **500** | **420** | **910** | **760** | **720** | **660** |
| Selenium | mg/kg | 580 | | **0.28 J** | **0.38 J** | **0.45 J** | **0.45 J** | **0.70 J** | **0.40 J** | **0.32 J** | **0.78** | **0.31 J** | **0.77** | **0.72** |
| Silver | mg/kg | 580 | | **0.16** | **0.033 J** | **0.042 J** | **0.047 J** | **0.023 J** | **0.019 J** | < 0.11 U | **0.091 J** | **0.049 J** | **0.043 J** | **0.061 J** |
| Sodium | mg/kg | EN | | < 52 U | **60** | **70** | **100** | **110** | **450** | **340** | **650** | **82** | **220** | **120** |
| Thallium | mg/kg | 1.2 | | < 0.11 U | **0.13** | **0.15** | **0.17** | **0.20** | **0.085 J** | **0.060 J** | **0.33** | **0.089 J** | **0.15** | **0.14** |
| Vanadium | mg/kg | 580 | | **23 J** | **26** | **30** | **28** | **16** | **24** | **22** | **290** | **180** | **32** | **53** |
| Zinc | mg/kg | 35000 | | **80 J** | **54 J** | **61 J** | **50 J** | **44 J** | **20 J** | **9.7 J** | **100 J** | **37 J** | **58 J** | **50 J** |

**Table 4-1**
**Surface Soil Results**
**Inorganic Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | TA1C1 | TA1C3 | TA1C4 | TA1C4 | TA1C5 | TA1C5 | TA1C7 | TA1C9 | TA1E1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUSTAICI00N | SUSTAIC300N | SUSTAIC400N | SUSTA1C400N2 | SUSTAIC500N | SUSTA1C500N2 | SUSTAI C700N | SUSTAIC900N | SUSTAIEI00N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 1/24/2017 | 1/24/2017 | 1/24/2017 | 6/29/2018 | 1/24/2017 | 6/29/2018 | 1/24/2017 | 1/24/2017 | 1/24/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | 2300 | 7900 | 12000 | | 31000 | | 6700 | 5500 | 5500 |
| Antimony | mg/kg | 47 | | 0.28 | 0.17 J | 1.2 | | 2.6 | | 0.066 J | 0.37 | 11 |
| Arsenic | mg/kg | 3 | | 11 J | 3.2 J | 8.6 J | | 57 J | | 2.0 J | 22 J | 43 J |
| Barium | mg/kg | 22000 | | 85 | 73 | 110 | | 280 | | 54 | 56 | 370 |
| Beryllium | mg/kg | 230 | | 1.1 | 0.40 | 0.47 | | 1.1 | | 0.27 | 0.65 | 1.8 |
| Cadmium | mg/kg | 98 | | 0.14 | 0.14 | 0.37 | | 1.7 | | 0.079 J+ | 0.21 | 1.9 |
| Calcium | mg/kg | EN | | 1200 | 55000 | 30000 | | 22000 | | 58000 | 10000 | 8900 |
| Chromium | mg/kg | 180000 | | 12 J | 20 J | 79 J | 120 | 150 J | 160 | 23 J | 40 J | 290 J |
| Chromium, hexavalent | mg/kg | 6.3 | | | | | < 2.6 U | | < 3.5 U | | | |
| Cobalt | mg/kg | 35 | | 5.4 | 5.3 | 23 | | 41 | | 3.2 | 11 | 120 |
| Copper | mg/kg | 4700 | | 16 | 15 | 98 | | 1300 | | 8.4 | 27 | 290 |
| Iron | mg/kg | 82000 | | 7400 | 12000 | 23000 | | 43000 | | 7100 | 20000 | 78000 |
| Lead | mg/kg | 800 | | 35 | 47 | 160 | | 200 | | 15 | 44 | 2000 |
| Magnesium | mg/kg | EN | | 1100 | 4500 | 5100 | | 7900 | | 4500 | 6900 | 2900 |
| Manganese | mg/kg | 2600 | | 50 | 200 | 330 | | 1400 | | 110 | 160 | 310 |
| Mercury | mg/kg | 35 | | 0.28 | 0.058 | 0.13 | | 0.16 | | < 0.047 U | 0.11 | 1.9 |
| Nickel | mg/kg | 2200 | | 50 | 15 | 790 | | 1300 | | 25 | 100 | 6800 |
| Potassium | mg/kg | EN | | 440 | 1100 | 1400 | | 990 | | 330 | 650 | 950 |
| Selenium | mg/kg | 580 | | 2.7 | 0.30 J | 0.89 | | 7.3 | | < 0.63 U | 1.0 | 9.1 |
| Silver | mg/kg | 580 | | 0.064 J | 0.22 | 0.18 | | 0.61 | | < 0.13 U | 0.059 J | 0.58 J |
| Sodium | mg/kg | EN | | 130 | 260 | 310 | | 300 | | 630 | 95 | 580 |
| Thallium | mg/kg | 1.2 | | 0.29 | < 0.11 U | 0.18 | | 0.22 | | 0.033 J | 0.17 | 0.26 J |
| Vanadium | mg/kg | 580 | | 470 | 41 | 7000 | | 3800 | | 16 | 200 | 42000 |
| Zinc | mg/kg | 35000 | | 26 J | 45 J | 130 J | | 860 J | | 14 J | 78 J | 430 J |

**Table 4-1**
**Surface Soil Results**
**Inorganic Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | TA1E1 | TA1E10 | TA1E10 | TA1-E11 | TA1-E11 | TA1E3 | TA1E4 | TA1E5 | TA1E7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUSTA1E100N2 | SUSTA1E1000N | SUSTA1E1000R | SUSTA1E1100N | SUSTA1E1100R | SUSTAIE300N | SUSTAIE400N | SUSTAIE500N | SUSTAI E700N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 6/29/2018 | 8/8/2017 | 8/8/2017 | 1/30/2018 | 1/30/2018 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 |
| | | | Type | N | N | FD | N | FD | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | | **6500** | **6300** | **6000** | **5700** | **820** | **8100** | **10000** | **3300** |
| Antimony | mg/kg | 47 | | | **0.51 J** | **0.44 J** | **0.72** | **1.0** | **0.54** | **0.35** | **0.26** | **0.16 J** |
| Arsenic | mg/kg | 3 | | | **11 J** | **7.2 J** | **19** | **18** | **54 J** | **2.4 J** | **5.2 J** | **71 J** |
| Barium | mg/kg | 22000 | | | **68 J** | **74 J** | **57** | **56** | **47** | **82** | **81** | **41** |
| Beryllium | mg/kg | 230 | | | **0.57 J** | **0.50 J** | **0.81** | **0.78** | **0.59** | **0.45** | **0.37** | **0.74** |
| Cadmium | mg/kg | 98 | | | **0.13** | < 0.12 U | **0.51** | **0.61** | **0.028 J** | **0.15** | **0.19** | **0.10** |
| Calcium | mg/kg | EN | | | **4700 J** | **2900 J** | **2700** | **2400** | **1400** | **32000** | **60000** | **19000** |
| Chromium | mg/kg | 180000 | | **18** | **43 J** | **27 J** | **49 J** | **41 J** | **5.6 J** | **21 J** | **32 J** | **12 J** |
| Chromium, hexavalent | mg/kg | 6.3 | | < 0.43 U | | | | | | | | |
| Cobalt | mg/kg | 35 | | | **14 J** | **9.7 J** | **15** | **15** | **3.5** | **6.4** | **8.2** | **5.2** |
| Copper | mg/kg | 4700 | | | **50 J** | **27 J** | **58 J** | **58 J** | **14** | **18** | **41** | **37** |
| Iron | mg/kg | 82000 | | | **28000** | **20000** | **21000** | **23000** | **9600** | **13000** | **13000** | **20000** |
| Lead | mg/kg | 800 | | | **130** | **170** | **100** | **120** | **14** | **78** | **44** | **12** |
| Magnesium | mg/kg | EN | | | **3400** | **3000** | **5600 J** | **7000 J** | **270** | **5200** | **5100** | **1500** |
| Manganese | mg/kg | 2600 | | | **110 J** | **95 J** | **220** | **240** | **10** | **210** | **320** | **33** |
| Mercury | mg/kg | 35 | | | **0.054 J** | **0.16 J** | **0.11 J** | **0.12 J** | **0.065** | **0.064** | **0.13** | **0.027 J** |
| Nickel | mg/kg | 2200 | | | **490 J** | **190 J** | **110 J** | **130 J** | **8.5** | **26** | **70** | **9.5** |
| Potassium | mg/kg | EN | | | **830** | **710** | **730** | **670** | **260** | **1500** | **990** | **1000** |
| Selenium | mg/kg | 580 | | | **0.81 J** | **0.64 J** | **1.2** | **1.2** | **1.6** | **0.30 J** | **0.30 J** | **3.0** |
| Silver | mg/kg | 580 | | | **0.079 J** | **0.075 J** | **0.16** | **0.17** | **0.054 J** | **0.11 J** | **0.072 J** | **0.022 J** |
| Sodium | mg/kg | EN | | | **540** | **350** | **100** | **100** | **92** | **140** | **110** | **260** |
| Thallium | mg/kg | 1.2 | | | **0.13** | **0.12** | **0.23** | **0.23** | **0.22** | < 0.12 U | < 0.12 U | **0.46** |
| Vanadium | mg/kg | 580 | | | **3800** | **3200** | **160 J** | **180 J** | **57** | **100** | **190** | **20** |
| Zinc | mg/kg | 35000 | | | **72 J** | **47 J** | **250** | **230** | **6.1 J** | **64 J** | **65 J** | **25 J** |

**Table 4-1**
**Surface Soil Results**
**Inorganic Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | TA1E9 | TA1E9 | TA1F4 | TA1F4 | TA1F5 | TA1G1 | TA1G10 | TA1G3 | TA1G5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUSTAI E900N | SUSTA1E900N2 | SUSTAIF400N | SUSTA1F400N2 | SUSTAIF500N | SUSTAIGI00N | SUSTA1G1000N | SUSTAIG300N | SUSTAIG500N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 1/24/2017 | 6/29/2018 | 1/24/2017 | 6/29/2018 | 1/24/2017 | 1/24/2017 | 8/4/2017 | 1/24/2017 | 1/24/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | **3900** | | **18000** | | **5500** | **2800** | **3900** | **3000** | **2500** |
| Antimony | mg/kg | 47 | | **0.95** | | **1.1** | | **0.47 J** | **0.19 J** | **0.22 J** | **0.32** | **0.14 J** |
| Arsenic | mg/kg | 3 | | **8.1 J** | | **16 J** | | **11 J** | **7.4 J** | **4.0** | **23 J** | **8.9 J** |
| Barium | mg/kg | 22000 | | **87** | | **110** | | **65** | **32** | **32** | **35** | **21** |
| Beryllium | mg/kg | 230 | | **0.75** | | **0.55** | | **0.45** | **0.35** | **0.40** | **0.35** | **0.28** |
| Cadmium | mg/kg | 98 | | **0.92** | | **0.96** | | **0.23** | **0.060 J+** | < 0.12 U | **0.020 J+** | **0.054 J+** |
| Calcium | mg/kg | EN | | **11000** | | **28000** | | **21000** | **820** | **1100** | **670** | **310** |
| Chromium | mg/kg | 180000 | | **51 J** | **11** | **110 J** | **22** | **27 J** | **12 J** | **11** | **12 J** | **11 J** |
| Chromium, hexavalent | mg/kg | 6.3 | | | < 0.32 U | | < 0.42 U | | | | | |
| Cobalt | mg/kg | 35 | | **11** | | **35** | | **10** | **4.7** | **6.9** | **3.1** | **3.5** |
| Copper | mg/kg | 4700 | | **160** | | **260** | | **48 J** | **13** | **11** | **14** | **9.1** |
| Iron | mg/kg | 82000 | | **18000** | | **42000** | | **13000** | **15000** | **13000** | **17000** | **15000** |
| Lead | mg/kg | 800 | | **160** | | **120** | | **110** | **12** | **14** | **14** | **7.8** |
| Magnesium | mg/kg | EN | | **4400** | | **15000** | | **8900 J** | **690** | **950** | **380** | **630** |
| Manganese | mg/kg | 2600 | | **240** | | **690** | | **170 J** | **150** | **86** | **49** | **47** |
| Mercury | mg/kg | 35 | | **0.62** | | **0.23** | | **0.092** | **0.036** | **0.097** | **0.044** | **0.013 J** |
| Nickel | mg/kg | 2200 | | **240** | | **1000** | | **150 J** | **16** | **8.1** | **12** | **19** |
| Potassium | mg/kg | EN | | **660** | | **710** | | **690** | **340** | **440** | **400** | **350** |
| Selenium | mg/kg | 580 | | **0.46 J** | | **1.5** | | **0.75 J** | **0.43 J** | **0.53 J** | **0.93** | **0.48 J** |
| Silver | mg/kg | 580 | | **0.20** | | **0.29** | | **0.071 J** | **0.021 J** | **0.024 J** | **0.028 J** | **0.018 J** |
| Sodium | mg/kg | EN | | **160** | | **390** | | **79** | **73** | **110** | **61** | **66** |
| Thallium | mg/kg | 1.2 | | **0.089 J** | | **0.12 J** | | **0.15** | < 0.10 U | < 0.12 U | **0.13** | **0.071 J** |
| Vanadium | mg/kg | 580 | | **1100** | | **3800** | | **610** | **68** | **37** | **98** | **330** |
| Zinc | mg/kg | 35000 | | **360 J** | | **310 J** | | **95 J** | **33 J** | **23** | **16 J** | **21 J** |

**Table 4-1**
**Surface Soil Results**
**Inorganic Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | TA1G7 | TA1G9 | TA1G9 | TA1H9 |
|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUSTAIG700N | SUSTAIG900N | SUSTA1G900N2 | SUSTA1H0900N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 1/24/2017 | 1/24/2017 | 6/29/2018 | 8/4/2017 |
| | | | Type | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | |
| Aluminum | mg/kg | 110000 | | **2300** | **4000** | | **3100** |
| Antimony | mg/kg | 47 | | **0.13 J** | **0.81** | | **0.69** |
| Arsenic | mg/kg | 3 | | **8.2 J** | **38 J** | | **6.2** |
| Barium | mg/kg | 22000 | | **24** | **210** | | **48** |
| Beryllium | mg/kg | 230 | | **0.39** | **0.88** | | **0.44** |
| Cadmium | mg/kg | 98 | | **0.023 J+** | **0.20** | | **1.5** |
| Calcium | mg/kg | EN | | **360** | **7900** | | **45000** |
| Chromium | mg/kg | 180000 | | **12 J** | **170 J** | **18** | **27** |
| Chromium, hexavalent | mg/kg | 6.3 | | | | < 0.36 U | |
| Cobalt | mg/kg | 35 | | **6.5** | **240** | | **18** |
| Copper | mg/kg | 4700 | | **9.8** | **49** | | **90** |
| Iron | mg/kg | 82000 | | **19000** | **21000** | | **13000** |
| Lead | mg/kg | 800 | | **5.4** | **49** | | **34** |
| Magnesium | mg/kg | EN | | **1200** | **65000** | | **16000** |
| Manganese | mg/kg | 2600 | | **200** | **200** | | **400** |
| Mercury | mg/kg | 35 | | **0.018 J** | **0.069** | | **0.12** |
| Nickel | mg/kg | 2200 | | **43** | **8000** | | **300** |
| Potassium | mg/kg | EN | | **370** | **410** | | **360** |
| Selenium | mg/kg | 580 | | **0.27 J** | **1.4** | | **0.49 J** |
| Silver | mg/kg | 580 | | < 0.10 U | **0.19** | | **0.11 J** |
| Sodium | mg/kg | EN | | **45 J** | **1300** | | **120** |
| Thallium | mg/kg | 1.2 | | **0.069 J** | **0.14** | | < 0.12 U |
| Vanadium | mg/kg | 580 | | **190** | **37000** | | **450** |
| Zinc | mg/kg | 35000 | | **15 J** | **140 J** | | **470** |

**Table 4-1**
**Surface Soil Results**
**Inorganic Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable
RSL Table, May 2018 Industrial Soil [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
mg/kg = milligrams per kilogram

**Table 4-2**
**Surface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Range Organics (C10-C20) | mg/kg | 440 | M8015D | C10C20 | 220 | 157 | 189 | 189 | SUSDP11-1B | 2 | | 2 |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | M8015D | C20C36 | 903 | 749 | 826 | 826 | SUSDP11-1B | 2 | | 2 |
| TPH (C9-C44) | mg/kg | | M8015D | TPH | 13400 | 13.2 | 1310 | 510 | SUSDP43 | 30 | | 30 |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | SW8015C DRO | C10C20 | 3400 | 13 | 410 | 73 | SUSDP50-2A | 20 | | 39 |
| Diesel Range Organics (C10-C28) | mg/kg | 440 | SW8015C DRO | DIESELCOMP | 5200 | 43 | 1200 | 140 | SUSDP50 | 5 | | 6 |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | SW8015C DRO | C20C36 | 3500 | 25 | 530 | 270 | SUSDP50-2A | 38 | | 39 |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | SW8015C GRO/SW8015D GRO | 8006-61-9 | 350 | 250 | 300 | 300 | SUSDP02 | 2 | | 32 |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | SW8260B/SW8260C | 71-55-6 | | | | | | | | 32 |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | SW8260B/SW8260C | 79-34-5 | | | | | | | | 32 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | SW8260B/SW8260C | 76-13-1 | | | | | | | | 32 |
| 1,1,2-Trichloroethane | ug/kg | 630 | SW8260B/SW8260C | 79-00-5 | 6.3 | 6.3 | 6.3 | 6.3 | SUSDP15 | 1 | | 32 |
| 1,1-Dichloroethane | ug/kg | 16000 | SW8260B/SW8260C | 75-34-3 | | | | | | | | 32 |
| 1,1-Dichloroethene | ug/kg | 100000 | SW8260B/SW8260C | 75-35-4 | | | | | | | | 32 |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | SW8260B/SW8260C | 87-61-6 | 2.1 | 2.1 | 2.1 | 2.1 | SUSDP04 | 1 | | 32 |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | SW8260B/SW8260C | 120-82-1 | | | | | | | | 32 |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | SW8260B/SW8260C | 96-12-8 | | | | | | | | 32 |
| 1,2-Dibromoethane | ug/kg | 160 | SW8260B/SW8260C | 106-93-4 | | | | | | | | 32 |
| 1,2-Dichlorobenzene | ug/kg | 930000 | SW8260B/SW8260C | 95-50-1 | | | | | | | | 32 |
| 1,2-Dichloroethane | ug/kg | 2000 | SW8260B/SW8260C | 107-06-2 | 2.3 | 2.3 | 2.3 | 2.3 | SUSDP15 | 1 | | 32 |
| 1,2-Dichloropropane | ug/kg | 6600 | SW8260B/SW8260C | 78-87-5 | | | | | | | | 32 |
| 1,3-Dichlorobenzene | ug/kg | 11000 | SW8260B/SW8260C | 541-73-1 | | | | | | | | 32 |
| 1,4-Dichlorobenzene | ug/kg | 11000 | SW8260B/SW8260C | 106-46-7 | | | | | | | | 32 |
| 1,4-Dioxane | ug/kg | 24000 | SW8260B/SW8260C | 123-91-1 | | | | | | | 31 | 32 |
| 2-Butanone | ug/kg | 1.9e+007 | SW8260B/SW8260C | 78-93-3 | | | | | | | 6 | 32 |
| 2-Hexanone | ug/kg | 130000 | SW8260B/SW8260C | 591-78-6 | | | | | | | | 32 |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | SW8260B/SW8260C | 108-10-1 | 2.1 | 2.1 | 2.1 | 2.1 | SUSDP15 | 1 | | 32 |
| Acetone | ug/kg | 6.7e+007 | SW8260B/SW8260C | 67-64-1 | 35 | 5.1 | 16 | 12 | SUSDP02 | 7 | 5 | 32 |
| Benzene | ug/kg | 5100 | SW8260B/SW8260C | 71-43-2 | | | | | | | | 32 |
| Bromochloromethane | ug/kg | 63000 | SW8260B/SW8260C | 74-97-5 | | | | | | | | 32 |
| Bromodichloromethane | ug/kg | 1300 | SW8260B/SW8260C | 75-27-4 | | | | | | | | 32 |
| Bromoform | ug/kg | 86000 | SW8260B/SW8260C | 75-25-2 | | | | | | | | 32 |
| Bromomethane | ug/kg | 3000 | SW8260B/SW8260C | 74-83-9 | | | | | | | 6 | 32 |
| Carbon Disulfide | ug/kg | 350000 | SW8260B/SW8260C | 75-15-0 | | | | | | | | 32 |
| Carbon Tetrachloride | ug/kg | 2900 | SW8260B/SW8260C | 56-23-5 | | | | | | | | 32 |
| Chlorobenzene | ug/kg | 130000 | SW8260B/SW8260C | 108-90-7 | | | | | | | | 32 |
| Chloroethane | ug/kg | 5.7e+006 | SW8260B/SW8260C | 75-00-3 | | | | | | | 6 | 32 |
| Chloroform | ug/kg | 1400 | SW8260B/SW8260C | 67-66-3 | | | | | | | | 32 |
| Chloromethane | ug/kg | 46000 | SW8260B/SW8260C | 74-87-3 | | | | | | | | 32 |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | SW8260B/SW8260C | 156-59-2 | | | | | | | | 32 |
| cis-1,3-Dichloropropene | ug/kg | 8200 | SW8260B/SW8260C | 10061-01-5 | | | | | | | | 32 |
| Cyclohexane | ug/kg | 2.7e+006 | SW8260B/SW8260C | 110-82-7 | | | | | | | | 32 |
| Dibromochloromethane | ug/kg | 39000 | SW8260B/SW8260C | 124-48-1 | | | | | | | | 32 |
| Dichlorodifluoromethane | ug/kg | 37000 | SW8260B/SW8260C | 75-71-8 | | | | | | | | 32 |
| Ethylbenzene | ug/kg | 25000 | SW8260B/SW8260C | 100-41-4 | 3.1 | 1.3 | 2.2 | 2.2 | SUSDP02 | 2 | | 32 |
| Isopropylbenzene | ug/kg | 990000 | SW8260B/SW8260C | 98-82-8 | | | | | | | | 32 |
| m, p-Xylene | ug/kg | 240000 | SW8260B/SW8260C | XYLMP | 20 | 1.3 | 9.8 | 8.1 | SUSDP02 | 3 | | 32 |
| Methyl Acetate | ug/kg | 1.2e+008 | SW8260B/SW8260C | 79-20-9 | | | | | | | | 32 |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | SW8260B/SW8260C | 1634-04-4 | | | | | | | | 32 |
| Methylcyclohexane | ug/kg | 2.7e+006 | SW8260B/SW8260C | 108-87-2 | | | | | | | | 32 |
| Methylene Chloride | ug/kg | 320000 | SW8260B/SW8260C | 75-09-2 | | | | | | | | 32 |
| o-Xylene | ug/kg | 280000 | SW8260B/SW8260C | 95-47-6 | 13 | 0.96 | 6.1 | 4.2 | SUSDP02 | 3 | | 32 |
| Styrene | ug/kg | 3.5e+006 | SW8260B/SW8260C | 100-42-5 | | | | | | | | 32 |
| Tetrachloroethylene | ug/kg | 39000 | SW8260B/SW8260C | 127-18-4 | 0.75 | 0.75 | 0.75 | 0.75 | SUSDP21 | 1 | | 32 |
| Toluene | ug/kg | 4.7e+006 | SW8260B/SW8260C | 108-88-3 | 1.4 | 1.3 | 1.4 | 1.4 | SUSDP02 | 2 | | 32 |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | SW8260B/SW8260C | 156-60-5 | | | | | | | | 32 |
| trans-1,3-Dichloropropene | ug/kg | 8200 | SW8260B/SW8260C | 10061-02-6 | | | | | | | | 32 |
| Trichloroethene | ug/kg | 1900 | SW8260B/SW8260C | 79-01-6 | | | | | | | | 32 |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | SW8260B/SW8260C | 75-69-4 | | | | | | | | 32 |
| Vinyl Chloride | ug/kg | 1700 | SW8260B/SW8260C | 75-01-4 | | | | | | | | 32 |
| Xylenes (total) | ug/kg | 250000 | SW8260B/SW8260C | 1330-20-7 | 33 | 2.3 | 16 | 12 | SUSDP02 | 3 | | 26 |
| 1,1'-Biphenyl | ug/kg | 20000 | SW8270D LL | 92-52-4 | 30 | 20 | 25 | 25 | SUSDP10 | 3 | | 11 |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | SW8270D LL | 95-94-3 | 9.6 | 9.6 | 9.6 | 9.6 | SUSDP18 | 1 | | 11 |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | SW8270D LL | 108-60-1 | | | | | | | | 11 |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | SW8270D LL | 58-90-2 | | | | | | | | 11 |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | SW8270D LL | 95-95-4 | | | | | | | | 11 |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | SW8270D LL | 88-06-2 | | | | | | | | 11 |
| 2,4-Dichlorophenol | ug/kg | 250000 | SW8270D LL | 120-83-2 | | | | | | | | 11 |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | SW8270D LL | 105-67-9 | | | | | | | | 11 |
| 2,4-Dinitrophenol | ug/kg | 160000 | SW8270D LL | 51-28-5 | | | | | | | | 11 |
| 2,4-Dinitrotoluene | ug/kg | 7400 | SW8270D LL | 121-14-2 | | | | | | | | 11 |
| 2,6-Dinitrotoluene | ug/kg | 1500 | SW8270D LL | 606-20-2 | | | | | | | | 11 |
| 2-Chloronaphthalene | ug/kg | 6e+006 | SW8270D LL | 91-58-7 | | | | | | | | 11 |
| 2-Chlorophenol | ug/kg | 580000 | SW8270D LL | 95-57-8 | | | | | | | | 11 |
| 2-Methylnaphthalene | ug/kg | 300000 | SW8270D LL | 91-57-6 | 85 | 4.5 | 34 | 23 | SUSDP10 | 9 | | 11 |
| 2-Methylphenol | ug/kg | 4.1e+006 | SW8270D LL | 95-48-7 | 13 | 13 | 13 | 13 | SUSDP09 | 1 | | 11 |
| 2-Nitroaniline | ug/kg | 800000 | SW8270D LL | 88-74-4 | | | | | | | | 11 |
| 2-Nitrophenol | ug/kg | 2.5e+007 | SW8270D LL | 88-75-5 | | | | | | | | 11 |

| Location ID | AST3A-1A | SB2 | SUS19-2E | SUS25 | SUSDP01 | SUSDP01 | SUSDP02 | SUSDP02 | SUSDP03 | SUSDP04 | SUSDP04 | SUSDP05 | SUSDP05 | SUSDP05-1C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | AST3A1A00N | SBS0200N | SUS192E00N | SUS2500N | SUS0100N | SUS0100R | SUS0200N | SUS02F00N | SUS0300N | SUS0400N | SUS04F00N | SUS0500N | SUS05F00N | SUS051C00N2 |
| Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.5 - 1 ft | 0.33 - 1 ft | 0.33 - 1 ft | 0.33 - 0.83 ft | 0 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| Sample Date | 8/2/2017 | 1/25/2017 | 3/22/2017 | 2/7/2013 | 2/4/2013 | 2/4/2013 | 2/4/2013 | 1/25/2017 | 2/4/2013 | 2/4/2013 | 1/25/2017 | 2/4/2013 | 1/24/2017 | 7/31/2017 |
| Type | N | N | N | N | N | FD | N | N | N | N | N | N | N | N |
| Diesel Range Organics (C10-C20) | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | | | | | | | | | | | | | | |
| TPH (C9-C44) | | **150** | | | | | | **112** | | | **199** | | **631** | |
| Diesel Range Organics (C10-C20) | **380** | | | **20** | < 19 U | **13 J** | < 92 U | | **15 J** | **66 J** | | **180 J** | | |
| Diesel Range Organics (C10-C28) | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | **980** | | | **67 J** | **43 J** | **54 J** | **300 J** | | **110 J** | **270 J** | | **1800 J** | | |
| Gasoline Range Organics (C6-C10) | | | | < 95 UJ | < 99 U | < 100 U | **350** | | < 160 U | < 110 U | | < 110 U | | |
| 1,1,1-Trichloroethane | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| 1,1,2,2-Tetrachloroethane | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| 1,1,2-Trichloroethane | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| 1,1-Dichloroethane | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| 1,1-Dichloroethene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| 1,2,3-Trichlorobenzene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | **2.1 J** | | < 5.8 U | | |
| 1,2,4-Trichlorobenzene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| 1,2-Dibromo-3-chloropropane | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| 1,2-Dibromoethane | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| 1,2-Dichlorobenzene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| 1,2-Dichloroethane | | | | < 4.6 UJ | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 UJ | | |
| 1,2-Dichloropropane | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| 1,3-Dichlorobenzene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| 1,4-Dichlorobenzene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| 1,4-Dioxane | | | | R | R | R | R | | R | R | | R | | |
| 2-Butanone | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| 2-Hexanone | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| 4-Methyl-2-pentanone | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Acetone | | | | < 18 UJ | < 20 UJ | < 20 UJ | **35 J** | | < 30 UJ | < 23 UJ | | < 23 UJ | | |
| Benzene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Bromochloromethane | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Bromodichloromethane | | | | < 4.6 U | < 4.9 UJ | < 4.9 UJ | < 4.2 UJ | | < 7.5 UJ | < 5.7 UJ | | < 5.8 UJ | | |
| Bromoform | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Bromomethane | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Carbon Disulfide | | | | < 4.6 UJ | < 4.9 UJ | < 4.9 UJ | < 4.2 UJ | | < 7.5 UJ | < 5.7 UJ | | < 5.8 U | | |
| Carbon Tetrachloride | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Chlorobenzene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Chloroethane | | | | < 4.6 UJ | < 4.9 UJ | < 4.9 UJ | < 4.2 UJ | | < 7.5 UJ | < 5.7 UJ | | < 5.8 UJ | | |
| Chloroform | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Chloromethane | | | | < 4.6 UJ | < 4.9 UJ | < 4.9 UJ | < 4.2 UJ | | < 7.5 UJ | < 5.7 UJ | | < 5.8 U | | |
| cis-1,2-Dichloroethylene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| cis-1,3-Dichloropropene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Cyclohexane | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Dibromochloromethane | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Dichlorodifluoromethane | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Ethylbenzene | | | | < 4.6 U | < 4.9 U | < 4.9 U | **3.1 J** | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Isopropylbenzene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| m, p-Xylene | | | | < 9.2 U | < 9.8 U | < 9.8 U | **20** | | < 15 U | < 11 U | | < 12 U | | |
| Methyl Acetate | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Methyl tert-Butyl Ether (MTBE) | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Methylcyclohexane | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Methylene Chloride | | | | < 4.6 UJ | < 4.9 UJ | < 4.9 UJ | < 4.2 UJ | | < 7.5 UJ | < 5.7 UJ | | < 5.8 UJ | | |
| o-Xylene | | | | < 4.6 U | < 4.9 U | < 4.9 U | **13** | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Styrene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Tetrachloroethylene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Toluene | | | | < 4.6 U | < 4.9 U | < 4.9 U | **1.4 J** | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| trans-1,2-Dichloroethene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| trans-1,3-Dichloropropene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Trichloroethene | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Trichlorofluoromethane | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 UJ | | |
| Vinyl Chloride | | | | < 4.6 U | < 4.9 U | < 4.9 U | < 4.2 U | | < 7.5 U | < 5.7 U | | < 5.8 U | | |
| Xylenes (total) | | | | < 9.2 U | < 9.8 U | < 9.8 U | **33** | | < 15 U | < 11 U | | < 12 U | | |
| 1,1'-Biphenyl | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | | | | < 7.5 U | < 39 U | < 38 U | < 37 U | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 2,4,5-Trichlorophenol | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 2,4,6-Trichlorophenol | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 2,4-Dichlorophenol | | | | < 7.5 U | < 39 U | < 38 U | < 37 U | | | | | | | |
| 2,4-Dimethylphenol | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 2,4-Dinitrophenol | | | | < 190 UJ | < 980 U | < 970 U | < 930 U | | | | | | | |
| 2,4-Dinitrotoluene | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 2,6-Dinitrotoluene | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 2-Chloronaphthalene | | | | < 7.5 U | < 39 U | < 38 U | < 37 U | | | | | | | |
| 2-Chlorophenol | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 2-Methylnaphthalene | | | | **4.5 J** | < 39 U | < 38 U | **17 J** | | | | | | | |
| 2-Methylphenol | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 2-Nitroaniline | | | | < 190 U | < 980 U | < 970 U | < 930 U | | | | | | | |
| 2-Nitrophenol | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |

**Table 4-2**
**Surface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | Location ID | AST3A-1A | SB2 | SUS19-2E | SUS25 | SUSDP01 | SUSDP01 | SUSDP02 | SUSDP02 | SUSDP03 | SUSDP04 | SUSDP04 | SUSDP05 | SUSDP05 | SUSDP05-1C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample ID | AST3A1A00N | SBS0200N | SUS192E00N | SUS2500N | SUS0100N | SUS0100R | SUS0200N | SUS02F00N | SUS0300N | SUS0400N | SUS04F00N | SUS0500N | SUS05F00N | SUS051C00N2 |
| | | | | | | | | | | | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.5 - 1 ft | 0.33 - 1 ft | 0.33 - 1 ft | 0.33 - 0.83 ft | 0 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | | | | | | | | | | | Sample Date | 8/2/2017 | 1/25/2017 | 3/22/2017 | 2/7/2013 | 2/4/2013 | 2/4/2013 | 2/4/2013 | 1/25/2017 | 2/4/2013 | 2/4/2013 | 1/25/2017 | 2/4/2013 | 1/24/2017 | 7/31/2017 |
| | | | | | | | | | | | | | Type | N | N | N | N | N | FD | N | N | N | N | N | N | N | N |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | SW8270D LL | 91-94-1 | | | | | | | | 11 | | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | SW8270D LL | 99-09-2 | | | | | | | | 11 | | | | | < 190 U | < 980 U | < 970 U | < 930 U | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | SW8270D LL | 534-52-1 | | | | | | | | 11 | | | | | < 190 U | < 980 U | < 970 U | < 930 U | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | SW8270D LL | 101-55-3 | | | | | | | | 11 | | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | SW8270D LL | 59-50-7 | | | | | | | | 11 | | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | SW8270D LL | 106-47-8 | | | | | | | | 11 | | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | SW8270D LL | 7005-72-3 | | | | | | | | 11 | | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | SW8270D LL | 106-44-5 | 26 | 26 | 26 | 26 | SUSDP09 | 1 | | 11 | | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | SW8270D LL | 100-01-6 | | | | | | | | 11 | | | | | < 190 U | < 980 U | < 970 U | < 930 U | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | SW8270D LL | 100-02-7 | | | | | | | | 11 | | | | | < 190 U | < 980 U | < 970 U | < 930 U | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | SW8270D LL | 83-32-9 | 2700 | 1.4 | 100 | 44 | SUSDP19-6N | 80 | | 121 | | | < 110 U | **38** | < 7.5 U | < 39 U | < 38 U | **21 J** | **11 J** | < 40 U | **73** | **47 J** | **29 J** | **14** | **13** |
| Acenaphthylene | ug/kg | 4.5e+006 | SW8270D LL | 208-96-8 | 970 | 1.2 | 75 | 37 | SUSDP43-3T | 84 | | 121 | | | < 110 U | **58** | **20** | < 39 U | < 38 U | < 37 U | **11 J** | **8.9 J** | **30 J** | **60 J** | **11 J** | **6.0 J** | **3.5 J** |
| Acetophenone | ug/kg | 1.2e+007 | SW8270D LL | 98-86-2 | 53 | 3.5 | 27 | 23 | SUSDP02 | 6 | | 11 | | | | | < 37 U | < 190 U | < 190 U | **53 J** | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | SW8270D LL | 120-12-7 | 8400 | 2.3 | 300 | 95 | SUSDP19-6N | 94 | | 121 | | | **15 J** | **150** | **16** | **15 J** | **10 J** | **44** | **30** | **18 J** | **180** | **140** | **71** | **42** | **34** |
| Atrazine | ug/kg | 10000 | SW8270D LL | 1912-24-9 | | | | | | | | 11 | | | | | < 37 U | < 190 UJ | < 190 UJ | < 180 UJ | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | SW8270D LL | 100-52-7 | 170 | 17 | 85 | 100 | SUSDP02 | 5 | | 11 | | | | | **17 J** | < 190 UJ | < 190 UJ | **170 J** | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | SW8270D LL | 56-55-3 | 14000 | 2.7 | 780 | 290 | SUSDP19-6N | 104 | | 121 | | | **77 J** | **930 J-** | **57** | **120** | **74** | **160** | **190** | **92** | **700 J** | **560** | **520** | **260** | **110** |
| Benzo(a)pyrene | ug/kg | 2100 | SW8270D LL | 50-32-8 | 11000 | 2.2 | 720 | 320 | SUSDP19-6N | 102 | | 121 | | | **99 J*** | **940 J-** | **58 J** | **120** | **180** | **160** | **180** | **100** | **680** | **450** | **550** | **240** | **92** |
| Benzo(b)fluoranthene | ug/kg | 21000 | SW8270D LL | 205-99-2 | 12000 | 3.8 | 930 | 420 | SUSDP19-6N | 104 | | 121 | | | **130 *** | **1200 J-** | **83 J** | **85** | **98** | **170** | **260** | **120** | **710 J** | **580** | **630** | **340** | **110** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | SW8270D LL | 191-24-2 | 7500 | 2.6 | 590 | 250 | SUSDP19-6N | 104 | | 121 | | | **88 J*** | **860** | **54 J** | **110** | **91** | **130** | **190** | **91** | **540** | **470** | **430** | **190** | **85** |
| Benzo(k)fluoranthene | ug/kg | 210000 | SW8270D LL | 207-08-9 | 5500 | 3 | 360 | 170 | SUSDP19-6N | 100 | | 121 | | | **40 J*** | **430** | **33 J** | **91** | **45** | **71** | **70** | **36 J** | **370** | **200** | **360** | **140** | **49** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | SW8270D LL | 111-91-1 | | | | | | | | 11 | | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | SW8270D LL | 111-44-4 | | | | | | | | 11 | | | | | < 7.5 U | < 39 U | < 38 U | < 37 U | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | SW8270D LL | 117-81-7 | 230 | 10 | 91 | 54 | SUSDP02 | 10 | | 11 | | | | | **10 J** | **140 J** | **140 J** | **230 J** | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | SW8270D LL | 85-68-7 | 130 | 6.4 | 82 | 130 | SUSDP01 SUSDP02 | 5 | | 11 | | | | | **6.4 J** | **130 J** | **130 J** | **130 J** | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | SW8270D LL | 105-60-2 | | | | | | | | 11 | | | | | < 190 U | < 980 UJ | < 970 UJ | < 930 UJ | | | | | | | |
| Carbazole | ug/kg | 3e+006 | SW8270D LL | 86-74-8 | 260 | 8.2 | 52 | 26 | SUSDP19 | 8 | | 11 | | | | | **8.2** | < 39 U | < 38 U | **21 J** | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | SW8270D LL | 218-01-9 | 12000 | 3.1 | 800 | 350 | SUSDP19-6N | 104 | | 121 | | | **92 J** | **980 J-** | **64** | **130** | **84** | **190** | **200** | **190** | **790 J** | **530** | **700** | **320** | **100** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | SW8270D LL | 53-70-3 | 2200 | 2.9 | 170 | 81 | SUSDP19-6N | 90 | | 121 | | | **30 J*** | **220** | **12 J** | **19 J** | **23 J** | **30 J** | **46** | **40** | **110** | **110 J** | **110** | **52** | **23** |
| Dibenzofuran | ug/kg | 100000 | SW8270D LL | 132-64-9 | 120 | 4.1 | 49 | 31 | SUSDP19 | 5 | | 11 | | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | SW8270D LL | 84-66-2 | 19 | 5.5 | 11 | 8.2 | SUSDP18 | 3 | | 11 | | | | | **5.5 J** | < 190 U | < 190 U | < 180 U | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | SW8270D LL | 131-11-3 | 210 | 130 | 170 | 170 | SUSDP11 | 2 | | 11 | | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | SW8270D LL | 84-74-2 | 320 | 5.6 | 160 | 160 | SUSDP02 | 2 | | 11 | | | | | < 37 U | < 190 U | < 190 U | **320** | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | SW8270D LL | 117-84-0 | | | | | | | | 11 | | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | SW8270D LL | 206-44-0 | 29000 | 3.9 | 1600 | 480 | SUSDP19-6N | 104 | | 121 | | | **110** | **1500 J-** | **130** | **130** | **90** | **310** | **280** | **130** | **1300 J** | **910** | **830** | **460** | **160** |
| Fluorene | ug/kg | 3e+006 | SW8270D LL | 86-73-7 | 2800 | 1.5 | 100 | 38 | SUSDP19-6N | 82 | | 121 | | | < 110 U | **34 J** | < 7.5 U | < 39 U | < 38 U | **19 J** | **7.6 J** | **8.2 J** | **69** | **37 J** | **20 J** | **8.7** | **13** |
| Hexachlorobenzene | ug/kg | 960 | SW8270D LL | 118-74-1 | | | | | | | | 11 | | | | | < 7.5 U | < 39 U | < 38 U | < 37 U | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | SW8270D LL | 87-68-3 | | | | | | | | 11 | | | | | < 7.5 U | < 39 U | < 38 U | < 37 U | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | SW8270D LL | 77-47-4 | | | | | | | | 11 | | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | SW8270D LL | 67-72-1 | | | | | | | | 11 | | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | SW8270D LL | 193-39-5 | 7100 | 2.1 | 530 | 230 | SUSDP19-6N | 103 | | 121 | | | **85 J*** | **720** | **48 J** | **82** | **64** | **97** | **150** | **68** | **440** | **380** | **330** | **160** | **72** |
| Isophorone | ug/kg | 2.4e+006 | SW8270D LL | 78-59-1 | | | | | | | | 11 | | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| Naphthalene | ug/kg | 17000 | SW8270D LL | 91-20-3 | 630 | 1.6 | 69 | 42 | SUSDP37 | 83 | | 121 | | | < 110 U | **23 J** | **3.8 J** | < 39 U | < 38 U | **18 J** | **6.4 J** | **37 J** | **84** | **45 J** | **42** | **440** | **6.9 J** |
| Nitrobenzene | ug/kg | 22000 | SW8270D LL | 98-95-3 | | | | | | | | 11 | | | | | < 75 U | < 380 U | < 380 U | < 370 U | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | SW8270D LL | 621-64-7 | | | | | | | | 11 | | | | | < 7.5 U | < 39 U | < 38 U | < 37 U | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | SW8270D LL | 86-30-6 | | | | | | | | 11 | | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | SW8270D LL | 87-86-5 | | | | | | | | 11 | | | | | < 37 U | < 190 U | < 190 U | < 180 U | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | SW8270D LL | 85-01-8 | 26000 | 3 | 930 | 310 | SUSDP19-6N | 102 | | 121 | | | **53 J** | **510** | **32** | **31 J** | **30 J** | **180** | **120** | **160** | **870 J** | **490** | **480** | **230** | **140** |
| Phenol | ug/kg | 2.5e+007 | SW8270D LL | 108-95-2 | 110 | 8.7 | 38 | 16 | SUSDP02 | 4 | | 13 | | | | | < 7.5 U | < 39 U | < 38 U | **110** | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | SW8270D LL | 129-00-0 | 20000 | 0.97 | 1200 | 420 | SUSDP19-6N | 106 | | 121 | | | **90 J** | **1300 J-** | **88** | **190** | **110** | **250** | **260** | **140** | **1100 J** | **750** | **750** | **390** | **170** |
| BaP-TE | ug/kg | 2100 | SW8270D LL | BAP | 16600 | 0.714 | 1080 | 486 | SUSDP19-6N | 104 | | 121 | | | **159** | **1450** | **89.2** | **169** | **227** | **234** | **287** | **169** | **979** | **715** | **812** | **370** | **145** |
| Total High-molecular-weight PAHs | ug/kg | | SW8270D LL | TOT-PAH-H | 120000 | 0.97 | 7400 | 2900 | SUSDP19-6N | 106 | | 121 | | | **840** | **9100** | **630** | **1100** | **860** | **1600** | **1800** | **1000** | **6700** | **4900** | **5200** | **2600** | **970** |
| Total Low-molecular-weight PAHs | ug/kg | | SW8270D LL | TOT-PAH-L | 41000 | 3 | 1500 | 490 | SUSDP19-6N | 103 | | 121 | | | **68** | **810** | **72** | **46** | **40** | **280** | **190** | **230** | **1300** | **820** | **650** | **740** | **210** |
| Total PAHs (sum 16) | ug/kg | | SW8270D LL | TOT-PAH | 160000 | 0.97 | 8900 | 3400 | SUSDP19-6N | 106 | | 121 | | | **910** | **9900** | **700** | **1100** | **900** | **1900** | **2000** | **1200** | **8000** | **5800** | **5900** | **3300** | **1200** |

**Table 4-2**
**Surface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SUSDP05-1E | SUSDP05-1G | SUSDP05-2M | SUSDP06 | SUSDP06 | SUSDP07 | SUSDP08 | SUSDP08 | SUSDP09 | SUSDP10 | SUSDP10 | SUSDP11 | SUSDP11 | SUSDP11-1A | SUSDP11-1B | SUSDP11-1H | SUSDP11-2A | SUSDP12 | SUSDP12 | SUSDP12-1A | SUSDP12-1C | SUSDP12-1E | SUSDP12-1E |
| | | | Sample ID | SUS051E00N2 | SUS051G00N2 | SUS052M00N | SUS0600N | SUS06F00N | SUS0700N | SUS0800N | SUS08F00N | SUS0900N | SUS1000N | SUS10F00N | SUS1100N | SUS11F00N | SUS111A00N | SUS111B00N | SUS111H00N | SUS112A00N | SUS1200N | SUS12F00N | SUS121A00N2 | SUS121C00N2 | SUS121E00N2 | SUS121E00R2 |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 7/31/2017 | 7/31/2017 | 2/1/2018 | 2/5/2013 | 3/13/2017 | 2/5/2013 | 2/5/2013 | 1/24/2017 | 2/5/2013 | 2/5/2013 | 1/27/2017 | 2/5/2013 | 1/24/2017 | 2/22/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 2/6/2013 | 1/26/2017 | 8/10/2017 | 8/10/2017 | 8/11/2017 | 8/11/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | FD |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | **220** | | **157** | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | **903** | | **749** | | | | | | |
| TPH (C9-C44) | mg/kg | | | | | | | **37.7** | | | **785** | | | **255** | | **6140** | **4480** | **1440** | **162** | **1120** | | **1130** | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | < 95 U | | < 97 U | < 110 U | | < 18 U | **98** | | < 88 U | | | **280** | | **280** | **79 J** | | | | | |
| Diesel Range Organics (C10-C28) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | **300 J** | | **350 J** | **1800 J** | | **150 J** | **550 J** | | **260 J** | | | **1100** | | **1400** | **330 J** | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | **250** | | < 110 U | < 130 U | | < 100 U | < 100 U | | < 98 U | | | | | | < 110 UJ | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | < 5.6 UJ | | < 5.0 UJ | < 5.9 UJ | | < 4.8 UJ | < 4.9 UJ | | < 4.6 UJ | | | | | | < 5.2 UJ | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | R | | R | R | | R | R | | R | | | | | | R | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | **34 J** | | < 20 UJ | **7.0 J** | | < 19 UJ | < 19 UJ | | < 18 UJ | | | | | | < 21 UJ | | | | | |
| Benzene | ug/kg | 5100 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | < 5.6 UJ | | < 5.0 UJ | < 5.9 UJ | | < 4.8 UJ | < 4.9 UJ | | < 4.6 UJ | | | | | | < 5.2 U | | | | | |
| Bromoform | ug/kg | 86000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | < 5.6 UJ | | < 5.0 UJ | < 5.9 UJ | | < 4.8 UJ | < 4.9 UJ | | < 4.6 UJ | | | | | | < 5.2 UJ | | | | | |
| Chloroform | ug/kg | 1400 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 UJ | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | **1.3 J** | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | **8.1 J** | | < 10 U | < 12 U | | < 9.5 U | < 9.7 U | | < 9.2 U | | | | | | < 10 U | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | < 5.6 UJ | | < 5.0 UJ | < 5.9 UJ | | < 4.8 UJ | < 4.9 UJ | | < 4.6 UJ | | | | | | < 5.2 UJ | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | **4.2 J** | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | **1.3 J** | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | < 5.6 UJ | | < 5.0 UJ | < 5.9 UJ | | < 4.8 UJ | < 4.9 UJ | | < 4.6 UJ | | | | | | < 5.2 U | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | < 5.6 U | | < 5.0 U | < 5.9 U | | < 4.8 U | < 4.9 U | | < 4.6 U | | | | | | < 5.2 U | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | **12** | | < 10 U | < 12 U | | < 9.5 U | < 9.7 U | | < 9.2 U | | | | | | < 10 U | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | **20 J** | | < 180 U | **30 J** | | **25 J** | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | < 43 U | | < 36 U | < 38 U | | < 36 U | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | < 43 U | | < 36 U | < 38 U | | < 36 U | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | < 1100 U | | < 910 U | < 950 U | | < 910 U | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | < 43 U | | < 36 U | < 38 U | | < 36 U | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | **58** | | **11 J** | **85** | | **46** | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | < 210 U | | **13 J** | < 180 U | | < 180 U | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | < 1100 U | | < 910 U | < 950 U | | < 910 U | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |

# Table 4-2
## Surface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Surface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP05-1E | SUSDP05-1G | SUSDP05-2M | SUSDP06 | SUSDP06 | SUSDP07 | SUSDP08 | SUSDP08 | SUSDP09 | SUSDP10 | SUSDP10 | SUSDP11 | SUSDP11 | SUSDP11-1A | SUSDP11-1B | SUSDP11-1H | SUSDP11-2A | SUSDP12 | SUSDP12 | SUSDP12-1A | SUSDP12-1C | SUSDP12-1E | SUSDP12-1E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS051E00N2 | SUS051G00N2 | SUS052M00N | SUS0600N | SUS06F00N | SUS0700N | SUS0800N | SUS08F00N | SUS0900N | SUS1000N | SUS10F00N | SUS1100N | SUS11F00N | SUS111A00N | SUS111B00N | SUS111H00N | SUS112A00N | SUS1200N | SUS12F00N | SUS121A00N2 | SUS121C00N2 | SUS121E00N2 | SUS121E00R2 |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 7/31/2017 | 7/31/2017 | 2/1/2018 | 2/5/2013 | 3/13/2017 | 2/5/2013 | 2/5/2013 | 1/24/2017 | 2/5/2013 | 2/5/2013 | 1/27/2017 | 2/5/2013 | 1/24/2017 | 2/22/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 2/6/2013 | 1/26/2017 | 8/10/2017 | 8/10/2017 | 8/11/2017 | 8/11/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | FD |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | < 1100 U | | < 910 U | < 950 U | | < 910 U | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | < 1100 U | | < 910 U | < 950 U | | < 910 U | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | < 210 U | | 26 J | < 180 U | | < 180 U | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | < 1100 U | | < 910 U | < 950 U | | < 910 U | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | < 1100 U | | < 910 U | < 950 U | | < 910 U | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | 120 | 180 | 28 J | < 38 U | < 7.5 U | 62 | 33 J | < 160 U | 9.7 J | 30 J | 18 J | 18 J | < 70 U | | | | | 140 | 13 | 340 J | 280 | 24 | 56 |
| Acenaphthylene | ug/kg | 4.5e+006 | | 95 | 100 | 29 J | 11 J | < 7.5 U | 57 | 55 | < 160 U | 81 | 12 J | 15 J | 10 J | < 70 U | | | | | 170 | 16 | < 720 U | 63 J | 50 | 50 |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | 23 J | | < 180 U | 15 J | | 23 J | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | 300 | 350 | 78 | 17 J | 2.3 J+ | 190 | 97 | 49 J | 80 | 64 | 50 | 75 | < 70 U | | | | | 420 | 44 | 660 J | 490 | 100 | 160 |
| Atrazine | ug/kg | 10000 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | 100 J | | < 180 UJ | < 180 UJ | | 120 J | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | 1100 | 1200 | 310 | 98 | 20 J+ | 980 | 410 | 180 | 250 | 300 | 280 | 270 | 120 | | | | | 1700 | 110 | 2000 | 980 | 380 | 460 |
| Benzo(a)pyrene | ug/kg | 2100 | | 1200 | 1200 | 310 | 100 | 15 | 820 | 450 J | 150 J | 290 | 330 J | 280 | 280 J | 160 J- | | | | | 1800 J | 89 | 1900 | 810 | 350 | 390 |
| Benzo(b)fluoranthene | ug/kg | 21000 | | 1400 | 1400 | 420 | 220 | 24 | 920 | 440 J | 210 | 320 | 370 J | 380 | 310 J | 160 J- | | | | | 2400 J | 160 | 2300 | 1000 | 630 | 660 |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | 1200 | 1200 | 290 | 140 | 14 J+ | 670 | 330 J | 150 J | 220 | 230 J | 250 | 160 J | 100 J- | | | | | 1500 J | 99 | 1700 | 740 | 330 | 400 |
| Benzo(k)fluoranthene | ug/kg | 210000 | | 420 | 540 | 140 | 46 | 9.1 | 340 | 220 J | 66 J | 87 | 170 J | 180 | 110 J | 38 J- | | | | | 770 J | 51 | 720 | 490 | 180 | 230 |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | < 43 U | | < 36 U | < 38 U | | < 36 U | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | 220 J | | 34 J | < 370 U | | 73 J | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | < 1100 U | | < 910 U | < 950 U | | < 910 U | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | 39 J | | 17 J | 31 J | | 34 J | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | 1200 | 1300 | 310 | 250 | 18 J+ | 920 | 400 | 220 | 260 | 370 | 400 | 340 | 200 | | | | | 2000 | 130 | 1900 | 950 | 490 | 560 |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | 310 | 280 | 78 | 42 | < 7.5 U | 160 | 86 J | < 160 U | 45 | 65 J | 77 | 49 J | < 70 U | | | | | 420 J | 20 | < 720 U | < 70 U | 110 J | < 22 UJ |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | 31 J | | < 180 U | 68 J | | 22 J | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | 130 J | | < 180 U | < 180 U | | 210 | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | 2200 | 2400 | 630 | 190 | 31 J+ | 1800 | 710 | 280 | 420 | 510 | 340 | 480 | 310 | | | | | 3900 | 250 | 4400 | 2600 | 820 | 1000 |
| Fluorene | ug/kg | 3e+006 | | 91 | 150 | 25 J | 11 J | < 7.5 U | 39 | 32 J | < 160 U | < 36 U | 33 J | < 43 U | 25 J | < 70 U | | | | | 98 | 19 | 300 J | 220 | 19 | 45 |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | < 43 U | | < 36 U | < 38 U | | < 36 U | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | < 43 U | | < 36 U | < 38 U | | < 36 U | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | 960 | 1100 | 250 | 98 | 12 J+ | 560 | 290 J | 110 J | 170 | 210 J | 200 | 140 J | 95 J- | | | | | 1300 J | 85 | 1400 | 680 | 310 | 370 |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | 64 | 65 J | 18 J | 42 | < 7.5 U | 74 | 52 | < 160 U | 27 J | 120 | 70 | 42 | 68 J | | | | | 230 | 56 | < 720 U | 150 | 51 | 50 |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | < 430 U | | < 360 U | < 370 U | | < 360 U | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | < 43 U | | < 36 U | < 38 U | | < 36 U | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | < 210 U | | < 180 U | < 180 U | | < 180 U | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | 1000 | 1200 | 310 | 220 | 12 J+ | 690 | 300 | 180 | 130 | 290 | 310 | 320 | 240 | | | | | 1800 | 220 | 2400 | 1700 | 390 | 560 |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | < 43 U | | < 36 U | 16 J | | < 36 U | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | 1300 | 1600 | 450 | 140 | 24 | 1400 | 490 | 220 | 280 | 330 | 410 | 360 | 220 | | | | | 2300 | 150 | 3400 | 1600 | 560 | 670 |
| BaP-TE | ug/kg | 2100 | | 1860 | 1860 | 488 | 184 | 20.7 | 1230 | 653 | 201 | 410 | 485 | 445 | 402 | 198 | | | | | 2770 | 145 | 2480 | 1080 | 594 | 542 |
| Total High-molecular-weight PAHs | ug/kg | | | 11000 | 12000 | 3200 | 1300 | 170 | 8600 | 3800 | 1600 | 2300 | 2900 | 2800 | 2500 | 1400 | | | | | 18000 | 1100 | 20000 | 9900 | 4200 | 4700 |
| Total Low-molecular-weight PAHs | ug/kg | | | 1700 | 2000 | 490 | 300 | 14 | 1100 | 570 | 230 | 330 | 550 | 460 | 490 | 310 | | | | | 2900 | 370 | 3700 | 2900 | 630 | 920 |
| Total PAHs (sum 16) | ug/kg | | | 13000 | 14000 | 3700 | 1600 | 180 | 9700 | 4400 | 1800 | 2700 | 3400 | 3300 | 3000 | 1700 | | | | | 21000 | 1500 | 23000 | 13000 | 4800 | 5700 |

**Table 4-2**
**Surface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP12-1G | SUSDP12-2K | SUSDP12-3A | SUSDP13 | SUSDP14 | SUSDP15 | SUSDP15 | SUSDP16 | SUSDP17 | SUSDP18 | SUSDP18 | SUSDP19 | SUSDP19 | SUSDP19-1A | SUSDP19-1B | SUSDP19-1C | SUSDP19-1C | SUSDP19-1D | SUSDP19-1G | SUSDP19-1H | SUSDP19-2D | SUSDP19-2D | SUSDP19-2M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS121G00N2 | SUS122K00N | SUS123A00N | SUS1300N | SUS1400N | SUS1500N | SUS15F00N | SUS1600N | SUS1700N | SUS1800N | SUS18F00N | SUS1900N | SUS19F00N | SUS191A00N | SUS191B00N | SUS191C00N | SUS191C00R | SUS191D00N | SUS191G00N | SUS191H00N | SUS192D00N | SUS192D00R | SUS192M00N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.17 - 1 ft | 0.17 - 1 ft | 0 - 1 ft | 0.5 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.83 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 8/11/2017 | 1/30/2018 | 2/1/2018 | 2/5/2013 | 2/6/2013 | 2/6/2013 | 1/30/2017 | 2/6/2013 | 2/6/2013 | 2/6/2013 | 1/26/2017 | 2/6/2013 | 1/30/2017 | 2/1/2017 | 2/1/2017 | 1/27/2017 | 1/27/2017 | 8/22/2017 | 2/1/2017 | 2/1/2017 | 3/22/2017 | 3/22/2017 | 3/23/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | FD | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | | | | | | | |
| TPH (C9-C44) | mg/kg | | | | | | | | | **533** | | | | **13.2** | | **1450** | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | < 90 U | < 99 UJ | **170** | | < 19 U | < 19 U | **21** | | < 94 U | | | | | | | | | | | |
| Diesel Range Organics (C10-C28) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | **340 J** | **270 J** | **720 J** | | **25 J** | **30 J** | **80 J** | | **360 J** | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | < 100 U | < 110 UJ | < 89 UJ | | < 88 UJ | < 92 U | < 110 U | | < 88 U | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | < 4.8 U | < 4.7 U | **6.3** | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | < 4.8 UJ | < 4.7 UJ | **2.3 J** | | < 4.6 UJ | < 4.3 UJ | < 5.1 UJ | | < 4.3 UJ | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | R | R | R | | R | R | R | | R | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | < 4.8 U | < 4.7 U | **2.1 J** | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | < 19 UJ | < 19 UJ | < 19 UJ | | < 18 UJ | < 17 UJ | < 20 UJ | | **5.1 J** | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | < 4.8 UJ | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | < 4.8 UJ | < 4.7 UJ | < 4.7 UJ | | < 4.6 UJ | < 4.3 UJ | < 5.1 UJ | | < 4.3 UJ | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | < 4.8 U | < 4.7 UJ | < 4.7 UJ | | < 4.6 UJ | < 4.3 UJ | < 5.1 UJ | | < 4.3 UJ | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | < 9.6 U | < 9.4 U | < 9.4 U | | < 9.2 U | < 8.6 U | < 10 U | | < 8.7 U | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | < 4.8 UJ | < 4.7 UJ | < 4.7 UJ | | < 4.6 UJ | < 4.3 UJ | < 5.1 UJ | | < 4.3 UJ | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | < 4.8 UJ | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | < 4.8 U | < 4.7 U | < 4.7 U | | < 4.6 U | < 4.3 U | < 5.1 U | | < 4.3 U | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | < 9.6 U | < 9.4 U | < 9.4 U | | < 9.2 U | < 8.6 U | < 10 U | | < 8.7 U | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | < 37 U | **9.6 J** | | < 180 U | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | < 7.5 U | < 15 U | | < 37 U | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | < 7.5 U | < 15 U | | < 37 U | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | < 190 U | < 370 U | | < 950 U | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | < 7.5 U | < 15 U | | < 37 U | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | **6.0 J** | **23** | | **52** | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | < 190 U | < 370 U | | < 950 U | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |

**Table 4-2**
**Surface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP12-1G | SUSDP12-2K | SUSDP12-3A | SUSDP13 | SUSDP14 | SUSDP15 | SUSDP15 | SUSDP16 | SUSDP17 | SUSDP18 | SUSDP18 | SUSDP19 | SUSDP19 | SUSDP19-1A | SUSDP19-1B | SUSDP19-1C | SUSDP19-1C | SUSDP19-1D | SUSDP19-1G | SUSDP19-1H | SUSDP19-2D | SUSDP19-2D | SUSDP19-2M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS121G00N2 | SUS122K00N | SUS123A00N | SUS1300N | SUS1400N | SUS1500N | SUS15F00N | SUS1600N | SUS1700N | SUS1800N | SUS18F00N | SUS1900N | SUS19F00N | SUS191A00N | SUS191B00N | SUS191C00N | SUS191C00R | SUS191D00N | SUS191G00N | SUS191H00N | SUS192D00N | SUS192D00R | SUS192M00N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.17 - 1 ft | 0.17 - 1 ft | 0 - 1 ft | 0.5 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.83 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 8/11/2017 | 1/30/2018 | 2/1/2018 | 2/5/2013 | 2/6/2013 | 2/6/2013 | 1/30/2017 | 2/6/2013 | 2/6/2013 | 2/6/2013 | 1/26/2017 | 2/6/2013 | 1/30/2017 | 2/1/2017 | 2/1/2017 | 1/27/2017 | 1/27/2017 | 8/22/2017 | 2/1/2017 | 2/1/2017 | 3/22/2017 | 3/22/2017 | 3/23/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | FD | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | < 190 U | < 370 U | | < 950 U | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | < 190 U | < 370 U | | < 950 U | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | < 190 U | < 370 U | | < 950 U | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | < 190 U | < 370 U | | < 950 U | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | 70 | 9.5 | 51 | 17 J | 57 | 46 | 35 J | 2.9 J | 1.4 J | 5.0 J | 3.1 J | 230 | 81 | 23 J | 4.2 J | 130 | 66 J | 160 J | 320 | 52 | 89 J | 150 | 55 J |
| Acenaphthylene | ug/kg | 4.5e+006 | | 150 | 21 | 48 | 29 J | 31 J | 33 J | 27 J | 2.0 J | < 7.5 U | 7.2 J | 3.6 J | 150 | 58 J | 34 J | 7.6 J | 68 J | 81 | 280 | 110 | 15 J | 64 J | 200 J | 39 J |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | 3.5 J | 47 J | | < 180 U | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | 310 | 45 | 150 J+ | 84 | 160 | 160 | 120 | 5.5 J | 3.4 J | 12 J | 10 | 720 | 230 | 99 | 5.5 J | 420 J+ | 300 J+ | 660 | 1100 | 190 | 330 | 680 | 160 |
| Atrazine | ug/kg | 10000 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | 19 J | < 73 UJ | | < 180 UJ | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | 1000 | 130 | 260 J+ | 440 | 680 J | 550 J | 360 | 37 | 12 | 80 | 65 | 2900 J | 1000 | 380 | 60 | 1800 J+ | 1700 J+ | 2300 | 4200 | 780 | 1300 J | 2700 J | 640 |
| Benzo(a)pyrene | ug/kg | 2100 | | 820 | 130 | 220 J+ | 500 J | 700 | 440 J | 320 | 41 | 11 | 87 J | 54 | 2800 J | 1000 | 430 | 67 | 1800 J+ | 1700 J+ | 2300 | 3800 | 670 | 1200 J | 2300 J | 610 |
| Benzo(b)fluoranthene | ug/kg | 21000 | | 1400 | 190 | 530 J+ | 650 J | 820 | 540 J | 420 | 50 | 15 | 150 J | 76 | 3300 J | 1400 | 490 | 74 | 2600 J+ | 2100 J+ | 2800 | 4700 | 920 | 1600 J | 2900 J | 730 |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | 810 | 110 | 220 J+ | 340 J | 570 | 380 J | 250 | 40 | 13 | 90 J | 43 | 2100 J | 900 | 420 | 52 | 1500 J+ | 1300 J+ | 2500 | 2700 | 570 | 1100 J | 2100 J | 560 |
| Benzo(k)fluoranthene | ug/kg | 210000 | | 350 | 71 | 180 J | 200 J | 290 | 310 J | 160 | 21 | 7.8 | 36 J | 36 | 1100 J | 460 | 220 | 30 J | 880 J+ | 920 J+ | 860 | 1900 | 280 | 500 J | 1200 J | 330 |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | < 7.5 U | < 15 U | | < 37 U | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | 12 J | 16 J | | 34 J | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | 15 J | < 73 U | | < 180 U | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | < 190 U | < 370 U | | < 950 U | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | < 7.5 U | 8.2 J | | 260 | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | 1100 | 130 | 430 | 500 | 670 J | 590 J | 360 | 49 | 25 | 190 | 66 | 2800 J | 1100 | 390 | 60 | 1800 J+ | 1700 J+ | 2300 | 3900 | 810 | 1300 J | 2600 J | 630 |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | 250 | 36 | 63 | 95 J | 150 | 90 J | 68 | 9.5 | 2.9 J | 25 J | 9.7 | 690 J | 240 | 90 | 14 J | 360 J+ | 340 J+ | 610 | 710 | 130 | 280 | 560 | 140 |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | 4.1 J | < 73 U | | 120 J | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | 8.2 J | 19 J | | < 180 U | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | 5.6 J | < 73 U | | < 180 U | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | 2100 | 260 | 800 J+ | 700 | 1400 J | 1500 | 650 | 67 | 27 | 200 | 110 | 6200 | 1800 | 460 | 64 | 3200 | 2700 | 4300 | 7700 | 1400 | 2500 J | 5100 J | 1200 |
| Fluorene | ug/kg | 3e+006 | | 46 | 7.1 J | 49 J+ | 13 J | 45 | 55 | 38 | 2.1 J | 1.5 J | 4.8 J | 2.6 J | 220 | 84 | 25 J | 4.7 J | 110 | 60 J | 160 J | 350 | 56 | 77 J | 170 | 55 J |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | < 7.5 U | < 15 U | | < 37 U | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | < 7.5 U | < 15 U | | < 37 U | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | 750 | 100 | 220 J+ | 310 J | 490 | 340 J | 230 | 33 | 9.8 | 74 J | 38 | 1900 J | 770 | 330 | 40 | 1200 J+ | 1200 J+ | 2000 | 2500 | 420 | 960 J | 1900 J | 480 |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | 140 | 18 | 220 | 26 J | 28 J | 67 | 40 | 4.3 J | 6.2 J | 16 | 3.5 J | 56 | 46 J | 21 J | 6.6 J | 40 J | 26 J | < 230 U | 74 J | 41 | < 140 U | 68 J | 31 J |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | < 75 U | < 150 U | | < 370 U | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | < 7.5 U | < 15 U | | < 37 U | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | < 37 U | < 73 U | | < 180 U | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | 720 | 130 | 570 J+ | 270 | 610 J | 540 | 410 | 35 | 20 | 80 | 42 | 2600 | 810 | 310 | 31 J | 1600 J+ | 1200 J+ | 2000 | 4000 | 640 | 1300 J | 2300 J | 500 |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | < 7.5 U | 8.7 J | | 16 J | | | | | < 380 U | < 350 U | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | 1400 | 190 | 460 J+ | 480 | 910 J | 870 J | 560 | 48 | 17 | 130 | 85 | 3600 J | 1700 | 710 | 85 | 2600 J+ | 2000 J+ | 3200 | 6500 | 1200 | 1900 J | 3800 J | 920 |
| BaP-TE | ug/kg | 2100 | | 1390 | 209 | 386 | 738 | 1050 | 677 | 491 | 62.8 | 17.7 | 143 | 82.0 | 4310 | 1560 | 643 | 98.8 | 2730 | 2550 | 3630 | 5670 | 1020 | 1870 | 3620 | 939 |
| Total High-molecular-weight PAHs | ug/kg | | | 10000 | 1300 | 3400 | 4200 | 6700 | 5600 | 3400 | 400 | 140 | 1100 | 580 | 27000 | 10000 | 3900 | 550 | 18000 | 16000 | 23000 | 39000 | 7200 | 13000 | 25000 | 6200 |
| Total Low-molecular-weight PAHs | ug/kg | | | 1400 | 230 | 1100 | 440 | 930 | 900 | 670 | 52 | 33 | 130 | 65 | 4000 | 1300 | 510 | 60 | 2400 | 1700 | 3300 | 6000 | 990 | 1900 | 3600 | 840 |
| Total PAHs (sum 16) | ug/kg | | | 11000 | 1600 | 4500 | 4700 | 7600 | 6500 | 4000 | 450 | 170 | 1200 | 650 | 31000 | 12000 | 4400 | 610 | 20000 | 17000 | 26000 | 45000 | 8200 | 15000 | 29000 | 7100 |

**Table 4-2**
**Surface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-2N | SUSDP19-2O | SUSDP19-2P | SUSDP19-3S | SUSDP19-3V | SUSDP19-4N | SUSDP19-4NW | SUSDP19-4W | SUSDP19-5N | SUSDP19-5NW | SUSDP19-5W | SUSDP19-6N | SUSDP19-6NW | SUSDP19-6W | SUSDP19-7N | SUSDP19-7NW | SUSDP19-7W | SUSDP20 | SUSDP20 | SUSDP21 | SUSDP21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS192N00N | SUS192O00N | SUS192P00N | SUS193S00N | SUS193V00N | SUS194N00N | SUS194NW00N | SUS194W00N | SUS195N00N | SUS195NW00N | SUS195W00N | SUS196N00N | SUS196NW00N | SUS196W00N | SUS197N00N | SUS197NW00N | SUS197W00N | SUS2000N | SUS20F00N | SUS2100N | SUS21F00N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.42 - 1 ft | 0 - 1 ft | 1 - 1.75 ft | 0 - 1 ft |
| | | | Sample Date | 3/23/2017 | 3/23/2017 | 3/23/2017 | 8/24/2017 | 8/24/2017 | 1/26/2018 | 2/1/2018 | 2/1/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 3/15/2018 | 3/15/2018 | 3/16/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 2/7/2013 | 1/27/2017 | 2/7/2013 | 1/27/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | | | | | |
| TPH (C9-C44) | mg/kg | | | | | | | | | | | | | | | | | | | | | **47.8** | | **685** |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | < 94 U | | **80 J** | |
| Diesel Range Organics (C10-C28) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | | **230 J** | | **340 J** | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | | | | < 100 UJ | | < 90 UJ | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | | | | < 4.8 UJ | | < 4.4 UJ | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | | | | R | | R | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | | | | < 19 UJ | | **7.6 J** | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | | | | < 4.8 UJ | | < 4.4 UJ | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | | | | < 4.8 UJ | | < 4.4 UJ | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | | | | < 4.8 UJ | | < 4.4 UJ | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | | | | < 9.5 U | | < 8.7 U | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | | | | < 4.8 UJ | | < 4.4 UJ | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | | | | < 4.8 U | | **0.75 J** | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | | | | < 4.8 U | | < 4.4 U | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | < 9.5 U | | < 8.7 U | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | | | | |

**Table 4-2**
**Surface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-2N | SUSDP19-2O | SUSDP19-2P | SUSDP19-3S | SUSDP19-3V | SUSDP19-4N | SUSDP19-4NW | SUSDP19-4W | SUSDP19-5N | SUSDP19-5NW | SUSDP19-5W | SUSDP19-6N | SUSDP19-6NW | SUSDP19-6W | SUSDP19-7N | SUSDP19-7NW | SUSDP19-7W | SUSDP20 | SUSDP20 | SUSDP21 | SUSDP21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS192N00N | SUS192O00N | SUS192P00N | SUS193S00N | SUS193V00N | SUS194N00N | SUS194NW00N | SUS194W00N | SUS195N00N | SUS195NW00N | SUS195W00N | SUS196N00N | SUS196NW00N | SUS196W00N | SUS197N00N | SUS197NW00N | SUS197W00N | SUS2000N | SUS20F00N | SUS2100N | SUS21F00N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.42 - 1 ft | 0 - 1 ft | 1 - 1.75 ft | 0 - 1 ft |
| | | | Sample Date | 3/23/2017 | 3/23/2017 | 3/23/2017 | 8/24/2017 | 8/24/2017 | 1/26/2018 | 2/1/2018 | 2/1/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 3/15/2018 | 3/15/2018 | 3/16/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 2/7/2013 | 1/27/2017 | 2/7/2013 | 1/27/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | **42 J** | **3.4 J** | **84** | **20 J** | < 70 U | < 7.2 U | < 7.1 U | < 75 U | **56** | < 28 U | < 77 U | **2700** | < 160 U | < 7.2 U | **230** | **66** | **2.9 J** | < 38 U | **1.6 J** | **260** | **150** |
| Acenaphthylene | ug/kg | 4.5e+006 | | **43 J** | **1.2 J** | **44** | **110** | < 70 U | < 7.2 U | **28** | **33 J** | **17** | < 28 U | < 77 U | **190** | < 160 U | < 7.2 U | **53 J** | **81** | < 7.0 U | **22 J** | **2.4 J** | **48 J** | **41** |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | < 360 U | **6.3 J** | **330** | **120** | < 70 U | < 7.2 U | **50** | **62 J** | **90** | **34 J+** | **66 J** | **8400** | < 160 U | < 7.2 U | **660** | **320** | **8.1** | **44** | **4.2 J** | **780 J** | **500** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **130 J** | **27** | **1000** | **250** | < 70 U | **5.9 J** | **46** | **210** | **170** | **180 J+** | **230** | **14000** | < 160 U | **2.7 J** | **1900** | **900** | **34** | **110** | **19** | **1900 J** | **2000** |
| Benzo(a)pyrene | ug/kg | 2100 | | **130 J** | **29** | **1000** | **310** | < 70 U | **6.6 J** | **140** | **200** | **150** | **180 J+** | **220** | **11000** | < 160 U | **2.2 J** | **1600** | **1100** | **31** | **80** | **23** | **1600 J** | **1700** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **140 J** | **36** | **1300** | **340** | < 70 U | **9.6** | **280** | **280** | **220** | **260 J+** | **300** | **12000** | < 160 U | **3.9 J** | **2000** | **1400** | **37** | **200** | **46** | **1900 J** | **2100** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **190 J** | **27** | **970** | **360** | < 70 U | **5.9 J** | **64** | **170** | **120** | **190 J+** | **210** | **7500** | < 160 U | **2.6 J** | **1200** | **1100** | **31** | **110** | **25** | **1200 J** | **1500** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | < 360 U | **19** | **480** | **140** | < 70 U | **3.0 J** | **44** | **92** | **63** | **89 J+** | **120** | **5500** | < 160 U | < 7.2 U | **760** | **520** | **16** | **55** | **14** | **770 J** | **760** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **140 J** | **31** | **1100** | **280** | < 70 U | **5.8 J** | **130** | **200** | **150** | **160 J+** | **240** | **12000** | < 160 U | **3.1 J** | **1900** | **1400** | **32** | **220** | **34** | **1800 J** | **1900** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | < 360 U | **6.9 J** | **240** | **91** | < 70 U | < 7.2 U | **23** | **72 J** | **34** | **59 J+** | **84** | **2200** | < 160 U | < 7.2 U | **380** | **290** | **7.6** | **35 J** | **7.0 J** | **350 J** | **340** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **210 J** | **52** | **2000** | **440** | < 70 U | **9.3** | **120** | **370** | **410** | **270 J+** | **350** | **29000** | < 160 U | **3.9 J** | **3200** | **1700** | **54** | **200** | **31** | **5000** | **2900** |
| Fluorene | ug/kg | 3e+006 | | < 360 U | **2.2 J** | **93** | **25 J** | < 70 U | < 7.2 U | **5.4 J** | **32 J** | **65** | < 28 U | < 77 U | **2800** | < 160 U | < 7.2 U | **210** | **58** | **2.2 J** | **24 J** | **1.8 J** | **300 J** | **120** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **120 J** | **23** | **790** | **300** | < 70 U | **7.1 J** | **66** | **170** | **110** | **170 J+** | **170** | **7100** | < 160 U | **2.1 J** | **1100** | **900** | **23** | **85** | **20** | **1100 J** | **1300** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | < 360 U | **3.9 J** | **30 J** | **20 J** | < 70 U | < 7.2 U | < 7.1 U | < 75 U | **11** | < 28 U | < 77 U | **410** | < 160 U | < 7.2 U | **47 J** | **61** | **1.6 J** | **67** | **6.1 J** | **73** | **96** |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **79 J** | **22** | **950** | **160** | < 70 U | **5.7 J** | **12** | **170** | **180** | **110 J+** | **200** | **26000** | < 160 U | **3.0 J** | **2400** | **770** | **35** | **260** | **28** | **3600** | **1800** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **140 J** | **41** | **1600** | **340** | < 70 U | **9.8** | **960** | **290** | **290** | **330 J+** | **420** | **20000** | < 160 U | **3.6 J** | **3800** | **1600** | **62** | **160** | **37** | **2900 J** | **2900** |
| BaP-TE | ug/kg | 2100 | | **169** | **44.7** | **1550** | **492** | < 70.0 U | **8.90** | **203** | **339** | **235** | **301** | **375** | **16600** | < 160 U | **3.07** | **2490** | **1720** | **48.2** | **155** | **38.7** | **2450** | **2590** |
| Total High-molecular-weight PAHs | ug/kg | | | **1200** | **290** | **10000** | **2900** | < 70 U | **63** | **1900** | **2100** | **1700** | **1900** | **2300** | **120000** | < 160 U | **24** | **18000** | **11000** | **330** | **1300** | **260** | **19000** | **17000** |
| Total Low-molecular-weight PAHs | ug/kg | | | **160** | **39** | **1500** | **460** | < 70 U | **5.7** | **95** | **300** | **420** | **140** | **270** | **41000** | < 160 U | **3.0** | **3600** | **1400** | **50** | **420** | **44** | **5100** | **2700** |
| Total PAHs (sum 16) | ug/kg | | | **1400** | **330** | **12000** | **3300** | < 70 U | **69** | **2000** | **2400** | **2100** | **2000** | **2600** | **160000** | < 160 U | **27** | **21000** | **12000** | **380** | **1700** | **300** | **24000** | **20000** |

**Table 4-2**
**Surface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | | | SUSDP21-1C | SUSDP21-3G | SUSDP21-3M | SUSDP21-3Q | SUSDP21-5W | SUSDP21-6W | SUSDP22 | SUSDP23 | SUSDP24 | SUSDP37 | SUSDP39 | SUSDP41 | SUSDP43 | SUSDP43-2J | SUSDP43-2M | SUSDP43-3P | SUSDP43-3T | SUSDP43-4SW | SUSDP43-5NW | SUSDP44 | SUSDP48 | SUSDP48 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | | | SUS211C00N2 | SUS213G00N | SUS213M00N | SUS213Q00N | SUS215W00N | SUS216W00N | SUS2200N | SUS2300N | SUS2400N | SUS37F00N | SUS39F00N | SUS41F00N | SUS43F00N | SUS432J00N | SUS432M00N | SUS433P00N | SUS433T00N | SUS434SW00N | SUS435NW00N | SUS44F00N | SUS4800N | SUS4800R |
| Depth | | | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.5 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 1.5 - 2.5 ft | 0 - 1 ft | 0 - 1 ft |
| Sample Date | | | 8/24/2017 | 8/28/2017 | 8/28/2017 | 8/24/2017 | 1/26/2018 | 2/21/2018 | 6/13/2013 | 2/7/2013 | 2/7/2013 | 1/25/2017 | 1/25/2017 | 1/24/2017 | 1/26/2017 | 8/8/2017 | 8/9/2017 | 1/30/2018 | 1/30/2018 | 2/23/2018 | 3/15/2018 | 1/27/2017 | 1/26/2017 | 1/26/2017 |
| Type | | | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | FD |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | | | | | |
| TPH (C9-C44) | mg/kg | | | | | | | | | | | **189** | **2000** | **914** | **13400** | | | | | | | **362** | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | < 18 U | < 18 U | < 97 U | | | | | | | | | | | | **34** | **25** |
| Diesel Range Organics (C10-C28) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | | | **140** | **100** |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | **69** | **26 J** | **240 J** | | | | | | | | | | | | **200** | **180** |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | < 120 U | < 88 UJ | < 110 UJ | | | | | | | | | | | | < 120 U | < 120 U |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | < 3.9 U | < 4.1 UJ | < 5.1 UJ | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | < 780 U | R | R | | | | | | | | | | | | R | R |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | R | R |
| 2-Hexanone | ug/kg | 130000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Acetone | ug/kg | 6.7e+007 | | | | | | | **14 J** | < 16 UJ | < 21 UJ | | | | | | | | | | | | R | R |
| Benzene | ug/kg | 5100 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Bromochloromethane | ug/kg | 63000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Bromoform | ug/kg | 86000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Bromomethane | ug/kg | 3000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | R | R |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | < 3.9 U | < 4.1 UJ | < 5.1 UJ | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Chlorobenzene | ug/kg | 130000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | < 3.9 U | < 4.1 UJ | < 5.1 UJ | | | | | | | | | | | | R | R |
| Chloroform | ug/kg | 1400 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Chloromethane | ug/kg | 46000 | | | | | | | < 3.9 U | < 4.1 UJ | < 5.1 UJ | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Ethylbenzene | ug/kg | 25000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| m, p-Xylene | ug/kg | 240000 | | | | | | | < 7.8 U | **1.3 J** | < 10 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 22 U | < 23 U |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Methylene Chloride | ug/kg | 320000 | | | | | | | < 3.9 U | < 4.1 UJ | < 5.1 UJ | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| o-Xylene | ug/kg | 280000 | | | | | | | < 3.9 U | **0.96 J** | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Styrene | ug/kg | 3.5e+006 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Toluene | ug/kg | 4.7e+006 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Trichloroethene | ug/kg | 1900 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | < 3.9 U | < 4.1 U | < 5.1 U | | | | | | | | | | | | < 4.4 U | < 4.7 U |
| Xylenes (total) | ug/kg | 250000 | | | | | | | < 7.8 U | **2.3** | < 10 U | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | | | | |

**Table 4-2**
**Surface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP21-1C | SUSDP21-3G | SUSDP21-3M | SUSDP21-3Q | SUSDP21-5W | SUSDP21-6W | SUSDP22 | SUSDP23 | SUSDP24 | SUSDP37 | SUSDP39 | SUSDP41 | SUSDP43 | SUSDP43-2J | SUSDP43-2M | SUSDP43-3P | SUSDP43-3T | SUSDP43-4SW | SUSDP43-5NW | SUSDP44 | SUSDP48 | SUSDP48 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS211C00N2 | SUS213G00N | SUS213M00N | SUS213Q00N | SUS215W00N | SUS216W00N | SUS2200N | SUS2300N | SUS2400N | SUS37F00N | SUS39F00N | SUS41F00N | SUS43F00N | SUS432J00N | SUS432M00N | SUS433P00N | SUS433T00N | SUS434SW00N | SUS435NW00N | SUS44F00N | SUS4800N | SUS4800R |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.5 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 1.5 - 2.5 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 8/24/2017 | 8/28/2017 | 8/28/2017 | 8/24/2017 | 1/26/2018 | 2/21/2018 | 6/13/2013 | 2/7/2013 | 2/7/2013 | 1/25/2017 | 1/25/2017 | 1/24/2017 | 1/26/2017 | 8/8/2017 | 8/9/2017 | 1/30/2018 | 1/30/2018 | 2/23/2018 | 3/15/2018 | 1/27/2017 | 1/26/2017 | 1/26/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | FD |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | < 68 U | < 370 U | **110** | < 7.7 U | < 7.0 U | < 35 U | **92** | < 36 U | **99** | **210** | **79** | **52 J** | **26 J** | **230** | **270** | **10** | **93 J** | **15** | < 140 U | **41** | **15 J** | **26 J** |
| Acenaphthylene | ug/kg | 4.5e+006 | | < 68 U | < 370 U | **42 J** | < 7.7 U | **7.8** | < 35 U | **96** | < 36 U | **870** | **370** | **23 J** | **51 J** | **48 J** | **140** | **130** | **26** | **970** | **25** | < 140 U | **7.9 J** | **11 J** | **17 J** |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | < 68 U | < 370 U | **360** | < 7.7 U | **15** | < 35 U | **300** | < 36 U | **1000** | **1100** | **160** | **140** | **93** | **720** | **690 J** | **54** | **1100** | **75** | < 140 U | **200** | **53** | **75 J** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | < 68 U | **140 J** | **1800** | **3.3 J** | **66** | **35** | **770** | < 36 U | **1800** | **2600** | **870** | **480** | **340** | **2000** | **2200 J** | **140** | **2500** | **180** | < 140 U | **850** | **210** | **310** |
| Benzo(a)pyrene | ug/kg | 2100 | | < 68 U | < 370 U | **1600** | < 7.7 U | **68** | **37** | **690** | < 36 U | **1400 J** | **1300** | **470** | **460** | **380** | **1900** | **2000 J+** | **130** | **2500** | **170** | < 140 U | **840** | **190** | **320** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | < 68 U | **690** | **2100** | **3.8 J** | **91** | **53** | **770** | < 36 U | **3200 J** | **2200** | **750** | **640** | **460** | **2900** | **2800 J-** | **180** | **5000** | **300** | < 140 U | **1000 J-** | **280** | **430** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | < 68 U | **500** | **1700** | **3.4 J** | **70** | **34 J** | **590** | < 36 U | **1400 J** | **720** | **350** | **430** | **370** | **1600** | **1500 J+** | **120** | **2200** | **170** | < 140 U | **490 J+** | **160** | **290** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | < 68 U | **150 J** | **790** | < 7.7 U | **34** | **15 J** | **320** | < 36 U | **1700 J** | **610** | **310** | **220** | **300** | **830** | **480 J+** | **100** | **1300** | **110** | < 140 U | **360** | **70** | **170** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | < 68 U | **200 J** | **1900** | **3.8 J** | **59** | **38** | **790** | < 36 U | **3200** | **2500** | **920** | **530** | **410** | **1900** | **2100 J+** | **140** | **2500** | **210** | < 140 U | **880 J-** | **220** | **330** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | < 68 U | < 370 U | **450** | < 7.7 U | **21** | **27 J** | **150** | < 36 U | **400 J** | **310** | **120** | **130** | < 70 U | **350** | **280** | **25** | **510** | **53** | < 140 U | **160** | **26 J** | **67 J** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | < 68 U | < 370 U | **3500** | **4.2 J** | **77** | **68 J+** | **1600** | **8.2 J** | **10000** | **5500** | **2800** | **820** | **620** | **3700** | **4500** | **270** | **3300** | **370** | < 140 U | **1300 J-** | **290** | **470** |
| Fluorene | ug/kg | 3e+006 | | < 68 U | < 370 U | **110** | < 7.7 U | < 7.0 U | < 35 U | **70** | < 36 U | **150** | **390** | **29 J** | **48 J** | **31 J** | **180** | **180** | **7.0 J** | **130 J** | **17** | < 140 U | **44** | **16 J** | **23 J** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | < 68 U | **440** | **1400** | < 7.7 U | **58** | **42** | **500** | < 36 U | **1300 J** | **780** | **330** | **370** | **280** | **1500** | **1300 J+** | **110** | **2000** | **160** | < 140 U | **440** | **130** | **240** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | < 68 U | < 370 U | **28 J** | < 7.7 U | **2.9 J** | < 35 U | **66** | < 36 U | **53** | **630** | **55** | **59** | **43 J** | **140** | **320** | **8.4** | **270** | **55** | < 140 U | **32 J** | **25 J** | **41 J** |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | < 68 U | < 370 U | **2200** | < 7.7 U | **36** | **31 J** | **630** | **7.6 J** | **2700** | **5700** | **500** | **440** | **320** | **2400** | **2600 J** | **120** | **890** | **260** | < 140 U | **770** | **180** | **250** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | < 68 U | **210 J** | **3500** | **4.2 J** | **94** | **51** | **1100** | **7.9 J** | **4900** | **3800** | **1800** | **680** | **510** | **3200** | **3800** | **200** | **3000** | **240** | < 140 U | **1100** | **330** | **350** |
| BaP-TE | ug/kg | 2100 | | < 68.0 U | **129** | **2590** | **0.714** | **111** | **77.2** | **1050** | < 36.0 U | **2450** | **2180** | **789** | **742** | **491** | **2900** | **2920** | **199** | **3980** | **288** | < 140 U | **1230** | **279** | **487** |
| Total High-molecular-weight PAHs | ug/kg | | | < 68 U | **2300** | **19000** | **23** | **640** | **400** | **7300** | **16** | **29000** | **20000** | **8700** | **4800** | **3700** | **20000** | **21000** | **1400** | **25000** | **2000** | < 140 U | **7400** | **1900** | **3000** |
| Total Low-molecular-weight PAHs | ug/kg | | | < 68 U | < 370 U | **2900** | < 7.7 U | **62** | **31** | **1300** | **7.6** | **4900** | **8400** | **850** | **790** | **560** | **3800** | **4200** | **230** | **3500** | **450** | < 140 U | **1100** | **300** | **430** |
| Total PAHs (sum 16) | ug/kg | | | < 68 U | **2300** | **22000** | **23** | **700** | **430** | **8500** | **24** | **34000** | **29000** | **9600** | **5600** | **4200** | **24000** | **25000** | **1600** | **28000** | **2400** | < 140 U | **8500** | **2200** | **3400** |

**Table 4-2**
**Surface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP48 | SUSDP49 | SUSDP50 | SUSDP50-2A | SUSDP50-3A | SUSDP51 | SUSDP51 | SUSDP52 | SUSDP53 | SUSDPCT16-2E | SUSDPCT16-2I | SUSDPCT16-2M | SUSDPCT16-3R | SUSDPCT16-3S | SUSDPCT16-4W | SUSDPGD21-I1 | SUSDPGD21-I2 | SUSDPGD21-J1 | SUSDPGD21-J2 | SUSDPGD21-K1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS48F00N | SUS4900N | SUS5000N | SUS502A00N | SUS503A00N | SUS5100N | SUS51F00N | SUS5200N | SUS53F00N | SUSCT162E00N | SUSCT162I00N | SUSCT162M00N | SUSCT163R00N | SUSCT163S00N | SUSCT164W00N | SUSGD21I100N | SUSGD21I200N | SUSGD21J100N | SUSGD21J200N | SUSGD21K100N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 1/26/2017 | 1/26/2017 | 1/26/2017 | 8/8/2017 | 1/30/2018 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/31/2017 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 5/31/2018 | 3/15/2018 | 4/6/2018 | 2/20/2018 | 2/20/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | | | | |
| TPH (C9-C44) | mg/kg | | | **175** | | | | | **80.3** | | | **488** | **1380** | **274** | **199** | | **531** | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | < 99 U | **2900 J+** | **3400** | **20** | < 19 U | | < 18 U | | | | | **67 J** | | **36** | | | | | |
| Diesel Range Organics (C10-C28) | mg/kg | 440 | | | **350** | **5200 J+** | | | **43** | | < 18 U | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | **460** | **2500 J+** | **3500** | **110** | **60** | | < 18 U | | | | | **440** | | **110** | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | < 120 U | < 100 U | | | < 120 U | | < 110 U | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | R | R | | | R | | R | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | R | R | | | R | | R | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | **12 J+** | R | | | R | | R | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | R | R | | | R | | R | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | R | R | | | R | | R | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | < 23 U | < 24 U | | | < 22 U | | < 20 U | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | < 4.5 U | < 4.9 U | | | < 4.4 U | | < 4.0 U | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | | | |

**Table 4-2**
**Surface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP48 | SUSDP49 | SUSDP50 | SUSDP50-2A | SUSDP50-3A | SUSDP51 | SUSDP51 | SUSDP52 | SUSDP53 | SUSDPCT16-2E | SUSDPCT16-2I | SUSDPCT16-2M | SUSDPCT16-3R | SUSDPCT16-3S | SUSDPCT16-4W | SUSDPGD21-I1 | SUSDPGD21-I2 | SUSDPGD21-J1 | SUSDPGD21-J2 | SUSDPGD21-K1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS48F00N | SUS4900N | SUS5000N | SUS502A00N | SUS503A00N | SUS5100N | SUS51F00N | SUS5200N | SUS53F00N | SUSCT162E00N | SUSCT162I00N | SUSCT162M00N | SUSCT163R00N | SUSCT163S00N | SUSCT164W00N | SUSGD21I100N | SUSGD21I200N | SUSGD21J100N | SUSGD21J200N | SUSGD21K100N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 1/26/2017 | 1/26/2017 | 1/26/2017 | 8/8/2017 | 1/30/2018 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/31/2017 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 5/31/2018 | 3/15/2018 | 4/6/2018 | 2/20/2018 | 2/20/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | **16 J** | **41** | < 6.9 U | | | **3.4 J** | **18 J** | < 7.1 U | **4.0 J** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| Acenaphthylene | ug/kg | 4.5e+006 | | **18 J** | **17 J** | < 6.9 U | | | **2.1 J** | **16 J** | < 7.1 U | **69** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **64 J** | **88** | < 6.9 U | | | **10** | **65** | < 7.1 U | **49** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **220** | **320** | **62 J+** | | | **47** | **240** | < 7.1 U | **210** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| Benzo(a)pyrene | ug/kg | 2100 | | **260** | **260** | **30 J+** | | | **51** | **280** | < 7.1 U | **350** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **320** | **370** | **72 J+** | | | **80** | **360** | < 7.1 U | **410** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **240** | **190** | **33 J+** | | | **41** | **210** | < 7.1 U | **200** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **140** | **140** | **27 J+** | | | **32** | **140** | < 7.1 U | **130** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **260** | **350** | **86 J+** | | | **49** | **250** | < 7.1 U | **220** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **65 J** | **45** | **11 J+** | | | **13** | **50** | < 7.1 U | **70** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **360** | **480** | **100 J+** | | | **56** | **380** | < 7.1 U | **150** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| Fluorene | ug/kg | 3e+006 | | **17 J** | **44** | < 6.9 U | | | **4.0 J** | **24 J** | < 7.1 U | **10 J** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **190** | **210** | **28 J+** | | | **39** | **180** | < 7.1 U | **200** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **23 J** | **66** | **36 J+** | | | **5.2 J** | **24 J** | < 7.1 U | **13 J** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **190** | **350** | < 6.9 U | | | **35** | **150** | < 7.1 U | **59** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **350** | **530** | **130 J+** | | | **56** | **320** | **0.97 J** | **310** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7.0 U |
| BaP-TE | ug/kg | 2100 | | **400** | **397** | **57.6** | | | **81.0** | **410** | < 7.10 U | **504** | | | | | | | < 6.90 U | < 6.90 U | < 14.0 U | < 6.90 U | < 7.00 U |
| Total High-molecular-weight PAHs | ug/kg | | | **2400** | **2900** | **580** | | | **460** | **2400** | **0.97** | **2300** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7 U |
| Total Low-molecular-weight PAHs | ug/kg | | | **330** | **610** | **36** | | | **60** | **300** | < 7.1 U | **200** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7 U |
| Total PAHs (sum 16) | ug/kg | | | **2700** | **3500** | **620** | | | **520** | **2700** | **0.97** | **2500** | | | | | | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | < 7 U |

**Table 4-2**
**Surface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SUSDPGD21-K1.5 | SUSDPGD21-K2 | SUSDPGD21-L1 | SUSDPGD21-L2 | SUSDPGD21-M1 | SUSDPGD21-M2 | SUSDPGD21-N1 | SUSDPGD21-N2 | SUSDPGD21-P1 | SUSDPGD21-R1 | SUSDPGD21-R2 |
| | | | Sample ID | SUSGD21K1.500N | SUSGD21K200N | SUSGD21L100N | SUSGD21L200N | SUSGD21M100N | SUSGD21M200N | SUSGD21N100N | SUSGD21N200N | SUSGD21P100N | SUSGD21R100N | SUSGD21R200N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 1/26/2018 | 1/24/2018 | 2/20/2018 | 2/20/2018 | 3/14/2018 | 3/14/2018 | 4/4/2018 | 4/4/2018 | 5/30/2018 | 1/23/2018 | 1/23/2018 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | |
| TPH (C9-C44) | mg/kg | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | |
| Diesel Range Organics (C10-C28) | mg/kg | 440 | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | |

**Table 4-2**
**Surface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPGD21-K1.5 | SUSDPGD21-K2 | SUSDPGD21-L1 | SUSDPGD21-L2 | SUSDPGD21-M1 | SUSDPGD21-M2 | SUSDPGD21-N1 | SUSDPGD21-N2 | SUSDPGD21-P1 | SUSDPGD21-R1 | SUSDPGD21-R2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUSGD21K1.500N | SUSGD21K200N | SUSGD21L100N | SUSGD21L200N | SUSGD21M100N | SUSGD21M200N | SUSGD21N100N | SUSGD21N200N | SUSGD21P100N | SUSGD21R100N | SUSGD21R200N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 1/26/2018 | 1/24/2018 | 2/20/2018 | 2/20/2018 | 3/14/2018 | 3/14/2018 | 4/4/2018 | 4/4/2018 | 5/30/2018 | 1/23/2018 | 1/23/2018 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | **22 J** | < 14 U | < 69 U | < 7.0 U | < 21 U | **52 J** | < 7.0 U |
| Acenaphthylene | ug/kg | 4.5e+006 | | < 6.9 U | < 6.9 U | **9.7 J** | < 6.9 U | **100** | < 14 U | < 69 U | < 7.0 U | < 21 U | **74** | < 7.0 U |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | < 6.9 U | < 6.9 U | **11 J** | < 6.9 U | **170** | < 14 U | < 69 U | < 7.0 U | < 21 U | **190** | < 7.0 U |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **3.7 J** | < 6.9 U | **38** | < 6.9 U | **550** | < 14 U | < 69 U | < 7.0 U | < 21 U | **730** | **7.2** |
| Benzo(a)pyrene | ug/kg | 2100 | | **2.9 J** | < 6.9 U | **49** | < 6.9 U | **600** | < 14 U | < 69 U | < 7.0 U | < 21 U | **720** | **6.9 J** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **4.4 J** | < 6.9 U | **72** | < 6.9 U | **820** | < 14 U | < 69 U | < 7.0 U | < 21 U | **840** | **8.1** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **5.1 J** | < 6.9 U | **58** | < 6.9 U | **640** | < 14 U | < 69 U | < 7.0 U | < 21 U | **510** | **6.1 J** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | < 6.9 U | < 6.9 U | **22** | < 6.9 U | **270** | < 14 U | < 69 U | < 7.0 U | < 21 U | **350** | **4.1 J** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **3.9 J** | < 6.9 U | **38** | < 6.9 U | **540** | < 14 U | < 69 U | < 7.0 U | < 21 U | **720** | **7.0** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | < 6.9 U | < 6.9 U | **19** | < 6.9 U | **200** | < 14 U | < 69 U | < 7.0 U | < 21 U | **150** | < 7.0 U |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **6.0 J** | < 6.9 U | **56** | < 6.9 U | **970** | < 14 U | < 69 U | < 7.0 U | < 21 U | **1400** | **12** |
| Fluorene | ug/kg | 3e+006 | | < 6.9 U | < 6.9 U | < 14 U | < 6.9 U | **29 J** | < 14 U | < 69 U | < 7.0 U | < 21 U | **53 J** | < 7.0 U |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **5.9 J** | < 6.9 U | **55** | < 6.9 U | **570** | < 14 U | < 69 U | < 7.0 U | < 21 U | **470** | **5.3 J** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | < 6.9 U | < 6.9 U | **5.4 J** | < 6.9 U | < 71 U | < 14 U | < 69 U | < 7.0 U | < 21 U | **26 J** | < 7.0 U |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **5.1 J** | < 6.9 U | **17** | < 6.9 U | **440** | < 14 U | < 69 U | < 7.0 U | < 21 U | **690** | **6.8 J** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **4.1 J** | < 6.9 U | **44** | < 6.9 U | **660** | < 14 U | < 69 U | < 7.0 U | < 21 U | **1200** | **11** |
| BaP-TE | ug/kg | 2100 | | **4.30** | < 6.90 U | **84.8** | < 6.90 U | **997** | < 14.0 U | < 69.0 U | < 7.00 U | < 21.0 U | **1080** | **9.01** |
| Total High-molecular-weight PAHs | ug/kg | | | **36** | < 6.9 U | **450** | < 6.9 U | **5800** | < 14 U | < 69 U | < 7 U | < 21 U | **7100** | **68** |
| Total Low-molecular-weight PAHs | ug/kg | | | **5.1** | < 6.9 U | **43** | < 6.9 U | **760** | < 14 U | < 69 U | < 7 U | < 21 U | **1100** | **6.8** |
| Total PAHs (sum 16) | ug/kg | | | **41** | < 6.9 U | **490** | < 6.9 U | **6600** | < 14 U | < 69 U | < 7 U | < 21 U | **8200** | **75** |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable
RSL Table, May 2018 Industrial Soil [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
JN = The analyte was tentatively identified; the associated numerical value is the
approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the
sample and meet quality control criteria. The presence or absence of the analyte cannot be
verified.
TPH = Total Petroleum Hydrocarbons
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram

**Table 4-3**
**Surface Soil Results**
**PCBs and Pesticides Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Location ID | SB2 | SUS05-1D | SUS05-1F | SUS061C | SUS061D | SUS061E | SUS061G | SUS08-1A | SUS08-1B | SUS08-1B | SUS08-1C |
| | | | | | | | | | | | | | Sample ID | SBS0200N | SUS05ID00N | SUS05IF00N | SUS061C00N | SUS061D00N | SUS061E00N | SUS061G00N | SUS081A00N | SUS081B00N | SUS081B00N2 | SUS081C00N |
| | | | | | | | | | | | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | | | | | | | | | | | Sample Date | 1/25/2017 | 1/24/2017 | 1/24/2017 | 3/13/2017 | 3/13/2017 | 3/13/2017 | 3/13/2017 | 1/24/2017 | 1/24/2017 | 2/3/2017 | 1/24/2017 |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | SW8081B LL | 72-54-8 | 1.9 | 0.11 | 0.65 | 0.45 | SUSDP19 | 10 | | 17 | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | SW8081B LL | 72-55-9 | 8.4 | 0.096 | 1.6 | 0.81 | SUSDP08 | 12 | | 17 | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | SW8081B LL | 50-29-3 | 83 | 0.79 | 19 | 8.2 | SUSDP18 | 8 | 1 | 17 | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | SW8081B LL | 309-00-2 | 5 | 0.2 | 1.9 | 0.49 | SUSDP10 | 3 | 1 | 17 | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | SW8081B LL | 319-84-6 | | | | | | | | 17 | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | SW8081B LL | 319-85-7 | 2.3 | 0.26 | 1.3 | 1.3 | SUSDP10 | 2 | | 17 | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | SW8081B LL | 5103-71-9 | 3.8 | 0.063 | 0.9 | 0.34 | SUSDP08 | 10 | | 17 | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | SW8081B LL | 319-86-8 | 7.5 | 0.65 | 4.1 | 4.1 | SUSDP10 | 2 | | 17 | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | SW8081B LL | 60-57-1 | 9.4 | 0.49 | 3.9 | 4 | SUSDP18 | 7 | | 17 | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | SW8081B LL | 959-98-8 | 1.4 | 1.1 | 1.2 | 1.2 | SUSDP08 | 3 | | 17 | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | SW8081B LL | 33213-65-9 | 15 | 0.33 | 4.8 | 2.7 | SUSDP18 | 5 | 1 | 17 | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | SW8081B LL | 1031-07-8 | 7.2 | 0.2 | 2.6 | 1.1 | SUSDP10 | 9 | 1 | 17 | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | SW8081B LL | 72-20-8 | 26 | 0.3 | 7.4 | 4.1 | SUSDP08 | 7 | 1 | 17 | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | SW8081B LL | 7421-93-4 | 0.34 | 0.34 | 0.34 | 0.34 | SUSDP11 | 1 | 1 | 17 | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | SW8081B LL | 53494-70-5 | 12 | 0.85 | 5 | 2.2 | SUS25 | 3 | 1 | 17 | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | SW8081B LL | 58-89-9 | 0.82 | 0.23 | 0.53 | 0.53 | SUSDP49 | 2 | | 17 | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | SW8081B LL | 76-44-8 | 2.9 | 0.026 | 1.5 | 1.5 | SUSDP10 | 2 | | 17 | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | SW8081B LL | 1024-57-3 | 22 | 0.3 | 5.3 | 1.4 | SUSDP49 | 12 | | 17 | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | SW8081B LL | 72-43-5 | 23 | 0.24 | 7.9 | 6.2 | SUSDP18 | 10 | 1 | 17 | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | SW8081B LL | 8001-35-2 | | | | | | | | 17 | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | SW8081B LL | 5103-74-2 | 15 | 0.36 | 5.7 | 3.3 | SUSDP11 | 6 | | 17 | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | SW8082A/SW8082A LL | 12674-11-2 | | | | | | | 1 | 208 | | < 4.4 U | < 5.1 U | < 4.9 U | < 0.94 U | < 8.7 U | < 0.89 U | < 0.97 U | < 4.9 U | < 5.0 U | < 2.4 U | < 5.0 U |
| Aroclor-1221 | ug/kg | | SW8082A/SW8082A LL | 11104-28-2 | | | | | | | 1 | 208 | | < 4.4 U | < 5.1 U | < 4.9 U | < 0.94 U | < 8.7 U | < 0.89 U | < 0.97 U | < 4.9 U | < 5.0 U | < 2.4 U | < 5.0 U |
| Aroclor-1232 | ug/kg | | SW8082A/SW8082A LL | 11141-16-5 | | | | | | | 1 | 208 | | < 4.4 U | < 5.1 U | < 4.9 U | < 0.94 U | < 8.7 U | < 0.89 U | < 0.97 U | < 4.9 U | < 5.0 U | < 2.4 U | < 5.0 U |
| Aroclor-1242 | ug/kg | | SW8082A/SW8082A LL | 53469-21-9 | 37000 | 18 | 3700 | 310 | SUSDP21-1C | 14 | 1 | 208 | | < 4.4 U | < 5.1 U | < 4.9 U | < 0.94 U | < 8.7 U | < 0.89 U | < 0.97 U | < 4.9 U | < 5.0 U | < 2.4 U | < 5.0 U |
| Aroclor-1248 | ug/kg | | SW8082A/SW8082A LL | 12672-29-6 | 8800000 | 2 | 230000 | 270 | SUSDP21-3G | 49 | 1 | 208 | | < 4.4 U | < 5.1 U | **280 J+** | < 0.94 U | < 8.7 U | **3.0 J+** | < 0.97 U | < 4.9 U | < 5.0 U | < 2.4 U | < 5.0 U |
| Aroclor-1254 | ug/kg | | SW8082A/SW8082A LL | 11097-69-1 | 7600 | 1.9 | 560 | 180 | SUSDPCT16-3R | 88 | | 208 | | < 4.4 U | < 5.1 U | **480 J+** | < 0.94 U | **13 J+** | **2.6 J+** | < 0.97 U | **110 J+** | **120 J+** | **43 J+** | **19 J+** |
| Aroclor-1260 | ug/kg | | SW8082A/SW8082A LL | 11096-82-5 | 130000 | 0.95 | 1600 | 110 | SUSDP21-3M | 193 | | 208 | | **54** | < 5.1 U | **180 J+** | **42 J+** | **34 J+** | **3.7 J+** | **12** | **59 J+** | **60 J+** | **29 J+** | **24 J+** |
| Aroclor-1262 | ug/kg | | SW8082A/SW8082A LL | 37324-23-5 | | | | | | | | 208 | | < 4.4 U | < 5.1 U | < 4.9 U | < 0.94 U | < 8.7 U | < 0.89 U | < 0.97 U | < 4.9 U | < 5.0 U | < 2.4 U | < 5.0 U |
| Aroclor-1268 | ug/kg | | SW8082A/SW8082A LL | 11100-14-4 | 1400 | 0.81 | 110 | 37 | SUSDP43 | 35 | | 208 | | < 4.4 U | < 5.1 U | < 4.9 U | < 0.94 U | < 8.7 U | < 0.89 U | < 0.97 U | < 4.9 U | < 5.0 U | < 2.4 U | < 5.0 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | SW8082A/SW8082A LL | TOT-PCB-ARO-C | 8800000 | 0.95 | 60000 | 280 | SUSDP21-3G | 196 | | 208 | | **54** | < 5.1 U | **940** | **42** | **47** | **9.3** | **12** | **170** | **180** | **72** | **43** |

**Table 4-3**
**Surface Soil Results**
**PCBs and Pesticides Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUS08-1D | SUS08-1F | SUS08-1G | SUS08-1H | SUS08-2F | SUS08-2F | SUS08-2H | SUS08-2I | SUS08-2J | SUS08-2J | SUS08-2N | SUS08-2O | SUS08-2P | SUS10-1A | SUS10-1B | SUS10-1B | SUS10-1C | SUS10-1D | SUS10-1E | SUS10-1F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS081D00N | SUS081F00N | SUS081G00N | SUS081H00N | SUS082F00N | SUS082F00R | SUS082H00N | SUS082I00N | SUS082J00N | SUS082J00R | SUS082N00N | SUS082O00N | SUS082P00N | SUS101A00N | SUS101B00N | SUS101B00R | SUS101C00N | SUS101D00N | SUS101E00N | SUS101F00N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 3/22/2017 | 3/22/2017 | 3/22/2017 | 3/22/2017 | 3/22/2017 | 3/22/2017 | 3/22/2017 | 3/23/2017 | 3/22/2017 | 1/27/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/27/2017 |
| | | | Type | N | N | N | N | N | FD | N | N | N | FD | N | N | N | N | N | FD | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 5.4 U | < 5.4 U | < 4.8 U | < 51 U | < 11 U | < 10 U | < 10 U | < 12 U | < 10 U | < 10 U | < 10 U | < 9.6 U | < 10 U | < 9.6 U | < 4.7 U | < 9.6 U | < 4.4 U | < 0.97 U | < 0.92 U | < 0.89 U |
| Aroclor-1221 | ug/kg | | | < 5.4 U | < 5.4 U | < 4.8 U | < 51 U | < 11 U | < 10 U | < 10 U | < 12 U | < 10 U | < 10 U | < 10 U | < 9.6 U | < 10 U | < 9.6 U | < 4.7 U | < 9.6 U | < 4.4 U | < 0.97 U | < 0.92 U | < 0.89 U |
| Aroclor-1232 | ug/kg | | | < 5.4 U | < 5.4 U | < 4.8 U | < 51 U | < 11 U | < 10 U | < 10 U | < 12 U | < 10 U | < 10 U | < 10 U | < 9.6 U | < 10 U | < 9.6 U | < 4.7 U | < 9.6 U | < 4.4 U | < 0.97 U | < 0.92 U | < 0.89 U |
| Aroclor-1242 | ug/kg | | | < 5.4 U | < 5.4 U | < 4.8 U | < 51 U | < 11 U | < 10 U | < 10 U | < 12 U | < 10 U | < 10 U | < 10 U | < 9.6 U | < 10 U | < 9.6 U | < 4.7 U | < 9.6 U | < 4.4 U | < 0.97 U | < 0.92 U | < 0.89 U |
| Aroclor-1248 | ug/kg | | | < 5.4 U | < 5.4 U | < 4.8 U | < 51 U | < 11 U | < 10 U | **100 J+** | < 12 U | **200 J+** | < 10 UJ | < 10 U | **270 J+** | < 10 U | **1600 J** | **560 J** | **1100 J** | **330 J+** | < 0.97 U | **11 J+** | < 0.89 U |
| Aroclor-1254 | ug/kg | | | **1300 J+** | < 5.4 U | **190 J+** | **3400 J+** | **110 J+** | **95 J+** | **87 J+** | **280 J+** | **320 J+** | **340 J+** | **560 J+** | **120 J+** | **250 J+** | **560 J+** | **350 J+** | **410 J+** | **180 J+** | < 0.97 U | **6.2 J+** | **24 J+** |
| Aroclor-1260 | ug/kg | | | **270 J+** | **100** | **45 J+** | **530 J+** | **170 J+** | **130 J+** | **94 J+** | **140 J+** | **170 J+** | **200 J+** | **250 J+** | **66 J+** | **94 J+** | **990 J+** | **840 J+** | **1100 J+** | **270 J+** | **2.1** | **11 J+** | **110 J+** |
| Aroclor-1262 | ug/kg | | | < 5.4 U | < 5.4 U | < 4.8 U | < 51 U | < 11 U | < 10 U | < 10 U | < 12 U | < 10 U | < 10 U | < 10 U | < 9.6 U | < 10 U | < 9.6 U | < 4.7 U | < 9.6 U | < 4.4 U | < 0.97 U | < 0.92 U | < 0.89 U |
| Aroclor-1268 | ug/kg | | | < 5.4 U | < 5.4 U | < 4.8 U | < 51 U | < 11 U | < 10 U | < 10 U | < 12 U | < 10 U | < 10 U | < 10 U | < 9.6 U | < 10 U | **93 J** | < 4.7 UJ | **98 J** | < 4.4 U | < 0.97 U | < 0.92 U | < 0.89 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **1600** | **100** | **240** | **3900** | **280** | **230** | **280** | **420** | **690** | **540** | **810** | **460** | **340** | **3200** | **1800** | **2700** | **780** | **2.1** | **28** | **130** |

**Table 4-3**
**Surface Soil Results**
**PCBs and Pesticides Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUS10-1G | SUS10-1H | SUS10-2A | SUS10-2B | SUS10-2D | SUS10-2P | SUS12-1B | SUS12-1D | SUS12-1F | SUS12-1H | SUS181A | SUS181B | SUS181C | SUS181C | SUS181D | SUS181E | SUS181F | SUS181G | SUS181H | SUS201A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS101G00N | SUS101H00N | SUS102A00N | SUS102B00N | SUS102D00N | SUS102P00N | SUS121B00N | SUS121D00N | SUS121F00N | SUS121H00N | SUS181A00N | SUS181B00N | SUS181C00N | SUS181C00R | SUS181D00N | SUS181E00N | SUS181F00N | SUS181G00N | SUS181H00N | SUS201A00N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 1/27/2017 | 1/27/2017 | 3/23/2017 | 3/23/2017 | 3/23/2017 | 3/23/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/27/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 1.2 U | < 12 U | < 8.8 U | < 8.6 U | < 8.9 U | < 9.4 U | < 1.8 U | < 0.91 U | < 0.93 U | < 1.8 U | < 0.87 U | < 0.90 U | < 0.91 U | < 0.87 U | < 0.92 U | < 0.89 U | < 0.91 U | < 4.7 U | < 0.92 U | < 0.92 U |
| Aroclor-1221 | ug/kg | | | < 1.2 U | < 12 U | < 8.8 U | < 8.6 U | < 8.9 U | < 9.4 U | < 1.8 U | < 0.91 U | < 0.93 U | < 1.8 U | < 0.87 U | < 0.90 U | < 0.91 U | < 0.87 U | < 0.92 U | < 0.89 U | < 0.91 U | < 4.7 U | < 0.92 U | < 0.92 U |
| Aroclor-1232 | ug/kg | | | < 1.2 U | < 12 U | < 8.8 U | < 8.6 U | < 8.9 U | < 9.4 U | < 1.8 U | < 0.91 U | < 0.93 U | < 1.8 U | < 0.87 U | < 0.90 U | < 0.91 U | < 0.87 U | < 0.92 U | < 0.89 U | < 0.91 U | < 4.7 U | < 0.92 U | < 0.92 U |
| Aroclor-1242 | ug/kg | | | < 1.2 U | < 12 U | < 8.8 U | < 8.6 U | < 8.9 U | < 9.4 U | < 1.8 U | < 0.91 U | < 0.93 U | < 1.8 U | < 0.87 U | < 0.90 U | < 0.91 U | < 0.87 U | < 0.92 U | < 0.89 U | < 0.91 U | < 4.7 U | < 0.92 U | < 0.92 U |
| Aroclor-1248 | ug/kg | | | < 1.2 U | < 12 U | < 8.8 U | < 8.6 U | < 8.9 U | < 9.4 U | < 1.8 U | < 0.91 U | < 0.93 U | < 1.8 U | **33 J+** | < 0.90 U | < 0.91 U | < 0.87 U | < 0.92 U | < 0.89 U | < 0.91 U | < 4.7 U | **3.7 J+** | < 0.92 U |
| Aroclor-1254 | ug/kg | | | **11 J+** | **510 J+** | **710 J+** | **310 J+** | **1000 J+** | **200 J+** | < 1.8 U | < 0.91 U | < 0.93 U | < 1.8 U | < 0.87 U | **17 J+** | < 0.91 U | < 0.87 U | < 0.92 U | < 0.89 U | < 0.91 U | < 4.7 U | **3.2 J+** | < 0.92 U |
| Aroclor-1260 | ug/kg | | | **20 J+** | **430 J+** | **620 J+** | **360 J+** | **1100 J+** | **240 J+** | **3.4 J+** | **12 J+** | **1.8 J+** | **4.2 J+** | **140 J+** | **21 J+** | < 0.91 U | < 0.87 U | **8.2** | **2.2** | **5.3 J+** | **470** | **8.8 J+** | < 0.92 U |
| Aroclor-1262 | ug/kg | | | < 1.2 U | < 12 U | < 8.8 U | < 8.6 U | < 8.9 U | < 9.4 U | < 1.8 U | < 0.91 U | < 0.93 U | < 1.8 U | < 0.87 U | < 0.90 U | < 0.91 U | < 0.87 U | < 0.92 U | < 0.89 U | < 0.91 U | < 4.7 U | < 0.92 U | < 0.92 U |
| Aroclor-1268 | ug/kg | | | < 1.2 U | < 12 U | **110 J+** | **64 J+** | **170 J+** | **51 J+** | **0.81 J+** | **2.4 J+** | **0.81 J+** | **2.5 J+** | < 0.87 U | < 0.90 U | < 0.91 U | < 0.87 U | < 0.92 U | < 0.89 U | **2.6 J+** | < 4.7 U | < 0.92 U | < 0.92 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **31** | **940** | **1400** | **730** | **2300** | **490** | **4.2** | **14** | **2.6** | **6.7** | **170** | **38** | < 0.91 U | < 0.87 U | **8.2** | **2.2** | **7.9** | **470** | **16** | < 0.92 U |

**Table 4-3**
**Surface Soil Results**
**PCBs and Pesticides Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUS201B | SUS201B | SUS201C | SUS201D | SUS201E | SUS201F | SUS201G | SUS201H | SUS21-1A | SUS21-1B | SUS21-1E | SUS21-1F | SUS21-1G | SUS21-1H | SUS21-2D | SUS21-2E | SUS21-2I | SUS21-2J | SUS21-2L | SUS21-2M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS201B00N | SUS201B00R | SUS201C00N | SUS201D00N | SUS201E00N | SUS201F00N | SUS201G00N | SUS201H00N | SUS211A00N | SUS211B00N | SUS211E00N | SUS211F00N | SUS211G00N | SUS211H00N | SUS212D00N | SUS212E00N | SUS212I00N | SUS212J00N | SUS212L00N | SUS212M00N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 1/27/2017 | 1/27/2017 | 1/27/2017 | 2/2/2017 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 3/23/2017 | 3/23/2017 | 3/22/2017 | 3/22/2017 | 3/22/2017 | 3/22/2017 |
| | | | Type | N | FD | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 0.93 U | < 0.92 U | < 0.92 U | < 1.1 U | < 1.1 U | < 0.95 U | < 11 U | < 0.95 U | < 9.4 U | < 0.95 U | < 9.4 U | < 4.6 U | < 9.7 U | < 9.1 U | < 9.1 U | < 9.4 U | < 49 U | < 92 U | < 9.2 U | < 11 U |
| Aroclor-1221 | ug/kg | | | < 0.93 U | < 0.92 U | < 0.92 U | < 1.1 U | < 1.1 U | < 0.95 U | < 11 U | < 0.95 U | < 9.4 U | < 0.95 U | < 9.4 U | < 4.6 U | < 9.7 U | < 9.1 U | < 9.1 U | < 9.4 U | < 49 U | < 92 U | < 9.2 U | < 11 U |
| Aroclor-1232 | ug/kg | | | < 0.93 U | < 0.92 U | < 0.92 U | < 1.1 U | < 1.1 U | < 0.95 U | < 11 U | < 0.95 U | < 9.4 U | < 0.95 U | < 9.4 U | < 4.6 U | < 9.7 U | < 9.1 U | < 9.1 U | < 9.4 U | < 49 U | < 92 U | < 9.2 U | < 11 U |
| Aroclor-1242 | ug/kg | | | < 0.93 U | < 0.92 U | < 0.92 U | < 1.1 U | < 1.1 U | < 0.95 U | < 11 U | < 0.95 U | **680 J+** | < 0.95 U | < 9.4 U | < 4.6 U | **990** | **500** | < 9.1 U | < 9.4 U | < 49 U | < 92 U | < 9.2 U | < 11 U |
| Aroclor-1248 | ug/kg | | | < 0.93 U | < 0.92 U | < 0.92 U | < 1.1 U | < 1.1 U | < 0.95 U | < 11 U | < 0.95 U | < 9.4 U | < 0.95 U | **500 J+** | **86** | < 9.7 U | < 9.1 U | < 9.1 U | < 9.4 U | **1200 J+** | < 92 U | < 9.2 U | **1100 J+** |
| Aroclor-1254 | ug/kg | | | **1.9 J** | < 0.92 U | < 0.92 U | < 1.1 U | **5.3 J+** | **170 J+** | < 11 U | < 0.95 U | **88 J+** | **45 J** | **500 J+** | < 4.6 U | < 9.7 U | < 9.1 U | **97 J+** | **1300 J+** | < 49 U | < 92 U | < 9.2 U | < 11 U |
| Aroclor-1260 | ug/kg | | | **5.6 J+** | **4.4 J+** | **1.1** | **1.5** | **17 J+** | **230 J+** | **93** | < 0.95 U | **170 J+** | **47 J+** | **510 J+** | **400** | **960** | **460** | **200 J+** | **2600 J+** | **3300 J+** | **11000** | **1600 J+** | **1600 J+** |
| Aroclor-1262 | ug/kg | | | < 0.93 U | < 0.92 U | < 0.92 U | < 1.1 U | < 1.1 U | < 0.95 U | < 11 U | < 0.95 U | < 9.4 U | < 0.95 U | < 9.4 U | < 4.6 U | < 9.7 U | < 9.1 U | < 9.1 U | < 9.4 U | < 49 U | < 92 U | < 9.2 U | < 11 U |
| Aroclor-1268 | ug/kg | | | **1.6 J+** | **1.2 J+** | < 0.92 U | < 1.1 U | < 1.1 U | **21 J+** | < 11 U | < 0.95 U | < 9.4 U | **6.4 J+** | < 9.4 U | < 4.6 U | < 9.7 U | < 9.1 U | < 9.1 U | **130 J+** | < 49 U | < 92 U | < 9.2 U | < 11 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **9.1** | **5.6** | **1.1** | **1.5** | **22** | **420** | **93** | < 0.95 U | **940** | **98** | **1500** | **490** | **2000** | **960** | **300** | **4000** | **4500** | **11000** | **1600** | **2700** |

# Table 4-3
## Surface Soil Results
## PCBs and Pesticides Concentrations in Surface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUS21-2N | SUS25 | SUS44-1A | SUS44-1B | SUS44-1C | SUS44-1E | SUS44-1F | SUS44-1G | SUSDP01 | SUSDP01 | SUSDP02 | SUSDP02 | SUSDP03 | SUSDP04 | SUSDP04 | SUSDP05 | SUSDP05 | SUSDP05-1C | SUSDP05-1E | SUSDP05-1G | SUSDP06 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS212N00N | SUS2500N | SUS441A00N | SUS441B00N | SUS441C00N | SUS441E00N | SUS441F00N | SUS441G00N | SUS0100N | SUS0100R | SUS0200N | SUS02F00N | SUS0300N | SUS0400N | SUS04F00N | SUS0500N | SUS05F00N | SUS05IC00N | SUS05IE00N | SUS05IG00N | SUS0600N |
| | | | Depth | 0 - 1 ft | 0.5 - 1 ft | 1.5 - 2.5 ft | 1.5 - 2.5 ft | 1.5 - 2.5 ft | 1.5 - 2.5 ft | 1.5 - 2.5 ft | 1.5 - 2.5 ft | 0.33 - 1 ft | 0.33 - 1 ft | 0.33 - 0.83 ft | 0 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 3/22/2017 | 2/7/2013 | 1/27/2017 | 1/27/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 2/4/2013 | 2/4/2013 | 2/4/2013 | 1/25/2017 | 2/4/2013 | 2/4/2013 | 1/25/2017 | 2/4/2013 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 2/5/2013 |
| | | | Type | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | **0.20 J** | | | | | | | **0.22 J** | **0.34 J** | < 4.6 U | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | **0.33 J** | | | | | | | < 0.96 U | < 0.94 U | < 4.6 U | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | **9.9** | | | | | | | < 0.96 U | < 0.94 U | < 4.6 U | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | **0.49** | | | | | | | < 0.96 U | < 0.94 U | < 4.6 U | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | < 0.46 U | | | | | | | < 0.96 U | < 0.94 U | < 4.6 U | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | **0.26 J** | | | | | | | < 0.96 U | < 0.94 U | < 4.6 U | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | **0.21 J** | | | | | | | < 0.96 U | < 0.94 U | < 4.6 U | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | **0.65 J** | | | | | | | < 0.96 U | < 0.94 U | < 4.6 U | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | **0.79 J** | | | | | | | < 0.96 U | < 0.94 U | < 4.6 U | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | < 0.46 U | | | | | | | < 0.96 U | < 0.94 U | < 4.6 U | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | **0.74 J** | | | | | | | < 0.96 U | < 0.94 U | < 4.6 U | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | **0.79 J** | | | | | | | **0.20 J** | < 0.94 U | < 4.6 U | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | **1.0 J** | | | | | | | < 0.96 U | **0.30 J** | < 4.6 U | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | < 0.46 U | | | | | | | < 0.96 U | < 0.94 U | < 4.6 U | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | **12** | | | | | | | **0.85 J** | < 0.94 U | **2.2 J** | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | < 0.46 U | | | | | | | < 0.96 U | < 0.94 U | < 4.6 U | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | < 0.46 U | | | | | | | < 0.96 U | < 0.94 U | < 4.6 U | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | **0.82** | | | | | | | < 0.96 U | < 0.94 U | < 4.6 U | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | **2.7 J** | | | | | | | **0.26 J** | **0.24 J** | < 9.2 U | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | < 19 U | | | | | | | < 38 U | < 38 U | < 180 U | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | **0.36 J** | | | | | | | < 0.96 U | < 0.94 U | < 4.6 U | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 48 U | < 4.6 U | < 0.93 U | < 4.7 U | < 0.92 U | < 0.94 U | < 0.87 U | < 1.7 U | < 9.6 U | < 9.4 U | < 9.2 U | < 1.9 U | < 9.9 U | < 9.7 U | < 5.0 U | < 47 U | < 0.89 U | < 5.2 U | < 4.9 U | < 4.6 U | < 9.4 U |
| Aroclor-1221 | ug/kg | | | < 48 U | < 4.6 U | < 0.93 U | < 4.7 U | < 0.92 U | < 0.94 U | < 0.87 U | < 1.7 U | < 9.6 U | < 9.4 U | < 9.2 U | < 1.9 U | < 9.9 U | < 9.7 U | < 5.0 U | < 47 U | < 0.89 U | < 5.2 U | < 4.9 U | < 4.6 U | < 9.4 U |
| Aroclor-1232 | ug/kg | | | < 48 U | < 4.6 U | < 0.93 U | < 4.7 U | < 0.92 U | < 0.94 U | < 0.87 U | < 1.7 U | < 9.6 U | < 9.4 U | < 9.2 U | < 1.9 U | < 9.9 U | < 9.7 U | < 5.0 U | < 47 U | < 0.89 U | < 5.2 U | < 4.9 U | < 4.6 U | < 9.4 U |
| Aroclor-1242 | ug/kg | | | < 48 U | **81** | < 0.93 U | < 4.7 U | < 0.92 U | < 0.94 U | < 0.87 U | < 1.7 U | < 9.6 U | < 9.4 U | < 9.2 U | < 1.9 U | < 9.9 U | < 9.7 U | < 5.0 U | < 47 U | < 0.89 U | < 5.2 U | < 4.9 U | < 4.6 U | < 9.4 U |
| Aroclor-1248 | ug/kg | | | < 48 U | < 4.6 U | **52 J+** | **200 J** | < 0.92 U | < 0.94 U | < 0.87 U | < 1.7 U | < 9.6 UJ | < 9.4 UJ | < 9.2 UJ | < 1.9 U | < 9.9 UJ | < 9.7 UJ | < 5.0 U | < 47 U | < 0.89 U | < 5.2 U | < 4.9 U | < 4.6 U | < 9.4 UJ |
| Aroclor-1254 | ug/kg | | | < 48 U | < 4.6 U | **40 J+** | **240 J** | < 0.92 U | < 0.94 U | **19 J+** | **5.8 J+** | < 9.6 UJ | < 9.4 UJ | < 9.2 UJ | < 1.9 U | < 9.9 UJ | < 9.7 UJ | **61 J+** | **5700** | **230 J+** | **29 J+** | **3.8 J+** | **240 J+** | < 9.4 UJ |
| Aroclor-1260 | ug/kg | | | **3000** | **170** | **67 J+** | **420 J+** | < 0.92 U | **19** | **14 J+** | **5.8 J+** | < 9.6 UJ | < 9.4 UJ | **21 J** | **92** | < 9.9 UJ | **64 J** | **140 J+** | < 47 U | **60 J+** | **11 J+** | **4.7 J+** | **70 J+** | **1900 J** |
| Aroclor-1262 | ug/kg | | | < 48 U | < 4.6 U | < 0.93 U | < 4.7 U | < 0.92 U | < 0.94 U | < 0.87 U | < 1.7 U | < 9.6 UJ | < 9.4 UJ | < 9.2 UJ | < 1.9 U | < 9.9 UJ | < 9.7 UJ | < 5.0 U | < 47 U | < 0.89 U | < 5.2 U | < 4.9 U | < 4.6 U | < 9.4 UJ |
| Aroclor-1268 | ug/kg | | | < 48 U | < 4.6 U | **6.5 J+** | **37 J+** | < 0.92 U | < 0.94 U | < 0.87 U | < 1.7 U | < 9.6 UJ | < 9.4 UJ | < 9.2 UJ | < 1.9 U | < 9.9 UJ | < 9.7 UJ | < 5.0 U | < 47 U | < 0.89 U | < 5.2 U | < 4.9 U | < 4.6 U | < 9.4 UJ |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **3000** | **250** | **170** | **900** | < 0.92 U | **19** | **33** | **12** | < 9.6 U | < 9.4 U | **21** | **92** | < 9.9 U | **64** | **200** | **5700** | **290** | **40** | **8.5** | **310** | **1900** |

**Table 4-3**
**Surface Soil Results**
**PCBs and Pesticides Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Project Screening Criteria | Location ID | SUSDP06 | SUSDP07 | SUSDP08 | SUSDP08 | SUSDP08-1E | SUSDP08-1E | SUSDP08-2G | SUSDP09 | SUSDP10 | SUSDP10 | SUSDP10-3F | SUSDP10-3G | SUSDP10-3X | SUSDP10-3X | SUSDP10-4NW | SUSDP11 | SUSDP11 | SUSDP11-1A | SUSDP11-1B | SUSDP11-1H | SUSDP11-2A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS06F00N | SUS0700N | SUS0800N | SUS08F00N | SUS081E00N | SUS081E00R | SUS082G00N | SUS0900N | SUS1000N | SUS10F00N | SUS103F00N | SUS103G00N | SUS103X00N | SUS103X00R | SUS104NW00N | SUS1100N | SUS11F00N | SUS111A00N | SUS111B00N | SUS111H00N | SUS112A00N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 3/13/2017 | 2/5/2013 | 2/5/2013 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 3/22/2017 | 2/5/2013 | 2/5/2013 | 1/27/2017 | 8/8/2017 | 8/8/2017 | 8/8/2017 | 8/8/2017 | 1/30/2018 | 2/5/2013 | 1/24/2017 | 2/22/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 |
| | | | Type | N | N | N | N | N | FD | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N |
| 4,4'-DDD | ug/kg | 2500 | | | | < 5.3 U | | | | | < 4.4 U | **1.0 J** | | | | | | | < 0.89 U | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | **8.4 J** | | | | | **1.1 J** | **4.4 J** | | | | | | | **0.90 J** | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | **9.9 J** | | | | | **1.6 J** | **6.5 J** | | | | | | | **36** | | | | | |
| Aldrin | ug/kg | 180 | | | | < 5.3 U | | | | | < 4.4 U | **5.0 J** | | | | | | | **0.20 J** | | | | | |
| alpha-BHC | ug/kg | 360 | | | | < 5.3 U | | | | | < 4.4 U | < 0.93 U | | | | | | | < 0.89 U | | | | | |
| beta-BHC | ug/kg | 1300 | | | | < 5.3 U | | | | | < 4.4 U | **2.3 J** | | | | | | | < 0.89 U | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | **3.8 J** | | | | | < 4.4 U | **0.44 J** | | | | | | | **1.8 J** | | | | | |
| delta-BHC | ug/kg | 360 | | | | < 5.3 U | | | | | < 4.4 U | **7.5 J** | | | | | | | < 0.89 U | | | | | |
| Dieldrin | ug/kg | 140 | | | | **4.6 J** | | | | | < 4.4 U | **5.7 J** | | | | | | | **4.0 J** | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | **1.4 J** | | | | | < 4.4 U | **1.1** | | | | | | | < 0.89 U | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | < 5.3 U | | | | | < 4.4 U | **5.4 J** | | | | | | | **2.7 J** | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | **2.7 J** | | | | | **1.1 J** | **7.2 J** | | | | | | | **3.9 J** | | | | | |
| Endrin | ug/kg | 25000 | | | | **26** | | | | | < 4.4 U | **15 J** | | | | | | | **4.1 J** | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | < 5.3 U | | | | | < 4.4 U | < 0.93 U | | | | | | | **0.34 J** | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | < 5.3 U | | | | | < 4.4 U | < 0.93 U | | | | | | | < 0.89 U | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | < 5.3 U | | | | | < 4.4 U | **0.23 J** | | | | | | | < 0.89 U | | | | | |
| Heptachlor | ug/kg | 630 | | | | < 5.3 U | | | | | < 4.4 U | **2.9 J** | | | | | | | < 0.89 U | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | **1.2 J** | | | | | **1.2 J** | **8.3 J** | | | | | | | **0.30 J** | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | **11 J** | | | | | **3.0 J** | **16 J** | | | | | | | **9.4 J** | | | | | |
| Toxaphene | ug/kg | 2100 | | | | < 210 U | | | | | < 180 U | < 37 U | | | | | | | < 35 U | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | **12 J** | | | | | **1.7 J** | **4.8 J** | | | | | | | **15** | | | | | |
| Aroclor-1016 | ug/kg | | | < 4.7 U | < 9.7 U | < 11 U | < 25 U | < 6.0 U | < 5.8 U | < 10 U | < 8.9 U | < 9.3 U | < 10 U | < 21 U | < 0.97 U | < 8.9 U | < 9.1 U | < 0.99 U | < 8.9 U | < 44 U | < 900 U | < 88 U | < 8.7 UJ | < 8.9 U |
| Aroclor-1221 | ug/kg | | | < 4.7 U | < 9.7 U | < 11 U | < 25 U | < 6.0 U | < 5.8 U | < 10 U | < 8.9 U | < 9.3 U | < 10 U | < 21 U | < 0.97 U | < 8.9 U | < 9.1 U | < 0.99 U | < 8.9 U | < 44 U | < 900 U | < 88 U | < 8.7 UJ | < 8.9 U |
| Aroclor-1232 | ug/kg | | | < 4.7 U | < 9.7 U | < 11 U | < 25 U | < 6.0 U | < 5.8 U | < 10 U | < 8.9 U | < 9.3 U | < 10 U | < 21 U | < 0.97 U | < 8.9 U | < 9.1 U | < 0.99 U | < 8.9 U | < 44 U | < 900 U | < 88 U | < 8.7 UJ | < 8.9 U |
| Aroclor-1242 | ug/kg | | | < 4.7 U | < 9.7 U | < 11 U | < 25 U | < 6.0 U | < 5.8 U | < 10 U | < 8.9 U | < 9.3 U | < 10 U | < 21 U | < 0.97 U | < 8.9 U | < 9.1 U | < 0.99 U | < 8.9 U | < 44 U | < 900 U | < 88 U | < 8.7 UJ | < 8.9 U |
| Aroclor-1248 | ug/kg | | | < 4.7 U | < 9.7 UJ | < 11 UJ | < 25 U | < 6.0 U | < 5.8 U | **130 J+** | < 8.9 UJ | < 9.3 UJ | < 10 U | **920 J+** | **260 J+** | **890 J+** | **690 J+** | < 0.99 U | < 8.9 UJ | < 44 U | < 900 U | < 88 U | < 8.7 UJ | < 8.9 U |
| Aroclor-1254 | ug/kg | | | < 4.7 U | **78 J** | **540 J** | **2400 J+** | **1800 J+** | **1700 J+** | **110 J+** | **160 J** | **400 J** | **22 J+** | **1600 J+** | **200 J+** | **250 J+** | **170 J+** | < 0.99 U | **100 J** | < 44 U | < 900 U | < 88 U | < 8.7 U | < 8.9 U |
| Aroclor-1260 | ug/kg | | | **6.1** | **70 J** | **300 J** | **360 J+** | **360 J+** | **360 J+** | **79 J+** | **67 J** | **700 J** | **59 J+** | **1100 J+** | **290 J+** | **65 J+** | **48 J+** | **34** | **510 J** | **6200** | **5800** | **4600** | **190** | **550** |
| Aroclor-1262 | ug/kg | | | < 4.7 U | < 9.7 UJ | < 11 UJ | < 25 U | < 6.0 U | < 5.8 U | < 10 U | < 8.9 UJ | < 9.3 UJ | < 10 U | < 21 U | < 0.97 U | < 8.9 U | < 9.1 U | < 0.99 U | < 8.9 UJ | < 44 U | < 900 U | < 88 U | < 8.7 U | < 8.9 U |
| Aroclor-1268 | ug/kg | | | < 4.7 U | < 9.7 UJ | < 11 UJ | < 25 U | < 6.0 U | < 5.8 U | < 10 U | < 8.9 UJ | < 9.3 UJ | < 10 U | **280 J+** | **76 J+** | < 8.9 U | **9.9 J+** | < 0.99 U | < 8.9 UJ | < 44 U | < 900 U | < 88 U | < 8.7 U | < 8.9 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **6.1** | **150** | **840** | **2800** | **2200** | **2100** | **320** | **230** | **1000** | **81** | **3900** | **830** | **1200** | **920** | **34** | **610** | **6200** | **5800** | **4600** | **190** | **550** |

**Table 4-3**
**Surface Soil Results**
**PCBs and Pesticides Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP11-2D | SUSDP11-2N | SUSDP12 | SUSDP12 | SUSDP12-1A | SUSDP12-1A | SUSDP12-1C | SUSDP12-1E | SUSDP12-1G | SUSDP13 | SUSDP14 | SUSDP15 | SUSDP15 | SUSDP15-1C | SUSDP15-1G | SUSDP16 | SUSDP17 | SUSDP18 | SUSDP18 | SUSDP19 | SUSDP19 | SUSDP20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS112D00N | SUS112N00N | SUS1200N | SUS12F00N | SUS121A00N | SUS121A00R | SUS121C00N | SUS121E00N | SUS121G00N | SUS1300N | SUS1400N | SUS1500N | SUS15F00N | SUS151C00N | SUS151G00N | SUS1600N | SUS1700N | SUS1800N | SUS18F00N | SUS1900N | SUS19F00N | SUS2000N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.17 - 1 ft | 0.17 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.5 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.83 - 1 ft | 0 - 1 ft | 0.42 - 1 ft |
| | | | Sample Date | 4/5/2018 | 4/6/2018 | 2/6/2013 | 1/26/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 2/5/2013 | 2/6/2013 | 2/6/2013 | 1/30/2017 | 8/14/2017 | 8/15/2017 | 2/6/2013 | 2/6/2013 | 2/6/2013 | 1/26/2017 | 2/6/2013 | 1/30/2017 | 2/7/2013 |
| | | | Type | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | **0.55 J** | < 4.6 U | | **1.9 J** | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | **1.5** | **0.72 J** | | **1.0 J** | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | **2.0 J** | **83** | | **0.79 J** | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | < 0.46 U | < 4.6 U | | < 4.7 U | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | < 0.46 U | < 4.6 U | | < 4.7 U | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | < 0.46 U | < 4.6 U | | < 4.7 U | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | **0.36 J** | < 4.6 U | | < 4.7 U | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | < 0.46 U | < 4.6 U | | < 4.7 U | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | **0.49 J** | **9.4 J** | | **2.1 J** | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | < 0.46 U | < 4.6 U | | < 4.7 U | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | **0.33 J** | **15** | | < 4.7 U | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | **0.46 J** | **6.3 J** | | **1.1 J** | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | **0.46 J** | **4.9 J** | | < 4.7 U | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | < 0.46 U | < 4.6 U | | < 4.7 U | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | < 0.46 U | < 4.6 U | | < 4.7 U | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | < 0.46 U | < 4.6 U | | < 4.7 U | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | < 0.46 U | < 4.6 U | | < 4.7 U | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | **0.33 J** | **9.6** | | **1.5 J** | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | **1.4 J** | **23 J** | | **12 J** | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | < 19 U | < 180 U | | < 190 U | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | **0.37 J** | < 4.6 U | | < 4.7 U | | |
| Aroclor-1016 | ug/kg | | | < 8.8 U | < 0.88 U | < 23 U | < 4.4 U | R | < 1.9 U | < 2.0 U | < 1.8 U | < 1.9 U | < 9.1 U | < 4.9 U | < 4.6 U | < 4.5 U | < 9.1 U | < 100 U | < 4.7 U | < 4.6 U | < 4.6 U | < 0.91 U | < 4.7 U | < 0.91 U | < 47 U |
| Aroclor-1221 | ug/kg | | | < 8.8 U | < 0.88 U | < 23 U | < 4.4 U | R | < 1.9 U | < 2.0 U | < 1.8 U | < 1.9 U | < 9.1 U | < 4.9 U | < 4.6 U | < 4.5 U | < 9.1 U | < 100 U | < 4.7 U | < 4.6 U | < 4.6 U | < 0.91 U | < 4.7 U | < 0.91 U | < 47 U |
| Aroclor-1232 | ug/kg | | | < 8.8 U | < 0.88 U | < 23 U | < 4.4 U | R | < 1.9 U | < 2.0 U | < 1.8 U | < 1.9 U | < 9.1 U | < 4.9 U | < 4.6 U | < 4.5 U | < 9.1 U | < 100 U | < 4.7 U | < 4.6 U | < 4.6 U | < 0.91 U | < 4.7 U | < 0.91 U | < 47 U |
| Aroclor-1242 | ug/kg | | | < 8.8 U | < 0.88 U | **1100** | < 4.4 U | R | < 1.9 U | < 2.0 U | < 1.8 U | < 1.9 U | < 9.1 U | **110** | **82** | **51 J+** | < 9.1 U | < 100 U | < 4.7 U | < 4.6 U | < 4.6 U | < 0.91 U | **18** | < 0.91 U | **4100** |
| Aroclor-1248 | ug/kg | | | < 8.8 U | < 0.88 U | < 23 U | < 4.4 U | R | < 1.9 U | < 2.0 U | < 1.8 U | < 1.9 U | < 9.1 UJ | < 4.9 U | < 4.6 U | < 4.5 U | **540 J+** | < 100 U | < 4.7 U | < 4.6 U | < 4.6 U | < 0.91 U | < 4.7 U | **28 J** | < 47 U |
| Aroclor-1254 | ug/kg | | | < 8.8 U | < 0.88 U | < 23 U | < 4.4 U | < 2.0 U | < 1.9 U | < 2.0 U | < 1.8 U | **250 J+** | < 9.1 UJ | < 4.9 U | < 4.6 U | **71 J** | **330 J+** | < 100 U | < 4.7 U | < 4.6 U | < 4.6 U | < 0.91 U | < 4.7 U | **51 J+** | < 47 U |
| Aroclor-1260 | ug/kg | | | **730** | **110** | **1800** | **270 J+** | **240 J** | **57 J** | **240** | **540 J+** | **320 J+** | **700 J** | **180** | **250** | **640 J+** | **390 J+** | **4800** | **0.95 J** | **86** | **1400** | **4.0** | **160** | **250 J+** | **970** |
| Aroclor-1262 | ug/kg | | | < 8.8 U | < 0.88 U | < 23 U | < 4.4 U | < 2.0 U | < 1.9 U | < 2.0 U | < 1.8 U | < 1.9 U | < 9.1 UJ | < 4.9 U | < 4.6 U | < 4.5 U | < 9.1 U | < 100 U | < 4.7 U | < 4.6 U | < 4.6 U | < 0.91 U | < 4.7 U | < 0.91 U | < 47 U |
| Aroclor-1268 | ug/kg | | | < 8.8 U | < 0.88 U | < 23 U | **30 J+** | **62 J** | **11 J** | < 2.0 U | **160 J+** | **170 J+** | < 9.1 UJ | < 4.9 U | < 4.6 U | < 4.5 U | < 9.1 U | < 100 U | < 4.7 U | < 4.6 U | < 4.6 U | < 0.91 U | < 4.7 U | < 0.91 U | < 47 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **730** | **110** | **2900** | **300** | **300** | **68** | **240** | **700** | **740** | **700** | **290** | **330** | **760** | **1300** | **4800** | **0.95** | **86** | **1400** | **4.0** | **180** | **330** | **5100** |

**Table 4-3**
**Surface Soil Results**
**PCBs and Pesticides Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SUSDP20 | SUSDP21 | SUSDP21 | SUSDP21-1C | SUSDP21-3G | SUSDP21-3M | SUSDP21-3Q | SUSDP21-5W | SUSDP22 | SUSDP23 | SUSDP24 | SUSDP37 | SUSDP39 | SUSDP41 | SUSDP43 | SUSDP43-2J | SUSDP43-2M | SUSDP44 | SUSDP44-1D | SUSDP44-1H | SUSDP48 | SUSDP48 |
| | | | Sample ID | SUS20F00N | SUS2100N | SUS21F00N | SUS211C00N | SUS213G00N | SUS213M00N | SUS213Q00N | SUS215W00N | SUS2200N | SUS2300N | SUS2400N | SUS37F00N | SUS39F00N | SUS41F00N | SUS43F00N | SUS432J00N | SUS432M00N | SUS44F00N | SUS441D00N | SUS441H00N | SUS4800N | SUS4800R |
| | | | Depth | 0 - 1 ft | 1 - 1.75 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.5 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 1.5 - 2.5 ft | 1.5 - 2.5 ft | 1.5 - 2.5 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 1/27/2017 | 2/7/2013 | 1/27/2017 | 1/27/2017 | 8/28/2017 | 8/28/2017 | 8/24/2017 | 1/26/2018 | 6/13/2013 | 2/7/2013 | 2/7/2013 | 1/25/2017 | 1/25/2017 | 1/24/2017 | 1/26/2017 | 8/8/2017 | 8/9/2017 | 1/27/2017 | 1/25/2017 | 1/27/2017 | 1/26/2017 | 1/26/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | FD |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | **0.26 J** |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | | | | | **0.21 J** | **0.28 J** |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | | | | **0.13 J** | **0.31 J** |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | | | | | **5.3 J** | **12 J** |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | | | | | < 3.9 U | < 4.1 U |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | | | | < 0.098 U | < 0.10 U |
| Aroclor-1016 | ug/kg | | | < 1.0 U | < 46 U | < 9.6 U | < 470 U | < 9000 U<br>< 92000 U | < 930 U | < 9.2 U | < 0.87 U | < 4.5 U | < 4.4 U | < 4.8 U | < 1.9 U | < 1.9 U | < 6.8 U | < 8.7 U | < 1.1 U | < 1.0 U | < 8.7 U | < 0.93 U | < 48 U | < 9.8 U | < 10 U |
| Aroclor-1221 | ug/kg | | | < 1.0 U | < 46 U | < 9.6 U | < 470 U | < 9000 U<br>< 92000 U | < 930 U | < 9.2 U | < 0.87 U | < 4.5 U | < 4.4 U | < 4.8 U | < 1.9 U | < 1.9 U | < 6.8 U | < 8.7 U | < 1.1 U | < 1.0 U | < 8.7 U | < 0.93 U | < 48 U | < 9.8 U | < 10 U |
| Aroclor-1232 | ug/kg | | | < 1.0 U | < 46 U | < 9.6 U | < 470 U | < 9000 U<br>< 92000 U | < 930 U | < 9.2 U | < 0.87 U | < 4.5 U | < 4.4 U | < 4.8 U | < 1.9 U | < 1.9 U | < 6.8 U | < 8.7 U | < 1.1 U | < 1.0 U | < 8.7 U | < 0.93 U | < 48 U | < 9.8 U | < 10 U |
| Aroclor-1242 | ug/kg | | | < 1.0 U | **6400** | < 9.6 U | **37000 J+** | < 9000 U<br>< 92000 U | < 930 U | < 9.2 U | < 0.87 U | < 4.5 U | < 4.4 U | < 4.8 U | < 1.9 U | < 1.9 U | < 6.8 U | < 8.7 U | < 1.1 U | < 1.0 U | < 8.7 U | < 0.93 U | < 48 U | < 9.8 U | < 10 U |
| Aroclor-1248 | ug/kg | | | < 1.0 U | < 46 U | **100 J+** | < 470 U | **2500000**<br>**8800000** | < 930 U | < 9.2 U | < 0.87 U | **11** | < 4.4 U | < 4.8 U | < 1.9 U | < 1.9 U | < 6.8 U | **370 J+** | < 1.1 U | < 1.0 U | **2200 J+** | < 0.93 U | **4300 J** | **570 J+** | **730 J+** |
| Aroclor-1254 | ug/kg | | | < 1.0 U | < 46 U | **56 J+** | **3800 J+** | < 9000 U<br>< 92000 U | < 930 U | **46 J+** | < 0.87 U | < 4.5 U | < 4.4 U | < 4.8 U | < 1.9 U | **87 J+** | **510 J+** | **220 J+** | < 1.1 U | **190 J+** | **450 J+** | < 0.93 U | **3600 J** | **130 J+** | **150 J+** |
| Aroclor-1260 | ug/kg | | | **26** | **820** | **360 J+** | **2200 J+** | < 9000 U<br>< 92000 U | **130000** | **20 J+** | **25** | **25** | **8.7** | **74** | **6.0 J+** | **55 J+** | **260 J+** | **680 J+** | **140 J+** | **170 J+** | **450 J+** | **11** | **5100 J+** | **82 J+** | **80 J+** |
| Aroclor-1262 | ug/kg | | | < 1.0 U | < 46 U | < 9.6 U | < 470 U | < 9000 U<br>< 92000 U | < 930 U | < 9.2 U | < 0.87 U | < 4.5 U | < 4.4 U | < 4.8 U | < 1.9 U | < 1.9 U | < 6.8 U | < 8.7 U | < 1.1 U | < 1.0 U | < 8.7 U | < 0.93 U | < 48 U | < 9.8 U | < 10 U |
| Aroclor-1268 | ug/kg | | | < 1.0 U | < 46 U | < 9.6 U | < 470 U | < 9000 U<br>< 92000 U | < 930 U | < 9.2 U | < 0.87 U | < 4.5 U | < 4.4 U | < 4.8 U | **2.2 J+** | < 1.9 U | < 6.8 U | **1400 J+** | **140 J+** | **75 J+** | **51 J+** | < 0.93 U | **570 J+** | < 9.8 U | < 10 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **26** | **7200** | **520** | **43000** | **2500000**<br>**8800000** | **130000** | **66** | **25** | **36** | **8.7** | **74** | **8.2** | **140** | **770** | **2700** | **280** | **440** | **3200** | **11** | **14000** | **780** | **960** |

**Table 4-3**
**Surface Soil Results**
**PCBs and Pesticides Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP48 | SUSDP48-1C | SUSDP48-2E | SUSDP49 | SUSDP49-1C | SUSDP49-1E | SUSDP50 | SUSDP51 | SUSDP51 | SUSDP52 | SUSDP53 | SUSDP65 | SUSDPCT16-1C | SUSDPCT16-1E | SUSDPCT16-1G | SUSDPCT16-2E | SUSDPCT16-2I | SUSDPCT16-2M | SUSDPCT16-3Q | SUSDPCT16-3Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS48F00N | SUS481C00N | SUS482E00N | SUS4900N | SUS491C00N | SUS491E00N | SUS5000N | SUS5100N | SUS51F00N | SUS5200N | SUS53F00N | SUS6500N | SUSCT161C00N | SUSCT161E00N | SUSCT161G00N | SUSCT162E00N | SUSCT162I00N | SUSCT162M00N | SUSCT163Q00N | SUSCT163Q00R |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 1/26/2017 | 8/15/2017 | 1/30/2018 | 1/26/2017 | 8/11/2017 | 8/11/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/31/2017 | 1/30/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 6/29/2018 | 6/29/2018 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | **1.1 J** | | | **0.79 J** | **0.11 J** | | < 0.091 U | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | **0.36 J** | | | < 0.87 U | **0.096 J** | | < 0.091 U | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | < 0.099 U | | | R | < 0.095 U | | < 0.091 U | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | < 0.099 U | | | R | < 0.095 U | | < 0.091 U | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | < 0.099 U | | | < 0.87 U | < 0.095 U | | < 0.091 U | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | < 0.099 U | | | < 0.87 U | < 0.095 U | | < 0.091 U | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | **1.7 J** | | | **0.21 J** | **0.063 J** | | < 0.091 U | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | < 0.099 U | | | < 0.87 U | < 0.095 U | | < 0.091 U | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | < 0.099 U | | | < 0.87 U | < 0.095 U | | < 0.091 U | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | **1.2 J** | | | < 0.87 U | < 0.095 U | | < 0.091 U | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | < 0.099 U | | | R | < 0.095 U | | < 0.091 U | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | < 0.099 U | | | R | < 0.095 U | | < 0.091 U | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | < 0.099 U | | | R | < 0.095 U | | < 0.091 U | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | < 0.099 U | | | R | < 0.095 U | | < 0.091 U | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | < 0.099 U | | | R | < 0.095 U | | < 0.091 U | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | **0.82 J** | | | < 0.87 U | < 0.095 U | | < 0.091 U | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | < 0.099 U | | | < 0.87 U | < 0.095 U | | **0.026 J** | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | **22 J** | | | < 0.87 U | **0.52 J** | | < 0.091 U | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | < 0.099 U | | | R | < 0.095 U | | < 0.091 U | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | < 4.0 U | | | < 35 U | < 3.8 U | | < 3.6 U | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | < 0.099 U | | | < 0.87 U | < 0.095 U | | < 0.091 U | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 20 U | < 9.8 U | < 0.89 U | < 49 U | < 0.89 U | < 1.0 U | < 0.87 U | < 0.95 U | < 0.90 U | < 0.91 U | < 0.92 U | < 9.2 U | < 17 U | < 18 U | < 47 U | < 4.5 U | < 0.89 U | < 4.5 U | < 120 U | < 60 U |
| Aroclor-1221 | ug/kg | | | < 20 U | < 9.8 U | < 0.89 U | < 49 U | < 0.89 U | < 1.0 U | < 0.87 U | < 0.95 U | < 0.90 U | < 0.91 U | < 0.92 U | < 9.2 U | < 17 U | < 18 U | < 47 U | < 4.5 U | < 0.89 U | < 4.5 U | < 120 U | < 60 U |
| Aroclor-1232 | ug/kg | | | < 20 U | < 9.8 U | < 0.89 U | < 49 U | < 0.89 U | < 1.0 U | < 0.87 U | < 0.95 U | < 0.90 U | < 0.91 U | < 0.92 U | < 9.2 U | < 17 U | < 18 U | < 47 U | < 4.5 U | < 0.89 U | < 4.5 U | < 120 U | < 60 U |
| Aroclor-1242 | ug/kg | | | < 20 U | < 9.8 U | < 0.89 U | < 49 U | **30** | < 1.0 U | < 0.87 U | < 0.95 U | < 0.90 U | < 0.91 U | **55 J+** | < 9.2 U | < 17 U | < 18 U | < 47 U | < 4.5 U | < 0.89 U | < 4.5 U | < 120 U | < 60 U |
| Aroclor-1248 | ug/kg | | | **1500 J+** | **760 J+** | < 0.89 U | **2700 J+** | < 0.89 U | < 1.0 U | < 0.87 U | **44 J+** | **270 J+** | < 0.91 U | < 0.92 U | < 9.2 U | **260** | **240** | **610** | < 4.5 U | **54 J+** | < 4.5 U | < 120 U | < 60 U |
| Aroclor-1254 | ug/kg | | | **300 J+** | **440 J+** | < 0.89 U | **480 J+** | < 0.89 U | < 1.0 U | < 0.87 U | **23 J+** | **110 J+** | < 0.91 U | **18 J+** | < 9.2 U | < 17 U | < 18 U | < 47 U | < 4.5 U | **130 J+** | < 4.5 U | < 120 U | < 60 U |
| Aroclor-1260 | ug/kg | | | **190 J+** | **410 J+** | **13** | **270 J+** | **19** | < 1.0 U | **130 J+** | **8.2 J+** | **42 J+** | < 0.91 U | **70 J+** | **340** | **2100** | **4200** | **8000** | **130** | **120 J+** | **320** | **1600** | **1300** |
| Aroclor-1262 | ug/kg | | | < 20 U | < 9.8 U | < 0.89 U | < 49 U | < 0.89 U | < 1.0 U | < 0.87 U | < 0.95 U | < 0.90 U | < 0.91 U | < 0.92 U | < 9.2 U | < 17 U | < 18 U | < 47 U | < 4.5 U | < 0.89 U | < 4.5 U | < 120 U | < 60 U |
| Aroclor-1268 | ug/kg | | | < 20 U | < 9.8 U | < 0.89 U | < 49 U | < 0.89 U | < 1.0 U | **22 J+** | **1.6 J+** | **11 J+** | < 0.91 U | < 0.92 U | < 9.2 U | < 17 U | < 18 U | < 47 U | < 4.5 U | < 0.89 U | < 4.5 U | < 120 U | < 60 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **2000** | **1600** | **13** | **3500** | **49** | < 1 U | **150** | **77** | **430** | < 0.91 U | **140** | **340** | **2400** | **4400** | **8600** | **130** | **300** | **320** | **1600** | **1300** |

**Table 4-3**
**Surface Soil Results**
**PCBs and Pesticides Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPCT16-3R | SUSDPCT16-3S | SUSDPCT16-4W | SUSDPGD21-C3 | SUSDPGD21-C5 | SUSDPGD21-D1 | SUSDPGD21-E1 | SUSDPGD21-F1 | SUSDPGD21-G1 | SUSDPGD21-G2 | SUSDPGD21-H1 | SUSDPGD21-H2 | SUSDPGD21-I1 | SUSDPGD21-I2 | SUSDPGD21-J1 | SUSDPGD21-J2 | SUSDPGD21-K1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUSCT163R00N | SUSCT163S00N | SUSCT164W00N | SUSGD21C300N | SUSGD21C500N | SUSGD21D100N | SUSGD21E100N | SUSGD21F100N | SUSGD21G100N | SUSGD21G200N | SUSGD21H100N | SUSGD21H200N | SUSGD21I100N | SUSGD21I200N | SUSGD21J100N | SUSGD21J200N | SUSGD21K100N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 5/31/2018 | 3/15/2018 | 4/6/2018 | 7/2/2018 | 5/31/2018 | 5/30/2018 | 5/30/2018 | 5/30/2018 | 4/4/2018 | 4/4/2018 | 3/14/2018 | 3/14/2018 | 2/20/2018 | 2/20/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 93 U | < 9.1 U | < 2.3 U | < 9.6 U | < 50 U | < 86 U | < 8.5 U | < 9.8 U | < 910 U | < 8.4 U | < 8.5 U | < 8.6 U | < 0.85 U | < 0.84 U | < 0.85 U | < 0.86 U | < 0.84 U |
| Aroclor-1221 | ug/kg | | | < 93 U | < 9.1 U | < 2.3 U | < 9.6 U | < 50 U | < 86 U | < 8.5 U | < 9.8 U | < 910 U | < 8.4 U | < 8.5 U | < 8.6 U | < 0.85 U | < 0.84 U | < 0.85 U | < 0.86 U | < 0.84 U |
| Aroclor-1232 | ug/kg | | | < 93 U | < 9.1 U | < 2.3 U | < 9.6 U | < 50 U | < 86 U | < 8.5 U | < 9.8 U | < 910 U | < 8.4 U | < 8.5 U | < 8.6 U | < 0.85 U | < 0.84 U | < 0.85 U | < 0.86 U | < 0.84 U |
| Aroclor-1242 | ug/kg | | | < 93 U | < 9.1 U | < 2.3 U | < 9.6 U | < 50 U | < 86 U | < 8.5 U | < 9.8 U | < 910 U | < 8.4 U | < 8.5 U | < 8.6 U | < 0.85 U | < 0.84 U | < 0.85 U | < 0.86 U | < 0.84 U |
| Aroclor-1248 | ug/kg | | | < 93 U | < 9.1 U | < 2.3 U | < 9.6 U | < 50 U | < 86 U | < 8.5 U | < 9.8 U | < 910 U | < 8.4 U | < 8.5 U | < 8.6 U | **2.3** | **2.4 J** | < 0.85 U | < 0.86 U | < 0.84 U |
| Aroclor-1254 | ug/kg | | | **7600** | < 9.1 U | < 2.3 U | < 9.6 U | < 50 U | < 86 U | < 8.5 U | < 9.8 U | < 910 U | < 8.4 U | < 8.5 U | < 8.6 U | < 0.85 U | < 0.84 U | < 0.85 U | < 0.86 U | < 0.84 U |
| Aroclor-1260 | ug/kg | | | < 93 U | **230 J+** | **66** | **80** | < 50 U | **9600** | **36** | **99** | **56000** | **68** | **46** | **16** | **11** | **5.9** | **6.2** | **7.9** | **8.8** |
| Aroclor-1262 | ug/kg | | | < 93 U | < 9.1 U | < 2.3 U | < 9.6 U | < 50 U | < 86 U | < 8.5 U | < 9.8 U | < 910 U | < 8.4 U | < 8.5 U | < 8.6 U | < 0.85 U | < 0.84 U | < 0.85 U | < 0.86 U | < 0.84 U |
| Aroclor-1268 | ug/kg | | | < 93 U | < 9.1 U | < 2.3 U | < 9.6 U | < 50 U | < 86 U | < 8.5 U | < 9.8 U | < 910 U | < 8.4 U | < 8.5 U | < 8.6 U | < 0.85 U | < 0.84 U | < 0.85 U | < 0.86 U | < 0.84 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **7600** | **230** | **66** | **80** | < 50 U | **9600** | **36** | **99** | **56000** | **68** | **46** | **16** | **13** | **8.3** | **6.2** | **7.9** | **8.8** |

**Table 4-3**
**Surface Soil Results**
**PCBs and Pesticides Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPGD21-K1.5 | SUSDPGD21-K2 | SUSDPGD21-L1 | SUSDPGD21-L2 | SUSDPGD21-M1 | SUSDPGD21-M2 | SUSDPGD21-N1 | SUSDPGD21-N2 | SUSDPGD21-P1 | SUSDPGD21-R1 | SUSDPGD21-R1 | SUSDPGD21-R2 | SUSDPGD21-S1 | SUSDPGD21-S2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUSGD21K1.500N | SUSGD21K200N | SUSGD21L100N | SUSGD21L200N | SUSGD21M100N | SUSGD21M200N | SUSGD21N100N | SUSGD21N200N | SUSGD21P100N | SUSGD21R100N | SUSGD21R100R | SUSGD21R200N | SUSGD21S100N | SUSGD21S200N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 1/26/2018 | 1/24/2018 | 2/20/2018 | 2/20/2018 | 3/14/2018 | 3/14/2018 | 4/4/2018 | 4/4/2018 | 5/30/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/24/2018 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | FD | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 0.86 U | < 0.84 U | < 44 U | < 0.86 U | < 8.7 U | < 8.4 U | < 8.6 U | < 8.5 U | < 0.88 U | < 9.2 U | < 9.0 U | < 0.87 U | < 9.2 U | < 0.91 U |
| Aroclor-1221 | ug/kg | | | < 0.86 U | < 0.84 U | < 44 U | < 0.86 U | < 8.7 U | < 8.4 U | < 8.6 U | < 8.5 U | < 0.88 U | < 9.2 U | < 9.0 U | < 0.87 U | < 9.2 U | < 0.91 U |
| Aroclor-1232 | ug/kg | | | < 0.86 U | < 0.84 U | < 44 U | < 0.86 U | < 8.7 U | < 8.4 U | < 8.6 U | < 8.5 U | < 0.88 U | < 9.2 U | < 9.0 U | < 0.87 U | < 9.2 U | < 0.91 U |
| Aroclor-1242 | ug/kg | | | < 0.86 U | < 0.84 U | < 44 U | < 0.86 U | < 8.7 U | < 8.4 U | < 8.6 U | < 8.5 U | < 0.88 U | < 9.2 U | < 9.0 U | < 0.87 U | < 9.2 U | < 0.91 U |
| Aroclor-1248 | ug/kg | | | < 0.86 U | < 0.84 U | < 44 U | **2.7** | < 8.7 U | < 8.4 U | < 8.6 U | < 8.5 U | < 0.88 U | **29** | **25** | **2.0** | **34** | < 0.91 U |
| Aroclor-1254 | ug/kg | | | < 0.86 U | < 0.84 U | < 44 U | < 0.86 U | < 8.7 U | < 8.4 U | < 8.6 U | < 8.5 U | < 0.88 U | < 9.2 U | < 9.0 U | < 0.87 U | < 9.2 U | < 0.91 U |
| Aroclor-1260 | ug/kg | | | **13** | **6.8** | **4100** | **11** | **2300** | **30** | **53** | **61** | **2.0** | **41** | **36** | **3.0** | **57** | **48** |
| Aroclor-1262 | ug/kg | | | < 0.86 U | < 0.84 U | < 44 U | < 0.86 U | < 8.7 U | < 8.4 U | < 8.6 U | < 8.5 U | < 0.88 U | < 9.2 U | < 9.0 U | < 0.87 U | < 9.2 U | < 0.91 U |
| Aroclor-1268 | ug/kg | | | < 0.86 U | < 0.84 U | < 44 U | < 0.86 U | < 8.7 U | < 8.4 U | < 8.6 U | < 8.5 U | < 0.88 U | < 9.2 U | < 9.0 U | < 0.87 U | < 9.2 U | < 0.91 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **13** | **6.8** | **4100** | **14** | **2300** | **30** | **53** | **61** | **2.0** | **70** | **61** | **5.0** | **91** | **48** |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable
RSL Table, May 2018 Industrial Soil [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
SUSDP21-3G / SUS213600N: Two values reported due to re-analysis.

**Table 4-4**
**Surface Soil Results**
**Dioxins and Furans Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Location ID | SUS08-1A | SUS08-1B | SUS08-1C | SUS08-1D | SUS08-1F | SUS08-1G | SUS08-1H | SUS08-2A | SUS08-2B | SUS08-2F |
| | | | | | | | | | | | | Sample ID | SUS081A00N | SUS081B00N2 | SUS081C00N | SUS081D00N | SUS081F00N | SUS081G00N | SUS081H00N | SUS082A00N | SUS082B00N | SUS082F00N |
| | | | | | | | | | | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | | | | | | | | | | Sample Date | 1/24/2017 | 2/3/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 3/22/2017 | 3/22/2017 | 3/22/2017 |
| | | | | | | | | | | | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | | | | | | | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/g | | SW8290A | 67562-39-4 | 1280 | 0.417 | 89.8 | 18.9 | SUS10-2B | 68 | 69 | | **85.9** | **4.15** | **4.39** | **67.3** | **19.1** | **8.32** | **104** | **4.3** | **6.88** | **9.84** |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/g | | SW8290A | 35822-46-9 | 5320 | 3.71 | 450 | 116 | SUS10-2B | 69 | 69 | | **395** | **61.7** | **62.9** | **295** | **71.7** | **65** | **478** | **63.5** | **95.9** | **80.3** |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/g | | SW8290A | 55673-89-7 | 113 | 0.0447 | 9.5 | 2.67 | SUS10-2B | 56 | 69 | | **10** | **0.378 J** | **0.416 J** | **10.1** | **5.4** | **0.941 J** | **13.3** | **0.439 J** | < 0.452 U | **1.01 J** |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/g | | SW8290A | 70648-26-9 | 188 | 0.204 | 12.1 | 4.25 | SUS10-2B | 62 | 69 | | **21.1** | **0.521 JN** | **0.466 JN** | **14.8** | **6.64** | **1.31 J** | **17.9** | **0.409 J** | < 0.49 U | **1.83 J** |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | SW8290A | 39227-28-6 | 170 | 0.136 | 8.88 | 2.09 | SUS10-2B | 62 | 69 | | **18.3** | **0.367 JN** | **0.442 JN** | **13.5** | **2.39 J** | **0.763 J** | **14** | **0.377 JN** | **0.591 JN** | **0.644 JN** |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/g | | SW8290A | 57117-44-9 | 188 | 0.226 | 12.4 | 3.52 | SUS10-2B | 62 | 69 | | **19.7** | **0.532 J** | **0.491 J** | **13.9** | **2.87** | **1.16 J** | **16.5** | **0.389 J** | **0.548 J** | **1.27 J** |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | SW8290A | 57653-85-7 | 370 | 0.174 | 24.3 | 5.05 | SUS10-2B | 64 | 69 | | **33.9** | **1.48 J** | **1.95** | **25.4** | **11** | **2.23** | **31.3** | **1.52 J** | **2.14 J** | **2.77 JN** |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/g | | SW8290A | 72918-21-9 | 18.1 | 0.0723 | 1.92 | 1.14 | SUS10-2B | 38 | 69 | | **2.09 J** | < 0.0685 U | < 0.128 U | **2.18 J** | **0.342 JN** | **0.12 JN** | **1.58 J** | < 0.137 U | < 0.562 U | **0.195 J** |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/g | | SW8290A | 19408-74-3 | 306 | 0.219 | 17.4 | 4.16 | SUS10-2B | 65 | 69 | | **28.5** | **1.1 J** | **1.33** | **21.4** | **6.73** | **1.7** | **23.5** | **1.01 J** | **1.58 J** | **1.95 J** |
| 1,2,3,7,8-PeCDF | pg/g | | SW8290A | 57117-41-6 | 99.5 | 0.194 | 5.74 | 1.86 | SUS10-2B | 51 | 69 | | **16.2** | **0.227 JN** | **0.225 JN** | **9.92** | **2.47** | **0.662** | **11.5** | < 0.151 U | < 0.481 U | **0.627 J** |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/g | | SW8290A | 40321-76-4 | 156 | 0.186 | 8.4 | 2.59 | SUS10-2B | 54 | 69 | | **16.2** | **0.406 J** | **0.432 J** | **10.6** | **2.31 J** | **0.582 JN** | **12.4** | **0.186 JN** | < 0.607 U | **0.566 JN** |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/g | | SW8290A | 60851-34-5 | 223 | 0.0965 | 15.4 | 3.85 | SUS10-2B | 64 | 69 | | **23.6** | **0.925 J** | **0.886 J** | **20** | **3.1** | **1.98 J** | **20.2** | **0.853 J** | **0.78 JN** | **2.08 J** |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/g | | SW8290A | 57117-31-4 | 226 | 0.103 | 18.4 | 4.59 | SUS10-2B | 66 | 69 | | **24.5** | **1.61 J** | **1.73 J** | **17.3** | **3.1** | **3.02** | **18.3** | **1.81 J** | **1.81 J** | **4.17** |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/g | | SW8290A | 51207-31-9 | 70.3 | 0.177 | 6.25 | 2.31 | SUS10-2B | 56 | 69 | | **25** | **0.408** | **0.295 J** | **13.6** | **1.7** | **1.04** | **12.7** | **0.239 JN** | < 0.487 U | **1.14** |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/g | 22 | SW8290A | 1746-01-6 | 25.5 | 0.069 | 1.7 | 0.793 | SUS10-2B | 35 | 69 | | **2.65** | **0.124 J** | **0.069 JN** | **1.84** | **0.365 JN** | **0.0906 JN** | **2** | < 0.142 U | < 0.401 U | **0.115 J** |
| Octachlorochlorodibenzofuran | pg/g | | SW8290A | 39001-02-0 | 2700 | 0.898 | 204 | 36.3 | SUS10-1B | 68 | 69 | | **96.4** | **11.2** | **13.3** | **86** | **58.8** | **19.6** | **225** | **11.9** | **23** | **21.2** |
| Octachlorochlorodibenzo-p-dioxin | pg/g | | SW8290A | 3268-87-9 | 50300 | 55.9 | 4800 | 2210 | SUS10-1B | 69 | 69 | | **4030** | **1230** | **2070** | **3630** | **806** | **1540** | **6770** | **1450** | **1840** | **1860** |
| Total HpCDD | pg/g | | SW8290A | 37871-00-4 | 9560 | 8.62 | 846 | 240 | SUS10-2B | 69 | 69 | | **760** | **117** | **121** | **577** | **147** | **127** | **1040** | **132** | **194** | **165** |
| Total HpCDF | pg/g | | SW8290A | 38998-75-3 | 3110 | 0.968 | 243 | 45.7 | SUS10-2B | 68 | 69 | | **172** | **12.4** | **14** | **138** | **43.6** | **21.7** | **252** | **13.9** | **23.1** | **25.9** |
| Total HxCDD | pg/g | | SW8290A | 34465-46-8 | 3200 | 1.76 | 183 | 53.2 | SUS10-2B | 68 | 69 | | **324** | **15.8** | **16.2** | **277** | **96.8** | **21.3** | **282** | **15.4** | **18** | **28.1** |
| Total HxCDF | pg/g | | SW8290A | 55684-94-1 | 2650 | 0.831 | 218 | 47 | SUS10-2B | 68 | 69 | | **222** | **12.7** | **12.3** | **165** | **39.9** | **22.6** | **198** | **10.8** | **12.8** | **28.5** |
| Total PeCDD | pg/g | | SW8290A | 36088-22-9 | 3080 | 0.156 | 202 | 22.4 | SUSDP08 | 67 | 69 | | **200** | **4.75** | **3.95** | **149** | **43.2** | **7.81** | **157** | **2.31** | **0.441** | **7.42** |
| Total PeCDF | pg/g | | SW8290A | 30402-15-4 | 2280 | 0.559 | 218 | 51.9 | SUSDP18 | 67 | 69 | | **221** | **15.3** | **16.7** | **166** | **31** | **26.8** | **180** | **17.5** | **19.3** | **38.9** |
| Total TCDD | pg/g | | SW8290A | 41903-57-5 | 800 | 0.411 | 37.2 | 10.5 | SUS10-2B | 60 | 69 | | **86.9** | **2.05** | **1.45** | **67.6** | **17.7** | **4.47** | **73.1** | **0.527** | **0.411** | **3.99** |
| Total TCDF | pg/g | | SW8290A | 55722-27-5 | 4380 | 2.33 | 175 | 40.2 | SUSDP18 | 65 | 69 | | **225** | **9.33** | **9** | **154** | **24.5** | **16.9** | **151** | **6.81** | **6.57** | **18.4** |
| TCDD TEQ HH | pg/g | 22 | SW8290A | DFTEQ-HH | 484 | 0.101 | 28.8 | 7.45 | SUS10-2B | 69 | 69 | | **50.1** | **2.59** | **2.91** | **35.2** | **8.38** | **3.84** | **42.1** | **2.33** | **2.69** | **4.61** |

# Table 4-4
## Surface Soil Results
## Dioxins and Furans Concentrations in Surface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUS08-2H | SUS08-2I | SUS08-2I | SUS08-2J | SUS08-2N | SUS08-2O | SUS08-2P | SUS10-1A | SUS10-1B | SUS10-1B | SUS10-1C | SUS10-1D | SUS10-1E | SUS10-1F | SUS10-1G | SUS10-1H | SUS10-2A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS082H00N | SUS082I00N | SUS082I00R | SUS082J00N | SUS082N00N | SUS082O00N | SUS082P00N | SUS101A00N | SUS101B00N | SUS101B00R | SUS101C00N | SUS101D00N | SUS101E00N | SUS101F00N | SUS101G00N | SUS101H00N2 | SUS102A00N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 3/22/2017 | 3/22/2017 | 3/22/2017 | 3/22/2017 | 3/22/2017 | 3/23/2017 | 3/22/2017 | 1/27/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/27/2017 | 1/27/2017 | 2/3/2017 | 3/23/2017 |
| | | | Type | N | N | FD | N | N | N | N | N | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/g | | | 7.99 | 23.4 J | 13.6 J | 18.7 J | 22.9 | 8.02 | 9.34 | 265 | 654 | 438 | 156 | 1.81 JN | 2.69 | 63 | 115 | 428 | 58.6 |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/g | | | 64.8 | 124 | 99.7 | 117 J | 138 | 80.9 | 116 | 2440 | 4010 | 2660 | 1100 | 35.9 | 12.3 | 378 | 534 | 1680 | 321 |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/g | | | 0.629 JN | 3.21 | 1.67 J | 1.49 JN | 2.47 J | 0.653 JN | 0.821 J | 19.6 | 56.6 J | 40.6 | 10.3 | < 0.451 U | < 0.438 U | 4.85 | 8.96 | 35.4 | 5.98 |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/g | | | 1.26 JN | 6.92 | 2.91 | 3.13 J | 4.46 | 1.04 J | 1.19 J | 29.4 | 59.6 | 37.4 | 11.9 | < 0.351 U | 0.407 J | 6.94 | 13.7 | 35.7 | 7.35 |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | 0.422 JN | 3.09 | 1.53 J | 1.93 J | 3.24 | 0.473 J | 0.588 J | 24.2 | 12.2 | 9.76 | 9.84 | < 0.587 U | < 0.513 U | 7.71 | 9.77 | 44.9 | 6.62 |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/g | | | 1.15 J | 4.73 | 2.09 J | 2.63 J | 3.88 | 0.929 J | 0.896 J | 27 | 27.9 | 20.2 | 13.1 | 0.712 JN | 0.83 JN | 7.2 | 11.4 | 42.4 | 6.71 |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | 1.72 J | 6.53 | 3.9 | 5.26 J | 7.48 | 2.04 J | 3.03 | 119 | 108 J | 77.3 | 34.9 | < 0.56 U | < 0.551 U | 23.6 | 28 | 107 | 17.1 |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/g | | | < 0.229 U | 0.863 J | < 0.469 U | < 0.353 UJ | 0.497 J | 0.165 J | 0.0793 JN | 3.4 JN | 7.73 J | 4.18 | 2.27 J | < 0.482 U | < 0.468 U | 0.754 J | 1.77 J | 2.77 | 0.603 J |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/g | | | 0.926 JN | 5.56 | 3.02 JN | 4 J | 5.92 | 1.35 J | 1.73 J | 57.4 | 31 | 23.9 | 30.8 | 0.674 JN | < 0.57 U | 14.8 | 21.1 | 89.8 | 13.1 |
| 1,2,3,7,8-PeCDF | pg/g | | | 0.43 J | 2.45 JN | 1.11 JN | 0.913 JN | 2.35 J | 0.406 J | 0.54 J | 7.6 | 7.78 | 5.21 | 2.71 | < 0.208 U | < 0.239 U | 4.01 | 3.38 | 18.4 | 2.61 |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/g | | | 0.502 J | 2.67 | 1.17 J | 1.51 J | 2.92 | 0.249 JN | 0.486 J | 12.1 | 8.46 | 6.52 | 6.56 | < 0.359 U | < 0.441 U | 4.42 | 7.77 | 27.1 | 4.8 |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/g | | | 1.95 J | 6.49 | 3.07 | 4.25 J | 5.36 | 1.72 J | 1.53 J | 39.4 | 56 | 40.9 | 25.9 | 2.05 J | 2.77 | 9.67 | 15.3 | 68.8 | 9.82 |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/g | | | 3.78 | 7.45 | 3.78 | 4.87 J | 6.09 | 3.31 | 2.81 | 45.9 | 84.4 | 67.1 | 42.7 | 3.73 | 5.45 | 8.3 | 17.6 | 41.4 | 9.22 |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/g | | | 0.758 | 5.2 J | 2.06 JN | 1.65 J | 6.69 | 0.485 J | 1.25 | 8.54 | 5.77 | 4.48 | 2.94 JN | 0.177 JN | < 0.269 U | 1.91 | 4.94 | 22.3 | 2.87 |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/g | 22 | | < 0.214 U | 0.477 JN | < 0.223 U | < 0.461 UJ | 0.561 | 0.0813 JN | 0.112 J | 1.4 | 0.688 | 0.825 JN | 0.925 JN | < 0.312 U | < 0.369 U | 0.451 J | 0.793 JN | 2.48 | 0.715 |
| Octachlorochlorodibenzofuran | pg/g | | | 18.8 | 38.4 | 23.2 | 30.9 J | 34.7 | 19.1 | 29.3 | 483 | 2700 | 1840 | 342 | 2.81 J | 1.35 JN | 104 | 226 | 721 | 122 |
| Octachlorochlorodibenzo-p-dioxin | pg/g | | | 1540 | 2440 | 2210 | 2630 J | 2820 | 1580 | 3190 | 17300 J | 50300 J | 35200 J | 8820 | 3360 | 618 | 2900 | 7610 | 10400 J | 2190 |
| Total HpCDD | pg/g | | | 135 | 255 | 194 | 240 J | 274 | 159 | 231 | 4180 | 7750 | 5090 | 2030 | 77.8 | 24.8 | 750 | 1030 | 3160 | 616 |
| Total HpCDF | pg/g | | | 21.1 | 51.1 | 31.4 J | 43 J | 51 | 22.3 | 27.8 | 717 | 2610 | 1760 | 416 | 4.12 | 5.53 | 151 | 281 | 904 | 143 |
| Total HxCDD | pg/g | | | 18.9 | 76.5 J | 40 J | 53.2 J | 75 | 17.5 | 26.3 | 601 | 519 | 373 | 308 | 7.01 | 2.94 | 171 | 222 | 1030 | 142 |
| Total HxCDF | pg/g | | | 28.5 | 61.8 J | 32.7 J | 42.8 J | 51.2 | 22.1 | 22 | 644 | 1220 | 834 | 383 | 23.5 | 31.8 | 135 | 238 | 757 | 123 |
| Total PeCDD | pg/g | | | 5.56 | 37 J | 14.4 J | 17.8 J | 35.7 | 3.85 | 5.48 | 109 | 101 | 77.1 | 78 | 0.745 | 0.596 | 64.6 | 80.7 | 420 | 60.9 |
| Total PeCDF | pg/g | | | 37.2 | 59.2 | 45.8 | 51.6 J | 51.9 | 29.2 | 25.9 | 397 | 667 | 520 | 390 | 40.3 | 57.1 | 79.1 | 182 | 480 | 95 |
| Total TCDD | pg/g | | | 1.48 | 21.8 J | 6.25 J | 3.5 J | 15.8 | 3.08 | 2.87 | 49.7 | 41 | 31 | 55 | < 0.312 U | < 0.369 U | 25.3 | 30.7 | 122 | 23.5 |
| Total TCDF | pg/g | | | 20.7 | 60.2 J | 29.5 J | 13.9 J | 47.4 | 17.9 | 18.4 | 166 | 193 | 159 | 139 | 14.3 | 18.9 | 40.3 | 88 | 319 | 59.5 |
| TCDD TEQ HH | pg/g | 22 | | 3.67 | 11.6 | 6.01 | 7.45 | 11.6 | 3.53 | 4.71 | 90.9 | 129 | 91.9 | 49.0 | 2.87 | 2.37 | 20.1 | 33.5 | 109 | 19.3 |

**Table 4-4**
**Surface Soil Results**
**Dioxins and Furans Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUS10-2B | SUS10-2D | SUS10-2E | SUS10-2F | SUS10-2L | SUS10-2M | SUS10-2N | SUS10-2O | SUS10-2P | SUS181A | SUS181B | SUS181C | SUS181D | SUS181E | SUS181F | SUS181G | SUS181H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS102B00N | SUS102D00N | SUS102E00N | SUS102F00N | SUS102L00N | SUS102M00N | SUS102N00N | SUS102O00N | SUS102P00N | SUS181A00N | SUS181B00N | SUS181C00N | SUS181D00N | SUS181E00N | SUS181F00N | SUS181G00N | SUS181H00N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 3/23/2017 | 3/23/2017 | 3/23/2017 | 3/22/2017 | 3/22/2017 | 3/22/2017 | 3/22/2017 | 3/22/2017 | 3/23/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/25/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/g | | | **1280** | **290** | **574** | **0.91 J** | **18.1 J** | **17.2 J** | **19.2 J** | **6.29** | **164** | **0.417 JN** | **0.784 JN** | **2.19 JN** | **33.2** | **1.72 JN** | **14.9** | **2.31 J** | **41.6** |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/g | | | **5320 J** | **1400** | **2110** | **48** | **138 J** | **111 J** | **130 J** | **85.5** | **789** | **3.71** | **6.36** | **7.18** | **205** | **9.61** | **203** | **9.09** | **153** |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/g | | | **113** | **25** | **28.3** | < 0.0688 U | **1.02 JN** | **1.64 J** | < 0.644 UJ | < 0.442 U | **14.4** | **0.0447 JN** | < 0.399 U | < 0.39 U | **3.5** | < 0.404 U | **0.65 J** | **0.738 J** | **2.72** |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/g | | | **188** | **32** | **36.6** | **0.204 JN** | **1.89 J** | **2.02 JN** | **1.77 JN** | **0.986 J** | **14.1** | < 0.0808 U | < 0.333 U | **0.388 JN** | **5.3** | < 0.311 U | **0.596 JN** | **1.18 J** | **4.04** |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | **170** | **23.1** | **28.5** | **0.632 J** | **2.04 J** | **1.99 J** | **1.51 J** | **0.423 JN** | **14.5** | **0.136 J** | < 0.683 U | < 0.501 U | **2.92** | < 0.54 U | < 0.546 U | **0.257 J** | **2.91** |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/g | | | **188** | **30.4** | **53.3** | **0.226 J** | **1.91 J** | **2.11 J** | **1.46 JN** | **0.688 JN** | **14.1** | < 0.074 U | < 0.312 U | < 0.385 U | **6.29** | < 0.29 U | < 0.444 U | **0.633 JN** | **3.8** |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | **370** | **64.2** | **105** | **0.82 J** | **4.53 J** | **4.7 J** | **4.03 J** | **2.11 J** | **40.8** | **0.174 JN** | < 0.683 U | < 0.517 U | **13.3** | < 0.603 U | **2.83 JN** | **0.847** | **8.27** |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/g | | | **18.1** | **2.1 J** | **4.51** | < 0.0694 U | < 0.524 UJ | < 0.345 UJ | < 0.564 UJ | < 0.418 U | **1.31 J** | < 0.101 U | < 0.408 U | < 0.529 U | **1.13 JN** | < 0.413 U | < 0.589 U | **0.0723 JN** | **0.235 J** |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/g | | | **306** | **47.9** | **79.9** | **1.4 J** | **4.71 J** | **3.92 J** | **2.81 J** | **0.904 JN** | **31.2** | **0.219 J+** | < 0.749 U | < 0.548 U | **6.54** | < 0.623 U | **1.2 J** | **0.766** | **5.52** |
| 1,2,3,7,8-PeCDF | pg/g | | | **99.5** | **10.2** | **9.93** | < 0.153 U | < 0.546 UJ | **0.814 J** | < 0.584 UJ | < 0.256 U | **4.23** | < 0.0543 U | < 0.341 U | < 0.291 U | **1.07 J** | < 0.149 U | < 0.388 U | **0.996 JN** | **1.86** |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/g | | | **156** | **15.2** | **20.9** | **0.298 JN** | **1.16 JN** | **1.63 J** | **0.662 JN** | < 0.293 U | **8.92** | < 0.102 U | < 0.622 U | < 0.434 U | **2.5 JN** | < 0.491 U | < 0.577 U | < 0.128 U | **2.29 J** |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/g | | | **223** | **52.1** | **110** | **0.267 J** | **3.5 J** | **3.29 J** | **2.02 JN** | **0.926 J** | **21.5** | **0.0965 J** | < 0.332 U | < 0.426 U | **14.9** | < 0.294 U | **0.784 J** | **0.991 J** | **4.92** |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/g | | | **226** | **78.2** | **192** | **0.445 J** | **4.88 J** | **4.03 J** | **3.97 JN** | **1.67 JN** | **19.2** | **0.103 JN** | < 0.336 U | **0.685 JN** | **30.1** | **0.954 J** | **1.61 J** | **2.06 J** | **5.71** |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/g | | | **70.3** | **10.3** | **9.18** | **0.331 J** | < 0.98 UJ | **1.26 J** | < 0.908 UJ | < 0.438 U | **4.02** | < 0.08 U | < 0.414 U | < 0.346 U | **1.4** | < 0.21 U | < 0.403 U | **0.251 J** | **1.03** |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/g | 22 | | **25.5** | **1.89** | **2.63** | **0.0825 J** | < 0.596 UJ | **0.565 JN** | < 0.48 UJ | < 0.335 U | **1.03** | < 0.0963 U | < 0.526 U | < 0.489 U | < 0.404 U | < 0.298 U | < 0.473 U | < 0.0926 U | **0.325 J** |
| Octachlorochlorodibenzofuran | pg/g | | | **2330** | **648** | **780** | **1.23 J** | **36.3 J** | **36.2 J** | **34 J** | **15.6** | **394** | **0.898 JN** | **1.48 JN** | **4.19 JN** | **64.4** | **2.86 JN** | **43.5** | **6.12** | **77.9** |
| Octachlorochlorodibenzo-p-dioxin | pg/g | | | **34600 J** | **10200 J** | **16200 J** | **4200** | **5240 J** | **3930 J** | **3540 J** | **2190** | **4900** | **55.9** | **97.9** | **178** | **1580** | **242** | **1500** | **192** | **1440** |
| Total HpCDD | pg/g | | | **9560** | **2550** | **3780** | **100** | **302** | **226 J** | **251 J** | **166** | **1410** | **8.62** | **13.7** | **16.7** | **416** | **21.9** | **356** | **20.4** | **282** |
| Total HpCDF | pg/g | | | **3110** | **782** | **1180** | **1.35** | **44.1** | **43.2 J** | **47.2 J** | **19** | **406** | **0.968** | **1.63** | **3.54** | **91.6** | **3.13** | **52.7** | **5.2** | **98.2** |
| Total HxCDD | pg/g | | | **3200** | **454** | **797** | **16** | **57.3** | **56.3 J** | **43.6 J** | **18.6** | **291** | **1.76** | < 0.703 U | **4.14** | **91.4** | **5.27** | **26.2** | **9.35** | **64.4** |
| Total HxCDF | pg/g | | | **2650** | **797** | **1650** | **2.55** | **41.7** | **36.9 J** | **33.2 J** | **15.9** | **293** | **0.841** | **0.831** | **4.38** | **200** | **2.71** | **16.8** | **12.3** | **84.2** |
| Total PeCDD | pg/g | | | **1720** | **146** | **215** | **3.06** | **18.4** | **22.4 J** | **9.84 J** | **1.26** | **96.7** | **0.156** | < 0.622 U | **2.79** | **34.9** | < 0.491 U | **1.13** | **5.23** | **30.7** |
| Total PeCDF | pg/g | | | **2210** | **753** | **1770** | **3.71** | **43.4** | **42.7 J** | **45.4 J** | **21** | **208** | **0.559** | < 0.338 U | **7.96** | **289** | **6.89** | **11.8** | **16.2** | **53.6** |
| Total TCDD | pg/g | | | **800** | **61.3** | **107** | **1.83** | **1.42** | **7.41 J** | < 0.48 U | < 0.335 U | **32.7** | < 0.0963 U | < 0.526 U | < 0.489 U | **13.7** | **0.866** | < 0.473 U | **2.32** | **13** |
| Total TCDF | pg/g | | | **1660** | **241** | **466** | **6.36** | **9.03** | **11.6 J** | **7.39 J** | **2.46** | **81.2** | < 0.08 U | < 0.414 U | **6.66** | **106** | **2.33** | **3.81** | **6.6** | **24.7** |
| TCDD TEQ HH | pg/g | 22 | | **484** | **87.5** | **156** | **2.65** | **7.64** | **7.85** | **5.78** | **2.68** | **41.3** | **0.152** | **0.101** | **0.393** | **19.7** | **0.473** | **3.67** | **1.33** | **9.88** |

**Table 4-4**
**Surface Soil Results**
**Dioxins and Furans Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUS25 | SUSDP01 | SUSDP01 | SUSDP02 | SUSDP08 | SUSDP08-1E | SUSDP08-1E | SUSDP08-2G | SUSDP08-3I | SUSDP08-3K | SUSDP09 | SUSDP10 | SUSDP10-3F | SUSDP10-3G | SUSDP10-3X | SUSDP11 | SUSDP17 | SUSDP18 | SUSDP19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS2500N | SUS0100N | SUS0100R | SUS0200N | SUS0800N | SUS081E00N | SUS081E00R | SUS082G00N | SUS083I00N | SUS083K00N | SUS0900N | SUS1000N | SUS103F00N | SUS103G00N | SUS103X00N | SUS1100N | SUS1700N | SUS1800N | SUS1900N |
| | | | Depth | 0.5 - 1 ft | 0.33 - 1 ft | 0.33 - 1 ft | 0.33 - 0.83 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0.83 - 1 ft |
| | | | Sample Date | 2/7/2013 | 2/4/2013 | 2/4/2013 | 2/4/2013 | 2/5/2013 | 1/24/2017 | 1/24/2017 | 3/22/2017 | 8/2/2017 | 8/3/2017 | 2/5/2013 | 2/5/2013 | 8/8/2017 | 8/8/2017 | 8/8/2017 | 2/5/2013 | 2/6/2013 | 2/6/2013 | 2/6/2013 |
| | | | Type | N | N | FD | N | N | N | FD | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/g | | | 12.2 | 5.59 J | 4.11 J | 3.37 J | 71.3 | 65.9 | 57.9 | 7.85 | 12.8 | 16.7 | 9.09 | 73.7 | 286 | 117 | 14.7 | 75.0 | 11.2 | 20.1 | 49.4 |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/g | | | 48.4 | 23.0 | 17.3 | 19.5 | 339 | 267 J | 234 | 74.6 | 54.6 J | 70.6 | 56.2 | 287 | 1300 | 690 | 85.7 | 279 | 36.5 | 52.9 | 237 |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/g | | | 1.85 JN | 0.803 J | 0.450 J | 0.512 JN | 9.87 JN | 8.28 | 7.07 | 0.77 J | < 0.543 U | 1.5 | 1.14 JN | 6.23 | 25.8 | 8.26 | < 0.393 U | 9.95 | 0.659 JN | 9.06 | 4.04 J |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/g | | | 1.62 J | 1.59 J | 0.599 J | 0.482 JN | 12.8 | 13.8 | 11.1 | 1.02 JN | 1.18 J | 2.29 | 1.37 J | 10.8 JN | 38.8 | 12.4 | 2.32 | 17.0 | 1.32 JN | 17.6 J | 4.50 J |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | 0.877 JN | 1.13 JN | 0.838 J | 0.428 JN | 15.7 | 9.01 | 8.55 | 0.736 J | < 0.611 U | 1.93 | 1.44 JN | 3.90 J | 21.3 | 8.92 | 1.47 J | 21.2 | 0.939 JN | 3.82 JN | 3.15 J |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/g | | | 1.41 JN | 0.861 J | 0.699 JN | 1.48 JN | 16.6 JN | 12.4 | 10.7 | 1.07 J | 1.16 JN | 2.37 | 3.03 JN | 12.0 JN | 30.8 | 11.2 | 1.99 | 25.1 JN | 3.52 JN | 79.4 JN | 6.45 JN |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | 2.44 J | 1.76 J | 1.37 J | 0.937 JN | 26.7 | 17.8 | 16.9 | 2.13 JN | 2 | 4.12 | 2.39 J | 12.3 | 62.8 | 29.3 | 4.84 | 37.9 | 3.60 J | 14.3 | 8.24 |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/g | | | < 0.270 U | < 0.101 U | < 0.0853 U | < 0.132 U | 1.31 J | 1.43 J | 1.24 J | < 0.315 U | < 0.474 U | 0.392 J | < 0.112 U | 0.451 JN | 3.87 | 1.14 J | 0.255 JN | 1.57 J | < 0.147 U | 0.524 J | 0.270 JN |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/g | | | 2.76 JN | 2.69 J | 2.16 J | 0.907 J | 30.9 J | 15.9 | 14.3 | 1.81 J | 1.53 | 3.21 JN | 2.61 JN | 8.99 J | 43.3 | 21.9 | 2.72 | 49.4 J | 4.12 J | 9.19 | 6.62 |
| 1,2,3,7,8-PeCDF | pg/g | | | < 0.230 U | 0.292 JN | 0.228 JN | 0.194 J | 7.19 | 9.19 | 6.66 | 0.368 J | 0.51 J | 1 J | 0.480 J | 1.58 J | 11.1 | 3.56 | 1.58 J | 10.5 | < 0.204 U | 1.61 J | 0.966 JN |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/g | | | 2.32 JN | 1.04 JN | 0.738 JN | < 0.163 U | 11.0 JN | 7.79 | 7.38 | 0.37 JN | < 0.516 U | 1.74 | 2.79 JN | 14.8 JN | 13.2 | 6.05 | 1.19 J | 25.1 JN | 1.50 JN | 6.51 JN | 5.18 JN |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/g | | | 0.801 JN | 1.03 JN | 0.807 J | 0.603 JN | 14.3 | 15.5 | 13.4 | 2 J | 1.86 | 3.52 | 1.74 J | 5.17 JN | 46.3 | 17.8 | 2.73 | 19.4 | 1.40 JN | 4.95 J | 2.40 J |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/g | | | 0.570 JN | 0.460 JN | 0.470 J | 0.497 J | 14.2 | 13.6 | 12 | 2.49 | 1.54 JN | 3.62 | 1.33 J | 4.31 J | 61.6 | 23.1 | 3.41 | 19.1 | 0.877 JN | 4.99 JN | 2.49 J |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/g | | | 1.11 J | 0.643 JN | 0.384 JN | 0.376 JN | 25.9 J | 14.8 | 9.47 | 0.534 | < 0.285 U | 2.03 | 0.793 J | 3.24 J | 12.3 | 3.43 | 2.67 | 31.2 J | 0.591 JN | 2.81 JN | 2.79 J |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/g | 22 | | < 0.341 U | < 0.189 U | < 0.179 U | < 0.193 U | 0.983 JN | 1.55 | 1.35 | < 0.197 U | < 0.306 U | < 0.218 U | < 0.143 U | 0.489 JN | 1.77 | 0.903 | 0.369 | 3.27 | < 0.279 U | < 0.317 U | < 0.274 U |
| Octachlorochlorodibenzofuran | pg/g | | | 27.1 J | 7.83 J | 5.75 J | 5.66 J | 77.5 J | 89.5 | 72.9 | 15.9 | 34.3 | 30.1 | 18.5 | 162 | 716 | 242 | 35.3 | 48.3 | 9.63 J | 39.2 | 142 |
| Octachlorochlorodibenzo-p-dioxin | pg/g | | | 487 J | 198 | 147 | 1200 | 4200 J | 5110 | 4690 | 1430 | 858 | 911 | 1140 | 3380 | 9950 J | 5600 | 776 | 1260 | 300 | 395 | 4550 J |
| Total HpCDD | pg/g | | | 130 | 44.4 | 34.3 | 50.1 | 702 | 538 | 479 | 149 | 116 | 140 | 111 | 576 | 2340 | 1200 | 157 | 524 | 67.1 | 118 | 429 |
| Total HpCDF | pg/g | | | 34.8 JN | 11.4 JN | 8.71 J | 7.87 JN | 156 JN | 134 | 119 | 20.7 | 31.3 | 36 | 26.0 JN | 213 | 819 | 302 | 36.9 | 137 | 22.8 JN | 56.4 | 162 JN |
| Total HxCDD | pg/g | | | 32.4 JN | 21.5 JN | 16.9 JN | 10.3 JN | 279 | 181 | 163 | 21.5 | 20.2 | 45.9 | 32.7 JN | 99.2 JN | 438 | 220 | 33.8 | 396 JN | 30.8 JN | 157 JN | 55.1 JN |
| Total HxCDF | pg/g | | | 34.7 JN | 11.7 JN | 9.19 JN | 27.6 JN | 209 JN | 145 | 123 | 21.4 | 21.4 | 35.4 | 66.5 JN | 275 JN | 697 | 264 | 35.1 | 276 JN | 58.5 JN | 815 JN | 139 JN |
| Total PeCDD | pg/g | | | 170 JN | 7.85 JN | 5.86 JN | 26.1 JN | 3080 JN | 97.2 | 89.7 | 4.7 | 3.77 | 24.1 | 152 JN | 2200 JN | 141 | 65.4 | 18.6 | 1020 JN | 10.6 JN | 2200 JN | 175 JN |
| Total PeCDF | pg/g | | | 32.7 JN | 9.80 JN | 7.78 JN | 45.1 JN | 216 JN | 125 | 110 | 23.5 | 16.8 | 33 | 107 JN | 358 JN | 529 | 211 | 31 | 427 JN | 121 JN | 2280 JN | 148 JN |
| Total TCDD | pg/g | | | 2.37 JN | 2.34 JN | 1.58 JN | 0.827 J | 64.7 JN | 47 | 54.9 J | 2.91 | 0.715 | 7.69 | 4.16 JN | 17.5 JN | 57.8 | 29.1 | 10.5 | 132 JN | 1.15 JN | 24.9 JN | 6.56 JN |
| Total TCDF | pg/g | | | 28.0 JN | 5.19 JN | 3.71 JN | 35.3 JN | 202 JN | 122 | 95.8 | 12.9 | 2.9 | 24.4 | 81.3 JN | 338 JN | 237 | 84.7 | 40.2 | 538 JN | 153 JN | 4380 JN | 123 JN |
| TCDD TEQ HH | pg/g | 22 | | 4.37 | 2.51 | 1.84 | 1.27 | 36.4 | 28.7 | 25.5 | 3.32 | 2.19 | 6.01 | 5.55 | 27.0 | 79.0 | 34.5 | 5.78 | 58.7 | 3.89 | 22.3 | 13.7 |

**Table 4-4**
**Surface Soil Results**
**Dioxins and Furans Concentrations in Surface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SUSDP48 | SUSDP48 | SUSDP49 | SUSDP50 | SUSDP51 | SUSDP52 |
| | | | Sample ID | SUS4800N | SUS4800R | SUS4900N | SUS5000N | SUS5100N | SUS5200N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 |
| | | | Type | N | FD | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/g | | | **27.4** | **35.1** | **27.1** | **35.4** | **1.27 J** | < 0.217 U |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/g | | | **120** | **133** | **151** | **115** | **51.5** | **28.9** |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/g | | | **2.26 J** | **2.5 JN** | **2.62** | **1.87 J** | < 0.21 U | < 0.268 U |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/g | | | **4.53** | **5.84** | **4.68** | **2.2 J** | < 0.246 U | < 0.248 U |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | **2.14 J** | **1.63 J** | **2.22 J** | **1.11 JN** | **0.877 J** | **0.97 J** |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/g | | | **3.52** | **5.05** | **3.72** | **2.72** | < 0.217 U | < 0.243 U |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | **4.45 JN** | **5.26** | **5.64** | **3.53** | **1.38 J** | **0.783 JN** |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/g | | | **0.528 J** | < 0.444 U | **0.753 J** | < 0.974 U | < 0.318 U | < 0.345 U |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/g | | | **4.16** | **4.28** | **4.56** | **2.55** | **2.49** | **1.81 JN** |
| 1,2,3,7,8-PeCDF | pg/g | | | **1.66 JN** | **2.33 J** | **1.47 JN** | < 0.536 U | < 0.163 U | < 0.255 U |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/g | | | **1.34 JN** | **1.46 J** | **1.59 J** | < 0.945 U | < 0.345 U | < 0.367 U |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/g | | | **5.56** | **7.5** | **6.68** | **4.17** | < 0.234 U | < 0.229 U |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/g | | | **8.1** | **10.8** | **13** | **5.63** | < 0.169 U | < 0.238 U |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/g | | | **2.48** | **3.13** | **2.14** | **0.696** | < 0.28 U | < 0.282 U |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/g | 22 | | < 0.422 U | < 0.353 U | < 0.25 U | < 0.516 U | < 0.286 U | < 0.439 U |
| Octachlorochlorodibenzofuran | pg/g | | | **70.5** | **71.3** | **70.4** | **94** | **2.81 J** | < 0.58 U |
| Octachlorochlorodibenzo-p-dioxin | pg/g | | | **2670** | **2690** | **2660** | **1220** | **3560** | **971** |
| Total HpCDD | pg/g | | | **274** | **295** | **374** | **259** | **132** | **68.5** |
| Total HpCDF | pg/g | | | **72.2** | **81.8** | **79.6** | **92.8** | **2.9** | < 0.24 U |
| Total HxCDD | pg/g | | | **54.7** | **53.1** | **57.7** | **33.1** | **33.8** | **29.9** |
| Total HxCDF | pg/g | | | **65.4** | **90.7** | **90.6** | **61.4** | **1.09** | < 0.262 U |
| Total PeCDD | pg/g | | | **19.5** | **20.1** | **19.6** | **1.81** | **1.85** | **1.94** |
| Total PeCDF | pg/g | | | **71.4** | **95.7** | **106** | **48.8** | **1.15** | < 0.247 U |
| Total TCDD | pg/g | | | **10.5** | **10.9** | **8.97** | < 0.516 U | **1.79** | **1.4** |
| Total TCDF | pg/g | | | **56.1** | **67.4** | **58.2** | **12.9** | < 0.28 U | < 0.282 U |
| TCDD TEQ HH | pg/g | 22 | | **8.88** | **10.6** | **11.2** | **5.30** | **2.07** | **0.937** |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable
RSL Table, May 2018 Industrial Soil [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
pg/g = picograms per gram

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | Location ID | DP01 | DP01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Sample ID | DPS0103N | DPS0110N |
| | | | | | | | | | | | Depth | 2.5 - 3.5 ft | 9.5 - 10.5 ft |
| | | | | | | | | | | | Sample Date | 5/20/2013 9:40:00 AM | 5/20/2013 12:10:00 PM |
| | | | | | | | | | | | Type | N | N |
| Analyte | Unit | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| Antimony | ppm | XRF | 7440-36-0 | 134.96 | 8.82 | 25.564 | 24.97 | DP11 | 105 | 121 | | **25.2** | **31.36** |
| Arsenic | ppm | XRF | 7440-38-2 | 147.59 | 1.46 | 9.7668 | 4.755 | DP42 | 118 | 121 | | **4.55** | **2.59** |
| Barium | ppm | XRF | 7440-39-3 | 3431.51 | 81.36 | 315.214 | 282.65 | DP45 | 120 | 121 | | **239.96** | **321.68** |
| Cadmium | ppm | XRF | 7440-43-9 | 16.71 | 3.77 | 10.4 | 11.19 | SUS01 | 30 | 121 | | **12.62** | **11.68** |
| Calcium | ppm | XRF | 7440-70-2 | 95763.73 | 157.11 | 9087.351 | 1738.31 | SUS23 | 119 | 121 | | **5340.55** | **1622.37** |
| Chromium | ppm | XRF | 7440-47-3 | 185.17 | 10.07 | 48.707 | 42.37 | SUS13 | 104 | 121 | | **23.87** | **15.63** |
| Cobalt | ppm | XRF | 7440-48-4 | 304.84 | 31.05 | 102.82 | 73.425 | DP42 | 18 | 121 | | < 32.23 | < 36.68 |
| Copper | ppm | XRF | 7440-50-8 | 657.78 | 11.81 | 47.174 | 22.665 | DP43 | 120 | 121 | | **22.55** | **18.97** |
| Iron | ppm | XRF | 7439-89-6 | 68225.77 | 3874.21 | 18098.39 | 16579.92 | DP42 | 121 | 121 | | **10728.02** | **13343.04** |
| Lead | ppm | XRF | 7439-92-1 | 1599.37 | 2.77 | 66.2244 | 14.95 | SUS01 | 120 | 121 | | **31.63** | **7.76** |
| Manganese | ppm | XRF | 7439-96-5 | 731.13 | 80.35 | 258.29 | 239.06 | DP45 | 121 | 121 | | **240.77** | **430.65** |
| Mercury | ppm | XRF | 7439-97-6 | 639.98 | 3 | 13.517 | 3.645 | DP45 | 68 | 121 | | **3.66** | **3.49** |
| Nickel | ppm | XRF | 7440-02-0 | 447.18 | 21.88 | 62.676 | 55.475 | SUS08 | 120 | 121 | | **44.3** | **52.64** |
| Potassium | ppm | XRF | 7440-09-7 | 17718.45 | 844.46 | 8364.277 | 8172.21 | DP20 | 121 | 121 | | **6969.28** | **4975.03** |
| Selenium | ppm | XRF | 7782-49-2 | 5.81 | 0.95 | 1.67 | 1.2 | DP42 | 14 | 121 | | < 1.01 | < 1.02 |
| Silver | ppm | XRF | 7440-22-4 | 9.48 | 2.3 | 4.61 | 4.01 | DP17 | 9 | 121 | | < 6.52 | < 6.58 |
| Vanadium | ppm | XRF | 7440-62-2 | 1414.89 | 5.16 | 94.977 | 79.52 | SUS08 | 121 | 121 | | **56.42** | **49.45** |
| Zinc | ppm | XRF | 7440-66-6 | 2133.8 | 11.02 | 82.89 | 32.63 | SUS01 | 121 | 121 | | **29.95** | **25.72** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP01 | DP02 | DP02 | DP03 | DP03 | DP04 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPS0115N | DPS0210N | DPS0215N | DPS0310N | DPS0315N | DPS0410N |
| | | | Depth | 14 - 15 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft |
| | | | Sample Date | 5/20/2013 12:15:00 PM | 5/20/2013 9:46:00 AM | 5/20/2013 9:49:00 AM | 5/21/2013 10:15:00 AM | 5/21/2013 10:20:00 AM | 5/20/2013 2:00:00 PM |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | **24.97** | **27.63** | **19.97** | **40** | **22.81** | **26.41** |
| Arsenic | ppm | XRF | | **2.87** | **3.21** | **1.88** | **4.32** | **4.72** | **3.47** |
| Barium | ppm | XRF | | **310.09** | **277.38** | **235.56** | **305.8** | **274.13** | **301.81** |
| Cadmium | ppm | XRF | | < 9.62 | **12.93** | < 10.13 | < 10.85 | < 10.29 | < 10.58 |
| Calcium | ppm | XRF | | **1363.25** | **523.82** | **405.82** | **751.26** | **677.2** | **1768.93** |
| Chromium | ppm | XRF | | **26.39** | **17.58** | < 10.8 | **25.47** | **15.79** | **25.33** |
| Cobalt | ppm | XRF | | < 25.42 | < 35.9 | < 31.62 | < 45.98 | < 40.81 | < 48.12 |
| Copper | ppm | XRF | | **16.54** | **20.6** | **15.35** | **19.72** | **15.95** | **22.01** |
| Iron | ppm | XRF | | **6227.58** | **13323.43** | **10333.41** | **21479.37** | **16899.92** | **22990.23** |
| Lead | ppm | XRF | | **6.19** | **6.11** | **4.25** | **4.7** | **5.99** | **7.84** |
| Manganese | ppm | XRF | | **110.98** | **233.37** | **228.02** | **375.35** | **288.22** | **616.54** |
| Mercury | ppm | XRF | | **3.45** | < 2.83 | < 2.81 | **3.29** | **4.96** | **4.64** |
| Nickel | ppm | XRF | | **53.92** | **44.68** | **41.37** | **57.64** | **52.25** | **58.87** |
| Potassium | ppm | XRF | | **9482.19** | **7089.88** | **4060.98** | **6247.82** | **8499.4** | **7159.77** |
| Selenium | ppm | XRF | | < 0.99 | < 1.02 | < 0.97 | < 1.04 | < 1.02 | < 1.05 |
| Silver | ppm | XRF | | < 6.04 | < 6.61 | < 6.52 | < 6.91 | < 6.68 | < 6.73 |
| Vanadium | ppm | XRF | | **62.97** | **45.57** | **25.23** | **50.98** | **45.57** | **64.9** |
| Zinc | ppm | XRF | | **15.29** | **16.93** | **12.44** | **21.14** | **18.4** | **26.16** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP04 | DP05 | DP05 | DP05 | DP06 | DP06 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPS0415N | DPS0505N | DPS0510N | DPS0515N | DPS0605N | DPS0610N |
| | | | Depth | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft |
| | | | Sample Date | 5/20/2013 2:05:00 PM | 5/15/2013 10:40:00 AM | 5/21/2013 8:35:00 AM | 5/21/2013 8:37:00 AM | 5/15/2013 3:50:00 PM | 5/22/2013 8:10:00 AM |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | **23.59** | **30.84** | **28.59** | **29.18** | **26.53** | **26.79** |
| Arsenic | ppm | XRF | | **4.72** | **2.96** | **2.62** | **3.28** | **6.42** | **4.02** |
| Barium | ppm | XRF | | **257.61** | **265.91** | **270.57** | **254.55** | **338.39** | **320.52** |
| Cadmium | ppm | XRF | | < 10.37 | < 10.36 | **11.15** | < 10.37 | **12.1** | < 10.26 |
| Calcium | ppm | XRF | | **2462.72** | **377.38** | **746.65** | **500.86** | **1141.61** | **953.32** |
| Chromium | ppm | XRF | | **32.03** | < 11.61 | < 12.37 | **27.94** | **46.84** | **30.34** |
| Cobalt | ppm | XRF | | < 40.89 | < 33.94 | < 35.18 | < 35.79 | < 46.89 | < 41.47 |
| Copper | ppm | XRF | | **23.32** | **14.93** | **17.4** | **21.07** | **23.26** | **21.27** |
| Iron | ppm | XRF | | **17106.12** | **11668.74** | **12831.32** | **12898.94** | **21905.46** | **17476.52** |
| Lead | ppm | XRF | | **6.99** | **5.01** | **5.08** | **5.25** | **9.41** | **7.73** |
| Manganese | ppm | XRF | | **277.28** | **180.23** | **152.9** | **409.24** | **297.91** | **192.7** |
| Mercury | ppm | XRF | | < 2.91 | **3.85** | **3.57** | **3.26** | **3.74** | **3.45** |
| Nickel | ppm | XRF | | **52.89** | **50.77** | **52.07** | **48.3** | **63.69** | **56.36** |
| Potassium | ppm | XRF | | **6865.23** | **5793.55** | **5584.31** | **4463.6** | **12441.5** | **11224.17** |
| Selenium | ppm | XRF | | < 1.03 | < 1.03 | < 1.01 | < 1.02 | < 1.06 | < 1.06 |
| Silver | ppm | XRF | | < 6.42 | < 6.71 | < 6.44 | < 6.37 | < 6.7 | < 6.54 |
| Vanadium | ppm | XRF | | **60.63** | **33.73** | **55.1** | **30.8** | **86.57** | **80.09** |
| Zinc | ppm | XRF | | **23.78** | **11.02** | **14.78** | **16.7** | **35.63** | **27.01** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | DP06 | DP07 | DP07 | DP08 | DP08 | DP09 |
| | | | Sample ID | DPS0615N | DPS0710N | DPS0715N | DPS0810N | DPS0815N | DPS0905N |
| | | | Depth | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft |
| | | | Sample Date | 5/22/2013 8:12:00 AM | 5/22/2013 9:30:00 AM | 5/22/2013 9:35:00 AM | 5/23/2013 12:25:00 PM | 5/23/2013 12:30:00 PM | 5/17/2013 11:05:00 AM |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | **19.19** | **25.04** | **20.77** | **27.27** | < 12.09 | **18.82** |
| Arsenic | ppm | XRF | | **4.38** | **4.62** | **4.25** | **7.51** | **13.08** | **2.22** |
| Barium | ppm | XRF | | **235.21** | **371.52** | **378.71** | **426.1** | **270.83** | **321.98** |
| Cadmium | ppm | XRF | | < 10.56 | < 10.43 | < 9.84 | < 10.57 | < 9.05 | < 9.89 |
| Calcium | ppm | XRF | | **275.24** | **4265.65** | **1877** | **6630.27** | **2243.4** | **2888.15** |
| Chromium | ppm | XRF | | **19.02** | **66.94** | **47.79** | **65.6** | **77.09** | **34.53** |
| Cobalt | ppm | XRF | | < 41.72 | < 43.29 | **40.5** | < 49.74 | **59.27** | **89.72** |
| Copper | ppm | XRF | | **16.79** | **29.15** | **27.96** | **33.65** | **39.21** | **23.91** |
| Iron | ppm | XRF | | **18034.63** | **17826.38** | **14750.26** | **22908.67** | **17210.63** | **11505.34** |
| Lead | ppm | XRF | | **5.14** | **17.19** | **22.85** | **25.32** | **53.55** | **12.88** |
| Manganese | ppm | XRF | | **298** | **278.77** | **268.36** | **329.36** | **159.27** | **156.6** |
| Mercury | ppm | XRF | | < 2.92 | **3.44** | < 2.95 | < 3.18 | **3.2** | < 2.91 |
| Nickel | ppm | XRF | | **57.09** | **65.84** | **58.98** | **81.85** | **41.53** | **50.88** |
| Potassium | ppm | XRF | | **5906.56** | **15209.39** | **10346.72** | **17133.35** | **11697.3** | **12537.58** |
| Selenium | ppm | XRF | | < 1.03 | < 1.07 | < 1.05 | < 1.13 | < 1.02 | < 1.06 |
| Silver | ppm | XRF | | < 6.71 | < 6.62 | < 6.21 | < 6.61 | < 5.77 | < 6.36 |
| Vanadium | ppm | XRF | | **41.9** | **103.93** | **98.25** | **136.32** | **117.35** | **90.5** |
| Zinc | ppm | XRF | | **17.84** | **48.69** | **37.5** | **74.16** | **72.45** | **31.05** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP09 | DP09 | DP10 | DP10 | DP11 | DP11 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPS0910N | DPS0915N | DPS1010N | DPS1015N | DPS1110N | DPS1115N |
| | | | Depth | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft |
| | | | Sample Date | 6/11/2013 9:30:00 AM | 6/11/2013 9:35:00 AM | 6/10/2013 | 6/10/2013 | 5/28/2013 11:00:00 AM | 5/28/2013 11:03:00 AM |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | < 13.13 | **26.85** | **31.75** | **15.74** | **134.96** | **22.06** |
| Arsenic | ppm | XRF | | **14.47** | **4.53** | **4.52** | **2.49** | **33.26** | **2.44** |
| Barium | ppm | XRF | | **219.22** | **273.65** | **257.34** | **193.74** | **276.74** | **274.8** |
| Cadmium | ppm | XRF | | < 9.87 | < 10.12 | **11.37** | < 9.44 | < 9.46 | < 9.29 |
| Calcium | ppm | XRF | | **373.88** | **278.85** | **701.8** | **1738.31** | **3223** | **1624.07** |
| Chromium | ppm | XRF | | **81.58** | **32.29** | < 13.88 | **38.19** | **50.91** | **34.9** |
| Cobalt | ppm | XRF | | **165.29** | < 44.42 | < 45.15 | < 36.28 | < 30.83 | < 29.19 |
| Copper | ppm | XRF | | **49.43** | **20.79** | **16.55** | **19.82** | **34.07** | **19.41** |
| Iron | ppm | XRF | | **61321.32** | **20385.86** | **21538.38** | **14091.66** | **8907.96** | **8494.38** |
| Lead | ppm | XRF | | **13.29** | **6.04** | **4.42** | **4** | **1253.84** | **17.85** |
| Manganese | ppm | XRF | | **124.67** | **106.92** | **388.86** | **326.97** | **143.65** | **160** |
| Mercury | ppm | XRF | | < 3.42 | **3.17** | < 2.87 | < 2.73 | **3.17** | < 2.72 |
| Nickel | ppm | XRF | | **72.81** | **53.88** | **56.5** | **45.21** | **57.41** | **48.82** |
| Potassium | ppm | XRF | | **16622** | **6243.86** | **5723.94** | **6725.31** | **11459.09** | **8802.52** |
| Selenium | ppm | XRF | | < 1.2 | < 1.04 | < 1.03 | < 0.98 | **1.65** | < 0.99 |
| Silver | ppm | XRF | | < 6.29 | < 6.69 | < 6.68 | < 6.04 | < 5.99 | < 5.82 |
| Vanadium | ppm | XRF | | **162** | **45.18** | **52.2** | **43.4** | **127.03** | **95.28** |
| Zinc | ppm | XRF | | **52** | **15.89** | **23.6** | **22.51** | **40.68** | **29.34** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP12 | DP12 | DP12 | DP13 | DP13 | DP13 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPS1205N | DPS1210N | DPS1215N | DPS1305N | DPS1310N | DPS1310N 060713 |
| | | | Depth | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 9.5 - 10.5 ft |
| | | | Sample Date | 6/13/2013 10:30:00 AM | 6/13/2013 10:35:00 AM | 6/13/2013 10:40:00 AM | 5/20/2013 11:30:00 AM | 5/29/2013 | 6/7/2013 |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | < 13.07 | **23.42** | **19.84** | **27.02** | **26.33** | **30.23** |
| Arsenic | ppm | XRF | | **20.93** | **3.7** | **3.02** | **7.09** | **6.41** | **7.95** |
| Barium | ppm | XRF | | **283.72** | **302.27** | **283.78** | **318.07** | **273.87** | **421.25** |
| Cadmium | ppm | XRF | | < 9.77 | < 9.55 | < 9.2 | < 10.12 | **13.39** | < 10.14 |
| Calcium | ppm | XRF | | **8589.66** | **985.9** | **1170.52** | **3563.35** | **2353.17** | **2758.47** |
| Chromium | ppm | XRF | | **54.26** | **62.43** | **51.51** | **40.06** | **52** | **51.24** |
| Cobalt | ppm | XRF | | < 40.85 | < 33.04 | < 29.01 | < 34.64 | < 31.2 | < 46.62 |
| Copper | ppm | XRF | | **101.25** | **20.33** | **21.61** | **70.6** | **21.91** | **35.8** |
| Iron | ppm | XRF | | **17060.22** | **11210.54** | **8475.55** | **12105.88** | **9918.05** | **20897.09** |
| Lead | ppm | XRF | | **125.43** | **9.35** | **8.62** | **182.02** | **171.91** | **37.05** |
| Manganese | ppm | XRF | | **240.99** | **142.13** | **163.86** | **183.2** | **167.63** | **266.99** |
| Mercury | ppm | XRF | | **5.94** | < 2.78 | < 2.76 | **4.92** | **3** | **3.13** |
| Nickel | ppm | XRF | | **70.01** | **60.47** | **53.04** | **52.99** | **57.44** | **61** |
| Potassium | ppm | XRF | | **8860.15** | **11709.7** | **9286.09** | **6334.88** | **4313.29** | **15210.91** |
| Selenium | ppm | XRF | | < 1.06 | < 0.99 | < 1 | < 1.09 | < 1.06 | < 1.09 |
| Silver | ppm | XRF | | < 6.3 | < 5.82 | < 5.84 | < 6.23 | < 6.56 | < 6.6 |
| Vanadium | ppm | XRF | | **103.87** | **99.06** | **88.37** | **58.94** | **43.57** | **126.13** |
| Zinc | ppm | XRF | | **142.56** | **27.42** | **18.33** | **116.74** | **35.29** | **63.52** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP13 | DP14 | DP15 | DP15 | DP16 | DP16 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPS1315N | DPS1403N | DPS1504N | DPS1515N | DPS1605N | DPS1610N |
| | | | Depth | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 3.5 - 4.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft |
| | | | Sample Date | 5/29/2013 | 5/22/2013 10:10:00 AM | 5/21/2013 12:40:00 PM | 6/10/2013 | 5/15/2013 3:00:00 PM | 6/10/2013 |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | **21.33** | < 12.29 | **32.54** | **21.88** | **27.85** | **26.87** |
| Arsenic | ppm | XRF | | **4.93** | **10.39** | **8.5** | **4.62** | **5.42** | **3.12** |
| Barium | ppm | XRF | | **264.62** | **240.4** | **352.78** | **325.12** | **302.01** | **253.74** |
| Cadmium | ppm | XRF | | < 9.56 | < 9.28 | < 9.81 | < 9.47 | **10.63** | < 10.35 |
| Calcium | ppm | XRF | | **1070.07** | **6768.46** | **2768.87** | **3075.13** | **675.44** | **366** |
| Chromium | ppm | XRF | | **62.82** | **74.52** | **117.59** | **51.05** | **40.47** | **14.26** |
| Cobalt | ppm | XRF | | < 39.53 | < 39.19 | < 42.82 | < 33.22 | < 40.36 | < 39.96 |
| Copper | ppm | XRF | | **18.84** | **36.45** | **39.46** | **29.69** | **21.23** | **16.66** |
| Iron | ppm | XRF | | **16311.59** | **15950.22** | **18082.94** | **11184.89** | **16040.18** | **16360.55** |
| Lead | ppm | XRF | | **5.23** | **42.97** | **31.66** | **18.22** | **8.77** | **5.75** |
| Manganese | ppm | XRF | | **129.2** | **232.99** | **282.66** | **218.08** | **209.7** | **146.12** |
| Mercury | ppm | XRF | | < 2.85 | < 2.88 | < 2.97 | **3.79** | **3.13** | **3.82** |
| Nickel | ppm | XRF | | **67.19** | **80.43** | **65.29** | **54.14** | **56.78** | **48.81** |
| Potassium | ppm | XRF | | **9795.7** | **13568.56** | **12144.11** | **10309.3** | **9572.31** | **5608.29** |
| Selenium | ppm | XRF | | **1.13** | < 1.03 | < 1.06 | < 1.01 | < 1.05 | < 1.03 |
| Silver | ppm | XRF | | < 6.1 | < 5.76 | < 6.29 | < 6.15 | < 6.26 | < 6.7 |
| Vanadium | ppm | XRF | | **107.01** | **97.67** | **117.95** | **102.38** | **96.7** | **45.62** |
| Zinc | ppm | XRF | | **17.8** | **46.76** | **44.4** | **32.63** | **26.67** | **12.1** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP16 | DP17 | DP17 | DP17 | DP18 | DP18 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPS1615N | DPS1705N | DPS1710N | DPS1715N | DPS1803N | DPS1810N |
| | | | Depth | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft |
| | | | Sample Date | 6/10/2013 | 5/23/2013 10:30:00 AM | 6/11/2013 7:35:00 AM | 6/11/2013 7:40:00 AM | 5/23/2013 9:30:00 AM | 6/4/2013 11:00:00 AM |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | **21.57** | **38.58** | **16.17** | **41.58** | **25.55** | **22.43** |
| Arsenic | ppm | XRF | | **4.62** | **3.84** | **7.36** | **3.93** | **2.69** | **6.13** |
| Barium | ppm | XRF | | **249.38** | **302.62** | **270.5** | **438.24** | **304.17** | **273.24** |
| Cadmium | ppm | XRF | | < 10.65 | **15.46** | < 10.86 | < 10.73 | < 10.49 | < 11 |
| Calcium | ppm | XRF | | **202.21** | **710.57** | **270.3** | **394.87** | **580.85** | **408.74** |
| Chromium | ppm | XRF | | **22.15** | **31.71** | < 17.56 | **52.63** | **26.89** | **22.94** |
| Cobalt | ppm | XRF | | < 46.9 | < 41.74 | < 65.79 | **44.7** | < 33.11 | < 54.59 |
| Copper | ppm | XRF | | **22.11** | **22.52** | **21.2** | **27.14** | **16.78** | **21.8** |
| Iron | ppm | XRF | | **22366.78** | **17332.43** | **40773.86** | **15959.19** | **11048.22** | **29130.37** |
| Lead | ppm | XRF | | **6.91** | **7.14** | **7.12** | **15.5** | **8.25** | **7.77** |
| Manganese | ppm | XRF | | **264.13** | **227.14** | **243.61** | **162.94** | **389.87** | **151.37** |
| Mercury | ppm | XRF | | < 2.98 | **3.22** | **4.27** | **3.64** | **3.19** | **3.27** |
| Nickel | ppm | XRF | | **52.55** | **42.29** | **62.57** | **66.61** | **36.95** | **56.84** |
| Potassium | ppm | XRF | | **8497.16** | **9428.03** | **4657.76** | **12287.04** | **7414.51** | **5238.91** |
| Selenium | ppm | XRF | | < 1.04 | < 1.05 | < 1.13 | < 1.08 | < 1.01 | < 1.11 |
| Silver | ppm | XRF | | < 6.84 | **9.48** | < 7.08 | < 6.8 | < 6.93 | < 6.9 |
| Vanadium | ppm | XRF | | **65.38** | **50.3** | **68.17** | **112.32** | **44.74** | **65.22** |
| Zinc | ppm | XRF | | **19.64** | **17.34** | **24.99** | **34.78** | **29.26** | **19.49** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP18 | DP19 | DP19 | DP19 | DP20 | DP20 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPS1818N | DPS1902N | DPS1910N | DPS1915N | DPS2005N | DPS2010N |
| | | | Depth | 17.5 - 18.5 ft | 1.5 - 2.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft |
| | | | Sample Date | 6/4/2013 11:05:00 AM | 5/23/2013 11:45:00 AM | 6/5/2013 | 6/5/2013 | 5/30/2013 | 6/12/2013 7:30:00 AM |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | **29.71** | **46.4** | **17.89** | **26.15** | **21.16** | **35.88** |
| Arsenic | ppm | XRF | | **3.49** | **6.02** | **21.72** | **2.04** | **4.47** | **6.26** |
| Barium | ppm | XRF | | **241.64** | **450.64** | **344.45** | **231.63** | **381.46** | **330.84** |
| Cadmium | ppm | XRF | | < 10.38 | < 10.84 | < 10.33 | < 9.89 | < 9.98 | **16.48** |
| Calcium | ppm | XRF | | **157.11** | **15165.16** | **31131.43** | **1027.39** | **726.37** | **476.15** |
| Chromium | ppm | XRF | | < 15.82 | **53.78** | **26.8** | < 9.82 | **77.04** | **62.16** |
| Cobalt | ppm | XRF | | < 50.82 | < 42.83 | < 41.16 | < 21.49 | < 42.62 | < 42.71 |
| Copper | ppm | XRF | | **18.42** | **83.22** | **330.41** | **11.81** | **27.2** | **17.54** |
| Iron | ppm | XRF | | **27181.5** | **17576.11** | **16579.92** | **4288.06** | **17709.15** | **18985.38** |
| Lead | ppm | XRF | | **3.94** | **248.59** | **642.67** | **7.4** | **15.42** | **8.99** |
| Manganese | ppm | XRF | | **135.29** | **299.43** | **398.52** | **80.35** | **156.06** | **172.95** |
| Mercury | ppm | XRF | | **3.6** | **3.3** | < 3.11 | < 2.7 | **3.78** | **3.07** |
| Nickel | ppm | XRF | | **62.14** | **70.37** | **51.27** | **35.83** | **75.31** | **56.78** |
| Potassium | ppm | XRF | | **2837.13** | **10386.38** | **10083.06** | **2263.21** | **17718.45** | **6973.66** |
| Selenium | ppm | XRF | | < 1.05 | < 1.16 | < 1.24 | < 0.95 | < 1.06 | < 1.03 |
| Silver | ppm | XRF | | < 6.67 | < 6.96 | < 6.4 | < 6.28 | < 6.27 | < 6.66 |
| Vanadium | ppm | XRF | | **41.7** | **91.96** | **117.33** | **18.13** | **154** | **81.24** |
| Zinc | ppm | XRF | | **18.43** | **118.69** | **527.45** | **20.91** | **43.45** | **21.94** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
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| | | | Location ID | DP20 | DP22 | DP22 | DP22 | DP23 | DP23 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPS2018N | DPS2203N | DPS2210N | DPS2215N | DPS2305N | DPS2310N |
| | | | Depth | 17.5 - 18.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft |
| | | | Sample Date | 6/12/2013 7:40:00 AM | 5/22/2013 12:40:00 PM | 6/12/2013 10:55:00 AM | 6/12/2013 11:00:00 AM | 5/28/2013 11:45:00 AM | 6/12/2013 9:30:00 AM |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | < 13.35 | **20.05** | < 14.08 | < 11.93 | **21.32** | **20.12** |
| Arsenic | ppm | XRF | | **6.54** | **6.28** | **7.62** | **6.12** | **3.42** | **3.3** |
| Barium | ppm | XRF | | **165.44** | **385.51** | **248.01** | **243.2** | **266.65** | **355.79** |
| Cadmium | ppm | XRF | | < 9.95 | < 10.28 | < 10.63 | < 8.85 | **13.5** | < 9.55 |
| Calcium | ppm | XRF | | **598.36** | **22144.49** | **903.72** | **1177.22** | **732.89** | **489.97** |
| Chromium | ppm | XRF | | **33.96** | **46.94** | **63.68** | **44.27** | **28.16** | **53.91** |
| Cobalt | ppm | XRF | | < 55.45 | < 40.2 | < 68.51 | < 28.47 | < 32.36 | **31.05** |
| Copper | ppm | XRF | | **20.61** | **92** | **39.81** | **23.96** | **19.17** | **22.93** |
| Iron | ppm | XRF | | **32156.3** | **15773.1** | **43054.89** | **7937.78** | **10628.46** | **8522.37** |
| Lead | ppm | XRF | | **5.05** | **54.38** | **9.28** | **10.44** | **4.17** | **11.53** |
| Manganese | ppm | XRF | | **152.4** | **277.25** | **166.74** | **126.42** | **154.68** | **132.27** |
| Mercury | ppm | XRF | | < 2.95 | **3.21** | < 3.27 | < 2.75 | < 2.82 | < 2.92 |
| Nickel | ppm | XRF | | **54.04** | **65** | **78.95** | **46.21** | **41.51** | **58** |
| Potassium | ppm | XRF | | **3542.44** | **8570.24** | **12551.37** | **10852.04** | **7330** | **12280.02** |
| Selenium | ppm | XRF | | < 1.03 | < 1.08 | < 1.17 | < 0.99 | < 1.01 | < 1.05 |
| Silver | ppm | XRF | | < 6.35 | < 6.52 | < 6.59 | < 5.65 | < 6.63 | < 6.02 |
| Vanadium | ppm | XRF | | **90.07** | **79.52** | **132.78** | **115.1** | **53.83** | **90.18** |
| Zinc | ppm | XRF | | **14.65** | **47.18** | **55.13** | **26.45** | **13.71** | **25.14** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP23 | DP24 | DP24 | DP24 | DP36 | DP36 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPS2315N | DPS2405N | DPS2410N | DPS2415N | DPS3605N | DPS3610N |
| | | | Depth | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft |
| | | | Sample Date | 6/12/2013 9:35:00 AM | 5/20/2013 2:00:00 PM | 6/4/2013 | 6/4/2013 | 5/17/2013 1:20:00 PM | 5/20/2013 8:40:00 AM |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | **20.04** | **32.56** | **19.25** | **23.49** | **32.16** | **30.83** |
| Arsenic | ppm | XRF | | **9.72** | **4.47** | **3.6** | **4.7** | **3.76** | **2.51** |
| Barium | ppm | XRF | | **411.52** | **296.2** | **302.46** | **247.86** | **288.49** | **296** |
| Cadmium | ppm | XRF | | < 10.74 | < 11.04 | **12.23** | < 10.2 | **10.89** | < 10.44 |
| Calcium | ppm | XRF | | **403.16** | **977.67** | **573.27** | **256.39** | **1135.94** | **901.64** |
| Chromium | ppm | XRF | | **90.48** | **32.79** | **34.41** | **17.8** | < 12.34 | **18.17** |
| Cobalt | ppm | XRF | | **168.62** | < 41.75 | < 41.93 | < 39.85 | < 34.71 | < 41.24 |
| Copper | ppm | XRF | | **35.25** | **14.99** | **22.66** | **15.13** | **18.54** | **21.51** |
| Iron | ppm | XRF | | **40956.64** | **18445.05** | **17223.52** | **16522.21** | **12195.67** | **17999.45** |
| Lead | ppm | XRF | | **15.85** | **8.65** | **7.72** | **4.8** | **5.26** | **6.21** |
| Manganese | ppm | XRF | | **153.12** | **216.7** | **179.55** | **110.17** | **152.43** | **434.23** |
| Mercury | ppm | XRF | | < 3.19 | < 2.9 | < 2.98 | **3.01** | **4.34** | **3.07** |
| Nickel | ppm | XRF | | **63.18** | **40.95** | **54.52** | **59.89** | **49.39** | **54.64** |
| Potassium | ppm | XRF | | **13138.52** | **9381.68** | **11205.49** | **3632.59** | **5864.3** | **7562.52** |
| Selenium | ppm | XRF | | < 1.15 | < 1.05 | < 1.06 | < 1.02 | < 1.02 | < 1 |
| Silver | ppm | XRF | | < 6.64 | < 7.17 | < 6.7 | < 6.67 | < 6.67 | < 6.76 |
| Vanadium | ppm | XRF | | **153** | **70.71** | **51.76** | **42.96** | **50.14** | **45.04** |
| Zinc | ppm | XRF | | **30.04** | **30.4** | **21.76** | **12.14** | **24.57** | **23.37** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
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| | | | Location ID | DP36 | DP37 | DP37 | DP37 | DP38 | DP38 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPS3615N | DPS3703N | DPS3710N | DPS3715N | DPS3805N | DPS3810N |
| | | | Depth | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft |
| | | | Sample Date | 5/20/2013 8:45:00 AM | 5/16/2013 10:00:00 AM | 5/23/2013 8:35:00 AM | 5/23/2013 8:38:00 AM | 5/16/2013 | 5/22/2013 11:55:00 AM |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | **22.18** | **17.72** | **20.23** | **38.81** | **27.73** | < 12.83 |
| Arsenic | ppm | XRF | | **1.46** | **13.45** | **2.78** | **3.4** | **3.27** | **3.13** |
| Barium | ppm | XRF | | **253.06** | **371.88** | **251.5** | **279.06** | **278.78** | **212.67** |
| Cadmium | ppm | XRF | | < 10.07 | < 10.84 | < 10.33 | < 10.6 | **14.56** | < 9.55 |
| Calcium | ppm | XRF | | **647.88** | **9458.44** | **773.34** | **674.88** | **1191.58** | **1400.29** |
| Chromium | ppm | XRF | | < 12.59 | **108.62** | **14.31** | < 12.12 | **28.29** | **59.15** |
| Cobalt | ppm | XRF | | < 36.18 | < 56.44 | < 35.47 | < 38.45 | < 41.52 | < 48.36 |
| Copper | ppm | XRF | | **14.66** | **62.74** | **14.86** | **16.67** | **19.82** | **21.9** |
| Iron | ppm | XRF | | **13688.29** | **29995.47** | **13250.22** | **15657.85** | **13715.32** | **25212.71** |
| Lead | ppm | XRF | | **7.06** | **56.2** | **7.15** | **2.77** | **7.58** | **5.54** |
| Manganese | ppm | XRF | | **354.44** | **423.19** | **195.64** | **377.98** | **137.56** | **509.71** |
| Mercury | ppm | XRF | | **3.24** | **5.32** | < 2.85 | **3.89** | **5.5** | < 2.83 |
| Nickel | ppm | XRF | | **47.12** | **82.81** | **47.18** | **47.12** | **40.55** | **52.88** |
| Potassium | ppm | XRF | | **3648.36** | **14181.22** | **6891.56** | **5261.29** | **7326.26** | **7310.84** |
| Selenium | ppm | XRF | | < 0.97 | < 1.16 | < 1.02 | < 1.02 | < 1.23 | < 0.99 |
| Silver | ppm | XRF | | < 6.28 | < 6.78 | < 6.54 | < 6.53 | **7.23** | < 5.96 |
| Vanadium | ppm | XRF | | **35.47** | **109.58** | **54.63** | **42.1** | **56.02** | **81.22** |
| Zinc | ppm | XRF | | **21.78** | **76.94** | **18.83** | **17.95** | **22.73** | **53.42** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
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| | | | Location ID | DP38 | DP39 | DP39 | DP39 | DP40 | DP40 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPS3815N | DPS3903N | DPS3910N | DPS3915N | DPS4003N | DPS4010N |
| | | | Depth | 14 - 15 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft |
| | | | Sample Date | 5/22/2013 12:00:00 PM | 5/17/2013 10:00:00 AM | 5/22/2013 12:20:00 PM | 5/22/2013 12:25:00 PM | 5/20/2013 1:00:00 PM | 5/28/2013 7:45:00 AM |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | **26.37** | **37.53** | **19.3** | **25.95** | **16.93** | < 12.91 |
| Arsenic | ppm | XRF | | **4.11** | **6.72** | **4.62** | **3.32** | **24.3** | **32.64** |
| Barium | ppm | XRF | | **264.83** | **267.01** | **309.04** | **343.77** | **299.22** | **349.28** |
| Cadmium | ppm | XRF | | < 10.73 | **11.84** | < 10.09 | < 9.67 | < 10.07 | < 9.67 |
| Calcium | ppm | XRF | | **1062.79** | < 80.35 | **8778.33** | **2361.67** | **53252.66** | **2737.19** |
| Chromium | ppm | XRF | | **23.24** | < 17.19 | **65.39** | **58.66** | **83** | **119.06** |
| Cobalt | ppm | XRF | | < 48.92 | < 51.26 | < 46.71 | < 32.25 | < 41.32 | < 56.9 |
| Copper | ppm | XRF | | **18.7** | **15.43** | **39.68** | **27.94** | **289.45** | **74.84** |
| Iron | ppm | XRF | | **24362.61** | **27119.26** | **20988.05** | **10472.21** | **16826.55** | **31663.43** |
| Lead | ppm | XRF | | **6.34** | **24.21** | **73.46** | **27.86** | **64.99** | **53.77** |
| Manganese | ppm | XRF | | **358.96** | **117.18** | **251** | **182.52** | **471.82** | **239.06** |
| Mercury | ppm | XRF | | **3.41** | **3.28** | < 3.04 | < 2.83 | < 2.97 | **4.05** |
| Nickel | ppm | XRF | | **57.79** | **55.51** | **74.66** | **60.61** | **101.47** | **70.01** |
| Potassium | ppm | XRF | | **8317.57** | **4872.69** | **12018.51** | **12198.72** | **9928.62** | **12995** |
| Selenium | ppm | XRF | | < 1.05 | < 1.07 | < 1.12 | < 1.02 | < 1.06 | **1.24** |
| Silver | ppm | XRF | | < 6.94 | < 7.04 | < 6.27 | < 6.15 | < 6.57 | < 6.07 |
| Vanadium | ppm | XRF | | **50.22** | **41.28** | **132.09** | **96.78** | **173.91** | **362.41** |
| Zinc | ppm | XRF | | **20.68** | **12.68** | **69.96** | **62.58** | **237.49** | **571.88** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP40 | DP41 | DP41 | DP41 | DP42 | DP42 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPS4015N | DPS4103N | DPS4110N | DPS4115N | DPS4205N | DPS4210N |
| | | | Depth | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft |
| | | | Sample Date | 5/28/2013 7:50:00 AM | 5/22/2013 9:00:00 AM | 6/3/2013 | 6/3/2013 | 5/21/2013 9:15:00 AM | 5/29/2013 |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | **31.95** | **25.75** | **23.77** | **34.78** | **26.48** | **25.14** |
| Arsenic | ppm | XRF | | **3.85** | **3.55** | **4.82** | **1.97** | **5.85** | **147.59** |
| Barium | ppm | XRF | | **300.75** | **282.02** | **337.31** | **270.7** | **238.85** | **444.41** |
| Cadmium | ppm | XRF | | < 10.58 | < 10.34 | < 9.89 | < 10.31 | < 9.75 | < 11.17 |
| Calcium | ppm | XRF | | **1121.79** | **83908.03** | **39185.06** | **804.42** | **789.75** | **16325.85** |
| Chromium | ppm | XRF | | **29.1** | **49.08** | **65.61** | < 12.79 | **28.67** | **117.4** |
| Cobalt | ppm | XRF | | < 41.44 | < 38.12 | **49.54** | < 40.18 | < 32.72 | **304.84** |
| Copper | ppm | XRF | | **19.95** | **33.71** | **30.91** | **16.48** | **22.19** | **252.75** |
| Iron | ppm | XRF | | **18094.86** | **14423.73** | **15421.13** | **16453.67** | **11172.73** | **68225.77** |
| Lead | ppm | XRF | | **6.57** | **47.43** | **44.41** | **5.42** | **15.29** | **166.88** |
| Manganese | ppm | XRF | | **156.98** | **347.49** | **310.59** | **178.86** | **134.31** | **388.89** |
| Mercury | ppm | XRF | | **4.18** | < 2.99 | < 2.95 | **4.62** | < 2.76 | **20.96** |
| Nickel | ppm | XRF | | **53.12** | **91.45** | **56.14** | **46.98** | **36.27** | **116.18** |
| Potassium | ppm | XRF | | **8204.23** | **9990.85** | **11317.6** | **8267.02** | **8172.21** | **8971.5** |
| Selenium | ppm | XRF | | < 1.01 | < 1.06 | < 1.04 | < 1.02 | < 0.99 | **5.81** |
| Silver | ppm | XRF | | < 6.82 | < 6.64 | < 6.27 | < 6.65 | < 6.04 | < 7.06 |
| Vanadium | ppm | XRF | | **54.56** | **177.8** | **66.89** | **47.47** | **50.91** | **171.26** |
| Zinc | ppm | XRF | | **20.18** | **63.14** | **55.15** | **20.75** | **19.95** | **492.78** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP42 | DP43 | DP43 | DP43 | DP44 | DP44 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPS4215N | DPS4304N | DPS4310N | DPS4315N | DPS4403N | DPS4410N |
| | | | Depth | 14.5 - 15.5 ft | 3.5 - 4.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft |
| | | | Sample Date | 5/29/2013 | 5/17/2013 12:30:00 PM | 6/7/2013 | 6/7/2013 | 5/21/2013 10:50:00 AM | 6/10/2013 |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | **20.81** | **19.61** | **20.23** | < 10.8 | **13.54** | **29.29** |
| Arsenic | ppm | XRF | | **19.15** | **15.36** | **18.98** | **3.74** | **14.78** | **3.72** |
| Barium | ppm | XRF | | **268.84** | **387.58** | **367.97** | **133.84** | **341.49** | **291.54** |
| Cadmium | ppm | XRF | | < 9.44 | < 10.99 | < 10.01 | < 8.07 | < 10 | < 10.5 |
| Calcium | ppm | XRF | | **3537.61** | **24421.68** | **11930.69** | **4182.07** | **2907.91** | **2729.46** |
| Chromium | ppm | XRF | | **44.28** | **88** | **99.39** | **21.17** | **72.04** | < 14.01 |
| Cobalt | ppm | XRF | | < 35.91 | < 55.53 | **83.37** | **37.11** | **47.61** | < 45.73 |
| Copper | ppm | XRF | | **41.09** | **657.78** | **90.79** | **35.22** | **57.26** | **20.2** |
| Iron | ppm | XRF | | **13323.05** | **29204.83** | **19300.78** | **11022.21** | **17312.65** | **21615.28** |
| Lead | ppm | XRF | | **61.81** | **197.05** | **168.67** | **26.09** | **76.9** | **5.59** |
| Manganese | ppm | XRF | | **142.8** | **287.66** | **280.13** | **170.45** | **196.93** | **450.31** |
| Mercury | ppm | XRF | | **3.3** | < 3.26 | **3.65** | < 2.55 | **4.8** | < 2.95 |
| Nickel | ppm | XRF | | **53.72** | **89.88** | **90.43** | **21.88** | **67.07** | **53.73** |
| Potassium | ppm | XRF | | **7268.27** | **10716.97** | **9666.07** | **9761.07** | **9167.82** | **7090.24** |
| Selenium | ppm | XRF | | **1.19** | < 1.17 | **1.28** | **0.95** | < 1.07 | < 1.04 |
| Silver | ppm | XRF | | < 6.02 | < 6.84 | < 6.39 | < 5.04 | < 6.43 | < 6.83 |
| Vanadium | ppm | XRF | | **84.61** | **117.17** | **125.72** | **92.58** | **117.92** | **54.73** |
| Zinc | ppm | XRF | | **95.59** | **170.12** | **187.82** | **101.48** | **50.53** | **33.32** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP44 | DP45 | DP45 | DP45 | DP46 | DP46 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPS4415N | DPS4503N | DPS4510N | DPS4515N | DPS4605N | DPS4610N |
| | | | Depth | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft |
| | | | Sample Date | 6/10/2013 | 5/23/2013 8:45:00 AM | 6/4/2013 1:00:00 PM | 6/4/2013 1:05:00 PM | 5/22/2013 11:30:00 AM | 6/5/2013 |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | **31.4** | < 502.05 | **22.5** | **20.69** | **31.1** | **24.4** |
| Arsenic | ppm | XRF | | **3.5** | < 30.82 | **4.8** | **5.18** | **3.01** | **2.36** |
| Barium | ppm | XRF | | **257.94** | **3431.51** | **251.89** | **300.49** | **283.28** | **277.39** |
| Cadmium | ppm | XRF | | < 10.17 | < 334.35 | < 10.71 | < 9.64 | < 10.2 | **11.59** |
| Calcium | ppm | XRF | | **375.34** | < 13.03 | **377.2** | **720.13** | **2526.52** | **995.12** |
| Chromium | ppm | XRF | | **19.45** | **22.31** | < 13.96 | **32.6** | < 11.52 | **19.37** |
| Cobalt | ppm | XRF | | < 35.5 | < 266.78 | < 49.77 | **39.22** | < 33.1 | < 21.1 |
| Copper | ppm | XRF | | **16.92** | < 317.43 | **20.53** | **25.85** | **22.05** | **17.85** |
| Iron | ppm | XRF | | **13311.91** | **4112.95** | **24302.35** | **8969.24** | **11003.74** | **3874.21** |
| Lead | ppm | XRF | | **3.07** | < 28.22 | **4.86** | **8.26** | **24.34** | **5.91** |
| Manganese | ppm | XRF | | **237.02** | **731.13** | **144.69** | **207.3** | **188.9** | **133.55** |
| Mercury | ppm | XRF | | < 2.77 | **639.98** | **3.99** | < 2.88 | **3.54** | **3.26** |
| Nickel | ppm | XRF | | **42.75** | < 517.42 | **54.14** | **51.48** | **49.5** | **52.1** |
| Potassium | ppm | XRF | | **5626.63** | **844.46** | **3376.4** | **10371.73** | **2871.32** | **5421.08** |
| Selenium | ppm | XRF | | < 0.99 | < 50.9 | < 1.07 | < 1.02 | < 1.02 | **1.16** |
| Silver | ppm | XRF | | < 6.41 | < 209.79 | < 6.87 | < 5.97 | < 6.54 | < 6.06 |
| Vanadium | ppm | XRF | | **41.51** | **5.16** | **53.7** | **101.88** | **29.98** | **68.46** |
| Zinc | ppm | XRF | | **47.28** | **197.88** | **18.01** | **24.26** | **27.31** | **19.91** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP46 | DP47 | DP47 | DP47 | SUS01 | SUS02 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPS4615N | DPS4702N | DPS4710N | DPS4715N | SUS0100N | SUS0200N |
| | | | Depth | 14.5 - 15.5 ft | 1.5 - 2.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 0.33 - 1 ft | 0.33 - 0.83 ft |
| | | | Sample Date | 6/5/2013 | 5/28/2013 9:20:00 AM | 6/5/2013 | 6/5/2013 | 2/4/2013 10:00:00 AM | 2/4/2013 11:25:00 AM |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | **20.08** | **26.36** | **17.89** | **28.15** | **24.09** | < 3.74 |
| Arsenic | ppm | XRF | | **2.58** | **14.38** | **5.11** | **7.8** | < 11.16 | **8.49** |
| Barium | ppm | XRF | | **265.05** | **383.41** | **231.92** | **240.56** | **227.27** | **81.36** |
| Cadmium | ppm | XRF | | **9.76** | < 10.88 | < 10.66 | < 10.44 | **16.71** | < 2.8 |
| Calcium | ppm | XRF | | **1113.72** | **18956.14** | **1015.06** | **264.92** | **5348.92** | **7306.39** |
| Chromium | ppm | XRF | | **45.4** | **58.81** | **23.03** | < 17.89 | **21.53** | **63.95** |
| Cobalt | ppm | XRF | | < 28.7 | < 48.12 | < 49.8 | < 54.74 | < 36.72 | **137.96** |
| Copper | ppm | XRF | | **19.37** | **55.57** | **16.94** | **16.53** | **88.21** | **43.06** |
| Iron | ppm | XRF | | **8452.85** | **22695.37** | **25308.72** | **31446.5** | **14606.34** | **12551.04** |
| Lead | ppm | XRF | | **7.3** | **67.3** | **7.74** | **3.45** | **1599.37** | **22.91** |
| Manganese | ppm | XRF | | **108.06** | **316.76** | **142.35** | **112.58** | **371.4** | **135.06** |
| Mercury | ppm | XRF | | **3.08** | **6.31** | < 2.97 | < 2.96 | < 3.2 | < 2.39 |
| Nickel | ppm | XRF | | **53.68** | **72.78** | **55.44** | **63.46** | **45.41** | **45.25** |
| Potassium | ppm | XRF | | **8047.44** | **12968.61** | **4450.98** | **2270.66** | **4768.72** | **4994.39** |
| Selenium | ppm | XRF | | < 0.98 | < 1.11 | < 1.04 | < 1.07 | < 1.37 | **1.2** |
| Silver | ppm | XRF | | < 5.96 | < 6.92 | < 6.74 | < 6.61 | **4.01** | < 1.77 |
| Vanadium | ppm | XRF | | **93.79** | **107.27** | **57.65** | **34.18** | **89.68** | **67.96** |
| Zinc | ppm | XRF | | **19.04** | **83.61** | **18.58** | **11.15** | **2133.8** | **66.69** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUS03 | SUS04 | SUS05 | SUS06 | SUS07 | SUS08 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS0300N | SUS0400N | SUS0500N | SUS0600N | SUS0700N | SUS0800N |
| | | | Depth | 0.5 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 2/4/2013 1:00:00 PM | 2/4/2013 1:50:00 PM | 2/4/2013 2:45:00 PM | 2/5/2013 9:10:00 AM | 2/5/2013 10:00:00 AM | 2/5/2013 10:45:00 AM |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | < 3.9 | < 3.85 | **8.82** | < 4.53 | **9.15** | **15.87** |
| Arsenic | ppm | XRF | | **14.96** | **12.52** | **23.28** | **27.18** | **4.63** | **18.69** |
| Barium | ppm | XRF | | **184.55** | < 10.98 | **182.01** | **344.06** | **192.83** | **200.42** |
| Cadmium | ppm | XRF | | < 2.94 | < 2.91 | **3.77** | < 3.41 | **7.78** | < 3.29 |
| Calcium | ppm | XRF | | **15581.21** | **33132.72** | **7904.37** | **3975.34** | **46331.7** | **50953.48** |
| Chromium | ppm | XRF | | **97.14** | **27.35** | **72.51** | **71.74** | **79.88** | **110.63** |
| Cobalt | ppm | XRF | | **153.39** | < 31 | < 33.49 | **192.6** | < 37.46 | < 36.86 |
| Copper | ppm | XRF | | **105.42** | **30.29** | **115.27** | **97.89** | **20.96** | **216.1** |
| Iron | ppm | XRF | | **25181.33** | **12659.47** | **14112.28** | **29281.61** | **16593.19** | **17048.45** |
| Lead | ppm | XRF | | **65.78** | **47.66** | **57.37** | **101.39** | **54.14** | **85.45** |
| Manganese | ppm | XRF | | **167.01** | **179.56** | **509.15** | **193.26** | **371.2** | **640.64** |
| Mercury | ppm | XRF | | **5.3** | < 2.4 | < 2.5 | **3.23** | **3.27** | **3.07** |
| Nickel | ppm | XRF | | **37.09** | **30.65** | **79.73** | **61.14** | **114.99** | **447.18** |
| Potassium | ppm | XRF | | **6711.33** | **6713.66** | **5256.6** | **6114.16** | **7359.59** | **6034.08** |
| Selenium | ppm | XRF | | < 0.95 | < 0.88 | **1.19** | < 1.06 | < 0.95 | **1.05** |
| Silver | ppm | XRF | | < 1.86 | < 1.82 | < 2.03 | < 2.13 | < 2.3 | < 2.1 |
| Vanadium | ppm | XRF | | **139.53** | **152.67** | **213.42** | **131.21** | **55.67** | **1414.89** |
| Zinc | ppm | XRF | | **112.45** | **61.17** | **169.8** | **107.63** | **71.83** | **228.73** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUS09 | SUS10 | SUS11 | SUS12 | SUS13 | SUS14 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS0900N | SUS1000N | SUS1100N | SUS1200N | SUS1300N | SUS1400N |
| | | | Depth | 0 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0.17 - 1 ft |
| | | | Sample Date | 2/5/2013 1:10:00 PM | 2/5/2013 11:45:00 AM | 2/5/2013 2:00:00 PM | 2/6/2013 9:00:00 AM | 2/5/2013 2:45:00 PM | 2/6/2013 9:50:00 AM |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | **11.36** | **16.36** | **10.81** | **13.17** | **18.47** | **14.23** |
| Arsenic | ppm | XRF | | **7.96** | **25.81** | **11.11** | **32.98** | **31.94** | **6.61** |
| Barium | ppm | XRF | | **232.04** | **313.44** | **182.75** | **290.22** | **354.82** | **310.34** |
| Cadmium | ppm | XRF | | < 3.41 | < 3.25 | < 3.39 | **4.59** | **4.95** | < 3.11 |
| Calcium | ppm | XRF | | **13596.49** | **32339.45** | **55750.49** | **8182.53** | **9731.16** | **9058.02** |
| Chromium | ppm | XRF | | **35.4** | **48.22** | **38.51** | **61.39** | **185.17** | **70.73** |
| Cobalt | ppm | XRF | | < 38.03 | < 39.46 | < 33.45 | < 45.23 | < 51.42 | < 37.11 |
| Copper | ppm | XRF | | **27.15** | **53.53** | **51.49** | **201.66** | **76.4** | **34.81** |
| Iron | ppm | XRF | | **17568.28** | **18501.64** | **13710.37** | **23963.71** | **30099.13** | **15461.79** |
| Lead | ppm | XRF | | **28.44** | **50.87** | **71.45** | **290.85** | **180.15** | **49.99** |
| Manganese | ppm | XRF | | **282.64** | **303.23** | **350.57** | **350.09** | **391.46** | **489.56** |
| Mercury | ppm | XRF | | **4.86** | **4.07** | **3.87** | < 2.83 | **5.51** | < 2.81 |
| Nickel | ppm | XRF | | **39.97** | **60.07** | **74.88** | **65.34** | **228.2** | **67.25** |
| Potassium | ppm | XRF | | **9405.55** | **7682.56** | **6657.14** | **7448.23** | **8627.42** | **10633.79** |
| Selenium | ppm | XRF | | < 0.97 | **1.29** | < 0.92 | < 1.07 | < 1.07 | **1.1** |
| Silver | ppm | XRF | | **2.71** | < 2.06 | < 2.14 | < 2.16 | < 2.28 | < 1.94 |
| Vanadium | ppm | XRF | | **67.24** | **103.27** | **156.36** | **107.35** | **112.6** | **106.45** |
| Zinc | ppm | XRF | | **46.93** | **79.22** | **158.3** | **372.68** | **191.32** | **54.89** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SUS15 | SUS16 | SUS17 | SUS18 | SUS19 | SUS20 |
| | | | Sample ID | SUS1500N | SUS1600N | SUS1700N | SUS1800N | SUS1900N | SUS2000N |
| | | | Depth | 0.17 - 1 ft | 0.5 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0.83 - 1 ft | 0.42 - 1 ft |
| | | | Sample Date | 2/6/2013 10:55:00 AM | 2/6/2013 11:45:00 AM | 2/6/2013 1:10:00 PM | 2/6/2013 1:55:00 PM | 2/6/2013 2:35:00 PM | 2/7/2013 9:30:00 AM |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | | |
| Antimony | ppm | XRF | | **15.31** | **32.69** | **25.24** | **22.64** | **31.88** | < 4.49 |
| Arsenic | ppm | XRF | | **14.78** | **6.86** | **10.28** | **4.16** | **7.9** | **89.69** |
| Barium | ppm | XRF | | **321.31** | **279.48** | **325.05** | **233.28** | **325.21** | **423.31** |
| Cadmium | ppm | XRF | | < 3.41 | **5.75** | **7.63** | **6.63** | **11.19** | < 3.39 |
| Calcium | ppm | XRF | | **5765.42** | **22095.75** | **3431.13** | **742.77** | **14393.72** | **20237.51** |
| Chromium | ppm | XRF | | **54.85** | **21.18** | **27.13** | **10.07** | **38.16** | **69.52** |
| Cobalt | ppm | XRF | | < 43.91 | < 33.43 | < 37.52 | < 31.18 | **63.48** | **142.57** |
| Copper | ppm | XRF | | **49.41** | **22.67** | **38.99** | **14.47** | **59.86** | **75.93** |
| Iron | ppm | XRF | | **22275.65** | **12822.18** | **16440.48** | **11749.55** | **17691.62** | **28959.97** |
| Lead | ppm | XRF | | **58.97** | **14.61** | **26.84** | **32.32** | **156.7** | **110.48** |
| Manganese | ppm | XRF | | **264.65** | **245.65** | **245.9** | **556.73** | **292.37** | **250.89** |
| Mercury | ppm | XRF | | **5.77** | < 2.7 | **5.51** | **4.42** | < 2.69 | **5.33** |
| Nickel | ppm | XRF | | **77.03** | **46.97** | **46.46** | **36.37** | **52.05** | **72.65** |
| Potassium | ppm | XRF | | **11340.77** | **5788.82** | **6973.05** | **7534.51** | **9570.99** | **6704.98** |
| Selenium | ppm | XRF | | < 1.02 | < 0.97 | < 0.97 | < 0.94 | < 0.99 | **3.1** |
| Silver | ppm | XRF | | < 2.17 | **2.3** | < 2.19 | **3.27** | **2.7** | < 2.11 |
| Vanadium | ppm | XRF | | **92.21** | **49.73** | **81.27** | **62.3** | **75.47** | **108.85** |
| Zinc | ppm | XRF | | **68.35** | **32.63** | **42.55** | **38.31** | **98.8** | **63.3** |

**Table 4-5**
**Soil XRF Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUS21 | SUS22 | SUS23 | SUS24 | SUS25 |
|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUS2100N | SUS2200N | SUS2300N | SUS2400N | SUS2500N |
| | | | Depth | 1 - 1.75 ft | 0.5 - 1 ft | 0.5 - 1 ft | 0 - 1 ft | 0.5 - 1 ft |
| | | | Sample Date | 2/7/2013 1:40:00 PM | 6/13/2013 10:00:00 AM | 2/7/2013 10:15:00 AM | 2/7/2013 11:50:00 AM | 2/7/2013 11:00:00 AM |
| | | | Type | N | N | N | N | N |
| Analyte | Unit | Method | | | | | | |
| Antimony | ppm | XRF | | **36.21** | **15.91** | **30.47** | **10.06** | **28.28** |
| Arsenic | ppm | XRF | | **4.28** | **4.79** | < 1.54 | **9.94** | **8.27** |
| Barium | ppm | XRF | | **323.26** | **198.75** | **348.37** | **150.28** | **311.07** |
| Cadmium | ppm | XRF | | **11.18** | **4.75** | **8.36** | < 3.28 | **6.45** |
| Calcium | ppm | XRF | | **66739.81** | **83088.47** | **95763.73** | **5666.84** | **3303.56** |
| Chromium | ppm | XRF | | **20.38** | **24.21** | < 3.56 | **35.31** | **36.25** |
| Cobalt | ppm | XRF | | < 29.31 | < 33.23 | < 26.48 | < 38.77 | < 38.19 |
| Copper | ppm | XRF | | **28.5** | **20.27** | **13.27** | **35.76** | **28.66** |
| Iron | ppm | XRF | | **9396.09** | **13233.16** | **7925.19** | **18925.12** | **17015.42** |
| Lead | ppm | XRF | | **48.14** | **43.34** | **13.08** | **102.81** | **22.22** |
| Manganese | ppm | XRF | | **265.79** | **295.97** | **403.12** | **312.06** | **301.33** |
| Mercury | ppm | XRF | | < 2.78 | < 2.69 | **3.36** | < 2.58 | **4.18** |
| Nickel | ppm | XRF | | **68.02** | **53.02** | **67.6** | **47.2** | **62.75** |
| Potassium | ppm | XRF | | **5115.7** | **9370.17** | **13794.07** | **8346.53** | **9662.73** |
| Selenium | ppm | XRF | | < 1.01 | < 0.97 | < 0.96 | < 0.93 | < 0.94 |
| Silver | ppm | XRF | | < 2.31 | < 2.21 | **5.43** | < 2.13 | **4.38** |
| Vanadium | ppm | XRF | | **32.88** | **51.99** | **24.92** | **106.78** | **62.41** |
| Zinc | ppm | XRF | | **43.46** | **59.89** | **27.91** | **129.02** | **39.42** |

Notes:
Bold values indicate detects.
Sample Type: N = Normal Sample FD = Field Duplicate
ppm = parts per million

# Table 4-6
## Subsurface Soil Results
## Inorganic Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Location ID | DP26 | DP26 | DP26 | DP27 |
| | | | | | | | | | | | | | Sample Date | 3/28/2013 | 3/29/2013 | 3/29/2013 | 3/26/2013 |
| | | | | | | | | | | | | | Sample ID | DPS2604N | DPS2614N | DPS2630N | DPS2707N |
| | | | | | | | | | | | | | Depth | 3.5 - 4.5 ft | 13.5 - 14.5 ft | 29.5 - 30.5 ft | 6.5 - 7.5 ft |
| | | | | | | | | | | | | | Type | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | |
| Aluminum | mg/kg | 110000 | SW6020A | 7429-90-5 | 10000 | 150 | 4500 | 3900 | SUSDP08 SUSDP39 | 75 | | 75 | | **9700** | **2200** | **3600** | **5900** |
| Antimony | mg/kg | 47 | SW6020A | 7440-36-0 | 1.6 | 0.007 | 0.22 | 0.13 | SUSDP19 | 37 | 3 | 75 | | **0.021 J-** | **0.0070 J** | < 0.21 U | **0.085 J-** |
| Arsenic | mg/kg | 3 | SW6020A | 7440-38-2 | 71 | 0.076 | 4.3 | 2.3 | DP42 | 75 | | 75 | | **1.6 J-** | **1.9 J-** | **0.26 J-** | **9.5 J-** |
| Barium | mg/kg | 22000 | SW6020A | 7440-39-3 | 2400 | 1.8 | 77 | 35 | DP42 | 75 | | 75 | | **43** | **21** | **47** | **59** |
| Beryllium | mg/kg | 230 | SW6020A | 7440-41-7 | 1.9 | 0.034 | 0.49 | 0.39 | SUSDP43 | 75 | | 75 | | **0.34** | **0.45** | **1.1** | **0.70** |
| Cadmium | mg/kg | 98 | SW6020A | 7440-43-9 | 2.6 | 0.0095 | 0.26 | 0.12 | DP34 | 69 | | 75 | | **0.13** | **0.051 J** | **0.18** | **0.39** |
| Calcium | mg/kg | EN | SW6020A | 7440-70-2 | 55000 | 42 | 4700 | 500 | SUSDP08 | 75 | | 75 | | **2800** | **290** | **470** | **6300** |
| Chromium | mg/kg | 180000 | SW6020A | 7440-47-3 | 37 | 0.89 | 13 | 12 | DP40 | 75 | | 75 | | **14** | **5.6** | **14** | **16** |
| Cobalt | mg/kg | 35 | SW6020A | 7440-48-4 | 120 | 0.27 | 7.5 | 4.4 | DP28 | 75 | | 75 | | **4.4** | **4.5** | **6.5** | **6.9** |
| Copper | mg/kg | 4700 | SW6020A | 7440-50-8 | 290 | 0.72 | 26 | 9.8 | DP40 | 75 | | 75 | | **12** | **4.3** | **16** | **30** |
| Iron | mg/kg | 82000 | SW6020A | 7439-89-6 | 41000 | 130 | 14000 | 13000 | DP33 | 75 | | 75 | | **13000** | **10000** | **32000** | **19000** |
| Lead | mg/kg | 800 | SW6020A | 7439-92-1 | 5400 | 0.5 | 110 | 7.3 | SUSDP19 | 75 | | 75 | | **29 J+** | **4.5 J+** | **7.7 J+** | **36 J+** |
| Magnesium | mg/kg | EN | SW6020A | 7439-95-4 | 21000 | 39 | 1400 | 590 | TA1E9 | 74 | | 75 | | **1400** | **190** | **540** | **940** |
| Manganese | mg/kg | 2600 | SW6020A | 7439-96-5 | 3400 | 0.86 | 180 | 100 | DP28 | 75 | | 75 | | **80** | **43 J** | **290 J** | **150** |
| Nickel | mg/kg | 2200 | SW6020A | 7440-02-0 | 380 | 0.46 | 19 | 5.6 | TA1E9 | 75 | | 75 | | **5.6** | **2.5** | **5.6** | **18** |
| Potassium | mg/kg | EN | SW6020A | 7440-09-7 | 2200 | 26 | 530 | 470 | SUSDP41 | 75 | | 75 | | **590** | **220** | **570** | **1400** |
| Selenium | mg/kg | 580 | SW6020A | 7782-49-2 | 9.3 | 0.085 | 0.59 | 0.28 | DP34 | 49 | | 75 | | **0.29 J-** | **0.19 J** | **0.42 J** | **0.89 J-** |
| Silver | mg/kg | 580 | SW6020A | 7440-22-4 | 0.42 | 0.0047 | 0.058 | 0.027 | SUSDP19 | 59 | | 75 | | **0.032 J** | **0.013 J** | **0.022 J** | **0.086 J** |
| Sodium | mg/kg | EN | SW6020A | 7440-23-5 | 380 | 14 | 98 | 73 | DP42 | 71 | | 75 | | **130** | **38** | **50** | **370** |
| Thallium | mg/kg | 1.2 | SW6020A | 7440-28-0 | 1.6 | 0.02 | 0.13 | 0.098 | DP42 | 61 | | 75 | | **0.12** | **0.039 J** | **0.081 J** | **0.14** |
| Vanadium | mg/kg | 580 | SW6020A | 7440-62-2 | 1400 | 1.2 | 88 | 22 | TA1G9 | 75 | | 75 | | **33** | **13** | **38** | **110** |
| Zinc | mg/kg | 35000 | SW6020A | 7440-66-6 | 690 | 1.6 | 53 | 17 | DP42 | 75 | | 75 | | **22** | **13** | **16** | **72** |
| Mercury | mg/kg | 35 | SW7471B | 7439-97-6 | 2.2 | 0.0098 | 0.13 | 0.055 | DP42 | 46 | | 75 | | **0.034 J** | < 0.035 UJ | **0.021 J** | **0.079** |

**Table 4-6**
**Subsurface Soil Results**
**Inorganic Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP27 | DP27 | DP28 | DP28 | DP28 | DP29 | DP29 | DP29 | DP30 | DP30 | DP31 | DP31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/26/2013 | 3/26/2013 | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/3/2013 | 4/3/2013 | 4/1/2013 | 4/1/2013 |
| | | | Sample ID | DPS2722N | DPS2758N | DPS2808N | DPS2821N | DPS2832N | DPS2910N | DPS2930N | DPS2950N | DPS3050N | DPS3028N | DPS3120N | DPS3142N |
| | | | Depth | 21.5 - 22.5 ft | 57.5 - 58.5 ft | 7.5 - 8.5 ft | 20.5 - 21.5 ft | 31 - 33 ft | 9 - 11 ft | 29 - 31 ft | 49 - 51 ft | 49 - 51 ft | 27 - 29 ft | 19.5 - 20.5 ft | 41.5 - 42.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | **5100** | **1300** | **2000** | **820** | **6000** | **9200** | **1100** | **150** | **3700** | **1400** | **3100** | **2400** |
| Antimony | mg/kg | 47 | | R | R | < 0.22 U | < 0.22 U | < 0.28 U | < 0.24 U | < 0.23 U | < 0.23 U | < 0.25 U | < 0.23 U | < 0.22 U | < 0.23 U |
| Arsenic | mg/kg | 3 | | **1.9 J-** | **0.076 J-** | **1.8 J-** | **1.3 J-** | **1.9 J-** | **2.9 J-** | **0.35 J-** | **0.30 J-** | **2.3 J-** | **2.0 J-** | **0.56 J-** | **0.96 J-** |
| Barium | mg/kg | 22000 | | **73** | **19** | **9.4** | **47** | **59** | **39** | **15** | **2.5** | **40** | **19** | **19** | **27** |
| Beryllium | mg/kg | 230 | | **1.3** | **0.24** | **0.36** | **0.20** | **1.3** | **0.65** | **0.36** | **0.092 J** | **1.3** | **0.28** | **0.44** | **0.66** |
| Cadmium | mg/kg | 98 | | **0.20** | **0.067 J** | **0.059 J** | **1.1** | **0.43** | **0.12** | **0.065 J** | **0.0095 J** | **0.35** | **0.070 J** | **0.10 J** | **0.13** |
| Calcium | mg/kg | EN | | **610** | **430** | **300** | **1600** | **460** | **2000** | **200** | **58** | **370** | **160** | **160** | **220** |
| Chromium | mg/kg | 180000 | | **12** | **4.0** | **9.8** | **7.8** | **21** | **16** | **6.1** | **1.7** | **15** | **9.0** | **12** | **13** |
| Cobalt | mg/kg | 35 | | **10** | **0.52** | **7.3** | **120** | **19** | **6.8** | **3.1** | **2.5** | **28** | **2.5** | **2.9** | **11** |
| Copper | mg/kg | 4700 | | **9.3** | **6.1** | **6.5** | **4.1** | **19** | **13** | **4.3** | **1.1** | **15** | **4.9** | **11** | **8.4** |
| Iron | mg/kg | 82000 | | **7400** | **2100** | **13000** | **15000** | **13000** | **20000** | **5200** | **320** | **17000** | **20000** | **5700** | **11000** |
| Lead | mg/kg | 800 | | **5.0 J+** | **3.1 J+** | **2.4 J+** | **1.1 J+** | **8.9 J+** | **42 J+** | **2.3 J+** | **0.69 J+** | **7.3 J+** | **2.1 J+** | **4.8 J+** | **4.2 J+** |
| Magnesium | mg/kg | EN | | **600** | **280** | **220** | **140** | **990** | **1600** | **160** | **91** | **610** | **140** | **430** | **440** |
| Manganese | mg/kg | 2600 | | **110** | **28** | **140 J** | **3400 J** | **130 J** | **160 J** | **41 J** | **2.1 J** | **140 J** | **33 J** | **25 J** | **75 J** |
| Nickel | mg/kg | 2200 | | **10** | **0.82** | **3.4** | **3.5** | **18** | **8.6** | **3.1** | **3.4** | **36** | **3.7** | **4.0** | **11** |
| Potassium | mg/kg | EN | | **320** | **460** | **260** | **110** | **670** | **1400** | **160** | **32** | **670** | **170** | **350** | **330** |
| Selenium | mg/kg | 580 | | **0.56 J-** | **0.21 J-** | < 0.54 U | < 0.54 U | < 0.71 U | < 0.61 U | < 0.58 U | < 0.56 U | < 0.62 U | < 0.58 U | < 0.54 U | < 0.59 U |
| Silver | mg/kg | 580 | | **0.033 J** | **0.0098 J** | < 0.11 U | < 0.11 U | **0.038 J** | **0.025 J** | < 0.12 U | < 0.11 U | **0.022 J** | < 0.12 U | **0.0074 J** | **0.022 J** |
| Sodium | mg/kg | EN | | **320** | **23** | < 19 U | **42** | **45** | **73** | **40** | < 20 U | **37** | **39** | **36** | < 28 U |
| Thallium | mg/kg | 1.2 | | **0.093 J** | **0.037 J** | < 0.11 U | < 0.11 U | **0.15** | **0.14** | < 0.12 U | < 0.11 U | **0.13** | < 0.12 U | < 0.11 U | < 0.12 U |
| Vanadium | mg/kg | 580 | | **20** | **13** | **15** | **7.0** | **38** | **26** | **10** | **2.7** | **28** | **9.6** | **24** | **22** |
| Zinc | mg/kg | 35000 | | **21** | **1.6** | **12** | **12** | **50** | **35** | **10** | **5.0** | **73** | **11** | **8.6** | **15** |
| Mercury | mg/kg | 35 | | **0.024 J** | < 0.039 U | **0.015 J** | < 0.034 UJ | **0.024 J** | **1.0 J** | < 0.038 UJ | < 0.036 UJ | **0.018 J** | < 0.038 UJ | < 0.037 UJ | < 0.039 UJ |

**Table 4-6**
**Subsurface Soil Results**
**Inorganic Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP32 | DP32 | DP32 | DP32 | DP33 | DP33 | DP34 | DP34 | DP34 | DP34 | DP35 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/4/2013 | 4/4/2013 | 3/13/2013 | 3/29/2013 | 3/29/2013 | 3/29/2013 | 3/28/2013 |
| | | | Sample ID | DPS3210N | DPS3210R | DPS3230N | DPS3243N | DPS3315N | DPS3335N | DPS3405N | DPS3418N | DPS3445N | DPS3460N | DPS3515N |
| | | | Depth | 9.5 - 10.5 ft | 9.5 - 10.5 ft | 29.5 - 30.5 ft | 42.5 - 43.5 ft | 14 - 16 ft | 34 - 36 ft | 4.5 - 5.5 ft | 17.5 - 18.5 ft | 44.5 - 45.5 ft | 59.5 - 60.5 ft | 14.5 - 15.5 ft |
| | | | Type | N | FD | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | **2200** | **2400** | **390** | **150** | **3200** | **2600** | **1700** | **2600** | **5400** | **8400** | **5600** |
| Antimony | mg/kg | 47 | | < 0.24 U | < 0.24 U | < 0.22 U | < 0.24 U | < 0.23 U | < 0.31 U | **0.022 J-** | **0.024 J** | < 0.22 U | < 0.21 U | R |
| Arsenic | mg/kg | 3 | | **2.6 J-** | **2.8 J-** | **0.37 J-** | **0.73 J-** | **3.7 J-** | **5.4 J-** | **1.5 J-** | **1.2 J-** | **0.58 J-** | **0.93 J-** | **0.81 J-** |
| Barium | mg/kg | 22000 | | **17** | **11** | **2.3** | **1.8** | **15** | **24** | **5.1** | **30** | **65** | **91** | **21** |
| Beryllium | mg/kg | 230 | | **0.40** | **0.29** | **0.034 J** | **0.044 J** | **0.91** | **0.77** | **0.17** | **0.49** | **1.1** | **1.2** | **0.34** |
| Cadmium | mg/kg | 98 | | **0.081 J** | **0.070 J** | < 0.11 U | < 0.12 U | **0.12** | **0.60** | **0.035 J** | **0.12** | **2.2** | **2.6** | **0.096 J** |
| Calcium | mg/kg | EN | | **330** | **330** | **77** | **42** | **310** | **320** | **110** | **320** | **380** | **2000** | **220** |
| Chromium | mg/kg | 180000 | | **11** | **12** | **2.3** | **0.89** | **22** | **14** | **4.8** | **11** | **15** | **11** | **9.2** |
| Cobalt | mg/kg | 35 | | **1.0** | **1.0** | **0.27** | **3.4** | **4.6** | **19** | **1.8** | **3.9** | **3.8** | **2.0** | **1.2** |
| Copper | mg/kg | 4700 | | **8.0** | **7.3** | **1.4** | **0.72** | **17** | **11** | **3.5** | **10** | **18** | **31** | **4.9** |
| Iron | mg/kg | 82000 | | **20000** | **19000** | **1700** | **130** | **41000** | **2800** | **7600** | **18000** | **26000** | **16000** | **6500** |
| Lead | mg/kg | 800 | | **6.7 J+** | **3.2 J+** | **0.50 J+** | **0.50 J+** | **5.0 J+** | **5.0 J+** | **1.5 J+** | **5.2 J+** | **7.3 J+** | **15 J+** | **5.4 J+** |
| Magnesium | mg/kg | EN | | **120** | **120** | **39** | < 18 U | **320** | **400** | **190** | **710** | **480** | **1600** | **360** |
| Manganese | mg/kg | 2600 | | **13 J** | **14 J** | **4.9 J** | **0.86 J** | **35 J** | **14 J** | **32** | **180 J** | **83 J** | **48 J** | **9.9** |
| Nickel | mg/kg | 2200 | | **1.7** | **1.7** | **0.46** | **2.4** | **7.0** | **24** | **1.3** | **5.7** | **4.3** | **3.0** | **2.8** |
| Potassium | mg/kg | EN | | **250** | **210** | **51** | **26** | **340** | **290** | **170** | **760** | **470** | **860** | **370** |
| Selenium | mg/kg | 580 | | < 0.60 U | < 0.59 U | < 0.54 U | < 0.59 U | < 0.57 U | < 0.77 U | **0.15 J-** | **0.33 J** | **0.53 J** | **9.3** | **0.24 J-** |
| Silver | mg/kg | 580 | | **0.0071 J** | **0.0082 J** | < 0.11 U | < 0.12 U | **0.0075 J** | **0.0071 J** | **0.0058 J** | **0.074 J** | **0.037 J** | **0.013 J** | **0.017 J** |
| Sodium | mg/kg | EN | | **68** | **68** | **47** | < 24 U | **76** | **73** | **66** | **70** | **36** | **36** | **110** |
| Thallium | mg/kg | 1.2 | | < 0.12 U | < 0.12 U | < 0.11 U | < 0.12 U | < 0.11 U | < 0.15 U | **0.020 J** | **0.078 J** | **0.13** | **0.047 J** | **0.085 J** |
| Vanadium | mg/kg | 580 | | **18** | **22** | **5.1** | **1.2** | **32** | **26** | **9.7** | **20** | **32** | **19** | **17** |
| Zinc | mg/kg | 35000 | | **10** | **8.7** | **2.0** | **11** | **28** | **55** | **7.4** | **14** | **14** | **8.9** | **9.0** |
| Mercury | mg/kg | 35 | | **0.016 J** | < 0.038 UJ | < 0.034 UJ | < 0.038 UJ | **0.019 J** | < 0.050 UJ | < 0.039 U | < 0.042 UJ | < 0.040 UJ | < 0.039 UJ | < 0.038 U |

**Table 4-6**
**Subsurface Soil Results**
**Inorganic Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP35 | DP38 | DP40 | DP42 | DP42 | DP47 | SUSDP01 | SUSDP02 | SUSDP04 | SUSDP05 | SUSDP06 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/28/2013 | 5/16/2013 | 5/20/2013 | 5/29/2013 | 5/29/2013 | 5/28/2013 | 5/20/2013 | 5/14/2013 | 5/15/2013 | 5/15/2013 | 5/15/2013 |
| | | | Sample ID | DPS3534N | DPS3805N | DPS4003N | DPS4210N | DPS4215N | DPS4702N | DPS0110N | DPS0205N | DPS0403N | DPS0505N | DPS0605N |
| | | | Depth | 33.5 - 34.5 ft | 4.5 - 5.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1.5 - 2.5 ft | 9.5 - 10.5 ft | 4.5 - 5.5 ft | 2.5 - 3.5 ft | 4.5 - 5.5 ft | 4.5 - 5.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | **5100** | **2300** | **8000** | **8600 J+** | **4400 J+** | **8200** | **2600** | **3700** | **8500** | **1900** | **6000** |
| Antimony | mg/kg | 47 | | **0.11 J-** | < 0.22 U | < 0.24 U | **0.63** | **0.44** | **0.13 J** | **0.015 J** | < 0.22 UJ | < 0.24 U | < 0.23 U | < 0.25 U |
| Arsenic | mg/kg | 3 | | **0.20 J-** | **1.6** | **14** | **71 J-** | **37 J-** | **7.7** | **0.93** | **1.9** | **4.7** | **1.8** | **2.0** |
| Barium | mg/kg | 22000 | | **45** | **7.6** | **120** | **2400** | **140** | **59** | **51** | **17** | **46** | **11** | **18** |
| Beryllium | mg/kg | 230 | | **0.85** | **0.23** | **0.53** | **1.1** | **0.67** | **0.58** | **0.36** | **0.39** | **0.43** | **0.19** | **0.31** |
| Cadmium | mg/kg | 98 | | **0.12** | **0.036 J** | **0.41** | **1.1** | **0.92** | **0.32** | **0.061 J** | **0.063 J** | **0.21** | **0.021 J** | **0.053 J** |
| Calcium | mg/kg | EN | | **260** | **320** | **45000** | **7300** | **3700** | **11000** | **560** | **530** | **3500** | **110** | **350** |
| Chromium | mg/kg | 180000 | | **15** | **9.8** | **37** | **19** | **12** | **23** | **6.3** | **6.6** | **15** | **6.8** | **11** |
| Cobalt | mg/kg | 35 | | **3.6** | **4.0** | **9.0** | **11** | **5.4** | **6.5** | **4.0** | **7.9** | **7.7** | **2.6** | **7.8** |
| Copper | mg/kg | 4700 | | **13** | **5.8** | **290** | **140** | **62** | **30** | **3.7** | **5.1** | **100** | **5.6** | **6.9** |
| Iron | mg/kg | 82000 | | **17000** | **11000** | **14000** | **25000** | **11000 J** | **16000** | **8200** | **9200** | **22000** | **9000** | **12000** |
| Lead | mg/kg | 800 | | **7.0 J+** | **2.9** | **71** | **280** | **110** | **60** | **4.2** | **2.9 J+** | **43** | **2.2** | **5.6** |
| Magnesium | mg/kg | EN | | **750** | **340** | **7400** | **1600** | **570** | **2700** | **290** | **390** | **1500** | **250** | **670** |
| Manganese | mg/kg | 2600 | | **96** | **65** | **580** | **810** | **110** | **200** | **370** | **230** | **230** | **71** | **190** |
| Nickel | mg/kg | 2200 | | **5.5** | **3.6** | **59** | **120** | **9.6** | **23** | **3.4** | **4.2** | **12** | **2.8** | **5.8** |
| Potassium | mg/kg | EN | | **710** | **330** | **1100** | **730** | **430** | **760** | **230** | **400** | **860** | **280** | **610** |
| Selenium | mg/kg | 580 | | **0.36 J-** | **0.085 J** | **0.45 J** | **2.6 J-** | **1.0 J-** | **0.43 J** | < 0.53 U | **0.12 J-** | **0.28 J** | **0.086 J** | **0.12 J** |
| Silver | mg/kg | 580 | | **0.026 J** | < 0.11 U | **0.25** | **0.23** | **0.063 J** | **0.073 J** | **0.0072 J** | **0.0061 J** | **0.074 J** | **0.0047 J** | **0.0051 J** |
| Sodium | mg/kg | EN | | **47** | **14** | **270** | **380** | **270** | **67** | **110** | **110** | **84** | **21** | **80** |
| Thallium | mg/kg | 1.2 | | **0.12** | **0.042 J** | **0.13** | **1.6** | **0.61** | **0.17** | **0.037 J** | **0.053 J** | **0.12** | **0.039 J** | **0.081 J** |
| Vanadium | mg/kg | 580 | | **30** | **13** | **120** | **49** | **25** | **23** | **8.6** | **12** | **25** | **11** | **18** |
| Zinc | mg/kg | 35000 | | **13** | **12** | **220** | **690** | **250** | **56** | **20** | **15** | **44** | **8.6** | **15** |
| Mercury | mg/kg | 35 | | **0.029 J** | **0.017 J** | **0.093** | **0.44 J-** | **2.2** | **0.10** | < 0.035 U | **0.015 J** | **0.084** | < 0.035 U | < 0.043 U |

**Table 4-6**
**Subsurface Soil Results**
**Inorganic Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP07 | SUSDP07 | SUSDP07 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP09 | SUSDP11 | SUSDP11 | SUSDP12 | SUSDP13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/15/2013 | 5/22/2013 | 5/22/2013 | 5/15/2013 | 5/23/2013 | 5/23/2013 | 6/11/2013 | 5/14/2013 | 5/28/2013 | 6/13/2013 | 5/20/2013 |
| | | | Sample ID | DPS0705N | DPS0710N | DPS0715N | DPS0803N | DPS0810N | DPS0815N | DPS0910N | DPS1105N | DPS1110N | DPS1210N | DPS1305N |
| | | | Depth | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 9.5 - 10.5 ft | 4.5 - 5.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | **8200** | **6800** | **3400** | **6700** | **10000** | **7200** | **6700** | **7400** | **3000** | **3500** | **5200** |
| Antimony | mg/kg | 47 | | < 0.24 U | < 0.23 UJ | < 0.23 U | < 0.23 U | **0.019 J** | **0.050 J** | **0.17 J** | < 0.24 U | **0.036 J** | **0.063 J** | **0.74 J-** |
| Arsenic | mg/kg | 3 | | **2.2** | **2.3** | **2.3** | **2.1** | **3.4** | **3.9** | **2.4** | **2.8** | **1.5** | **1.1** | **2.9** |
| Barium | mg/kg | 22000 | | **34** | **45** | **30** | **66** | **37** | **62** | **63** | **40** | **25** | **22** | **56** |
| Beryllium | mg/kg | 230 | | **0.27** | **0.36** | **0.42** | **0.26** | **0.24** | **0.71** | **0.91** | **0.63** | **0.41** | **0.43** | **0.40** |
| Cadmium | mg/kg | 98 | | **0.068 J** | **0.089 J** | **0.061 J** | **0.18** | **0.23** | **0.25** | < 0.12 U | **0.074 J** | **0.11 J** | < 0.12 U | **0.16** |
| Calcium | mg/kg | EN | | **4500** | **3700 J** | **1100** | **55000** | **2300** | **1200** | **360** | **510** | **460** | **240** | **1700** |
| Chromium | mg/kg | 180000 | | **9.1** | **13** | **8.5** | **15** | **15** | **13** | **19** | **14** | **7.0** | **10** | **11** |
| Cobalt | mg/kg | 35 | | **6.6** | **6.5** | **4.7** | **3.5** | **2.5** | **8.3** | **8.6** | **3.4** | **3.9** | **2.9** | **6.5** |
| Copper | mg/kg | 4700 | | **9.1** | **9.6** | **6.2** | **14** | **9.1** | **16** | **9.3** | **11** | **6.9** | **7.7** | **25 J+** |
| Iron | mg/kg | 82000 | | **20000** | **16000** | **19000** | **8200** | **13000** | **16000** | **31000** | **19000** | **8000** | **8500** | **11000** |
| Lead | mg/kg | 800 | | **12** | **15** | **5.8** | **32** | **30** | **36** | **10** | **9.3** | **10** | **3.8** | **180** |
| Magnesium | mg/kg | EN | | **960** | **860** | **340** | **5600** | **970** | **670** | **860** | **920** | **250** | **390** | **490** |
| Manganese | mg/kg | 2600 | | **120** | **240** | **360** | **160** | **61** | **230** | **67** | **54** | **76** | **24** | **150 J-** |
| Nickel | mg/kg | 2200 | | **4.8** | **7.2** | **3.7** | **14** | **9.6** | **7.2** | **11** | **7.2** | **3.7** | **4.2** | **7.5** |
| Potassium | mg/kg | EN | | **470** | **610** | **300** | **930** | **430** | **530** | **530** | **550** | **270** | **360** | **430** |
| Selenium | mg/kg | 580 | | **0.22 J** | **0.17 J-** | **0.19 J** | **0.28 J** | **0.25 J** | **0.39 J** | < 0.61 U | **0.27 J** | **0.27 J** | < 0.61 U | **0.096 J** |
| Silver | mg/kg | 580 | | **0.016 J** | **0.022 J** | **0.023 J** | **0.081 J** | **0.050 J** | **0.049 J** | **0.013 J** | **0.074 J** | **0.011 J** | **0.0085 J** | **0.21** |
| Sodium | mg/kg | EN | | **74** | **73** | **65** | **130** | **160** | **180** | **49** | **87** | **55** | **140** | **130** |
| Thallium | mg/kg | 1.2 | | **0.11 J** | **0.098 J** | **0.066 J** | **0.057 J** | **0.094 J** | **0.15** | **0.13** | **0.11 J** | **0.066 J** | **0.070 J** | **0.10 J** |
| Vanadium | mg/kg | 580 | | **18** | **20** | **17** | **25** | **36** | **25** | **31** | **21** | **14** | **17** | **16** |
| Zinc | mg/kg | 35000 | | **15** | **24** | **12** | **32** | **28** | **34** | **27** | **21** | **16** | **15** | **58 J+** |
| Mercury | mg/kg | 35 | | **0.017 J** | **0.072** | **0.023 J** | **0.052** | **0.032 J** | **0.086** | < 0.039 U | **0.029 J** | **0.037 J** | < 0.040 U | **0.073 J-** |

**Table 4-6**
**Subsurface Soil Results**
**Inorganic Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP13 | SUSDP16 | SUSDP18 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP24 | SUSDP24 | SUSDP37 | SUSDP39 | SUSDP41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/29/2013 | 5/15/2013 | 5/23/2013 | 5/23/2013 | 5/23/2013 | 6/5/2013 | 6/4/2013 | 6/4/2013 | 5/16/2013 | 5/22/2013 | 5/22/2013 |
| | | | Sample ID | DPS1310N | DPS1605N | DPS1803N | DPS1902N | DPS1902R | DPS1910N | DPS2410N | DPS2410R | DPS3703N | DPS3910N | DPS4103N |
| | | | Depth | 9.5 - 10.5 ft | 4.5 - 5.5 ft | 2.5 - 3.5 ft | 1.5 - 2.5 ft | 1.5 - 2.5 ft | 9.5 - 10.5 ft | 9.5 - 10.5 ft | 9.5 - 10.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 2.5 - 3.5 ft |
| | | | Type | N | N | N | N | FD | N | N | FD | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | **850 J+** | **5900** | **3200** | **5100** | **4800** | **3900 J+** | **2300 J+** | **2300 J+** | **9600** | **10000** | **7500** |
| Antimony | mg/kg | 47 | | **0.46** | < 0.23 U | **0.021 J** | **0.29** | **0.28** | **1.6** | **0.017 J** | < 0.23 U | < 0.22 U | **0.041 J** | < 0.24 U |
| Arsenic | mg/kg | 3 | | **0.48 J-** | **3.0** | **1.6** | **2.8** | **3.0** | **4.2 J-** | **1.1 J-** | **1.2 J-** | **3.7** | **2.4** | **2.8** |
| Barium | mg/kg | 22000 | | **7.5** | **20** | **27** | **64** | **79** | **580** | **10** | **11** | **67** | **43** | **75** |
| Beryllium | mg/kg | 230 | | **0.034 J** | **0.31** | **0.32** | **0.31** | **0.29** | **0.32** | **0.22** | **0.28** | **0.59** | **0.33** | **0.36** |
| Cadmium | mg/kg | 98 | | **0.031 J** | **0.053 J** | **0.070 J** | **0.28** | **0.29** | **0.88** | **0.041 J** | **0.049 J** | **0.11** | **0.13** | **0.22** |
| Calcium | mg/kg | EN | | **270** | **330** | **140** | **8600** | **8000** | **39000** | **310** | **330** | **2700** | **3000** | **48000** |
| Chromium | mg/kg | 180000 | | **2.4** | **12** | **9.0** | **12** | **12** | **23** | **7.5** | **10** | **24** | **15** | **21** |
| Cobalt | mg/kg | 35 | | **1.1** | **3.1** | **4.0** | **13** | **12** | **7.3** | **3.6** | **4.0** | **6.9** | **2.6** | **6.7** |
| Copper | mg/kg | 4700 | | **2.0** | **6.6** | **3.7** | **82** | **120** | **230** | **5.5** | **5.6** | **19** | **9.8** | **25** |
| Iron | mg/kg | 82000 | | **1900 J** | **15000** | **9300** | **13000** | **13000** | **14000** | **8800 J** | **9800 J** | **23000** | **18000** | **11000** |
| Lead | mg/kg | 800 | | **19** | **4.6** | **3.1** | **290** | **400** | **5400** | **2.5** | **2.6** | **27** | **38** | **47** |
| Magnesium | mg/kg | EN | | **71** | **500** | **350** | **1600** | **1500** | **1900** | **520** | **500** | **1800** | **580** | **9300** |
| Manganese | mg/kg | 2600 | | **94** | **110** | **230** | **170** | **200** | **400** | **73** | **79** | **200** | **140** | **230** |
| Nickel | mg/kg | 2200 | | **0.78** | **3.7** | **3.5** | **12** | **13** | **18** | **2.8** | **3.0** | **12** | **4.1** | **68** |
| Potassium | mg/kg | EN | | **73** | **460** | **250** | **830** | **580** | **680** | **520** | **510** | **1100** | **670** | **1200** |
| Selenium | mg/kg | 580 | | < 0.55 UJ | **0.17 J** | < 0.52 U | **0.19 J** | **0.17 J** | < 0.57 UJ | < 0.55 UJ | < 0.57 UJ | **0.27 J** | **0.18 J** | **0.25 J** |
| Silver | mg/kg | 580 | | < 0.11 U | **0.011 J** | < 0.10 U | **0.11** | **0.078 J** | **0.42** | < 0.11 U | < 0.11 U | **0.031 J** | **0.012 J** | **0.12** |
| Sodium | mg/kg | EN | | **34** | **61** | **69** | **140** | **140** | **190** | **25** | **28** | **170** | **52** | **140** |
| Thallium | mg/kg | 1.2 | | **0.033 J** | **0.082 J** | **0.047 J** | **0.093 J** | **0.10 J** | **0.071 J** | **0.044 J** | **0.047 J** | **0.14** | **0.15** | **0.098 J** |
| Vanadium | mg/kg | 580 | | **2.9** | **19** | **12** | **20** | **19** | **36** | **12** | **11** | **29** | **26** | **130** |
| Zinc | mg/kg | 35000 | | **12** | **15** | **17** | **100** | **120** | **560** | **10** | **9.6** | **33** | **22** | **49** |
| Mercury | mg/kg | 35 | | < 0.035 U | **0.014 J** | < 0.035 U | **0.065 J-** | **0.065 J-** | **0.11** | < 0.033 U | < 0.037 U | **0.086** | **0.067** | **0.091** |

**Table 4-6**
**Subsurface Soil Results**
**Inorganic Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP41 | SUSDP41 | SUSDP43 | SUSDP43 | SUSDP44 | TA1E0 | TA1E0 | TA1E0 | TA1E1 | TA1E10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/24/2013 | 5/24/2013 | 5/17/2013 | 6/7/2013 | 5/21/2013 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 7/31/2017 | 8/8/2017 |
| | | | Sample ID | DPS41 10N | DPS41 15N | DPS4304N | DPS4310N | DPS4403N | DPSTA1E0001N | DPSTA1E0002N | DPSTA1E0003N | DPSTA1E0101N | DPSTA1E1001N |
| | | | Depth | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 3.5 - 4.5 ft | 9.5 - 10.5 ft | 2.5 - 3.5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | **8200** | **1800** | **2900** | **5600 J+** | **6400** | **3800** | **4100** | **2700** | **5800** | **7000** |
| Antimony | mg/kg | 47 | | **0.063 J** | **0.012 J** | **0.025 J-** | **0.056 J** | **0.13 J** | < 0.23 U | **0.18 J** | **0.13 J** | **0.39** | **0.25 J** |
| Arsenic | mg/kg | 3 | | **2.1** | **0.74** | **0.39 J-** | **2.9 J-** | **6.8** | **5.6** | **4.8** | **3.2** | **13** | **3.6** |
| Barium | mg/kg | 22000 | | **75** | **14** | **25** | **48** | **48** | **34** | **25** | **13** | **91** | **35** |
| Beryllium | mg/kg | 230 | | **0.38** | **0.17** | **1.9 J-** | **0.36** | **0.45** | **0.22** | **0.22** | **0.22** | **0.52** | **0.52** |
| Cadmium | mg/kg | 98 | | **0.27** | **0.027 J** | **0.26** | **0.25** | **0.17** | < 0.11 U | **0.016 J** | **0.014 J** | **0.23** | **0.036 J** |
| Calcium | mg/kg | EN | | **39000** | **190** | **1500** | **11000** | **1100** | **690** | **750** | **430** | **4700** | **500** |
| Chromium | mg/kg | 180000 | | **22** | **6.6** | **13 J-** | **13** | **13** | **11** | **10** | **10** | **20** | **13** |
| Cobalt | mg/kg | 35 | | **5.5** | **1.1** | **4.1** | **4.8** | **3.3** | **2.3** | **3.0** | **2.0** | **9.2** | **5.0** |
| Copper | mg/kg | 4700 | | **22** | **5.2** | **65 J+** | **39** | **23** | **6.8** | **7.7** | **5.8** | **41** | **10** |
| Iron | mg/kg | 82000 | | **13000** | **8100** | **18000** | **13000** | **17000** | **16000** | **15000** | **12000** | **16000** | **13000** |
| Lead | mg/kg | 800 | | **45** | **2.5** | **24** | **150** | **60** | **5.0** | **5.3** | **3.5 J** | **53** | **11** |
| Magnesium | mg/kg | EN | | **4800** | **600** | **560** | **5100** | **730** | **560** | **590** | **430** | **2300** | **940** |
| Manganese | mg/kg | 2600 | | **220** | **34** | **53 J** | **140** | **110** | **100** | **94** | **55 J** | **160** | **89** |
| Nickel | mg/kg | 2200 | | **19** | **3.0** | **13** | **15** | **6.0** | **5.0** | **4.7** | **3.4** | **62** | **8.5** |
| Potassium | mg/kg | EN | | **2200** | **670** | **600** | **500** | **490** | **450** | **520** | **400** | **760** | **750** |
| Selenium | mg/kg | 580 | | **0.24 J** | < 0.52 U | < 0.60 UJ | **0.29 J-** | **0.48 J** | **0.44 J** | **0.50 J** | **0.27 J** | **0.77** | **0.81** |
| Silver | mg/kg | 580 | | **0.11 J** | < 0.10 U | **0.017 J** | **0.052 J** | **0.055 J** | **0.019 J** | < 0.11 U | < 0.11 U | **0.15** | **0.027 J** |
| Sodium | mg/kg | EN | | **220** | **54** | **69** | **88** | **95** | **66** | **130** | **93** | **84** | **150** |
| Thallium | mg/kg | 1.2 | | **0.12** | **0.052 J** | **0.11 J** | **0.10 J** | **0.19** | < 0.11 U | **0.074 J** | **0.057 J** | **0.20** | **0.13** |
| Vanadium | mg/kg | 580 | | **23** | **8.2** | **25 J-** | **24** | **27** | **670** | **630** | **420** | **200** | **21** |
| Zinc | mg/kg | 35000 | | **50** | **10** | **58 J-** | **250** | **28** | **20** | **16** | **11** | **82** | **20** |
| Mercury | mg/kg | 35 | | **0.059** | < 0.035 U | **0.11 J-** | **0.15** | **0.083** | < 0.037 U | < 0.037 U | **0.0098 J** | **0.14** | **0.038 J** |

**Table 4-6**
**Subsurface Soil Results**
**Inorganic Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Location ID | TA1E9 | TA1G10 | TA1G9 | TA1G9 | TA1H9 |
| | | | Sample Date | 8/3/2017 | 8/4/2017 | 8/4/2017 | 8/4/2017 | 8/4/2017 |
| | | | Sample ID | DPSTA1E0901N | DPSTA1G1001N | DPSTA1G0901N | DPSTA1G0902N | DPSTA1H0901N |
| | | | Depth | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | |
| Aluminum | mg/kg | 110000 | | **2800** | **5600** | **920** | **1700** | **5400** |
| Antimony | mg/kg | 47 | | **0.49** | **0.17 J** | **0.33** | **0.17 J** | **0.40** |
| Arsenic | mg/kg | 3 | | **12** | **3.2** | **8.2** | **3.4** | **4.5** |
| Barium | mg/kg | 22000 | | **41** | **58** | **25** | **14** | **40** |
| Beryllium | mg/kg | 230 | | **0.51** | **0.52** | **0.48** | **0.29** | **0.52** |
| Cadmium | mg/kg | 98 | | **0.57** | **0.031 J** | < 0.11 U | **0.017 J** | **0.29** |
| Calcium | mg/kg | EN | | **10000** | **420** | **590** | **480** | **5200** |
| Chromium | mg/kg | 180000 | | **25** | **13** | **9.2** | **7.1** | **20** |
| Cobalt | mg/kg | 35 | | **29** | **4.4** | **8.4** | **2.0** | **9.1** |
| Copper | mg/kg | 4700 | | **59** | **9.9** | **19** | **8.8** | **19** |
| Iron | mg/kg | 82000 | | **19000** | **11000** | **8800** | **10000** | **12000** |
| Lead | mg/kg | 800 | | **91** | **23** | **12** | **6.0** | **100** |
| Magnesium | mg/kg | EN | | **21000** | **660** | **2300** | **470** | **1900** |
| Manganese | mg/kg | 2600 | | **490** | **71** | **56** | **52** | **180** |
| Nickel | mg/kg | 2200 | | **380** | **6.0** | **130** | **4.2** | **140** |
| Potassium | mg/kg | EN | | **290** | **590** | **240** | **320** | **620** |
| Selenium | mg/kg | 580 | | **0.88** | **0.70** | **0.78** | **0.28 J** | **0.61** |
| Silver | mg/kg | 580 | | **0.24** | **0.062 J** | **0.028 J** | < 0.10 U | **0.071 J** |
| Sodium | mg/kg | EN | | **98** | **56 J** | **95** | **47 J** | **67** |
| Thallium | mg/kg | 1.2 | | **0.22** | **0.11 J** | **0.11** | **0.044 J** | **0.12** |
| Vanadium | mg/kg | 580 | | **560** | **17** | **1400** | **540** | **530** |
| Zinc | mg/kg | 35000 | | **180** | **17** | **34** | **10** | **69** |
| Mercury | mg/kg | 35 | | **0.14** | **0.048** | **0.038** | **0.018 J** | **0.058** |

**Table 4-6**
**Subsurface Soil Results**
**Inorganic Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable
RSL Table, May 2018 Industrial Soil [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
mg/kg = milligrams per kilogram

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | Location ID | CT16SO9I | CT16SO9I | DP26 | DP26 | DP26 | DP27 | DP27 | DP27 | DP28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample Date | 8/4/2017 | 8/4/2017 | 3/28/2013 | 3/29/2013 | 3/29/2013 | 3/26/2013 | 3/26/2013 | 3/26/2013 | 4/2/2013 |
| | | | | | | | | | | | | | Sample ID | CT16SO9I03N | CT16SO9I04N | DPS2604N | DPS2614N | DPS2630N | DPS2707N | DPS2722N | DPS2758N | DPS2808N |
| | | | | | | | | | | | | | Depth | 3 - 4 ft | 4 - 5 ft | 3.5 - 4.5 ft | 13.5 - 14.5 ft | 29.5 - 30.5 ft | 6.5 - 7.5 ft | 21.5 - 22.5 ft | 57.5 - 58.5 ft | 7.5 - 8.5 ft |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | M8015D | C10C20 | 18600 | 101 | 4960 | 3540 | SUSDPCT16-2M | 11 | | 11 | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | M8015D | C20C36 | 39900 | 279 | 10500 | 7520 | SUSDPCT16-3S | 11 | | 11 | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | M8015D | TPH | 61000 | 1.48 | 3370 | 364 | SUSDPCT16-3S | 118 | | 121 | | **9210 J+** | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | SW8015C DRO | C10C20 | 11000 | 10 | 1100 | 140 | SUSDPCT16-2M | 54 | | 173 | | | **550** | < 19 U | < 19 U | < 21 U | **68** | < 24 U | < 20 U | < 18 U |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | SW8015C DRO | C20C36 | 17000 | 10 | 1400 | 170 | SB3 | 98 | | 173 | | | **2200** | **28** | **33** | **72** | **220** | **56** | < 20 U | < 18 U |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | SW8015C GRO/SW8015D GRO | 8006-61-9 | 38000 | 60 | 12000 | 640 | SB3 | 7 | | 140 | | | | < 86 U | < 85 U | < 110 U | < 94 U | < 110 U | < 99 U | < 85 U |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | SW8260B/SW8260C | 71-55-6 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | SW8260B/SW8260C | 79-34-5 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | SW8260B/SW8260C | 76-13-1 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 1,1,2-Trichloroethane | ug/kg | 630 | SW8260B/SW8260C | 79-00-5 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 1,1-Dichloroethane | ug/kg | 16000 | SW8260B/SW8260C | 75-34-3 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 1,1-Dichloroethene | ug/kg | 100000 | SW8260B/SW8260C | 75-35-4 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | SW8260B/SW8260C | 87-61-6 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | SW8260B/SW8260C | 120-82-1 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | SW8260B/SW8260C | 96-12-8 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 1,2-Dibromoethane | ug/kg | 160 | SW8260B/SW8260C | 106-93-4 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 1,2-Dichlorobenzene | ug/kg | 930000 | SW8260B/SW8260C | 95-50-1 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 1,2-Dichloroethane | ug/kg | 2000 | SW8260B/SW8260C | 107-06-2 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 1,2-Dichloropropane | ug/kg | 6600 | SW8260B/SW8260C | 78-87-5 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 1,3-Dichlorobenzene | ug/kg | 11000 | SW8260B/SW8260C | 541-73-1 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 1,4-Dichlorobenzene | ug/kg | 11000 | SW8260B/SW8260C | 106-46-7 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 1,4-Dioxane | ug/kg | 24000 | SW8260B/SW8260C | 123-91-1 | | | | | | | | 67 | | | | < 870 U | < 860 U | < 990 U | < 930 U | < 880 U | < 850 U | < 990 U |
| 2-Butanone | ug/kg | 1.9e+007 | SW8260B/SW8260C | 78-93-3 | 12 | 12 | 12 | 12 | SUSDP12 | 1 | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 2-Hexanone | ug/kg | 130000 | SW8260B/SW8260C | 591-78-6 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | SW8260B/SW8260C | 108-10-1 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Acetone | ug/kg | 6.7e+007 | SW8260B/SW8260C | 67-64-1 | 58 | 5.1 | 15 | 9.1 | SUSDP12 | 15 | | 67 | | | | < 17 U | < 17 U | < 20 U | < 19 U | **8.3 J** | < 17 U | < 20 U |
| Benzene | ug/kg | 5100 | SW8260B/SW8260C | 71-43-2 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Bromochloromethane | ug/kg | 63000 | SW8260B/SW8260C | 74-97-5 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Bromodichloromethane | ug/kg | 1300 | SW8260B/SW8260C | 75-27-4 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Bromoform | ug/kg | 86000 | SW8260B/SW8260C | 75-25-2 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Bromomethane | ug/kg | 3000 | SW8260B/SW8260C | 74-83-9 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Carbon Disulfide | ug/kg | 350000 | SW8260B/SW8260C | 75-15-0 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Carbon Tetrachloride | ug/kg | 2900 | SW8260B/SW8260C | 56-23-5 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Chlorobenzene | ug/kg | 130000 | SW8260B/SW8260C | 108-90-7 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Chloroethane | ug/kg | 5.7e+006 | SW8260B/SW8260C | 75-00-3 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Chloroform | ug/kg | 1400 | SW8260B/SW8260C | 67-66-3 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Chloromethane | ug/kg | 46000 | SW8260B/SW8260C | 74-87-3 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | SW8260B/SW8260C | 156-59-2 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| cis-1,3-Dichloropropene | ug/kg | 8200 | SW8260B/SW8260C | 10061-01-5 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Cyclohexane | ug/kg | 2.7e+006 | SW8260B/SW8260C | 110-82-7 | 2.3 | 2.3 | 2.3 | 2.3 | SUSDP12 | 1 | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Dibromochloromethane | ug/kg | 39000 | SW8260B/SW8260C | 124-48-1 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Dichlorodifluoromethane | ug/kg | 37000 | SW8260B/SW8260C | 75-71-8 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Ethylbenzene | ug/kg | 25000 | SW8260B/SW8260C | 100-41-4 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Isopropylbenzene | ug/kg | 990000 | SW8260B/SW8260C | 98-82-8 | 0.77 | 0.77 | 0.77 | 0.77 | SUSDP39 | 1 | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| m, p-Xylene | ug/kg | 240000 | SW8260B/SW8260C | XYLMP | 4.8 | 4.8 | 4.8 | 4.8 | SUSDP39 | 1 | | 67 | | | | < 8.7 U | < 8.6 U | < 9.9 U | < 9.3 U | < 8.8 U | < 8.5 U | < 9.9 U |
| Methyl Acetate | ug/kg | 1.2e+008 | SW8260B/SW8260C | 79-20-9 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | SW8260B/SW8260C | 1634-04-4 | 100 | 100 | 100 | 100 | DP32 | 1 | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Methylcyclohexane | ug/kg | 2.7e+006 | SW8260B/SW8260C | 108-87-2 | 6.1 | 6.1 | 6.1 | 6.1 | SUSDP12 | 1 | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Methylene Chloride | ug/kg | 320000 | SW8260B/SW8260C | 75-09-2 | 1.2 | 1.2 | 1.2 | 1.2 | SUSDP10 | 1 | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| o-Xylene | ug/kg | 280000 | SW8260B/SW8260C | 95-47-6 | 3.5 | 3.5 | 3.5 | 3.5 | SUSDP39 | 1 | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Styrene | ug/kg | 3.5e+006 | SW8260B/SW8260C | 100-42-5 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Tetrachloroethylene | ug/kg | 39000 | SW8260B/SW8260C | 127-18-4 | 4.2 | 4.2 | 4.2 | 4.2 | SUSDP39 | 1 | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Toluene | ug/kg | 4.7e+006 | SW8260B/SW8260C | 108-88-3 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | SW8260B/SW8260C | 156-60-5 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| trans-1,3-Dichloropropene | ug/kg | 8200 | SW8260B/SW8260C | 10061-02-6 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Trichloroethene | ug/kg | 1900 | SW8260B/SW8260C | 79-01-6 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | SW8260B/SW8260C | 75-69-4 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Vinyl Chloride | ug/kg | 1700 | SW8260B/SW8260C | 75-01-4 | | | | | | | | 67 | | | | < 4.3 U | < 4.3 U | < 5.0 U | < 4.6 U | < 4.4 U | < 4.2 U | < 5.0 U |
| Xylenes (total) | ug/kg | 250000 | SW8260B/SW8260C | 1330-20-7 | 8.3 | 8.3 | 8.3 | 8.3 | SUSDP39 | 1 | | 67 | | | | < 8.7 U | < 8.6 U | < 9.9 U | < 9.3 U | < 8.8 U | < 8.5 U | < 9.9 U |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | Location ID | CT16SO9I | CT16SO9I | DP26 | DP26 | DP26 | DP27 | DP27 | DP27 | DP28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample Date | 8/4/2017 | 8/4/2017 | 3/28/2013 | 3/29/2013 | 3/29/2013 | 3/26/2013 | 3/26/2013 | 3/26/2013 | 4/2/2013 |
| | | | | | | | | | | | | | Sample ID | CT16SO9I03N | CT16SO9I04N | DPS2604N | DPS2614N | DPS2630N | DPS2707N | DPS2722N | DPS2758N | DPS2808N |
| | | | | | | | | | | | | | Depth | 3 - 4 ft | 4 - 5 ft | 3.5 - 4.5 ft | 13.5 - 14.5 ft | 29.5 - 30.5 ft | 6.5 - 7.5 ft | 21.5 - 22.5 ft | 57.5 - 58.5 ft | 7.5 - 8.5 ft |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | SW8270D LL | 92-52-4 | 32 | 30 | 31 | 31 | DP26 | 2 | | 28 | | | | **32 J** | < 37 U | < 41 U | **30 J** | < 48 U | < 40 U | < 36 U |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | SW8270D LL | 95-94-3 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | SW8270D LL | 108-60-1 | | | | | | | | 28 | | | | < 38 U | < 7.6 U | < 8.4 U | < 16 U | < 9.8 U | < 8.1 U | < 7.3 U |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | SW8270D LL | 58-90-2 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | SW8270D LL | 95-95-4 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | SW8270D LL | 88-06-2 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| 2,4-Dichlorophenol | ug/kg | 250000 | SW8270D LL | 120-83-2 | | | | | | | | 28 | | | | < 38 U | < 7.6 U | < 8.4 U | < 16 U | < 9.8 U | < 8.1 U | < 7.3 U |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | SW8270D LL | 105-67-9 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| 2,4-Dinitrophenol | ug/kg | 160000 | SW8270D LL | 51-28-5 | | | | | | | | 28 | | | | < 960 U | < 190 U | < 210 U | < 400 U | < 250 U | < 210 U | < 180 U |
| 2,4-Dinitrotoluene | ug/kg | 7400 | SW8270D LL | 121-14-2 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| 2,6-Dinitrotoluene | ug/kg | 1500 | SW8270D LL | 606-20-2 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| 2-Chloronaphthalene | ug/kg | 6e+006 | SW8270D LL | 91-58-7 | | | | | | | | 28 | | | | < 38 U | < 7.6 U | < 8.4 U | < 16 U | < 9.8 U | < 8.1 U | < 7.3 U |
| 2-Chlorophenol | ug/kg | 580000 | SW8270D LL | 95-57-8 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| 2-Methylnaphthalene | ug/kg | 300000 | SW8270D LL | 91-57-6 | 120 | 2 | 55 | 44 | DP27 | 3 | | 28 | | | | **44** | < 7.6 U | < 8.4 U | **120** | < 9.8 U | < 8.1 U | < 7.3 U |
| 2-Methylphenol | ug/kg | 4.1e+006 | SW8270D LL | 95-48-7 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| 2-Nitroaniline | ug/kg | 800000 | SW8270D LL | 88-74-4 | | | | | | | | 28 | | | | < 960 U | < 190 U | < 210 U | < 400 U | < 250 U | < 210 U | < 180 U |
| 2-Nitrophenol | ug/kg | 2.5e+007 | SW8270D LL | 88-75-5 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | SW8270D LL | 91-94-1 | | | | | | | 1 | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | R | < 40 U | < 36 U |
| 3-Nitroaniline | ug/kg | 110000 | SW8270D LL | 99-09-2 | | | | | | | | 28 | | | | < 960 U | < 190 U | < 210 U | < 400 U | < 250 U | < 210 U | < 180 U |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | SW8270D LL | 534-52-1 | | | | | | | | 28 | | | | < 960 U | < 190 U | < 210 U | < 400 U | < 250 U | < 210 U | < 180 U |
| 4-Bromophenyl-phenylether | ug/kg | | SW8270D LL | 101-55-3 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | SW8270D LL | 59-50-7 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| 4-Chloroaniline | ug/kg | 11000 | SW8270D LL | 106-47-8 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| 4-Chlorophenyl-phenylether | ug/kg | | SW8270D LL | 7005-72-3 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| 4-Methylphenol | ug/kg | 8.2e+006 | SW8270D LL | 106-44-5 | 23 | 23 | 23 | 23 | DP27 | 1 | | 28 | | | | < 190 U | < 37 U | < 41 U | **23 J** | < 48 U | < 40 U | < 36 U |
| 4-Nitroaniline | ug/kg | 110000 | SW8270D LL | 100-01-6 | | | | | | | | 28 | | | | < 960 U | < 190 U | < 210 U | < 400 U | < 250 U | < 210 U | < 180 U |
| 4-Nitrophenol | ug/kg | 2.5e+007 | SW8270D LL | 100-02-7 | | | | | | | | 28 | | | | < 960 U | < 190 U | < 210 U | < 400 U | < 250 U | < 210 U | < 180 U |
| Acenaphthene | ug/kg | 4.5e+006 | SW8270D LL | 83-32-9 | 240000 | 0.85 | 2700 | 110 | SUSDP43-3P | 302 | | 448 | | | | **58** | < 7.6 U | < 8.4 U | **52** | < 9.8 U | < 8.1 U | < 7.3 U |
| Acenaphthylene | ug/kg | 4.5e+006 | SW8270D LL | 208-96-8 | 9500 | 0.9 | 240 | 57 | SUSDP19-4N | 284 | | 448 | | | | **20 J** | < 7.6 U | < 8.4 U | **23** | < 9.8 U | < 8.1 U | < 7.3 U |
| Acetophenone | ug/kg | 1.2e+007 | SW8270D LL | 98-86-2 | 3.7 | 3.7 | 3.7 | 3.7 | DP34 | 1 | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| Anthracene | ug/kg | 2.3e+007 | SW8270D LL | 120-12-7 | 480000 | 1 | 5100 | 250 | SUSDP19-6W | 349 | | 448 | | | | **100** | < 7.6 U | < 8.4 U | **98** | < 9.8 U | < 8.1 U | < 7.3 U |
| Atrazine | ug/kg | 10000 | SW8270D LL | 1912-24-9 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| Benzaldehyde | ug/kg | 820000 | SW8270D LL | 100-52-7 | 77 | 16 | 29 | 30 | DP27 | 21 | | 28 | | | | < 190 U | **18 J** | **18 J** | < 78 UJ | **77 J** | **17 J** | **28 J** |
| Benzo(a)anthracene | ug/kg | 21000 | SW8270D LL | 56-55-3 | 720000 | 1.1 | 8300 | 760 | SUSDP19-6W | 370 | | 448 | | | | **240** | < 7.6 U | < 8.4 U | **340** | < 9.8 U | < 8.1 U | < 7.3 U |
| Benzo(a)pyrene | ug/kg | 2100 | SW8270D LL | 50-32-8 | 640000 | 1.2 | 7400 | 790 | SUSDP19-6W | 357 | | 448 | | | | **240** | < 7.6 U | < 8.4 U | **330** | < 9.8 U | < 8.1 U | < 7.3 U |
| Benzo(b)fluoranthene | ug/kg | 21000 | SW8270D LL | 205-99-2 | 510000 | 1.7 | 7900 | 1000 | SUSDP43-3P | 362 | | 448 | | | | **240** | < 7.6 U | < 8.4 U | **390** | < 9.8 U | < 8.1 U | < 7.3 U |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | SW8270D LL | 191-24-2 | 380000 | 1.3 | 5200 | 720 | SUSDP19-6W | 354 | | 448 | | | | **170** | < 7.6 U | < 8.4 U | **260** | < 9.8 U | < 8.1 U | < 7.3 U |
| Benzo(k)fluoranthene | ug/kg | 210000 | SW8270D LL | 207-08-9 | 570000 | 1.8 | 4400 | 380 | SUSDP19-6W | 350 | | 448 | | | | **130** | < 7.6 U | < 8.4 U | **150** | < 9.8 U | < 8.1 U | < 7.3 U |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | SW8270D LL | 111-91-1 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | SW8270D LL | 111-44-4 | | | | | | | | 28 | | | | < 38 U | < 7.6 U | < 8.4 U | < 16 U | < 9.8 U | < 8.1 U | < 7.3 U |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | SW8270D LL | 117-81-7 | 120 | 6.1 | 31 | 20 | DP27 | 23 | | 28 | | | | < 380 U | < 76 U | < 84 U | **120 J** | **39 J** | **30 J** | **7.3 J** |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | SW8270D LL | 85-68-7 | 990 | 6.1 | 61 | 16 | DP27 | 22 | | 28 | | | | < 190 U | **9.6 J** | < 41 U | < 78 U | **990 J** | **48** | **8.0 J** |
| Caprolactam | ug/kg | 4e+007 | SW8270D LL | 105-60-2 | | | | | | | | 28 | | | | < 960 U | < 190 U | < 210 U | < 400 U | < 250 U | < 210 U | < 180 U |
| Carbazole | ug/kg | 3e+006 | SW8270D LL | 86-74-8 | 57 | 4.4 | 33 | 37 | DP26 | 3 | | 28 | | | | **57** | < 7.6 U | < 8.4 U | **37** | < 9.8 U | < 8.1 U | < 7.3 U |
| Chrysene | ug/kg | 2.1e+006 | SW8270D LL | 218-01-9 | 620000 | 1.1 | 7500 | 760 | SUSDP19-6W | 370 | | 448 | | | | **230** | < 7.6 U | < 8.4 U | **370** | < 9.8 U | < 8.1 U | < 7.3 U |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | SW8270D LL | 53-70-3 | 100000 | 1.9 | 1500 | 210 | SUSDP19-6W | 310 | | 448 | | | | **55** | < 7.6 U | < 8.4 U | **62** | < 9.8 U | < 8.1 U | < 7.3 U |
| Dibenzofuran | ug/kg | 100000 | SW8270D LL | 132-64-9 | 98 | 5 | 59 | 75 | DP26 | 3 | | 28 | | | | **98 J** | < 37 U | < 41 U | **75 J** | < 48 U | < 40 U | < 36 U |
| Diethylphthalate | ug/kg | 6.6e+007 | SW8270D LL | 84-66-2 | 28 | 4.3 | 11 | 10 | DP32 | 16 | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | **12 J** | **8.8 J** | **9.4 J** |
| Dimethylphthalate | ug/kg | 6.6e+007 | SW8270D LL | 131-11-3 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | SW8270D LL | 84-74-2 | 5.8 | 5.5 | 5.7 | 5.7 | DP34 | 2 | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| Di-n-octylphthalate | ug/kg | 820000 | SW8270D LL | 117-84-0 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| Fluoranthene | ug/kg | 3e+006 | SW8270D LL | 206-44-0 | 1500000 | 1.2 | 18000 | 1400 | SUSDP19-6W<br>SUSDP43-3P | 382 | | 448 | | | | **600** | < 7.6 U | < 8.4 U | **550** | < 9.8 U | < 8.1 U | < 7.3 U |
| Fluorene | ug/kg | 3e+006 | SW8270D LL | 86-73-7 | 270000 | 1 | 2900 | 110 | SUSDP19-6W | 305 | | 448 | | | | **100** | < 7.6 U | < 8.4 U | **60** | < 9.8 U | < 8.1 U | < 7.3 U |
| Hexachlorobenzene | ug/kg | 960 | SW8270D LL | 118-74-1 | | | | | | | | 28 | | | | < 38 U | < 7.6 U | < 8.4 U | < 16 U | < 9.8 U | < 8.1 U | < 7.3 U |
| Hexachlorobutadiene | ug/kg | 5300 | SW8270D LL | 87-68-3 | | | | | | | | 28 | | | | < 38 U | < 7.6 U | < 8.4 U | < 16 U | < 9.8 U | < 8.1 U | < 7.3 U |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | SW8270D LL | 77-47-4 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| Hexachloroethane | ug/kg | 8000 | SW8270D LL | 67-72-1 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Location ID | CT16SO9I | CT16SO9I | DP26 | DP26 | DP26 | DP27 | DP27 | DP27 | DP28 |
| | | | | | | | | | | | | | Sample Date | 8/4/2017 | 8/4/2017 | 3/28/2013 | 3/29/2013 | 3/29/2013 | 3/26/2013 | 3/26/2013 | 3/26/2013 | 4/2/2013 |
| | | | | | | | | | | | | | Sample ID | CT16SO9I03N | CT16SO9I04N | DPS2604N | DPS2614N | DPS2630N | DPS2707N | DPS2722N | DPS2758N | DPS2808N |
| | | | | | | | | | | | | | Depth | 3 - 4 ft | 4 - 5 ft | 3.5 - 4.5 ft | 13.5 - 14.5 ft | 29.5 - 30.5 ft | 6.5 - 7.5 ft | 21.5 - 22.5 ft | 57.5 - 58.5 ft | 7.5 - 8.5 ft |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | SW8270D LL | 193-39-5 | 380000 | 1.2 | 4900 | 630 | SUSDP19-6W | 357 | | 448 | | | | **150** | < 7.6 U | < 8.4 U | **200** | < 9.8 U | < 8.1 U | < 7.3 U |
| Isophorone | ug/kg | 2.4e+006 | SW8270D LL | 78-59-1 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| Naphthalene | ug/kg | 17000 | SW8270D LL | 91-20-3 | 130000 | 0.91 | 1300 | 87 | SUSDP43-3P | 273 | | 448 | | | | **100** | < 7.6 U | < 8.4 U | **87** | < 9.8 U | < 8.1 U | < 7.3 U |
| Nitrobenzene | ug/kg | 22000 | SW8270D LL | 98-95-3 | | | | | | | | 28 | | | | < 380 U | < 76 U | < 84 U | < 160 U | < 98 U | < 81 U | < 72 U |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | SW8270D LL | 621-64-7 | | | | | | | | 28 | | | | < 38 U | < 7.6 U | < 8.4 U | < 16 U | < 9.8 U | < 8.1 U | < 7.3 U |
| N-Nitrosodiphenylamine | ug/kg | 470000 | SW8270D LL | 86-30-6 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| Pentachlorophenol | ug/kg | 4000 | SW8270D LL | 87-86-5 | | | | | | | | 28 | | | | < 190 U | < 37 U | < 41 U | < 78 U | < 48 U | < 40 U | < 36 U |
| Phenanthrene | ug/kg | 2.3e+007 | SW8270D LL | 85-01-8 | 1700000 | 1.3 | 16000 | 750 | SUSDP43-3P | 372 | | 448 | | | | **400** | < 7.6 U | < 8.4 U | **490** | < 9.8 U | < 8.1 U | < 7.3 U |
| Phenol | ug/kg | 2.5e+007 | SW8270D LL | 108-95-2 | | | | | | | | 31 | | | | < 38 U | < 7.6 U | < 8.4 U | < 16 U | < 9.8 U | < 8.1 U | < 7.3 U |
| Pyrene | ug/kg | 2.3e+006 | SW8270D LL | 129-00-0 | 1200000 | 0.87 | 14000 | 1100 | SUSDP19-6W | 380 | | 448 | | | | **340** | < 7.6 U | < 8.4 U | **530** | < 9.8 U | < 8.1 U | < 7.3 U |
| BaP-TE | ug/kg | 2100 | SW8270D LL | BAP | 898000 | 0.0034 | 10400 | 1130 | SUSDP19-6W | 373 | | 448 | | | | **360** | < 7.60 U | < 8.40 U | **487** | < 9.80 U | < 8.10 U | < 7.30 U |
| Total High-molecular-weight PAHs | ug/kg | | SW8270D LL | TOT-PAH-HMW | 6500000 | 2 | 75000 | 6900 | SUSDP19-6W | 384 | | 448 | | | | **2400** | < 7.6 U | < 8.4 U | **3200** | < 9.8 U | < 8.1 U | < 7.3 U |
| Total Low-molecular-weight PAHs | ug/kg | | SW8270D LL | TOT-PAH-LMW | 2700000 | 0.91 | 26000 | 1200 | SUSDP43-3P | 375 | | 448 | | | | **780** | < 7.6 U | < 8.4 U | **810** | < 9.8 U | < 8.1 U | < 7.3 U |
| Total PAHs (sum 16) | ug/kg | | SW8270D LL | TOT-PAH | 9000000 | 2 | 100000 | 8000 | SUSDP19-6W | 384 | | 448 | | | | **3200** | < 7.6 U | < 8.4 U | **4000** | < 9.8 U | < 8.1 U | < 7.3 U |

| | | | Location ID | DP28 | DP28 | DP29 | DP29 | DP29 | DP30 | DP30 | DP31 | DP31 | DP32 | DP32 | DP32 | DP32 | DP33 | DP33 | DP34 | DP34 | DP34 | DP34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/3/2013 | 4/3/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/4/2013 | 4/4/2013 | 3/13/2013 | 3/29/2013 | 3/29/2013 | 3/29/2013 |
| | | | Sample ID | DPS2821N | DPS2832N | DPS2910N | DPS2930N | DPS2950N | DPS3050N | DPS3028N | DPS3120N | DPS3142N | DPS3210N | DPS3210R | DPS3230N | DPS3243N | DPS3315N | DPS3335N | DPS3405N | DPS3418N | DPS3445N | DPS3460N |
| | | | Depth | 20.5 - 21.5 ft | 31 - 33 ft | 9 - 11 ft | 29 - 31 ft | 49 - 51 ft | 49 - 51 ft | 27 - 29 ft | 19.5 - 20.5 ft | 41.5 - 42.5 ft | 9.5 - 10.5 ft | 9.5 - 10.5 ft | 29.5 - 30.5 ft | 42.5 - 43.5 ft | 14 - 16 ft | 34 - 36 ft | 4.5 - 5.5 ft | 17.5 - 18.5 ft | 44.5 - 45.5 ft | 59.5 - 60.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | < 18 U | < 24 U | **12 J** | < 20 U | < 19 U | < 21 U | < 20 U | < 19 U | < 20 U | < 20 U | < 19 U | < 19 U | < 20 U | < 20 U | < 26 U | < 20 U | < 22 U | < 20 U | < 45 U |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | < 18 U | **45** | **59** | < 20 U | < 19 U | **16 J** | **22** | < 19 U | < 20 U | < 20 U | < 19 U | < 19 U | **21** | < 20 U | **43** | < 20 U | **17 J** | < 20 U | < 45 U |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | < 110 U | < 120 U | < 97 U | < 100 U | < 110 U | < 110 U | < 100 U | < 92 U | < 97 U | < 91 U | < 94 U | < 96 U | < 170 U | **60 J** | **79 J** | < 110 U | < 100 U | < 91 U | < 100 U |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 1,1,2-Trichloroethane | ug/kg | 630 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 1,1-Dichloroethane | ug/kg | 16000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 1,1-Dichloroethene | ug/kg | 100000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 1,2-Dibromoethane | ug/kg | 160 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 1,2-Dichloroethane | ug/kg | 2000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 1,2-Dichloropropane | ug/kg | 6600 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 1,4-Dioxane | ug/kg | 24000 | | < 940 U | < 1200 U | < 930 U | < 960 U | < 1000 U | < 1100 U | < 950 U | < 910 U | < 870 U | < 1000 U | < 880 U | < 880 U | < 1100 U | < 990 U | < 1400 U | < 1100 U | < 960 U | < 880 U | < 810 U |
| 2-Butanone | ug/kg | 1.9e+007 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 2-Hexanone | ug/kg | 130000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Acetone | ug/kg | 6.7e+007 | | **5.1 J** | **9.1 J** | < 19 U | **5.1 J** | < 20 U | < 22 U | **16 J** | **12 J** | **9.9 J** | **9.7 J** | < 18 U | < 18 U | **6.5 J** | < 20 U | < 27 U | < 21 U | < 19 U | < 18 U | < 16 U |
| Benzene | ug/kg | 5100 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Bromochloromethane | ug/kg | 63000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Bromodichloromethane | ug/kg | 1300 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Bromoform | ug/kg | 86000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Bromomethane | ug/kg | 3000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Carbon Disulfide | ug/kg | 350000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Carbon Tetrachloride | ug/kg | 2900 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Chlorobenzene | ug/kg | 130000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Chloroethane | ug/kg | 5.7e+006 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Chloroform | ug/kg | 1400 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Chloromethane | ug/kg | 46000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Cyclohexane | ug/kg | 2.7e+006 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Dibromochloromethane | ug/kg | 39000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Dichlorodifluoromethane | ug/kg | 37000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Ethylbenzene | ug/kg | 25000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Isopropylbenzene | ug/kg | 990000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| m, p-Xylene | ug/kg | 240000 | | < 9.4 U | < 12 U | < 9.3 U | < 9.6 U | < 10 U | < 11 U | < 9.5 U | < 9.1 U | < 8.7 U | < 10 U | < 8.8 U | < 8.8 U | < 11 U | < 9.9 U | < 14 U | < 11 U | < 9.6 U | < 8.8 U | < 8.1 U |
| Methyl Acetate | ug/kg | 1.2e+008 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | **100** | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Methylcyclohexane | ug/kg | 2.7e+006 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Methylene Chloride | ug/kg | 320000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| o-Xylene | ug/kg | 280000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Styrene | ug/kg | 3.5e+006 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Tetrachloroethylene | ug/kg | 39000 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Toluene | ug/kg | 4.7e+006 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Trichloroethene | ug/kg | 1900 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Vinyl Chloride | ug/kg | 1700 | | < 4.7 U | < 6.0 U | < 4.7 U | < 4.8 U | < 5.1 U | < 5.4 U | < 4.7 U | < 4.5 U | < 4.4 U | < 5.1 U | < 4.4 U | < 4.4 U | < 5.3 U | < 4.9 U | < 6.8 U | < 5.4 U | < 4.8 U | < 4.4 U | < 4.1 U |
| Xylenes (total) | ug/kg | 250000 | | < 9.4 U | < 12 U | < 9.3 U | < 9.6 U | < 10 U | < 11 U | < 9.5 U | < 9.1 U | < 8.7 U | < 10 U | < 8.8 U | < 8.8 U | < 11 U | < 9.9 U | < 14 U | < 11 U | < 9.6 U | < 8.8 U | < 8.1 U |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP28 | DP28 | DP29 | DP29 | DP29 | DP30 | DP30 | DP31 | DP31 | DP32 | DP32 | DP32 | DP32 | DP33 | DP33 | DP34 | DP34 | DP34 | DP34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/3/2013 | 4/3/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/4/2013 | 4/4/2013 | 3/13/2013 | 3/29/2013 | 3/29/2013 | 3/29/2013 |
| | | | Sample ID | DPS2821N | DPS2832N | DPS2910N | DPS2930N | DPS2950N | DPS3050N | DPS3028N | DPS3120N | DPS3142N | DPS3210N | DPS3210R | DPS3230N | DPS3243N | DPS3315N | DPS3335N | DPS3405N | DPS3418N | DPS3445N | DPS3460N |
| | | | Depth | 20.5 - 21.5 ft | 31 - 33 ft | 9 - 11 ft | 29 - 31 ft | 49 - 51 ft | 49 - 51 ft | 27 - 29 ft | 19.5 - 20.5 ft | 41.5 - 42.5 ft | 9.5 - 10.5 ft | 9.5 - 10.5 ft | 29.5 - 30.5 ft | 42.5 - 43.5 ft | 14 - 16 ft | 34 - 36 ft | 4.5 - 5.5 ft | 17.5 - 18.5 ft | 44.5 - 45.5 ft | 59.5 - 60.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | < 7.3 U | < 9.5 U | < 8.5 U | < 7.9 U | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 2,4-Dichlorophenol | ug/kg | 250000 | | < 7.3 U | < 9.5 U | < 8.5 U | < 7.9 U | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 2,4-Dinitrophenol | ug/kg | 160000 | | < 190 U | < 240 U | < 210 U | < 200 U | < 200 U | < 220 U | < 200 U | < 190 U | < 210 U | < 200 U | < 200 U | < 190 U | < 200 U | < 200 U | < 260 U | < 200 U | < 230 U | < 200 U | < 200 U |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | < 7.3 U | < 9.5 U | < 8.5 U | < 7.9 U | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| 2-Chlorophenol | ug/kg | 580000 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 2-Methylnaphthalene | ug/kg | 300000 | | < 7.3 U | < 9.5 U | **2.0 J** | < 7.9 U | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| 2-Methylphenol | ug/kg | 4.1e+006 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 2-Nitroaniline | ug/kg | 800000 | | < 190 U | < 240 U | < 210 U | < 200 U | < 200 U | < 220 U | < 200 U | < 190 U | < 210 U | < 200 U | < 200 U | < 190 U | < 200 U | < 200 U | < 260 U | < 200 U | < 230 U | < 200 U | < 200 U |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 3-Nitroaniline | ug/kg | 110000 | | < 190 U | < 240 U | < 210 U | < 200 U | < 200 U | < 220 U | < 200 U | < 190 U | < 210 U | < 200 U | < 200 U | < 190 U | < 200 U | < 200 U | < 260 U | < 200 U | < 230 U | < 200 U | < 200 U |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | < 190 U | < 240 U | < 210 U | < 200 U | < 200 U | < 220 U | < 200 U | < 190 U | < 210 U | < 200 U | < 200 U | < 190 U | < 200 U | < 200 U | < 260 U | < 200 U | < 230 U | < 200 U | < 200 U |
| 4-Bromophenyl-phenylether | ug/kg | | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 4-Chloroaniline | ug/kg | 11000 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 4-Chlorophenyl-phenylether | ug/kg | | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 4-Methylphenol | ug/kg | 8.2e+006 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| 4-Nitroaniline | ug/kg | 110000 | | < 190 U | < 240 U | < 210 U | < 200 U | < 200 U | < 220 U | < 200 U | < 190 U | < 210 U | < 200 U | < 200 U | < 190 U | < 200 U | < 200 U | < 260 U | < 200 U | < 230 U | < 200 U | < 200 U |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | < 190 U | < 240 U | < 210 U | < 200 U | < 200 U | < 220 U | < 200 U | < 190 U | < 210 U | < 200 U | < 200 U | < 190 U | < 200 U | < 200 U | < 260 U | < 200 U | < 230 U | < 200 U | < 200 U |
| Acenaphthene | ug/kg | 4.5e+006 | | < 7.3 U | < 9.5 U | **8.0 J** | **3.5 J** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Acenaphthylene | ug/kg | 4.5e+006 | | < 7.3 U | < 9.5 U | **2.8 J** | < 7.9 U | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Acetophenone | ug/kg | 1.2e+007 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | **3.7 J** | < 39 U | < 39 U |
| Anthracene | ug/kg | 2.3e+007 | | < 7.3 U | < 9.5 U | **24** | **6.4 J** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Atrazine | ug/kg | 10000 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| Benzaldehyde | ug/kg | 820000 | | **28 J** | **38 J** | **33 J** | **31 J** | **30 J** | **18 J** | **16 J** | **30 J** | **32 J** | **31 J** | < 39 U | **29 J** | **30 J** | < 39 U | **40 J** | **30 J** | **23 J** | **16 J** | < 39 U |
| Benzo(a)anthracene | ug/kg | 21000 | | < 7.3 U | < 9.5 U | **68** | **6.8 J** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Benzo(a)pyrene | ug/kg | 2100 | | < 7.3 U | < 9.5 U | **61** | **5.4 J** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Benzo(b)fluoranthene | ug/kg | 21000 | | < 7.3 U | < 9.5 U | **60** | **6.1 J** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | < 7.3 U | < 9.5 U | **35** | **2.8 J** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Benzo(k)fluoranthene | ug/kg | 210000 | | < 7.3 U | < 9.5 U | **33** | **2.1 J** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | < 7.3 U | < 9.5 U | < 8.5 U | < 7.9 U | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | **79** | **32 J** | **73 J** | **61 J** | **7.3 J** | **21 J** | **15 J** | **6.1 J** | **48 J** | **12 J** | **16 J** | **7.7 J** | **32 J** | **14 J** | **14 J** | **28 J** | **9.5 J** | < 79 U | **18 J** |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | < 36 U | **16 J** | **26 J** | **26 J** | **10 J** | **21 J** | **12 J** | < 37 U | **30 J** | **9.9 J** | **15 J** | < 37 U | **9.8 J** | **20 J** | **20 J** | **18 J** | **7.8 J** | **6.1 J** | **24 J** |
| Caprolactam | ug/kg | 4e+007 | | < 190 U | < 240 U | < 210 U | < 200 U | < 200 U | < 220 U | < 200 U | < 190 U | < 210 U | < 200 U | < 200 U | < 190 U | < 200 U | < 200 U | < 260 U | < 200 U | < 230 U | < 200 U | < 200 U |
| Carbazole | ug/kg | 3e+006 | | < 7.3 U | < 9.5 U | **4.4 J** | < 7.9 U | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Chrysene | ug/kg | 2.1e+006 | | < 7.3 U | < 9.5 U | **63** | **5.8 J** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | < 7.3 U | < 9.5 U | **10** | < 7.9 U | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Dibenzofuran | ug/kg | 100000 | | < 36 U | < 47 U | **5.0 J** | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| Diethylphthalate | ug/kg | 6.6e+007 | | **13 J** | **9.4 J** | **14 J** | **12 J** | **5.4 J** | **9.5 J** | **8.8 J** | **4.3 J** | < 41 U | **28 J** | < 39 U | **11 J** | **5.4 J** | **11 J** | **11 J** | < 39 U | < 44 U | < 39 U | < 39 U |
| Dimethylphthalate | ug/kg | 6.6e+007 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | **5.5 J** | < 39 U | **5.8 J** |
| Di-n-octylphthalate | ug/kg | 820000 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| Fluoranthene | ug/kg | 3e+006 | | < 7.3 U | < 9.5 U | **110** | **14** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Fluorene | ug/kg | 3e+006 | | < 7.3 U | < 9.5 U | **9.0** | **3.8 J** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Hexachlorobenzene | ug/kg | 960 | | < 7.3 U | < 9.5 U | < 8.5 U | < 7.9 U | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Hexachlorobutadiene | ug/kg | 5300 | | < 7.3 U | < 9.5 U | < 8.5 U | < 7.9 U | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| Hexachloroethane | ug/kg | 8000 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | DP28 | DP28 | DP29 | DP29 | DP29 | DP30 | DP30 | DP31 | DP31 | DP32 | DP32 | DP32 | DP32 | DP33 | DP33 | DP34 | DP34 | DP34 | DP34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/3/2013 | 4/3/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/4/2013 | 4/4/2013 | 3/13/2013 | 3/29/2013 | 3/29/2013 | 3/29/2013 |
| | | | Sample ID | DPS2821N | DPS2832N | DPS2910N | DPS2930N | DPS2950N | DPS3050N | DPS3028N | DPS3120N | DPS3142N | DPS3210N | DPS3210R | DPS3230N | DPS3243N | DPS3315N | DPS3335N | DPS3405N | DPS3418N | DPS3445N | DPS3460N |
| | | | Depth | 20.5 - 21.5 ft | 31 - 33 ft | 9 - 11 ft | 29 - 31 ft | 49 - 51 ft | 49 - 51 ft | 27 - 29 ft | 19.5 - 20.5 ft | 41.5 - 42.5 ft | 9.5 - 10.5 ft | 9.5 - 10.5 ft | 29.5 - 30.5 ft | 42.5 - 43.5 ft | 14 - 16 ft | 34 - 36 ft | 4.5 - 5.5 ft | 17.5 - 18.5 ft | 44.5 - 45.5 ft | 59.5 - 60.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | < 7.3 U | < 9.5 U | **30** | **2.4 J** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Isophorone | ug/kg | 2.4e+006 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| Naphthalene | ug/kg | 17000 | | < 7.3 U | < 9.5 U | **3.6 J** | < 7.9 U | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Nitrobenzene | ug/kg | 22000 | | < 73 U | < 94 U | < 84 U | < 79 U | < 77 U | < 84 U | < 78 U | < 75 U | < 82 U | < 79 U | < 79 U | < 74 U | < 79 U | < 79 U | < 100 U | < 79 U | < 88 U | < 79 U | < 79 U |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | < 7.3 U | < 9.5 U | < 8.5 U | < 7.9 U | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| Pentachlorophenol | ug/kg | 4000 | | < 36 U | < 47 U | < 42 U | < 39 U | < 38 U | < 42 U | < 39 U | < 37 U | < 41 U | < 39 U | < 39 U | < 37 U | < 39 U | < 39 U | < 51 U | < 39 U | < 44 U | < 39 U | < 39 U |
| Phenanthrene | ug/kg | 2.3e+007 | | < 7.3 U | < 9.5 U | **66** | **17** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Phenol | ug/kg | 2.5e+007 | | < 7.3 U | < 9.5 U | < 8.5 U | < 7.9 U | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Pyrene | ug/kg | 2.3e+006 | | < 7.3 U | < 9.5 U | **100** | **14** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| BaP-TE | ug/kg | 2100 | | < 7.30 U | < 9.50 U | **87.2** | **6.96** | < 7.80 U | < 8.50 U | < 7.80 U | < 7.60 U | < 8.30 U | < 8.00 U | < 7.90 U | < 7.50 U | < 8.00 U | < 8.00 U | < 10.0 U | < 7.90 U | < 8.90 U | < 8.00 U | < 8.00 U |
| Total High-molecular-weight PAHs | ug/kg | | | < 7.3 U | < 9.5 U | **570** | **59** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Total Low-molecular-weight PAHs | ug/kg | | | < 7.3 U | < 9.5 U | **110** | **31** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |
| Total PAHs (sum 16) | ug/kg | | | < 7.3 U | < 9.5 U | **680** | **90** | < 7.8 U | < 8.5 U | < 7.8 U | < 7.6 U | < 8.3 U | < 8.0 U | < 7.9 U | < 7.5 U | < 8.0 U | < 8.0 U | < 10 U | < 7.9 U | < 8.9 U | < 8.0 U | < 8.0 U |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP35 | DP35 | DP36 | DP36 | DP36 | DP36 | DP38 | DP38 | DP38 | DP40 | DP40 | DP40 | DP40 | DP42 | DP42 | DP42 | DP45 | DP45 | DP45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/28/2013 | 3/28/2013 | 5/17/2013 | 5/20/2013 | 5/20/2013 | 6/13/2013 | 5/16/2013 | 5/22/2013 | 5/22/2013 | 5/20/2013 | 5/28/2013 | 5/28/2013 | 6/10/2013 | 5/21/2013 | 5/29/2013 | 5/29/2013 | 5/23/2013 | 6/4/2013 | 6/4/2013 |
| | | | Sample ID | DPS3515N | DPS3534N | DPS3605N | DPS3610N | DPS3615N | DPS3610N2 | DPS3805N | DPS3810N | DPS3815N | DPS4003N | DPS4010N | DPS4015N | DPS4010N2 | DPS4205N | DPS4210N | DPS4215N | DPS4503N | DPS4510N | DPS4515N |
| | | | Depth | 14.5 - 15.5 ft | 33.5 - 34.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | < 20 U | < 20 U | < 20 U | < 19 U | < 19 U | | < 18 U | < 19 U | < 18 U | **14 J** | < 20 U | < 18 U | | **43** | **45** | **71** | < 20 U | < 18 U | < 19 U |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | < 20 U | < 20 U | < 20 U | < 19 U | < 19 U | | **26** | < 19 U | **27** | **190** | **37** | < 18 U | | **160** | **390** | **370** | **22** | < 18 U | < 19 U |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | < 88 U | < 93 U | < 100 UJ | | < 84 UJ | < 100 U | < 99 UJ | < 84 U | < 97 U | < 100 UJ | < 91 U | < 94 U | | < 90 UJ | < 120 U | < 110 U | < 110 U | < 110 U | < 97 U |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 1,1,2-Trichloroethane | ug/kg | 630 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 1,1-Dichloroethane | ug/kg | 16000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 1,1-Dichloroethene | ug/kg | 100000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 1,2-Dibromoethane | ug/kg | 160 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 1,2-Dichloroethane | ug/kg | 2000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 1,2-Dichloropropane | ug/kg | 6600 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 1,4-Dioxane | ug/kg | 24000 | | < 830 U | < 910 U | | | | < 1100 U | | | | | | | < 1300 U | < 880 U | | | < 1000 U | < 910 U | < 970 U |
| 2-Butanone | ug/kg | 1.9e+007 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 2-Hexanone | ug/kg | 130000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Acetone | ug/kg | 6.7e+007 | | < 17 U | < 18 U | | | | < 21 U | | | | | | | < 25 U | < 18 U | | | < 21 U | < 18 U | < 19 U |
| Benzene | ug/kg | 5100 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Bromochloromethane | ug/kg | 63000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Bromodichloromethane | ug/kg | 1300 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Bromoform | ug/kg | 86000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Bromomethane | ug/kg | 3000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Carbon Disulfide | ug/kg | 350000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Carbon Tetrachloride | ug/kg | 2900 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Chlorobenzene | ug/kg | 130000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Chloroethane | ug/kg | 5.7e+006 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Chloroform | ug/kg | 1400 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Chloromethane | ug/kg | 46000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Cyclohexane | ug/kg | 2.7e+006 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Dibromochloromethane | ug/kg | 39000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Dichlorodifluoromethane | ug/kg | 37000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Ethylbenzene | ug/kg | 25000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Isopropylbenzene | ug/kg | 990000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| m, p-Xylene | ug/kg | 240000 | | < 8.3 U | < 9.1 U | | | | < 11 U | | | | | | | < 13 U | < 8.8 U | | | < 10 U | < 9.1 U | < 9.7 U |
| Methyl Acetate | ug/kg | 1.2e+008 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Methylcyclohexane | ug/kg | 2.7e+006 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Methylene Chloride | ug/kg | 320000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| o-Xylene | ug/kg | 280000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Styrene | ug/kg | 3.5e+006 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Tetrachloroethylene | ug/kg | 39000 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Toluene | ug/kg | 4.7e+006 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Trichloroethene | ug/kg | 1900 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Vinyl Chloride | ug/kg | 1700 | | < 4.2 U | < 4.5 U | | | | < 5.4 U | | | | | | | < 6.4 U | < 4.4 U | | | < 5.2 U | < 4.6 U | < 4.8 U |
| Xylenes (total) | ug/kg | 250000 | | < 8.3 U | < 9.1 U | | | | < 11 U | | | | | | | < 13 U | < 8.8 U | | | < 10 U | < 9.1 U | < 9.7 U |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | DP35 | DP35 | DP36 | DP36 | DP36 | DP36 | DP38 | DP38 | DP38 | DP40 | DP40 | DP40 | DP40 | DP42 | DP42 | DP42 | DP45 | DP45 | DP45 |
| | | | Sample Date | 3/28/2013 | 3/28/2013 | 5/17/2013 | 5/20/2013 | 5/20/2013 | 6/13/2013 | 5/16/2013 | 5/22/2013 | 5/22/2013 | 5/20/2013 | 5/28/2013 | 5/28/2013 | 6/10/2013 | 5/21/2013 | 5/29/2013 | 5/29/2013 | 5/23/2013 | 6/4/2013 | 6/4/2013 |
| | | | Sample ID | DPS3515N | DPS3534N | DPS3605N | DPS3610N | DPS3615N | DPS3610N2 | DPS3805N | DPS3810N | DPS3815N | DPS4003N | DPS4010N | DPS4015N | DPS4010N2 | DPS4205N | DPS4210N | DPS4215N | DPS4503N | DPS4510N | DPS4515N |
| | | | Depth | 14.5 - 15.5 ft | 33.5 - 34.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| 1,1'-Biphenyl | ug/kg | 20000 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | < 7.9 U | < 8.3 U | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | < 7.9 U | < 8.3 U | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | < 200 U | < 210 U | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | < 7.9 U | < 8.3 U | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | < 7.9 U | < 8.3 U | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | < 200 U | < 210 U | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | < 200 U | < 210 U | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | < 200 U | < 210 U | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | < 200 U | < 210 U | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | < 200 U | < 210 U | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | < 7.9 U | < 8.3 U | < 8.1 U | < 7.5 U | < 7.5 U | | **30** | **26 J** | **58** | **25 J** | **20 J** | < 7.2 U | | **25 J** | **55** | **38 J** | | | |
| Acenaphthylene | ug/kg | 4.5e+006 | | < 7.9 U | < 8.3 U | < 8.1 U | < 7.5 U | < 7.5 U | | **24** | **36 J** | **67** | **31 J** | < 39 U | < 7.2 U | | **9.7 J** | **43** | < 44 U | | | |
| Acetophenone | ug/kg | 1.2e+007 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | < 7.9 U | < 8.3 U | < 8.1 U | < 7.5 U | < 7.5 U | | **94** | **120** | **240** | **66** | **51** | < 7.2 U | | **36 J** | **100** | **62** | | | |
| Atrazine | ug/kg | 10000 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | < 7.9 U | < 8.3 U | < 8.1 U | < 7.5 U | < 7.5 U | | **210** | **380** | **710** | **280** | **120** | < 7.2 U | | **88** | **580** | **340** | | | |
| Benzo(a)pyrene | ug/kg | 2100 | | < 7.9 U | < 8.3 U | < 8.1 U | < 7.5 U | < 7.5 U | | **200** | **350** | **610** | **330** | **150** | < 7.2 U | | **61** | **1200** | **390** | | | |
| Benzo(b)fluoranthene | ug/kg | 21000 | | < 7.9 U | < 8.3 U | < 8.1 U | < 7.5 U | < 7.5 U | | **210** | **320** | **610** | **320** | **160** | < 7.2 U | | **110** | **640** | **380** | | | |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | < 7.9 U | < 8.3 U | < 8.1 U | < 7.5 U | < 7.5 U | | **120** | **220** | **410** | **290** | **150** | < 7.2 U | | **67** | **1100** | **310** | | | |
| Benzo(k)fluoranthene | ug/kg | 210000 | | < 7.9 U | < 8.3 U | < 8.1 U | < 7.5 U | < 7.5 U | | **92** | **160** | **270** | **120** | **58** | < 7.2 U | | **35 J** | **210** | **160** | | | |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | < 7.9 U | < 8.3 U | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | < 79 U | **20 J** | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | **8.1 J** | **9.7 J** | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | < 200 U | < 210 U | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | < 7.9 U | < 8.3 U | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | < 7.9 U | < 8.3 U | < 8.1 U | < 7.5 U | < 7.5 U | | **210** | **360** | **680** | **290** | **150** | < 7.2 U | | **220** | **620** | **380** | | | |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | < 7.9 U | < 8.3 U | < 8.1 U | < 7.5 U | < 7.5 U | | **27** | **68** | **100** | **72** | **44** | < 7.2 U | | **26 J** | **450** | **73** | | | |
| Dibenzofuran | ug/kg | 100000 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | < 7.9 U | < 8.3 U | **3.7 J** | < 7.5 U | < 7.5 U | | **500** | **770** | **1400** | **500** | **250** | < 7.2 U | | **220** | **760** | **510** | | | |
| Fluorene | ug/kg | 3e+006 | | < 7.9 U | < 8.3 U | < 8.1 U | < 7.5 U | < 7.5 U | | **48** | **45** | **95** | **19 J** | **22 J** | < 7.2 U | | **55** | **61** | **36 J** | | | |
| Hexachlorobenzene | ug/kg | 960 | | < 7.9 U | < 8.3 U | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | < 7.9 U | < 8.3 U | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |

**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP35 | DP35 | DP36 | DP36 | DP36 | DP36 | DP38 | DP38 | DP38 | DP40 | DP40 | DP40 | DP40 | DP42 | DP42 | DP42 | DP45 | DP45 | DP45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/28/2013 | 3/28/2013 | 5/17/2013 | 5/20/2013 | 5/20/2013 | 6/13/2013 | 5/16/2013 | 5/22/2013 | 5/22/2013 | 5/20/2013 | 5/28/2013 | 5/28/2013 | 6/10/2013 | 5/21/2013 | 5/29/2013 | 5/29/2013 | 5/23/2013 | 6/4/2013 | 6/4/2013 |
| | | | Sample ID | DPS3515N | DPS3534N | DPS3605N | DPS3610N | DPS3615N | DPS3610N2 | DPS3805N | DPS3810N | DPS3815N | DPS4003N | DPS4010N | DPS4015N | DPS4010N2 | DPS4205N | DPS4210N | DPS4215N | DPS4503N | DPS4510N | DPS4515N |
| | | | Depth | 14.5 - 15.5 ft | 33.5 - 34.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | < 7.9 U | < 8.3 U | < 8.1 U | < 7.5 U | < 7.5 U | | **110** | **200** | **340** | **230** | **110** | < 7.2 U | | **48** | **580** | **250** | | | |
| Isophorone | ug/kg | 2.4e+006 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | < 7.9 U | < 8.3 U | < 8.1 U | < 7.5 U | < 7.5 U | | **4.6 J** | < 37 U | < 35 U | **68** | **43** | < 7.2 U | | **100** | **100** | **61** | | | |
| Nitrobenzene | ug/kg | 22000 | | < 79 U | < 82 U | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | < 7.9 U | < 8.3 U | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | < 39 U | < 41 U | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | < 7.9 U | < 8.3 U | **2.9 J** | < 7.5 U | < 7.5 U | | **420** | **490** | **970** | **210** | **200** | < 7.2 U | | **320** | **440** | **230** | | | |
| Phenol | ug/kg | 2.5e+007 | | < 7.9 U | < 8.3 U | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | < 7.9 U | < 8.3 U | **2.5 J** | < 7.5 U | < 7.5 U | | **390** | **650** | **1200** | **400** | **170** | < 7.2 U | | **160** | **570** | **380** | | | |
| BaP-TE | ug/kg | 2100 | | < 7.90 U | < 8.30 U | < 8.10 U | < 7.50 U | < 7.50 U | | **281** | **510** | **879** | **486** | **234** | < 7.20 U | | **112** | **1830** | **562** | | | |
| Total High-molecular-weight PAHs | ug/kg | | | < 7.9 U | < 8.3 U | **6.2** | < 7.5 U | < 7.5 U | | **2100** | **3500** | **6300** | **2800** | **1400** | < 7.2 U | | **1000** | **6700** | **3200** | | | |
| Total Low-molecular-weight PAHs | ug/kg | | | < 7.9 U | < 8.3 U | **2.9** | < 7.5 U | < 7.5 U | | **620** | **720** | **1400** | **420** | **340** | < 7.2 U | | **550** | **800** | **430** | | | |
| Total PAHs (sum 16) | ug/kg | | | < 7.9 U | < 8.3 U | **9.1** | < 7.5 U | < 7.5 U | | **2700** | **4200** | **7800** | **3300** | **1700** | < 7.2 U | | **1600** | **7500** | **3600** | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP46 | DP46 | DP46 | DP47 | DP47 | DP47 | SB2 | SB2 | SB2 | SB2 | SB3 | SBS0303N-North | SUSDP01 | SUSDP01 | SUSDP01 | SUSDP01 | SUSDP02 | SUSDP02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/22/2013 | 6/5/2013 | 6/5/2013 | 5/28/2013 | 6/5/2013 | 6/5/2013 | 1/25/2017 | 1/25/2017 | 1/26/2017 | 1/26/2017 | 3/13/2013 | 2/15/2017 | 5/20/2013 | 5/20/2013 | 5/20/2013 | 6/13/2013 | 5/14/2013 | 5/20/2013 |
| | | | Sample ID | DPS4605N | DPS4610N | DPS4615N | DPS4702N | DPS4710N | DPS4715N | SBS0201N | SBS0202-05N | SBS0205-10N | SBS0210-15N | SBS0303N | SB50303N-NORTH | DPS0103N | DPS0110N | DPS0115N | DPS0110N2 | DPS0205N | DPS0210N |
| | | | Depth | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1.5 - 2.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 2.5 - 3.5 ft | 3 - 3.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 9.5 - 10.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | **18.6** | **13.1** | **11.6** | **19.0** | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | < 87 U | < 19 U | < 20 U | **19** | **10 J** | < 19 U | | | | | **4700** | **3000** | < 18 U | < 18 U | < 20 U | | < 19 U | < 18 U |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | **140** | < 19 U | < 20 U | **150** | < 18 U | < 19 U | | | | | **17000** | **11000** | **64** | **12 J** | < 20 U | | < 19 U | < 18 U |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | < 94 U | < 89 U | < 87 U | < 98 U | **22000** | < 100 U | | | | | **38000** | | < 89 UJ | < 87 UJ | < 83 UJ | | < 94 UJ | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 1,4-Dioxane | ug/kg | 24000 | | | < 840 U | | | < 950 U | < 890 U | | | | | | | | | | < 880 U | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 2-Hexanone | ug/kg | 130000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Acetone | ug/kg | 6.7e+007 | | | **7.5 J** | | | **7.5 J** | < 18 U | | | | | | | | | | < 18 U | | |
| Benzene | ug/kg | 5100 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Bromochloromethane | ug/kg | 63000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Bromodichloromethane | ug/kg | 1300 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Bromoform | ug/kg | 86000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Bromomethane | ug/kg | 3000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Carbon Disulfide | ug/kg | 350000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Chlorobenzene | ug/kg | 130000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Chloroethane | ug/kg | 5.7e+006 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Chloroform | ug/kg | 1400 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Chloromethane | ug/kg | 46000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Dibromochloromethane | ug/kg | 39000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Ethylbenzene | ug/kg | 25000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Isopropylbenzene | ug/kg | 990000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| m, p-Xylene | ug/kg | 240000 | | | < 8.4 U | | | < 9.5 U | < 8.9 U | | | | | | | | | | < 8.8 U | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Methylene Chloride | ug/kg | 320000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| o-Xylene | ug/kg | 280000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Styrene | ug/kg | 3.5e+006 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Tetrachloroethylene | ug/kg | 39000 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Toluene | ug/kg | 4.7e+006 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Trichloroethene | ug/kg | 1900 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Vinyl Chloride | ug/kg | 1700 | | | < 4.2 U | | | < 4.7 U | < 4.5 U | | | | | | | | | | < 4.4 U | | |
| Xylenes (total) | ug/kg | 250000 | | | < 8.4 U | | | < 9.5 U | < 8.9 U | | | | | | | | | | < 8.8 U | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Project Screening Criteria | Location ID | DP46 | DP46 | DP46 | DP47 | DP47 | DP47 | SB2 | SB2 | SB2 | SB2 | SB3 | SBS0303N-North | SUSDP01 | SUSDP01 | SUSDP01 | SUSDP01 | SUSDP02 | SUSDP02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/22/2013 | 6/5/2013 | 6/5/2013 | 5/28/2013 | 6/5/2013 | 6/5/2013 | 1/25/2017 | 1/25/2017 | 1/26/2017 | 1/26/2017 | 3/13/2013 | 2/15/2017 | 5/20/2013 | 5/20/2013 | 5/20/2013 | 6/13/2013 | 5/14/2013 | 5/20/2013 |
| | | | Sample ID | DPS4605N | DPS4610N | DPS4615N | DPS4702N | DPS4710N | DPS4715N | SBS0201N | SBS0202-05N | SBS0205-10N | SBS0210-15N | SBS0303N | SB50303N-NORTH | DPS0103N | DPS0110N | DPS0115N | DPS0110N2 | DPS0205N | DPS0210N |
| | | | Depth | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1.5 - 2.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 2.5 - 3.5 ft | 3 - 3.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 9.5 - 10.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | | | | | | | **6.0 J** | **91** | **2.7 J** | **16** | < 150 U | | | | | | | |
| Acenaphthylene | ug/kg | 4.5e+006 | | | | | | | | **3.9 J** | **1.8 J** | **0.93 J** | **2.7 J** | < 150 U | | | | | | | |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | | | | | | | **7.0 J** | **160** | **4.9 J** | **35** | < 150 U | | | | | | | |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | | | | | | | **47** | **280** | **28** | **140** | **79 J** | | | | | | | |
| Benzo(a)pyrene | ug/kg | 2100 | | | | | | | | **44** | **200** | **30** | **130** | < 150 U | | | | | | | |
| Benzo(b)fluoranthene | ug/kg | 21000 | | | | | | | | **58** | **260** | **33** | **170** | < 150 U | | | | | | | |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | | | | | | | **42** | **100** | **19** | **80** | < 150 U | | | | | | | |
| Benzo(k)fluoranthene | ug/kg | 210000 | | | | | | | | **20** | **120** | **15** | **66** | < 150 U | | | | | | | |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | | | | | | | **62** | **250** | **30** | **150** | **160** | | | | | | | |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | | | | | | | **11** | **29** | **5.8 J** | **25** | < 150 U | | | | | | | |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | | | | | | | **120** | **650 J-** | **50** | **270** | < 150 U | | | | | | | |
| Fluorene | ug/kg | 3e+006 | | | | | | | | **3.9 J** | **80** | **1.9 J** | **12** | **150** | | | | | | | |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | | |

| | | | Location ID | DP46 | DP46 | DP46 | DP47 | DP47 | DP47 | SB2 | SB2 | SB2 | SB2 | SB3 | SBS0303N-North | SUSDP01 | SUSDP01 | SUSDP01 | SUSDP01 | SUSDP02 | SUSDP02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/22/2013 | 6/5/2013 | 6/5/2013 | 5/28/2013 | 6/5/2013 | 6/5/2013 | 1/25/2017 | 1/25/2017 | 1/26/2017 | 1/26/2017 | 3/13/2013 | 2/15/2017 | 5/20/2013 | 5/20/2013 | 5/20/2013 | 6/13/2013 | 5/14/2013 | 5/20/2013 |
| | | | Sample ID | DPS4605N | DPS4610N | DPS4615N | DPS4702N | DPS4710N | DPS4715N | SBS0201N | SBS0202-05N | SBS0205-10N | SBS0210-15N | SBS0303N | SBS0303N-NORTH | DPS0103N | DPS0110N | DPS0115N | DPS0110N2 | DPS0205N | DPS0210N |
| | | | Depth | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1.5 - 2.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 2.5 - 3.5 ft | 3 - 3.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 9.5 - 10.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | | | | | | | **33** | **100** | **17** | **74** | < 150 U | | | | | | | |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | | | | | | | **7.5** | **18** | **1.6 J** | **2.3 J** | **310** | | | | | | | |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | | | | | | | **95** | **770 J-** | **26** | **150** | **490** | | | | | | | |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | | | | | | | **86** | **480 J-** | **48** | **240** | **220** | | | | | | | |
| BaP-TE | ug/kg | 2100 | | | | | | | | **69.1** | **294** | **43.8** | **194** | **8.06** | | | | | | | |
| Total High-molecular-weight PAHs | ug/kg | | | | | | | | | **520** | **2500** | **280** | **1300** | **460** | | | | | | | |
| Total Low-molecular-weight PAHs | ug/kg | | | | | | | | | **120** | **1100** | **38** | **220** | **950** | | | | | | | |
| Total PAHs (sum 16) | ug/kg | | | | | | | | | **650** | **3600** | **310** | **1600** | **1400** | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP02 | SUSDP02 | SUSDP02 | SUSDP02 | SUSDP02 | SUSDP03 | SUSDP03 | SUSDP03 | SUSDP03 | SUSDP03 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04-1A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/20/2013 | 6/13/2013 | 6/13/2013 | 1/25/2017 | 1/25/2017 | 5/14/2013 | 5/21/2013 | 5/21/2013 | 5/21/2013 | 6/11/2013 | 5/15/2013 | 5/20/2013 | 5/20/2013 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/27/2017 | 8/1/2017 |
| | | | Sample ID | DPS0215N | DPS0210N2 | DPS0215N2 | DPS02F01N | DPS02F02-05N | DPS0305N | DPS0310N | DPS0310R | DPS0315N | DPS0310N2 | DPS0403N | DPS0410N | DPS0415N | DPS04F01N | DPS04F01R | DPS04F02-05N | DPS04F05-10N | DPS041A02N |
| | | | Depth | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 2 - 3 ft |
| | | | Type | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | FD | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | **183** | **35.3** | | | | | | | | | **669** | **445** | **574** | **334** | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | < 19 U | | | | | < 19 U | < 19 U | < 18 U | < 18 U | | **66** | < 18 U | < 18 U | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | < 19 U | | | | | < 19 U | **19** | < 18 U | < 18 U | | **200** | < 18 U | **26** | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | < 83 U | < 110 U | | | < 87 UJ | < 98 UJ | < 88 UJ | < 98 UJ | | < 90 UJ | < 92 UJ | < 92 UJ | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | < 960 U | | | | | | | | < 880 U | < 860 U | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | < 19 U | | | | | | | | < 18 U | < 17 U | | | | | | | |
| Benzene | ug/kg | 5100 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Bromoform | ug/kg | 86000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Chloroform | ug/kg | 1400 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | < 9.6 U | | | | | | | | < 8.8 U | < 8.6 U | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | < 4.8 U | | | | | | | | < 4.4 U | < 4.3 U | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | < 9.6 U | | | | | | | | < 8.8 U | < 8.6 U | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP02 | SUSDP02 | SUSDP02 | SUSDP02 | SUSDP02 | SUSDP03 | SUSDP03 | SUSDP03 | SUSDP03 | SUSDP03 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04-1A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/20/2013 | 6/13/2013 | 6/13/2013 | 1/25/2017 | 1/25/2017 | 5/14/2013 | 5/21/2013 | 5/21/2013 | 5/21/2013 | 6/11/2013 | 5/15/2013 | 5/20/2013 | 5/20/2013 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/27/2017 | 8/1/2017 |
| | | | Sample ID | DPS0215N | DPS0210N2 | DPS0215N2 | DPS02F01N | DPS02F02-05N | DPS0305N | DPS0310N | DPS0310R | DPS0315N | DPS0310N2 | DPS0403N | DPS0410N | DPS0415N | DPS04F01N | DPS04F01R | DPS04F02-05N | DPS04F05-10N | DPS041A02N |
| | | | Depth | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 2 - 3 ft |
| | | | Type | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | FD | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | | | | **25** | < 8.1 U | | | | | | **3300** | < 7.1 U | **7.0 J** | **50 J** | **68 J** | **85** | | **100** |
| Acenaphthylene | ug/kg | 4.5e+006 | | | | | **23** | < 8.1 U | | | | | | **54** | < 7.1 U | < 7.1 U | **50 J** | **31 J** | **29 J** | | **24** |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | | | | **66** | **5.1 J** | | | | | | **4400** | **1.0 J** | **11** | **150** | **210** | **170** | | **210** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | | | | **290** | **16** | | | | | | **3400** | **5.5 J** | **29** | **590** | **680** | **290** | | **620** |
| Benzo(a)pyrene | ug/kg | 2100 | | | | | **290** | **13** | | | | | | **2600** | < 7.1 U | **30** | **430** | **510** | **230** | | **500** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | | | | **390** | **20** | | | | | | **1800** | **6.8 J** | **31** | **560** | **640** | **300** | | **630** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | | | | **310** | **14** | | | | | | **1000** | < 7.1 U | **21** | **410** | **480** | **220** | | **360** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | | | | **130** | **8.5** | | | | | | **850** | **1.9 J** | **12** | **190** | **270** | **110** | | **210** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | | | | **310** | **26** | | | | | | **3300** | **6.3 J** | **37** | **560** | **640** | **380** | | **650** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | | | | **76** | **5.9 J** | | | | | | **250** | < 7.1 U | **6.2 J** | **100 J** | **140** | **64 J** | | **130** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | | | | **550** | **30** | | | | | | **6400** | **10** | **57** | **1000** | **1200** | **560** | | **1200** |
| Fluorene | ug/kg | 3e+006 | | | | | **17** | < 8.1 U | | | | | | **2500** | < 7.1 U | **7.1** | **42 J** | **55 J** | **75** | | **110** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | | |

# Table 4-7
# Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP02 | SUSDP02 | SUSDP02 | SUSDP02 | SUSDP02 | SUSDP03 | SUSDP03 | SUSDP03 | SUSDP03 | SUSDP03 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04-1A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/20/2013 | 6/13/2013 | 6/13/2013 | 1/25/2017 | 1/25/2017 | 5/14/2013 | 5/21/2013 | 5/21/2013 | 5/21/2013 | 6/11/2013 | 5/15/2013 | 5/20/2013 | 5/20/2013 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/27/2017 | 8/1/2017 |
| | | | Sample ID | DPS0215N | DPS0210N2 | DPS0215N2 | DPS02F01N | DPS02F02-05N | DPS0305N | DPS0310N | DPS0310R | DPS0315N | DPS0310N2 | DPS0403N | DPS0410N | DPS0415N | DPS04F01N | DPS04F01R | DPS04F02-05N | DPS04F05-10N | DPS041A02N |
| | | | Depth | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 2 - 3 ft |
| | | | Type | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | FD | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | | | | **250** | **11** | | | | | | **820** | < 7.1 U | **18** | **350** | **400** | **180** | | **340** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | | | | **13 J** | **9.9** | | | | | | **180** | < 7.1 U | **8.3** | **34 J** | **26 J** | **120** | | **70** |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | | | | **220** | **26** | | | | | | **13000** | **7.3** | **42** | **570** | **710** | **490** | | **710** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | | | | **390** | **23** | | | | | | **9700** | **8.2** | **46** | **890** | **1000** | **430** | | **630** |
| BaP-TE | ug/kg | 2100 | | | | | **461** | **23.7** | | | | | | **3460** | **1.26** | **44.2** | **682** | **825** | **372** | | **792** |
| Total High-molecular-weight PAHs | ug/kg | | | | | | **3000** | **170** | | | | | | **30000** | **39** | **290** | **5100** | **6000** | **2800** | | **5300** |
| Total Low-molecular-weight PAHs | ug/kg | | | | | | **360** | **41** | | | | | | **23000** | **8.3** | **75** | **900** | **1100** | **970** | | **1200** |
| Total PAHs (sum 16) | ug/kg | | | | | | **3400** | **210** | | | | | | **54000** | **47** | **360** | **6000** | **7100** | **3700** | | **6500** |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Project Screening Criteria | Location ID | SUSDP04-1A | SUSDP04-1C | SUSDP04-1C | SUSDP04-1E | SUSDP04-1E | SUSDP04-1G | SUSDP04-1G | SUSDP05 | SUSDP05 | SUSDP05 | SUSDP05 | SUSDP05 | SUSDP05 | SUSDP05-1C | SUSDP05-1E | SUSDP05-1G | SUSDP05-1G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 5/15/2013 | 5/21/2013 | 5/21/2013 | 6/12/2013 | 1/24/2017 | 1/24/2017 | 7/31/2017 | 7/31/2017 | 7/31/2017 | 7/31/2017 |
| | | | Sample ID | DPS041A03N | DPS041C02N | DPS041C03N | DPS041E02N | DPS041E03N | DPS041G02N | DPS041G03N | DPS0505N | DPS0510N | DPS0515N | DPS0505N2 | DPS05F01N | DPS05F02-05N | DPS051C01N | DPS051E01N | DPS051G01N | DPS051G02N |
| | | | Depth | 3 - 4 ft | 2 - 3 ft | 3 - 4 ft | 2 - 3 ft | 3 - 4 ft | 2 - 3 ft | 3 - 4 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 1 - 2 ft | 2 - 5 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | **371** | **14.1** | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | < 19 U | < 18 U | < 18 U | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | < 19 U | < 18 U | < 18 U | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | < 110 UJ | < 100 UJ | < 94 UJ | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | < 910 U | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | < 18 U | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | < 9.1 U | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | < 4.5 U | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | < 4.5 U | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | < 4.5 U | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | < 9.1 U | | | | | | |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SUSDP04-1A | SUSDP04-1C | SUSDP04-1C | SUSDP04-1E | SUSDP04-1E | SUSDP04-1G | SUSDP04-1G | SUSDP05 | SUSDP05 | SUSDP05 | SUSDP05 | SUSDP05 | SUSDP05 | SUSDP05-1C | SUSDP05-1E | SUSDP05-1G | SUSDP05-1G |
| | | | Sample Date | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 5/15/2013 | 5/21/2013 | 5/21/2013 | 6/12/2013 | 1/24/2017 | 1/24/2017 | 7/31/2017 | 7/31/2017 | 7/31/2017 | 7/31/2017 |
| | | | Sample ID | DPS041A03N | DPS041C02N | DPS041C03N | DPS041E02N | DPS041E03N | DPS041G02N | DPS041G03N | DPS0505N | DPS0510N | DPS0515N | DPS0505N2 | DPS05F01N | DPS05F02-05N | DPS051C01N | DPS051E01N | DPS051G01N | DPS051G02N |
| | | | Depth | 3 - 4 ft | 2 - 3 ft | 3 - 4 ft | 2 - 3 ft | 3 - 4 ft | 2 - 3 ft | 3 - 4 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 1 - 2 ft | 2 - 5 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | **61** | **36** | **14** | **27** | **27** | **73** | **110** | | | | | **1400** | < 7.2 U | **44** | **8.9** | **320** | **25** |
| Acenaphthylene | ug/kg | 4.5e+006 | | **8.9** | **10** | **2.8 J** | **6.5 J** | **11** | **29** | **24** | | | | | < 290 U | < 7.2 U | **26** | **7.1 J** | **170** | **5.2 J** |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **91** | **46** | **14** | **23** | **110** | **140** | **220** | | | | | **4500** | **1.5 J** | **110** | **22** | **740** | **78** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **170** | **130** | **54** | **71** | **150** | **330** | **430** | | | | | **39000** | **13** | **540** | **140** | **2300** | **630** |
| Benzo(a)pyrene | ug/kg | 2100 | | **140** | **90** | **40** | **47** | **110** | **310** | **360** | | | | | **34000** | **6.4 J** | **560** | **130** | **2400** | **590** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **190** | **210** | **85** | **120** | **200** | **430** | **450** | | | | | **45000** | **8.8** | **840** | **160** | **2900** | **750** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **120** | **110** | **40** | **75** | **120** | **250** | **290** | | | | | **24000** | **5.4 J** | **500** | **120** | **2300** | **510** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **47** | **49** | **16** | **22** | **47** | **110** | **180** | | | | | **16000** | **5.9 J** | **250** | **65** | **1100** | **280** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **290** | **570** | **200** | **370** | **310** | **380** | **540** | | | | | **45000** | **13** | **760** | **160** | **2600** | **770** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **33** | **50** | **18** | **29** | **42** | **79** | **90** | | | | | **7400** | < 7.2 U | **140** | **34** | **620** | **160** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **360** | **400** | **160** | **220** | **310** | **640** | **990** | | | | | **91000** | **20** | **950** | **270** | **4900** | **1200** |
| Fluorene | ug/kg | 3e+006 | | **71** | **53** | **23** | **45** | **47** | **74** | **140** | | | | | **1000** | < 7.2 U | **37** | **6.8 J** | **290** | **18** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP04-1A | SUSDP04-1C | SUSDP04-1C | SUSDP04-1E | SUSDP04-1E | SUSDP04-1G | SUSDP04-1G | SUSDP05 | SUSDP05 | SUSDP05 | SUSDP05 | SUSDP05 | SUSDP05 | SUSDP05-1C | SUSDP05-1E | SUSDP05-1G | SUSDP05-1G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 5/15/2013 | 5/21/2013 | 5/21/2013 | 6/12/2013 | 1/24/2017 | 1/24/2017 | 7/31/2017 | 7/31/2017 | 7/31/2017 | 7/31/2017 |
| | | | Sample ID | DPS041A03N | DPS041C02N | DPS041C03N | DPS041E02N | DPS041E03N | DPS041G02N | DPS041G03N | DPS0505N | DPS0510N | DPS0515N | DPS0505N2 | DPS05F01N | DPS05F02-05N | DPS051C01N | DPS051E01N | DPS051G01N | DPS051G02N |
| | | | Depth | 3 - 4 ft | 2 - 3 ft | 3 - 4 ft | 2 - 3 ft | 3 - 4 ft | 2 - 3 ft | 3 - 4 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 1 - 2 ft | 2 - 5 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **96** | **69** | **29** | **38** | **85** | **230** | **250** | | | | | **21000** | **3.6 J** | **430** | **110** | **1900** | **450** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **96** | **72** | **21** | **98** | **110** | **93** | **150** | | | | | **130 J** | < 7.2 U | **66** | **3.7 J** | **190** | **12** |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **440** | **730** | **270** | **420** | **400** | **440** | **760** | | | | | **28000** | **6.8 J** | **560** | **99** | **2600** | **470** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **320** | **230** | **100** | **130** | **210** | **520** | **760** | | | | | **52000** | **14** | **970** | **170** | **3000** | **990** |
| BaP-TE | ug/kg | 2100 | | **219** | **182** | **75.2** | **99.5** | **196** | **489** | **565** | | | | | **52100** | **9.01** | **884** | **206** | **3740** | **937** |
| Total High-molecular-weight PAHs | ug/kg | | | **1800** | **1900** | **740** | **1100** | **1600** | **3300** | **4300** | | | | | **370000** | **90** | **5900** | **1400** | **24000** | **6300** |
| Total Low-molecular-weight PAHs | ug/kg | | | **770** | **950** | **340** | **620** | **710** | **850** | **1400** | | | | | **35000** | **8.3** | **840** | **150** | **4300** | **610** |
| Total PAHs (sum 16) | ug/kg | | | **2500** | **2900** | **1100** | **1700** | **2300** | **4100** | **5700** | | | | | **410000** | **98** | **6800** | **1500** | **28000** | **6900** |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP05-2M | SUSDP06 | SUSDP06 | SUSDP06 | SUSDP06 | SUSDP06 | SUSDP07 | SUSDP07 | SUSDP07 | SUSDP07 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP09 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 2/1/2018 | 5/15/2013 | 5/22/2013 | 5/22/2013 | 3/13/2017 | 3/13/2017 | 5/15/2013 | 5/22/2013 | 5/22/2013 | 6/12/2013 | 5/15/2013 | 5/23/2013 | 5/23/2013 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 5/17/2013 |
| | | | Sample ID | DPS052M01N | DPS0605N | DPS0610N | DPS0615N | DPS06F01N | DPS06F02-05N | DPS0705N | DPS0710N | DPS0715N | DPS0715N2 | DPS0803N | DPS0810N | DPS0815N | DPS08F01N | DPS08F02-05N | DPS08F05-10N | DPS08F10-15N | DPS0905N |
| | | | Depth | 1 - 2 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 4.5 - 5.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | **14.8** | **10.4** | | | | | | | | **428** | **370** | **1860** | **114** | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | < 20 U | < 19 U | < 18 U | | | < 20 U | **36 J** | < 20 U | | < 100 U | **190** | < 21 U | | | | | < 20 U |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | < 20 U | < 19 U | < 18 U | | | **13 J** | **230** | < 20 U | | **340** | **500** | **38** | | | | | **17 J** |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | < 100 UJ | < 95 U | < 100 U | | | < 93 UJ | < 84 U | < 90 U | | < 81 UJ | < 82 U | < 94 U | | | | | < 100 UJ |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | < 940 U | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | **21** | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | < 9.4 U | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | < 4.7 U | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | < 9.4 U | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP05-2M | SUSDP06 | SUSDP06 | SUSDP06 | SUSDP06 | SUSDP06 | SUSDP07 | SUSDP07 | SUSDP07 | SUSDP07 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP09 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 2/1/2018 | 5/15/2013 | 5/22/2013 | 5/22/2013 | 3/13/2017 | 3/13/2017 | 5/15/2013 | 5/22/2013 | 5/22/2013 | 6/12/2013 | 5/15/2013 | 5/23/2013 | 5/23/2013 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 5/17/2013 |
| | | | Sample ID | DPS052M01N | DPS0605N | DPS0610N | DPS0615N | DPS06F01N | DPS06F02-05N | DPS0705N | DPS0710N | DPS0715N | DPS0715N2 | DPS0803N | DPS0810N | DPS0815N | DPS08F01N | DPS08F02-05N | DPS08F05-10N | DPS08F10-15N | DPS0905N |
| | | | Depth | 1 - 2 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 4.5 - 5.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | 87 | < 8.2 U | < 7.8 U | < 7.2 U | < 7.6 U | < 7.3 U | 1.4 J | 35 J | < 16 U | | 80 | 38 | 7.7 J | 86 | 85 J | 1000 | 85 | |
| Acenaphthylene | ug/kg | 4.5e+006 | | 23 J | < 8.2 U | < 7.8 U | < 7.2 U | < 7.6 U | < 7.3 U | 2.3 J | < 38 U | < 16 U | | 47 J | 30 J | 5.2 J | 48 | 22 J | 74 J | 53 J | |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | 250 | < 8.2 U | < 7.8 U | < 7.2 U | < 7.6 U | < 7.3 U | 3.9 J | 66 | < 16 U | | 160 | 72 | 20 | 260 | 180 | 3700 | 280 | |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | 1200 J | 1.4 J | < 7.8 U | < 7.2 U | < 7.6 U | < 7.3 U | 21 | 190 | < 16 U | | 710 | 150 | 80 | 740 | 410 | 3400 | 910 | |
| Benzo(a)pyrene | ug/kg | 2100 | | 1100 J | < 8.2 U | < 7.8 U | < 7.2 U | < 7.6 U | < 7.3 U | 22 | 210 | < 16 U | | 640 | 170 | 99 | 550 | 260 | 2500 | 1200 | |
| Benzo(b)fluoranthene | ug/kg | 21000 | | 1500 J- | 1.7 J | < 7.8 U | < 7.2 U | < 7.6 U | < 7.3 U | 22 | 190 | < 16 U | | 660 | 170 | 91 | 660 | 360 | 2300 | 1000 | |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | 880 J- | < 8.2 U | < 7.8 U | < 7.2 U | < 7.6 U | < 7.3 U | 16 | 130 | < 16 U | | 400 | 140 | 71 | 460 | 210 | 1100 | 1100 | |
| Benzo(k)fluoranthene | ug/kg | 210000 | | 430 J | < 8.2 U | < 7.8 U | < 7.2 U | < 7.6 U | < 7.3 U | 12 | 79 | < 16 U | | 310 | 58 | 37 | 260 | 98 J | 660 | 230 | |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | 1400 J | 2.3 J | < 7.8 U | < 7.2 U | < 7.6 U | < 7.3 U | 23 | 190 | < 16 U | | 740 | 170 | 86 | 720 | 340 | 3100 | 920 | |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | 200 J+ | < 8.2 U | < 7.8 U | < 7.2 U | < 7.6 U | < 7.3 U | 2.9 J | 40 | < 16 U | | 95 | 34 J | 17 | 130 | 66 J | 360 | 200 | |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | 2000 J- | 1.2 J | < 7.8 U | < 7.2 U | < 7.6 U | 1.8 J | 39 | 360 | < 16 U | | 1500 | 330 | 170 | 1500 | 950 | 5600 | 1100 | |
| Fluorene | ug/kg | 3e+006 | | 73 | < 8.2 U | < 7.8 U | < 7.2 U | < 7.6 U | < 7.3 U | 1.5 J | 31 J | < 16 U | | 41 J | 30 J | 6.9 J | 92 | 68 J | 770 | 88 | |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | | |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP05-2M | SUSDP06 | SUSDP06 | SUSDP06 | SUSDP06 | SUSDP06 | SUSDP07 | SUSDP07 | SUSDP07 | SUSDP07 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP09 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 2/1/2018 | 5/15/2013 | 5/22/2013 | 5/22/2013 | 3/13/2017 | 3/13/2017 | 5/15/2013 | 5/22/2013 | 5/22/2013 | 6/12/2013 | 5/15/2013 | 5/23/2013 | 5/23/2013 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 5/17/2013 |
| | | | Sample ID | DPS052M01N | DPS0605N | DPS0610N | DPS0615N | DPS06F01N | DPS06F02-05N | DPS0705N | DPS0710N | DPS0715N | DPS0715N2 | DPS0803N | DPS0810N | DPS0815N | DPS08F01N | DPS08F02-05N | DPS08F05-10N | DPS08F10-15N | DPS0905N |
| | | | Depth | 1 - 2 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 4.5 - 5.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **700** | < 8.2 U | < 7.8 U | < 7.2 U | < 7.6 U | < 7.3 U | **14** | **110** | < 16 U | | **350** | **120** | **60** | **390** | **170** | **980** | **730** | |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **110** | < 8.2 U | < 7.8 U | < 7.2 U | < 7.6 U | < 7.3 U | **2.6 J** | < 38 U | < 16 U | | **54 J** | **23 J** | **9.4** | **53** | **43 J** | **40 J** | **100** | |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **1500 J** | **1.6 J** | < 7.8 U | < 7.2 U | < 7.6 U | **1.9 J** | **15** | **210** | < 16 U | | **600** | **120** | **74** | **930** | **620** | **5800** | **970** | |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **2100 J** | **1.4 J** | < 7.8 U | < 7.2 U | < 7.6 U | **1.6 J** | **35** | **310** | < 16 U | | **1500** | **270** | **120** | **1300** | **690** | **7200** | **1300** | |
| BaP-TE | ug/kg | 2100 | | **1650** | **0.312** | < 7.80 U | < 7.20 U | < 7.60 U | < 7.30 U | **30.7** | **300** | < 16.0 U | | **911** | **249** | **140** | **862** | **421** | **3540** | **1670** | |
| Total High-molecular-weight PAHs | ug/kg | | | **12000** | **8.0** | < 7.8 U | < 7.2 U | < 7.6 U | **3.4** | **210** | **1800** | < 16 U | | **6900** | **1600** | **830** | **6700** | **3600** | **27000** | **8700** | |
| Total Low-molecular-weight PAHs | ug/kg | | | **2000** | **1.6** | < 7.8 U | < 7.2 U | < 7.6 U | **1.9** | **27** | **340** | < 16 U | | **980** | **310** | **120** | **1500** | **1000** | **11000** | **1600** | |
| Total PAHs (sum 16) | ug/kg | | | **14000** | **9.6** | < 7.8 U | < 7.2 U | < 7.6 U | **5.3** | **230** | **2200** | < 16 U | | **7900** | **1900** | **950** | **8200** | **4600** | **39000** | **10000** | |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP09 | SUSDP09 | SUSDP10 | SUSDP10 | SUSDP10 | SUSDP10 | SUSDP10 | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11-1A | SUSDP11-1A | SUSDP11-1A | SUSDP11-1A | SUSDP11-1A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/11/2013 | 6/11/2013 | 5/15/2013 | 6/10/2013 | 6/10/2013 | 1/27/2017 | 1/27/2017 | 5/14/2013 | 5/28/2013 | 5/28/2013 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 |
| | | | Sample ID | DPS0910N | DPS0915N | DPS1005N | DPS1010N | DPS1015N | DPS10F01N | DPS10F02-05N | DPS1105N | DPS1110N | DPS1115N | DPS11F01N | DPS11F02-05N | DPS11F05-10N | DPS111A01N | DPS111A02N | DPS111A03N | DPS111A04N | DPS111A05N |
| | | | Depth | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | **7450** | **3540** |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | **20000** | **9200** |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | **188** | **24.1** | | | | **38300** | **15500** | **11.8** | **27900** | **17800** | **21400** | **30400** | **14200** |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | < 21 U | < 18 U | < 19 U | < 19 U | < 20 U | | | < 20 U | < 21 U | **36** | | | | | | | | **3900** |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | < 21 U | < 18 U | < 19 U | < 19 U | < 20 U | | | < 20 U | **21** | **200** | | | | | | | | **11000** |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | < 110 U | < 120 U | < 82 UJ | < 100 U | < 98 U | | | < 83 UJ | < 87 U | < 86 U | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | < 1100 U | | | < 910 U | | | | < 810 U | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | < 22 U | | | < 18 U | | | | < 16 U | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | < 11 U | | | < 9.1 U | | | | < 8.1 U | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | < 5.5 U | | | **1.2 J** | | | | < 4.0 U | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | < 5.5 U | | | < 4.6 U | | | | < 4.0 U | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | < 11 U | | | < 9.1 U | | | | < 8.1 U | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP09 | SUSDP09 | SUSDP10 | SUSDP10 | SUSDP10 | SUSDP10 | SUSDP10 | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11-1A | SUSDP11-1A | SUSDP11-1A | SUSDP11-1A | SUSDP11-1A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/11/2013 | 6/11/2013 | 5/15/2013 | 6/10/2013 | 6/10/2013 | 1/27/2017 | 1/27/2017 | 5/14/2013 | 5/28/2013 | 5/28/2013 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 |
| | | | Sample ID | DPS0910N | DPS0915N | DPS1005N | DPS1010N | DPS1015N | DPS10F01N | DPS10F02-05N | DPS1105N | DPS1110N | DPS1115N | DPS11F01N | DPS11F02-05N | DPS11F05-10N | DPS111A01N | DPS111A02N | DPS111A03N | DPS111A04N | DPS111A05N |
| | | | Depth | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | | | | | | **17 J** | **6.4 J** | | | | < 700 U | < 240 U | | | | | | |
| Acenaphthylene | ug/kg | 4.5e+006 | | | | | | | **6.9 J** | **1.6 J** | | | | < 700 U | < 240 U | | | | | | |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | | | | | | **37 J** | **43** | | | | < 700 U | < 240 U | | | | | | |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | | | | | | **650** | **140** | | | | < 700 U | **120 J** | | | | | | |
| Benzo(a)pyrene | ug/kg | 2100 | | | | | | | **690** | **130** | | | | < 700 U | < 240 U | | | | | | |
| Benzo(b)fluoranthene | ug/kg | 21000 | | | | | | | **950** | **160** | | | | < 700 U | < 240 U | | | | | | |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | | | | | | **570** | **100** | | | | < 700 U | < 240 U | | | | | | |
| Benzo(k)fluoranthene | ug/kg | 210000 | | | | | | | **370** | **61** | | | | < 700 U | < 240 U | | | | | | |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | | | | | | **740** | **130** | | | | < 700 U | **170 J** | | | | | | |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | | | | | | **180** | **23** | | | | < 700 U | < 240 U | | | | | | |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | | | | | | **650** | **250** | | | | **580 J** | **260** | | | | | | |
| Fluorene | ug/kg | 3e+006 | | | | | | | **10 J** | **6.6 J** | | | | < 700 U | < 240 U | | | | | | |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP09 | SUSDP09 | SUSDP10 | SUSDP10 | SUSDP10 | SUSDP10 | SUSDP10 | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11-1A | SUSDP11-1A | SUSDP11-1A | SUSDP11-1A | SUSDP11-1A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/11/2013 | 6/11/2013 | 5/15/2013 | 6/10/2013 | 6/10/2013 | 1/27/2017 | 1/27/2017 | 5/14/2013 | 5/28/2013 | 5/28/2013 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 |
| | | | Sample ID | DPS0910N | DPS0915N | DPS1005N | DPS1010N | DPS1015N | DPS10F01N | DPS10F02-05N | DPS1105N | DPS1110N | DPS1115N | DPS11F01N | DPS11F02-05N | DPS11F05-10N | DPS111A01N | DPS111A02N | DPS111A03N | DPS111A04N | DPS111A05N |
| | | | Depth | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | | | | | | **480** | **92** | | | | < 700 U | < 240 U | | | | | | |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | | | | | | **38 J** | **5.8 J** | | | | **170 J** | **240** | | | | | | |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | | | | | | **230** | **170** | | | | **500 J** | **370** | | | | | | |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | | | | | | **780** | **300** | | | | **580 J** | **190 J** | | | | | | |
| BaP-TE | ug/kg | 2100 | | | | | | | **1080** | **193** | | | | < 700 U | **12.2** | | | | | | |
| Total High-molecular-weight PAHs | ug/kg | | | | | | | | **6100** | **1400** | | | | **1200** | **740** | | | | | | |
| Total Low-molecular-weight PAHs | ug/kg | | | | | | | | **340** | **230** | | | | **670** | **610** | | | | | | |
| Total PAHs (sum 16) | ug/kg | | | | | | | | **6400** | **1600** | | | | **1800** | **1400** | | | | | | |

# Table 4-7
# Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SUSDP11-1A | SUSDP11-1B | SUSDP11-1B | SUSDP11-1B | SUSDP11-1B | SUSDP11-1B | SUSDP11-1H | SUSDP11-1H | SUSDP11-1H | SUSDP11-1H | SUSDP11-1H | SUSDP11-1H | SUSDP11-2A | SUSDP11-2A | SUSDP11-2A | SUSDP11-2A | SUSDP11-2A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 3/28/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 |
| | | Sample ID | DPS111A06N | DPS111B01N | DPS111B02N | DPS111B03N | DPS111B04N | DPS111B05N | DPS111H01N | DPS111H02N | DPS111H03N | DPS111H04N | DPS111H05N | DPS111H01R | DPS112A01N | DPS112A02N | DPS112A03N | DPS112A04N | DPS112A05N |
| | | Depth | 6 - 7 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | **101** | | | | | **119** | | | | | | **648** | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | **468** | | | | | **504** | | | | | | **2280** | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | **731** | **421** | **19.5** | **139** | **10.8** | **722** | **192** | **347** | **80.0** | **245** | **780** | **3480** | **493** | **55.0** | **22.5** | **31.0** |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | **260** | **73** | | | | | **210** | | | | | | **900** | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | **700** | **340** | | | | | **990** | | | | | | **3700** | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | | |

## Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP11-1A | SUSDP11-1B | SUSDP11-1B | SUSDP11-1B | SUSDP11-1B | SUSDP11-1B | SUSDP11-1H | SUSDP11-1H | SUSDP11-1H | SUSDP11-1H | SUSDP11-1H | SUSDP11-1H | SUSDP11-2A | SUSDP11-2A | SUSDP11-2A | SUSDP11-2A | SUSDP11-2A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/28/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 |
| | | | Sample ID | DPS111A06N | DPS111B01N | DPS111B02N | DPS111B03N | DPS111B04N | DPS111B05N | DPS111H01N | DPS111H02N | DPS111H03N | DPS111H04N | DPS111H05N | DPS111H01R | DPS112A01N | DPS112A02N | DPS112A03N | DPS112A04N | DPS112A05N |
| | | | Depth | 6 - 7 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | | | | | | | | | | | | | | | | | |
| Acenaphthylene | ug/kg | 4.5e+006 | | | | | | | | | | | | | | | | | | |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | | | | | | | | | | | | | | | | | |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)pyrene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | |
| Benzo(b)fluoranthene | ug/kg | 21000 | | | | | | | | | | | | | | | | | | |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | | |
| Benzo(k)fluoranthene | ug/kg | 210000 | | | | | | | | | | | | | | | | | | |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | | | | | | | | | | | | | | | | | |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Fluorene | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SUSDP11-1A | SUSDP11-1B | SUSDP11-1B | SUSDP11-1B | SUSDP11-1B | SUSDP11-1B | SUSDP11-1H | SUSDP11-1H | SUSDP11-1H | SUSDP11-1H | SUSDP11-1H | SUSDP11-1H | SUSDP11-2A | SUSDP11-2A | SUSDP11-2A | SUSDP11-2A | SUSDP11-2A |
| | | | Sample Date | 3/28/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 |
| | | | Sample ID | DPS111A06N | DPS111B01N | DPS111B02N | DPS111B03N | DPS111B04N | DPS111B05N | DPS111H01N | DPS111H02N | DPS111H03N | DPS111H04N | DPS111H05N | DPS111H01R | DPS112A01N | DPS112A02N | DPS112A03N | DPS112A04N | DPS112A05N |
| | | | Depth | 6 - 7 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | | | | | | | | | | | | | | | | | |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | | | | | | | | | | | | | | | | | |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | | | | | | | | | | | | | | | | | |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | | |
| BaP-TE | ug/kg | 2100 | | | | | | | | | | | | | | | | | | |
| Total High-molecular-weight PAHs | ug/kg | | | | | | | | | | | | | | | | | | | |
| Total Low-molecular-weight PAHs | ug/kg | | | | | | | | | | | | | | | | | | | |
| Total PAHs (sum 16) | ug/kg | | | | | | | | | | | | | | | | | | | |

Table 4-7
Subsurface Soil Results
VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
Benning Road Facility RI/FS Project
3400 Benning Road, NE
Washington, DC 20019

| | | | Location ID | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/13/2013 | 6/13/2013 | 6/13/2013 | 1/26/2017 | 1/26/2017 | 1/30/2017 | 1/30/2017 | 1/30/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 |
| | | | Sample ID | DPS1205N | DPS1210N | DPS1215N | DPS12F01N | DPS12F02-05N | DPS12F05-10N | DPS12F10-15N | DPS12F15N | DPS121A01N | DPS121A01R | DPS121A02N | DPS121A03N | DPS121A04N | DPS121A10N | DPS121A11N | DPS121A12N | DPS121A13N |
| | | | Depth | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 14.5 - 15.5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 10 - 11 ft | 11 - 12 ft | 12 - 13 ft | 13 - 14 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | **250** | **2050** | **947** | **1340** | **108** | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | < 370 U | **75 J** | < 22 U | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | **2500** | **1400** | **130** | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | < 100 U | **640** | **310** | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | < 990 U | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | **12** | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | **58** | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | **2.3 J** | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | < 9.9 U | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | **6.1** | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | < 5.0 U | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | < 5.0 U | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | < 5.0 U | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | < 9.9 U | | | | | | | | | | | | | | |

| | | | Location ID | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/13/2013 | 6/13/2013 | 6/13/2013 | 1/26/2017 | 1/26/2017 | 1/30/2017 | 1/30/2017 | 1/30/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 |
| | | | Sample ID | DPS1205N | DPS1210N | DPS1215N | DPS12F01N | DPS12F02-05N | DPS12F05-10N | DPS12F10-15N | DPS12F15N | DPS121A01N | DPS121A01R | DPS121A02N | DPS121A03N | DPS121A04N | DPS121A10N | DPS121A11N | DPS121A12N | DPS121A13N |
| | | | Depth | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 14.5 - 15.5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 10 - 11 ft | 11 - 12 ft | 12 - 13 ft | 13 - 14 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | **170** | **9.3 J** | **4.8 J** | **6.1 J** | **3100** | **330** | **510** | **130** | **5400 J** | **91000 J** | **860** | **130** | **90** | **940** | **19** | < 8.5 U | < 8.6 U |
| Acenaphthylene | ug/kg | 4.5e+006 | | **140** | **8.7 J** | **7.4 J** | **5.3 J** | **130 J** | **38 J** | **43 J** | **16** | < 680 U | **930 J** | < 860 U | **48 J** | **42** | **80** | **4.1 J** | < 8.5 U | < 8.6 U |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **590** | **19 J** | **13 J** | **14** | **6000** | **670** | **1400** | **260** | **8900 J** | **150000 J** | **2200** | **330** | **460** | **1700** | **22** | < 8.5 U | < 8.6 U |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **1300** | **48** | **45** | **60** | **100000** | **1400** | **3400** | **660** | **20000 J** | **200000 J** | **3600** | **1100** | **1000** | **4700** | **72** | **5.9 J** | < 8.6 U |
| Benzo(a)pyrene | ug/kg | 2100 | | **1100** | **46** | **41 J** | **45** | **100000** | **1300** | **3000** | **570** | **18000 J** | **160000 J** | **3200** | **940** | **830** | **3800** | **68** | **5.2 J** | < 8.6 U |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **1300** | **46** | **39 J** | **84** | **120000** | **1600** | **3500** | **590** | **22000 J** | **190000 J** | **4400** | **1300** | **1100** | **4800** | **86** | **7.3 J** | < 8.6 U |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **820** | **39 J** | **35 J** | **40** | **59000** | **1200** | **1800** | **420** | **13000 J** | **120000 J** | **2700** | **840** | **740** | **3100** | **56** | **3.9 J** | < 8.6 U |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **560** | **19 J** | **26 J** | **21** | **52000** | **610** | **1200** | **230** | **6700 J** | **71000 J** | **970** | **360** | **380** | **1900** | **31** | < 8.5 U | < 8.6 U |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **1400** | **50** | **50** | **98** | **97000** | **1300** | **3100** | **660** | **17000 J** | **180000 J** | **3400** | **1000** | **920** | **4800** | **74** | **5.4 J** | < 8.6 U |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **200** | **10 J** | < 44 U | **12** | **16000** | **320** | **500** | **120** | < 680 U | < 1700 U | < 860 U | **250** | **230** | **990** | **18** | < 8.5 U | < 8.6 U |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **2900** | **99** | **83** | **94** | **110000** | **2900** | **6100** | **930** | **46000 J** | **540000 J** | **9300** | **2200** | **2300** | **9900** | **140** | **8.6** | < 8.6 U |
| Fluorene | ug/kg | 3e+006 | | **170** | **9.8 J** | **8.5 J** | **9.3** | **1600** | **310** | **500** | **110** | **4000 J** | **75000 J** | **1100** | **120** | **110** | **1100** | **21** | < 8.5 U | < 8.6 U |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/13/2013 | 6/13/2013 | 6/13/2013 | 1/26/2017 | 1/26/2017 | 1/30/2017 | 1/30/2017 | 1/30/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 |
| | | | Sample ID | DPS1205N | DPS1210N | DPS1215N | DPS12F01N | DPS12F02-05N | DPS12F05-10N | DPS12F10-15N | DPS12F15N | DPS121A01N | DPS121A01R | DPS121A02N | DPS121A03N | DPS121A04N | DPS121A10N | DPS121A11N | DPS121A12N | DPS121A13N |
| | | | Depth | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 14.5 - 15.5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 10 - 11 ft | 11 - 12 ft | 12 - 13 ft | 13 - 14 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **700** | **33 J** | **29 J** | **32** | **59000** | **1000** | **1700** | **370** | **12000 J** | **110000 J** | **2400** | **770** | **690** | **2900** | **52** | **3.4 J** | < 8.6 U |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **100** | **6.7 J** | **3.8 J** | **26** | **1600** | **350** | **69 J** | **24** | **1100 J** | **30000 J** | **430 J** | **99** | **38** | **220** | **13** | < 8.5 U | < 8.6 U |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **1700** | **52 J** | **31 J** | **120** | **22000** | **2700** | **4800** | **910** | **33000 J** | **500000 J** | **7400** | **1200** | **1500** | **6300** | **78** | **6.4 J** | < 8.6 U |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **2000** | **70 J** | **65** | **73** | **100000** | **2500** | **5200** | **1000** | **38000 J** | **390000 J** | **6200** | **1500** | **1400** | **7600** | **110** | **9.3** | < 8.6 U |
| BaP-TE | ug/kg | 2100 | | **1640** | **68.9** | **52.6** | **74.9** | **145000** | **2030** | **4380** | **855** | **23500** | **211000** | **4250** | **1510** | **1340** | **6050** | **107** | **6.87** | < 8.60 U |
| Total High-molecular-weight PAHs | ug/kg | | | **12000** | **460** | **410** | **560** | **810000** | **14000** | **30000** | **5600** | **190000** | **2000000** | **36000** | **10000** | **9600** | **44000** | **710** | **49** | < 8.6 U |
| Total Low-molecular-weight PAHs | ug/kg | | | **2900** | **110** | **69** | **180** | **34000** | **4400** | **7300** | **1500** | **52000** | **850000** | **12000** | **1900** | **2200** | **10000** | **160** | **6.4** | < 8.6 U |
| Total PAHs (sum 16) | ug/kg | | | **15000** | **570** | **480** | **740** | **850000** | **19000** | **37000** | **7000** | **250000** | **2800000** | **48000** | **12000** | **12000** | **55000** | **860** | **55** | < 8.6 U |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP12-1A | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/23/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/11/2017 | 8/11/2017 | 8/11/2017 | 8/11/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 |
| | | | Sample ID | DPS121A14N | DPS121C01N | DPS121C02N | DPS121C03N | DPS121C04N | DPS121C05N | DPS121C10N | DPS121C11N | DPS121E01N | DPS121E02N | DPS121E03N | DPS121E04N | DPS121E10N | DPS121E11N | DPS121E12N | DPS121E13N | DPS121E14N |
| | | | Depth | 14 - 15 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 10 - 11 ft | 11 - 12 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 10 - 11 ft | 11 - 12 ft | 12 - 13 ft | 13 - 14 ft | 14 - 15 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SUSDP12-1A | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E |
| | | | Sample Date | 8/23/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/11/2017 | 8/11/2017 | 8/11/2017 | 8/11/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 |
| | | | Sample ID | DPS121A14N | DPS121C01N | DPS121C02N | DPS121C03N | DPS121C04N | DPS121C05N | DPS121C10N | DPS121C11N | DPS121E01N | DPS121E02N | DPS121E03N | DPS121E04N | DPS121E10N | DPS121E11N | DPS121E12N | DPS121E13N | DPS121E14N |
| | | | Depth | 14 - 15 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 10 - 11 ft | 11 - 12 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 10 - 11 ft | 11 - 12 ft | 12 - 13 ft | 13 - 14 ft | 14 - 15 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | < 8.7 U | **8.2** | **120** | **1100** | **4500** | **58** | **44** | **8.7** | **12** | < 8.1 U | < 8.4 U | < 8.8 U | < 7.7 U | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| Acenaphthylene | ug/kg | 4.5e+006 | | < 8.7 U | **4.3 J** | **20** | < 340 U | **380 J** | **44** | **97** | **15** | **16** | < 8.1 U | < 8.4 U | < 8.8 U | < 7.7 U | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | < 8.7 U | **17** | **260** | **2400** | **9200** | **130** | **170** | **32** | **41** | **6.5 J** | < 8.4 U | < 8.8 U | **3.3 J** | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | < 8.7 U | **64** | **790** | **5400** | **17000** | **520** | **430** | **110** | **150** | **21** | < 8.4 U | **3.6 J** | **4.4 J** | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| Benzo(a)pyrene | ug/kg | 2100 | | < 8.7 U | **60** | **750** | **4700** | **15000** | **450** | **450** | **120** | **140** | **20** | < 8.4 U | < 8.8 U | **3.2 J** | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| Benzo(b)fluoranthene | ug/kg | 21000 | | < 8.7 U | **81** | **920** | **5800** | **19000** | **610** | **610** | **170** | **260** | **31** | < 8.4 U | < 8.8 U | < 7.7 U | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | < 8.7 U | **50** | **590** | **3400** | **11000** | **410** | **430** | **110** | **140** | **18** | < 8.4 U | < 8.8 U | < 7.7 U | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| Benzo(k)fluoranthene | ug/kg | 210000 | | < 8.7 U | **20** | **330** | **2100** | **6200** | **230** | **190** | **40** | **70** | **12** | < 8.4 U | < 8.8 U | **3.0 J** | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | < 8.7 U | **77** | **840** | **5100** | **17000** | **510** | **530** | **130** | **190** | **24** | **3.4 J** | **4.2 J** | **3.3 J** | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | < 8.7 U | **17** | **160** | **1000** | **3100** | < 29 U | **110** | **27** | **47** | **6.1 J** | < 8.4 U | < 8.8 U | < 7.7 U | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | < 8.7 U | **110** | **1500** | **12000** | **38000** | **1100** | **920** | **210** | **310** | **43** | **4.8 J** | **8.0 J** | **9.6** | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| Fluorene | ug/kg | 3e+006 | | < 8.7 U | **8.2** | **110** | **1200** | **5700** | **51** | **83** | **13** | **11** | < 8.1 U | < 8.4 U | < 8.8 U | < 7.7 U | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP12-1A | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E | SUSDP12-1E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/23/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/11/2017 | 8/11/2017 | 8/11/2017 | 8/11/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 |
| | | | Sample ID | DPS121A14N | DPS121C01N | DPS121C02N | DPS121C03N | DPS121C04N | DPS121C05N | DPS121C10N | DPS121C11N | DPS121E01N | DPS121E02N | DPS121E03N | DPS121E04N | DPS121E10N | DPS121E11N | DPS121E12N | DPS121E13N | DPS121E14N |
| | | | Depth | 14 - 15 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 10 - 11 ft | 11 - 12 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 10 - 11 ft | 11 - 12 ft | 12 - 13 ft | 13 - 14 ft | 14 - 15 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | < 8.7 U | **41** | **510** | **3200** | **10000** | **350** | **410** | **100** | **130** | **18** | < 8.4 U | < 8.8 U | < 7.7 U | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | < 8.7 U | **10** | **40** | **310 J** | **1100** | **84** | **260** | **22** | **78** | **3.9 J** | < 8.4 U | < 8.8 U | < 7.7 U | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | < 8.7 U | **79** | **950** | **8700** | **31000** | **480** | **500** | **110** | **170** | **21** | **3.5 J** | **6.7 J** | **9.1** | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | < 8.7 U | **90** | **1200** | **8300** | **27000** | **710** | **560** | **170** | **210** | **33** | < 8.4 U | **6.3 J** | **7.1 J** | < 7.9 U | < 8.2 U | < 8.1 U | < 8.0 U |
| BaP-TE | ug/kg | 2100 | | < 8.70 U | **95.9** | **1140** | **7170** | **22800** | **601** | **707** | **186** | **242** | **33.2** | **0.00340** | **0.364** | **3.67** | < 7.90 U | < 8.20 U | < 8.10 U | < 8.00 U |
| Total High-molecular-weight PAHs | ug/kg | | | < 8.7 U | **610** | **7600** | **51000** | **160000** | **4900** | **4600** | **1200** | **1600** | **230** | **8.2** | **22** | **31** | < 7.9 U | < 8.2 U | < 8.1 U | < 8 U |
| Total Low-molecular-weight PAHs | ug/kg | | | < 8.7 U | **130** | **1500** | **14000** | **52000** | **850** | **1200** | **200** | **330** | **31** | **3.5** | **6.7** | **12** | < 7.9 U | < 8.2 U | < 8.1 U | < 8 U |
| Total PAHs (sum 16) | ug/kg | | | < 8.7 U | **740** | **9100** | **65000** | **220000** | **5700** | **5800** | **1400** | **2000** | **260** | **12** | **29** | **43** | < 7.9 U | < 8.2 U | < 8.1 U | < 8 U |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-2K | SUSDP12-3A | SUSDP12-3A | SUSDP12-3A | SUSDP13 | SUSDP13 | SUSDP13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/11/2017 | 8/11/2017 | 8/11/2017 | 8/11/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 1/30/2018 | 2/1/2018 | 2/1/2018 | 3/28/2018 | 5/20/2013 | 5/29/2013 | 5/29/2013 |
| | | | Sample ID | DPS121G01N | DPS121G02N | DPS121G03N | DPS121G04N | DPS121G10N | DPS121G11N | DPS121G11R | DPS121G12N | DPS121G13N | DPS121G14N | DPS122K01N | DPS123A01N | DPS123A02N | DPS123A10N | DPS1305N | DPS1310N | DPS1315N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 10 - 11 ft | 11 - 12 ft | 11 - 12 ft | 12 - 13 ft | 13 - 14 ft | 14 - 15 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 10 - 11 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft |
| | | | Type | N | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | < 19 U | < 18 U | < 22 U |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | **38** | **48** | < 22 U |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | < 88 UJ | < 100 U | < 90 U |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | | < 980 U | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | | < 20 U | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | | < 9.8 U | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | < 4.9 U | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | < 4.9 U | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | | < 4.9 U | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | | < 9.8 U | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-2K | SUSDP12-3A | SUSDP12-3A | SUSDP12-3A | SUSDP13 | SUSDP13 | SUSDP13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/11/2017 | 8/11/2017 | 8/11/2017 | 8/11/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 1/30/2018 | 2/1/2018 | 2/1/2018 | 3/28/2018 | 5/20/2013 | 5/29/2013 | 5/29/2013 |
| | | | Sample ID | DPS121G01N | DPS121G02N | DPS121G03N | DPS121G04N | DPS121G10N | DPS121G11N | DPS121G11R | DPS121G12N | DPS121G13N | DPS121G14N | DPS122K01N | DPS123A01N | DPS123A02N | DPS123A10N | DPS1305N | DPS1310N | DPS1315N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 10 - 11 ft | 11 - 12 ft | 11 - 12 ft | 12 - 13 ft | 13 - 14 ft | 14 - 15 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 10 - 11 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft |
| | | | Type | N | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | **13000** | **300** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **6.3 J** | **60** | < 79 U | **22** | | | |
| Acenaphthylene | ug/kg | 4.5e+006 | | **430 J** | **47** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **35** | **22** | < 79 U | **22** | | | |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **28000** | **640** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **68** | **150** | **43 J** | **87** | | | |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **54000** | **1200** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **86** | **530** | **85** | **250** | | | |
| Benzo(a)pyrene | ug/kg | 2100 | | **45000** | **960** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **210** | **470** | **150** | **230** | | | |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **51000** | **1100** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **390** | **390** | **130** | **240** | | | |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **36000** | **880** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **270** | **330** | **300** | **130** | | | |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **24000** | **460** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **100** | **470** | **39 J** | **120** | | | |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **51000** | **1100** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **130** | **550** | **120** | **230** | | | |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **9800** | **240** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **58** | **97** | **210** | **36** | | | |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **150000** | **3100** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **160** | **1300** | **150** | **520** | | | |
| Fluorene | ug/kg | 3e+006 | | **9800** | **260** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **22** | **64** | **28 J** | **28** | | | |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | |

## Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP12-2K | SUSDP12-3A | SUSDP12-3A | SUSDP12-3A | SUSDP13 | SUSDP13 | SUSDP13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/11/2017 | 8/11/2017 | 8/11/2017 | 8/11/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 1/30/2018 | 2/1/2018 | 2/1/2018 | 3/28/2018 | 5/20/2013 | 5/29/2013 | 5/29/2013 |
| | | | Sample ID | DPS121G01N | DPS121G02N | DPS121G03N | DPS121G04N | DPS121G10N | DPS121G11N | DPS121G11R | DPS121G12N | DPS121G13N | DPS121G14N | DPS122K01N | DPS123A01N | DPS123A02N | DPS123A10N | DPS1305N | DPS1310N | DPS1315N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 10 - 11 ft | 11 - 12 ft | 11 - 12 ft | 12 - 13 ft | 13 - 14 ft | 14 - 15 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 10 - 11 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft |
| | | | Type | N | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **33000** | **780** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **180** | **300** | **170** | **120** | | | |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **3800** | **60** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **41** | **100** | < 79 U | **13** | | | |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **110000** | **2400** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **140** | **850** | **120** | **300** | | | |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **110000** | **2100** | < 7.7 U | < 8.5 U | < 9.1 U | < 9.0 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8.0 U | **94** | **810** | **110** | **450** | | | |
| BaP-TE | ug/kg | 2100 | | **68900** | **1510** | < 7.70 U | < 8.50 U | < 9.10 U | < 9.00 U | < 8.40 U | < 8.90 U | < 8.30 U | < 8.00 U | **335** | **694** | **399** | **328** | | | |
| Total High-molecular-weight PAHs | ug/kg | | | **560000** | **12000** | < 7.7 U | < 8.5 U | < 9.1 U | < 9 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8 U | **1700** | **5200** | **1500** | **2300** | | | |
| Total Low-molecular-weight PAHs | ug/kg | | | **170000** | **3700** | < 7.7 U | < 8.5 U | < 9.1 U | < 9 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8 U | **310** | **1200** | **190** | **470** | | | |
| Total PAHs (sum 16) | ug/kg | | | **730000** | **16000** | < 7.7 U | < 8.5 U | < 9.1 U | < 9 U | < 8.4 U | < 8.9 U | < 8.3 U | < 8 U | **2000** | **6500** | **1700** | **2800** | | | |

## Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SUSDP14 | SUSDP14 | SUSDP14 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15-1C | SUSDP15-1C | SUSDP15-1C | SUSDP15-1C | SUSDP15-1C | SUSDP15-1G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 5/22/2013 | 6/6/2013 | 6/6/2013 | 5/21/2013 | 6/6/2013 | 6/10/2013 | 1/30/2017 | 1/30/2017 | 2/2/2017 | 2/2/2017 | 2/2/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/30/2017 |
| | | Sample ID | DPS1403N | DPS1410N | DPS1415N | DPS1504N | DPS1510N | DPS1515N | DPS15F01N | DPS15F02-05N | DPS15F05-10N | DPS15F10-15N | DPS15F15N | DPS151C05N | DPS151C06N | DPS151C07N | DPS151C08N | DPS151C09N | DPS151G05N |
| | | Depth | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 3.5 - 4.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 14.5 - 15.5 ft | 5 - 6 ft | 6 - 7 ft | 7 - 8 ft | 8 - 9 ft | 9 - 10 ft | 5 - 6 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | **1500** | **685** | **1110** | **11500** | **4.31** | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | **23** | < 21 U | < 21 U | **210** | **280** | **140** | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | **160** | < 21 U | < 21 U | **670** | **750** | **320** | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | < 92 U | < 93 UJ | < 98 UJ | < 94 UJ | < 96 UJ | < 94 UJ | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | < 960 U | | < 1200 U | < 990 U | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | < 19 U | | **45** | < 20 U | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | < 9.6 U | | < 12 U | < 9.9 U | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | < 4.8 U | | < 8.8 U | < 4.9 U | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | < 4.8 U | | < 5.9 U | < 4.9 U | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | < 9.6 U | | < 12 U | < 9.9 U | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP14 | SUSDP14 | SUSDP14 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15-1C | SUSDP15-1C | SUSDP15-1C | SUSDP15-1C | SUSDP15-1C | SUSDP15-1G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/22/2013 | 6/6/2013 | 6/6/2013 | 5/21/2013 | 6/6/2013 | 6/10/2013 | 1/30/2017 | 1/30/2017 | 2/2/2017 | 2/2/2017 | 2/2/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/30/2017 |
| | | | Sample ID | DPS1403N | DPS1410N | DPS1415N | DPS1504N | DPS1510N | DPS1515N | DPS15F01N | DPS15F02-05N | DPS15F05-10N | DPS15F10-15N | DPS15F15N | DPS151C05N | DPS151C06N | DPS151C07N | DPS151C08N | DPS151C09N | DPS151G05N |
| | | | Depth | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 3.5 - 4.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 14.5 - 15.5 ft | 5 - 6 ft | 6 - 7 ft | 7 - 8 ft | 8 - 9 ft | 9 - 10 ft | 5 - 6 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | | | | | | | **19 J** | **10 J** | **2000** | **69** | | **22** | **21** | **51** | **10** | **2.8 J** | < 8.2 U |
| Acenaphthylene | ug/kg | 4.5e+006 | | | | | | | | **24 J** | **14 J** | **130** | **130** | | **14** | **12** | **47** | **5.6 J** | **4.2 J** | < 8.2 U |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | | | | | | | **56** | **34 J** | **10000** | **120** | | **51** | **45** | **91** | **31** | **10** | **12** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | | | | | | | **140** | **98** | **35000** | **440** | | **140** | **100** | **560** | **87** | **31** | **37** |
| Benzo(a)pyrene | ug/kg | 2100 | | | | | | | | **110** | **83** | **16000** | **360** | | **120** | **89** | **660** | **74** | **29** | **33** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | | | | | | | **230** | **120** | **35000** | **440** | | **170** | **130** | **780** | **95** | **44** | **59** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | | | | | | | **110** | **67** | **8400** | **230** | | **110** | **92** | **480** | **64** | **32** | **31** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | | | | | | | **63** | **46** | **7100** | **180** | | **42** | **46** | **260** | **35** | **13** | **18** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | | | | | | | **210** | **98** | **32000** | **570** | | **160** | **140** | **650** | **99** | **41** | **49** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | | | | | | | **32 J** | **17 J** | **2900** | **71** | | **35** | **30** | **160** | **18** | **8.8** | < 8.2 U |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | | | | | | | **250** | **160** | **61000** | **980** | | **340** | **260** | **660** | **200** | **64** | **78** |
| Fluorene | ug/kg | 3e+006 | | | | | | | | **44** | **14 J** | **2200** | **180** | | **29** | **31** | **45** | **6.7 J** | **3.6 J** | **9.9** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP14 | SUSDP14 | SUSDP14 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15-1C | SUSDP15-1C | SUSDP15-1C | SUSDP15-1C | SUSDP15-1C | SUSDP15-1G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/22/2013 | 6/6/2013 | 6/6/2013 | 5/21/2013 | 6/6/2013 | 6/10/2013 | 1/30/2017 | 1/30/2017 | 2/2/2017 | 2/2/2017 | 2/2/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/30/2017 |
| | | | Sample ID | DPS1403N | DPS1410N | DPS1415N | DPS1504N | DPS1510N | DPS1515N | DPS15F01N | DPS15F02-05N | DPS15F05-10N | DPS15F10-15N | DPS15F15N | DPS151C05N | DPS151C06N | DPS151C07N | DPS151C08N | DPS151C09N | DPS151G05N |
| | | | Depth | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 3.5 - 4.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 14.5 - 15.5 ft | 5 - 6 ft | 6 - 7 ft | 7 - 8 ft | 8 - 9 ft | 9 - 10 ft | 5 - 6 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | | | | | | | 89 | 59 | 7800 | 210 | | 94 | 79 | 430 | 56 | 27 | 27 |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | | | | | | | 91 | 38 J | 680 | 47 | | 37 | 60 | 58 | 17 | 14 | 16 |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | | | | | | | 260 | 120 | 34000 | 720 | | 170 | 190 | 190 | 160 | 48 | 56 |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | | | | | | | 250 | 130 | 49000 | 670 | | 220 | 180 | 470 | 130 | 45 | 56 |
| BaP-TE | ug/kg | 2100 | | | | | | | | 189 | 128 | 26800 | 542 | | 196 | 151 | 1000 | 116 | 48.2 | 45.5 |
| Total High-molecular-weight PAHs | ug/kg | | | | | | | | | 1500 | 880 | 250000 | 4200 | | 1400 | 1100 | 5100 | 860 | 330 | 390 |
| Total Low-molecular-weight PAHs | ug/kg | | | | | | | | | 490 | 230 | 49000 | 1300 | | 320 | 360 | 480 | 230 | 83 | 94 |
| Total PAHs (sum 16) | ug/kg | | | | | | | | | 2000 | 1100 | 300000 | 5400 | | 1800 | 1500 | 5600 | 1100 | 420 | 480 |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP15-1G | SUSDP15-1G | SUSDP15-1G | SUSDP15-1G | SUSDP16 | SUSDP16 | SUSDP16 | SUSDP16 | SUSDP17 | SUSDP17 | SUSDP17 | SUSDP18 | SUSDP18 | SUSDP18 | SUSDP18 | SUSDP18 | SUSDP19 | SUSDP19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/30/2017 | 8/30/2017 | 8/30/2017 | 8/30/2017 | 5/15/2013 | 6/10/2013 | 6/10/2013 | 6/10/2013 | 5/23/2013 | 6/11/2013 | 6/11/2013 | 5/23/2013 | 6/4/2013 | 6/4/2013 | 1/26/2017 | 1/26/2017 | 5/23/2013 | 5/23/2013 |
| | | | Sample ID | DPS151G06N | DPS151G07N | DPS151G08N | DPS151G09N | DPS1605N | DPS1610N | DPS1615N | DPS1615R | DPS1705N | DPS1710N | DPS1715N | DPS1803N | DPS1810N | DPS1818N | DPS18F01N | DPS18F02-05N | DPS1902N | DPS1902R |
| | | | Depth | 6 - 7 ft | 7 - 8 ft | 8 - 9 ft | 9 - 10 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 17.5 - 18.5 ft | 1 - 2 ft | 2 - 5 ft | 1.5 - 2.5 ft | 1.5 - 2.5 ft |
| | | | Type | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | FD |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | | **10.8** | < 2.57 U | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | < 20 U | < 19 U | < 18 U | < 19 U | < 19 U | < 18 U | < 18 U | < 18 U | < 19 U | < 19 U | | | < 96 U | < 93 U |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | < 20 U | < 19 U | < 18 U | **81** | < 19 U | < 18 U | < 18 U | < 18 U | **11 J** | < 19 U | | | **390** | **430** |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | < 90 UJ | < 95 U | < 100 U | < 97 U | < 99 U | < 100 U | < 83 U | < 98 U | < 100 U | < 96 U | | | < 95 U | < 97 U |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | < 860 U | < 970 U | | < 950 U | | < 910 U | | < 940 U | | | < 960 U | < 930 U |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | < 17 U | < 19 U | | < 19 U | | < 18 U | | < 19 U | | | < 19 U | < 19 U |
| Benzene | ug/kg | 5100 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Bromoform | ug/kg | 86000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Bromomethane | ug/kg | 3000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Chloroform | ug/kg | 1400 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Chloromethane | ug/kg | 46000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | < 8.6 U | < 9.7 U | | < 9.5 U | | < 9.1 U | | < 9.4 U | | | < 9.6 U | < 9.3 U |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| o-Xylene | ug/kg | 280000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Trichloroethene | ug/kg | 1900 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | < 4.3 U | < 4.9 U | | < 4.7 U | | < 4.6 U | | < 4.7 U | | | < 4.8 U | < 4.6 U |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | < 8.6 U | < 9.7 U | | < 9.5 U | | < 9.1 U | | < 9.4 U | | | < 9.6 U | < 9.3 U |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP15-1G | SUSDP15-1G | SUSDP15-1G | SUSDP15-1G | SUSDP16 | SUSDP16 | SUSDP16 | SUSDP16 | SUSDP17 | SUSDP17 | SUSDP17 | SUSDP18 | SUSDP18 | SUSDP18 | SUSDP18 | SUSDP18 | SUSDP19 | SUSDP19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/30/2017 | 8/30/2017 | 8/30/2017 | 8/30/2017 | 5/15/2013 | 6/10/2013 | 6/10/2013 | 6/10/2013 | 5/23/2013 | 6/11/2013 | 6/11/2013 | 5/23/2013 | 6/4/2013 | 6/4/2013 | 1/26/2017 | 1/26/2017 | 5/23/2013 | 5/23/2013 |
| | | | Sample ID | DPS151G06N | DPS151G07N | DPS151G08N | DPS151G09N | DPS1605N | DPS1610N | DPS1615N | DPS1615R | DPS1705N | DPS1710N | DPS1715N | DPS1803N | DPS1810N | DPS1818N | DPS18F01N | DPS18F02-05N | DPS1902N | DPS1902R |
| | | | Depth | 6 - 7 ft | 7 - 8 ft | 8 - 9 ft | 9 - 10 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 17.5 - 18.5 ft | 1 - 2 ft | 2 - 5 ft | 1.5 - 2.5 ft | 1.5 - 2.5 ft |
| | | | Type | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | FD |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | **51** | **13** | **3.8 J** | **9.3** | | | | | | | | | | | **5.4 J** | < 7.1 U | **210 J** | **220** |
| Acenaphthylene | ug/kg | 4.5e+006 | | < 7.7 U | **14** | **4.9 J** | **3.6 J** | | | | | | | | | | | **5.9 J** | < 7.1 U | **77** | **67** |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **88** | **48** | **13** | **21** | | | | | | | | | | | **15** | < 7.1 U | **560 J** | **560** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **170** | **160** | **55** | **72** | | | | | | | | | | | **81** | **2.9 J** | **1900 J** | **1900** |
| Benzo(a)pyrene | ug/kg | 2100 | | **130** | **130** | **52** | **63** | | | | | | | | | | | **78** | **1.2 J** | **2300 J** | **2100** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **190** | **210** | **77** | **90** | | | | | | | | | | | **100** | **2.7 J** | **2200 J** | **2200** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **100** | **120** | **42** | **54** | | | | | | | | | | | **63** | < 7.1 U | **1800 J** | **1600** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **63** | **79** | **21** | **29** | | | | | | | | | | | **49** | < 7.1 U | **950 J** | **680** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **160** | **170** | **58** | **68** | | | | | | | | | | | **88** | **2.2 J** | **1900 J** | **1900** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **31** | **40** | **13** | < 8.0 U | | | | | | | | | | | **18** | < 7.1 U | **500 J** | **440** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **430** | **410** | **110** | **140** | | | | | | | | | | | **160** | **5.2 J** | **4400** | **4300** |
| Fluorene | ug/kg | 3e+006 | | **42** | **18** | **4.0 J** | **8.1** | | | | | | | | | | | **3.5 J** | < 7.1 U | **200 J** | **190** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | | |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP15-1G | SUSDP15-1G | SUSDP15-1G | SUSDP15-1G | SUSDP16 | SUSDP16 | SUSDP16 | SUSDP16 | SUSDP17 | SUSDP17 | SUSDP17 | SUSDP18 | SUSDP18 | SUSDP18 | SUSDP18 | SUSDP18 | SUSDP19 | SUSDP19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/30/2017 | 8/30/2017 | 8/30/2017 | 8/30/2017 | 5/15/2013 | 6/10/2013 | 6/10/2013 | 6/10/2013 | 5/23/2013 | 6/11/2013 | 6/11/2013 | 5/23/2013 | 6/4/2013 | 6/4/2013 | 1/26/2017 | 1/26/2017 | 5/23/2013 | 5/23/2013 |
| | | | Sample ID | DPS151G06N | DPS151G07N | DPS151G08N | DPS151G09N | DPS1605N | DPS1610N | DPS1615N | DPS1615R | DPS1705N | DPS1710N | DPS1715N | DPS1803N | DPS1810N | DPS1818N | DPS18F01N | DPS18F02-05N | DPS1902N | DPS1902R |
| | | | Depth | 6 - 7 ft | 7 - 8 ft | 8 - 9 ft | 9 - 10 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 17.5 - 18.5 ft | 1 - 2 ft | 2 - 5 ft | 1.5 - 2.5 ft | 1.5 - 2.5 ft |
| | | | Type | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | FD |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **93** | **110** | **39** | **52** | | | | | | | | | | | **57** | < 7.1 U | **1500 J** | **1400** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **30** | **38** | **11** | **9.0** | | | | | | | | | | | **4.4 J** | < 7.1 U | **90** | **88** |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **330** | **230** | **57** | **89** | | | | | | | | | | | **70** | **1.3 J** | **1800 J** | **1900** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **280** | **250** | **77** | **110** | | | | | | | | | | | **120** | **3.4 J** | **2500 J** | **2600** |
| BaP-TE | ug/kg | 2100 | | **207** | **219** | **82.4** | **84.8** | | | | | | | | | | | **120** | **1.76** | **3370** | **3100** |
| Total High-molecular-weight PAHs | ug/kg | | | **1600** | **1700** | **540** | **680** | | | | | | | | | | | **810** | **18** | **20000** | **19000** |
| Total Low-molecular-weight PAHs | ug/kg | | | **540** | **360** | **94** | **140** | | | | | | | | | | | **100** | **1.3** | **2900** | **3000** |
| Total PAHs (sum 16) | ug/kg | | | **2200** | **2000** | **640** | **820** | | | | | | | | | | | **920** | **19** | **23000** | **22000** |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19-1A | SUSDP19-1A | SUSDP19-1A | SUSDP19-1B | SUSDP19-1B | SUSDP19-1B | SUSDP19-1C | SUSDP19-1C | SUSDP19-1C | SUSDP19-1C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/5/2013 | 6/5/2013 | 6/5/2013 | 1/30/2017 | 1/30/2017 | 2/8/2017 | 2/8/2017 | 2/1/2017 | 2/8/2017 | 2/8/2017 | 2/1/2017 | 2/8/2017 | 2/8/2017 | 1/27/2017 | 1/27/2017 | 2/8/2017 | 2/8/2017 |
| | | | Sample ID | DPS1910N | DPS1915N | DPS1915R | DPS19F01N | DPS19F02-05N | DPS19F05-10N | DPS19F10-15N | DPS191A02N | DPS191A10N | DPS191A15N | DPS191B02N | DPS191B10N | DPS191B15N | SUS191C02N | SUS191C02R | DPS191C10N | DPS191C15N |
| | | | Depth | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 2 - 3 ft | 10 - 11 ft | 15 - 16 ft | 2 - 3 ft | 10 - 11 ft | 15 - 16 ft | 2 - 3 ft | 2 - 3 ft | 10 - 11 ft | 15 - 16 ft |
| | | | Type | N | N | FD | N | N | N | N | N | N | N | N | N | N | N | FD | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | **730** | **947** | **5010** | **35.3** | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | < 380 U | < 19 U | < 20 U | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | **2600** | **11 J** | < 20 U | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | < 130 U | < 96 U | < 100 U | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19-1A | SUSDP19-1A | SUSDP19-1A | SUSDP19-1B | SUSDP19-1B | SUSDP19-1B | SUSDP19-1C | SUSDP19-1C | SUSDP19-1C | SUSDP19-1C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/5/2013 | 6/5/2013 | 6/5/2013 | 1/30/2017 | 1/30/2017 | 2/8/2017 | 2/8/2017 | 2/1/2017 | 2/8/2017 | 2/8/2017 | 2/1/2017 | 2/8/2017 | 2/8/2017 | 1/27/2017 | 1/27/2017 | 2/8/2017 | 2/8/2017 |
| | | | Sample ID | DPS1910N | DPS1915N | DPS1915R | DPS19F01N | DPS19F02-05N | DPS19F05-10N | DPS19F10-15N | DPS191A02N | DPS191A10N | DPS191A15N | DPS191B02N | DPS191B10N | DPS191B15N | SUS191C02N | SUS191C02R | DPS191C10N | DPS191C15N |
| | | | Depth | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 2 - 3 ft | 10 - 11 ft | 15 - 16 ft | 2 - 3 ft | 10 - 11 ft | 15 - 16 ft | 2 - 3 ft | 2 - 3 ft | 10 - 11 ft | 15 - 16 ft |
| | | | Type | N | N | FD | N | N | N | N | N | N | N | N | N | N | N | FD | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | **3300** | < 7.4 U | < 7.7 U | **250** | **150** | **1500** | < 7.4 U | **34 J** | < 8.0 U | < 8.5 U | **34 J** | **3.2 J** | < 8.2 U | **14 J** | **20 J** | < 7.9 U | < 8.0 U |
| Acenaphthylene | ug/kg | 4.5e+006 | | < 1500 U | < 7.4 U | < 7.7 U | **78** | **380** | **230 J** | **0.90 J** | **94** | < 8.0 U | < 8.5 U | **32 J** | **1.4 J** | < 8.2 U | **42** | **56** | < 7.9 U | < 8.0 U |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **6100** | < 7.4 U | < 7.7 U | **770** | **700** | **3600** | **1.8 J** | **180** | < 8.0 U | < 8.5 U | **120** | **11** | < 8.2 U | **61** | **70** | **3.9 J** | < 8.0 U |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **15000** | < 7.4 U | **1.1 J** | **3200** | **2500** | **12000** | **5.8 J** | **1200** | **1.7 J** | < 8.5 U | **830** | **39** | < 8.2 U | **300 J** | **350 J** | **12** | < 8.0 U |
| Benzo(a)pyrene | ug/kg | 2100 | | **14000** | < 7.4 U | < 7.7 U | **2800** | **2500** | **12000** | **6.8 J** | **1300** | < 8.0 U | < 8.5 U | **860** | **33** | < 8.2 U | **340 J** | **410 J** | **9.4** | < 8.0 U |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **16000** | < 7.4 U | < 7.7 U | **3400** | **3100** | **15000** | **11** | **1700** | < 8.0 U | < 8.5 U | **1100** | **37** | < 8.2 U | **420 J** | **500 J** | **14** | < 8.0 U |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **11000** | < 7.4 U | < 7.7 U | **2200** | **2000** | **11000** | **6.6 J** | **1100** | < 8.0 U | < 8.5 U | **670** | **25** | < 8.2 U | **280 J+** | **290 J+** | **8.1** | < 8.0 U |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **6300** | < 7.4 U | < 7.7 U | **1500** | **1200** | **3600** | **2.9 J** | **500** | < 8.0 U | < 8.5 U | **350** | **19** | < 8.2 U | **170 J** | **200 J** | **4.5 J** | < 8.0 U |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **15000** | < 7.4 U | **1.3 J** | **3000** | **2400** | **12000** | **8.7** | **1200** | **1.6 J** | < 8.5 U | **870** | **39** | < 8.2 U | **320 J** | **410 J** | **12** | < 8.0 U |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **2400** | < 7.4 U | < 7.7 U | **580** | **570** | **2500** | < 7.4 U | **270** | < 8.0 U | < 8.5 U | **210** | **7.3 J** | < 8.2 U | **67** | **81** | **3.1 J** | < 8.0 U |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **30000** | **1.4 J** | **1.6 J** | **6000** | **4100** | **19000** | **9.9** | **1500** | **1.7 J** | < 8.5 U | **1100** | **63** | < 8.2 U | **440 J** | **530 J** | **22** | < 8.0 U |
| Fluorene | ug/kg | 3e+006 | | **3200** | < 7.4 U | < 7.7 U | **300** | **190** | **1500** | < 7.4 U | **35 J** | < 8.0 U | < 8.5 U | **26 J** | **3.3 J** | < 8.2 U | **12 J** | **15 J** | < 7.9 U | < 8.0 U |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19-1A | SUSDP19-1A | SUSDP19-1A | SUSDP19-1B | SUSDP19-1B | SUSDP19-1B | SUSDP19-1C | SUSDP19-1C | SUSDP19-1C | SUSDP19-1C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/5/2013 | 6/5/2013 | 6/5/2013 | 1/30/2017 | 1/30/2017 | 2/8/2017 | 2/8/2017 | 2/1/2017 | 2/8/2017 | 2/8/2017 | 2/1/2017 | 2/8/2017 | 2/8/2017 | 1/27/2017 | 1/27/2017 | 2/8/2017 | 2/8/2017 |
| | | | Sample ID | DPS1910N | DPS1915N | DPS1915R | DPS19F01N | DPS19F02-05N | DPS19F05-10N | DPS19F10-15N | DPS191A02N | DPS191A10N | DPS191A15N | DPS191B02N | DPS191B10N | DPS191B15N | SUS191C02N | SUS191C02R | DPS191C10N | DPS191C15N |
| | | | Depth | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 2 - 3 ft | 10 - 11 ft | 15 - 16 ft | 2 - 3 ft | 10 - 11 ft | 15 - 16 ft | 2 - 3 ft | 2 - 3 ft | 10 - 11 ft | 15 - 16 ft |
| | | | Type | N | N | FD | N | N | N | N | N | N | N | N | N | N | N | FD | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **8900** | < 7.4 U | < 7.7 U | **2000** | **1700** | **8200** | **6.0 J** | **900** | < 8.0 U | < 8.5 U | **590** | **21** | < 8.2 U | **230 J+** | **260 J+** | **7.1 J** | < 8.0 U |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **1100 J** | < 7.4 U | < 7.7 U | **88** | **80** | **370 J** | < 7.4 U | **28 J** | < 8.0 U | < 8.5 U | **20 J** | **2.5 J** | < 8.2 U | **15 J** | **17 J** | < 7.9 U | < 8.0 U |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **23000** | **1.5 J** | **1.7 J** | **3100** | **2200** | **12000** | **5.0 J** | **570** | < 8.0 U | < 8.5 U | **470** | **34** | < 8.2 U | **190 J** | **240 J** | **12** | < 8.0 U |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | < 190 U | < 190 U | | |
| Pyrene | ug/kg | 2.3e+006 | | **28000** | **1.2 J** | **1.8 J** | **5000** | **3500** | **17000** | **7.8** | **1800** | **1.7 J** | < 8.5 U | **1300** | **53** | < 8.2 U | **440 J** | **580 J** | **15** | < 8.0 U |
| BaP-TE | ug/kg | 2100 | | **20500** | < 7.40 U | **0.111** | **4260** | **3810** | **18100** | **9.12** | **1960** | **0.172** | < 8.50 U | **1330** | **50.2** | < 8.20 U | **504** | **604** | **15.9** | < 8.00 U |
| Total High-molecular-weight PAHs | ug/kg | | | **150000** | **2.6** | **5.8** | **30000** | **24000** | **110000** | **65** | **11000** | **6.7** | < 8.5 U | **7900** | **340** | < 8.2 U | **3000** | **3600** | **110** | < 8 U |
| Total Low-molecular-weight PAHs | ug/kg | | | **37000** | **1.5** | **1.7** | **4600** | **3700** | **19000** | **7.7** | **940** | < 8 U | < 8.5 U | **700** | **55** | < 8.2 U | **330** | **420** | **16** | < 8 U |
| Total PAHs (sum 16) | ug/kg | | | **180000** | **4.1** | **7.5** | **34000** | **27000** | **130000** | **73** | **12000** | **6.7** | < 8.5 U | **8600** | **390** | < 8.2 U | **3300** | **4000** | **120** | < 8 U |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP19-1D | SUSDP19-1D | SUSDP19-1D | SUSDP19-1D | SUSDP19-1D | SUSDP19-1D | SUSDP19-1F | SUSDP19-1F | SUSDP19-1F | SUSDP19-1F | SUSDP19-1G | SUSDP19-1G | SUSDP19-1G | SUSDP19-1H | SUSDP19-1H | SUSDP19-1H | SUSDP19-2D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 2/1/2017 | 2/8/2017 | 2/8/2017 | 2/1/2017 | 2/8/2017 | 2/8/2017 | 8/17/2017 |
| | | | Sample ID | DPS191D01N | DPS191D01R | DPS191D02N | DPS191D03N | DPS191D04N | DPS191D05N | DPS191F01N | DPS191F02N | DPS191F03N | DPS191F04N | DPS191G02N | DPS191G10N | DPS191G15N | DPS191H02N | DPS191H10N | DPS191H15N | DPS192D01N |
| | | | Depth | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 2 - 3 ft | 10 - 11 ft | 15 - 16 ft | 2 - 3 ft | 10 - 11 ft | 15 - 16 ft | 1 - 2 ft |
| | | | Type | N | FD | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-1D | SUSDP19-1D | SUSDP19-1D | SUSDP19-1D | SUSDP19-1D | SUSDP19-1D | SUSDP19-1F | SUSDP19-1F | SUSDP19-1F | SUSDP19-1F | SUSDP19-1G | SUSDP19-1G | SUSDP19-1G | SUSDP19-1H | SUSDP19-1H | SUSDP19-1H | SUSDP19-2D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 2/1/2017 | 2/8/2017 | 2/8/2017 | 2/1/2017 | 2/8/2017 | 2/8/2017 | 8/17/2017 |
| | | | Sample ID | DPS191D01N | DPS191D01R | DPS191D02N | DPS191D03N | DPS191D04N | DPS191D05N | DPS191F01N | DPS191F02N | DPS191F03N | DPS191F04N | DPS191G02N | DPS191G10N | DPS191G15N | DPS191H02N | DPS191H10N | DPS191H15N | DPS192D01N |
| | | | Depth | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 2 - 3 ft | 10 - 11 ft | 15 - 16 ft | 2 - 3 ft | 10 - 11 ft | 15 - 16 ft | 1 - 2 ft |
| | | | Type | N | FD | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | 460 | 550 | 660 | 750 | 500 | 380 J | 54 J | 100 | 100 J | 340 J | 5700 | 13 | < 8.4 U | 430 | 44 | < 7.7 U | 430 J |
| Acenaphthylene | ug/kg | 4.5e+006 | | 180 J | 650 | 350 J | 490 | 160 | < 820 U | 57 J | 90 | 74 J | 1900 | 350 J | 2.4 J | < 8.4 U | 69 J | 15 J | < 7.7 U | 380 J |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | 1300 J+ | 2000 J+ | 1900 | 3400 | 1500 | 1200 | 170 | 390 | 280 | 2500 | 19000 | 27 | < 8.4 U | 1600 | 110 | < 7.7 U | 1800 |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | 3400 | 5200 | 5200 | 8100 | 2900 | 3400 | 440 | 1300 | 1000 | 7000 | 29000 | 64 | < 8.4 U | 6000 | 270 | < 7.7 U | 5200 |
| Benzo(a)pyrene | ug/kg | 2100 | | 2900 J | 5100 J | 4500 | 9000 | 2900 | 3500 | 450 | 1300 | 940 | 7500 | 21000 | 54 | < 8.4 U | 5500 | 200 | < 7.7 U | 4300 |
| Benzo(b)fluoranthene | ug/kg | 21000 | | 3700 | 5800 | 5500 | 9800 | 2700 | 3600 | 510 | 1800 | 1000 | 9000 | 25000 | 64 | < 8.4 U | 7000 | 290 | < 7.7 U | 5500 |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | 2300 J | 4800 J | 4200 | 8500 | 2500 | 3200 | 430 | 1300 | 850 | 7500 | 12000 | 37 | < 8.4 U | 3900 | 150 | < 7.7 U | 3200 |
| Benzo(k)fluoranthene | ug/kg | 210000 | | 1300 J | 2300 J | 1800 | 2900 | 1500 | 1600 | 230 | 560 | 510 | 2400 | 12000 | 26 | < 8.4 U | 2800 | 84 | < 7.7 U | 2500 |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | 3200 | 5300 | 5000 | 8000 | 2700 | 3400 | 480 | 1400 | 1200 | 6900 | 25000 | 58 | < 8.4 U | 5500 | 260 | < 7.7 U | 4900 |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | 640 J+ | 1400 J+ | 1400 | 2100 | 690 | 1000 | 130 | 360 | 280 | 1800 | 4300 | 13 | < 8.4 U | 1100 | 42 | < 7.7 U | < 590 U |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | 7000 | 11000 | 10000 | 16000 | 6200 | 6400 | 860 | 2700 | 1900 | 12000 | 63000 | 130 | 1.5 J | 12000 | 520 | 1.4 J | 10000 |
| Fluorene | ug/kg | 3e+006 | | 520 J+ | 600 J+ | 710 | 1100 | 610 | 490 J | 50 J | 89 | 120 J | 500 J | 9000 | 15 | < 8.4 U | 430 | 45 | < 7.7 U | 650 |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SUSDP19-1D | SUSDP19-1D | SUSDP19-1D | SUSDP19-1D | SUSDP19-1D | SUSDP19-1D | SUSDP19-1F | SUSDP19-1F | SUSDP19-1F | SUSDP19-1F | SUSDP19-1G | SUSDP19-1G | SUSDP19-1G | SUSDP19-1H | SUSDP19-1H | SUSDP19-1H | SUSDP19-2D |
| | | | Sample Date | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 8/22/2017 | 2/1/2017 | 2/8/2017 | 2/8/2017 | 2/1/2017 | 2/8/2017 | 2/8/2017 | 8/17/2017 |
| | | | Sample ID | DPS191D01N | DPS191D01R | DPS191D02N | DPS191D03N | DPS191D04N | DPS191D05N | DPS191F01N | DPS191F02N | DPS191F03N | DPS191F04N | DPS191G02N | DPS191G10N | DPS191G15N | DPS191H02N | DPS191H10N | DPS191H15N | DPS192D01N |
| | | | Depth | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 2 - 3 ft | 10 - 11 ft | 15 - 16 ft | 2 - 3 ft | 10 - 11 ft | 15 - 16 ft | 1 - 2 ft |
| | | | Type | N | FD | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **2100 J** | **4400 J** | **3800** | **7800** | **2400** | **2900** | **370** | **1200** | **750** | **7000** | **12000** | **36** | < 8.4 U | **3500** | **120** | < 7.7 U | **3000** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **120 J** | < 380 U | **170 J** | **440 J** | **270** | < 820 U | **43 J** | **64** | < 190 U | < 760 U | **1200** | **6.1 J** | < 8.4 U | **88** | **13 J** | < 7.7 U | < 590 U |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **4600** | **6300** | **6000** | **6500** | **3700** | **3400** | **370** | **1300** | **1200** | **4100** | **65000** | **74** | < 8.4 U | **6500** | **360** | < 7.7 U | **6400** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **4900** | **7700** | **7200** | **12000** | **4200** | **4500** | **630** | **1900** | **1500** | **8900** | **45000** | **89** | **1.1 J** | **9700** | **350** | **1.2 J** | **7400** |
| BaP-TE | ug/kg | 2100 | | **4480** | **8070** | **7370** | **13700** | **4410** | **5510** | **715** | **2100** | **1500** | **11600** | **32000** | **83.7** | < 8.40 U | **8280** | **311** | < 7.70 U | **5700** |
| Total High-molecular-weight PAHs | ug/kg | | | **31000** | **53000** | **49000** | **84000** | **29000** | **34000** | **4500** | **14000** | **9900** | **70000** | **250000** | **570** | **2.6** | **57000** | **2300** | **2.6** | **46000** |
| Total Low-molecular-weight PAHs | ug/kg | | | **7200** | **10000** | **9800** | **13000** | **6700** | **5500** | **740** | **2000** | **1800** | **9300** | **100000** | **140** | < 8.4 U | **9100** | **590** | < 7.7 U | **9700** |
| Total PAHs (sum 16) | ug/kg | | | **39000** | **63000** | **58000** | **97000** | **35000** | **39000** | **5300** | **16000** | **12000** | **79000** | **350000** | **710** | **2.6** | **66000** | **2900** | **2.6** | **56000** |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP19-2D | SUSDP19-2D | SUSDP19-2D | SUSDP19-2D | SUSDP19-2M | SUSDP19-2M | SUSDP19-2M | SUSDP19-2M | SUSDP19-2M | SUSDP19-2N | SUSDP19-2O | SUSDP19-2O | SUSDP19-2O | SUSDP19-2O | SUSDP19-2O | SUSDP19-2O | SUSDP19-2O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/17/2017 | 8/17/2017 | 8/17/2017 | 8/17/2017 | 3/23/2017 | 8/16/2017 | 8/16/2017 | 8/16/2017 | 8/16/2017 | 3/23/2017 | 3/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 3/28/2018 | 3/28/2018 | 3/28/2018 |
| | | | Sample ID | DPS192D02N | DPS192D03N | DPS192D04N | DPS192D05N | SUS192M02N | DPS192M03N | DPS192M03R | DPS192M04N | DPS192M05N | SUS192N02N | SUS192O02N | DPS192O03N | DPS192O04N | DPS192O05N | DPS192O06N | DPS192O07N | DPS192O10N |
| | | | Depth | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 2 - 3 ft | 3 - 4 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 2 - 3 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 6 - 7 ft | 7 - 8 ft | 10 - 11 ft |
| | | | Type | N | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP19-2D | SUSDP19-2D | SUSDP19-2D | SUSDP19-2D | SUSDP19-2M | SUSDP19-2M | SUSDP19-2M | SUSDP19-2M | SUSDP19-2M | SUSDP19-2N | SUSDP19-2O | SUSDP19-2O | SUSDP19-2O | SUSDP19-2O | SUSDP19-2O | SUSDP19-2O | SUSDP19-2O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/17/2017 | 8/17/2017 | 8/17/2017 | 8/17/2017 | 3/23/2017 | 8/16/2017 | 8/16/2017 | 8/16/2017 | 8/16/2017 | 3/23/2017 | 3/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 3/28/2018 | 3/28/2018 | 3/28/2018 |
| | | | Sample ID | DPS192D02N | DPS192D03N | DPS192D04N | DPS192D05N | SUS192M02N | DPS192M03N | DPS192M03R | DPS192M04N | DPS192M05N | SUS192N02N | SUS192O02N | DPS192O03N | DPS192O04N | DPS192O05N | DPS192O06N | DPS192O07N | DPS192O10N |
| | | | Depth | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 2 - 3 ft | 3 - 4 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 2 - 3 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 6 - 7 ft | 7 - 8 ft | 10 - 11 ft |
| | | | Type | N | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | < 1700 U | < 1100 U | **260** | **44 J** | **330** | **1000 J-** | **570 J-** | **11000** | **1100** | < 350 U | **2700** | **430** | **2100** | **910** | **500** | **1500** | **2800** |
| Acenaphthylene | ug/kg | 4.5e+006 | | **850 J** | < 1100 U | < 150 U | **30 J** | **110 J** | < 610 U | < 600 U | **420 J** | **240 J** | < 350 U | **240 J** | **88 J** | **370 J** | **550 J** | **1500** | **1100** | **34 J** |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **1800** | **520 J** | **660** | **160** | **1100** | **2900 J-** | **1900 J-** | **24000** | **3300** | < 350 U | **7100** | **1200** | **8200** | **3800** | **2100** | **5100** | **4700** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **8200** | **3000** | **3100** | **1100** | **3400** | **7800** | **5500** | **36000** | **7600** | **91 J** | **19000** | **3800** | **17000** | **9100** | **8000** | **14000** | **6800** |
| Benzo(a)pyrene | ug/kg | 2100 | | **7700** | **2900** | **2800** | **1100** | **3000** | **6600** | **4800** | **28000** | **6600** | **80 J** | **16000** | **3800** | **13000** | **7900** | **8900** | **14000** | **5500** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **9700** | **4100** | **3500** | **1400** | **4100** | **8100** | **6500** | **33000** | **7900** | **97 J** | **20000** | **4200** | **17000** | **9300** | **11000** | **16000** | **6400** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **5700** | **2500** | **2500** | **1100** | **2700** | **4800** | **3500** | **22000** | **6000** | **110 J** | **13000** | **4200** | **12000** | **8300** | **7600** | **11000** | **2800** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **4000** | **1300** | **1500** | **540** | **1100** | **3300 J** | **1800 J** | **14000** | **2900** | < 350 U | **7100** | **1800** | **5600** | **3600** | **4600** | **5900** | **2300** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **8300** | **2900** | **3200** | **1100** | **3100** | **7800** | **5400** | **34000** | **7700** | **71 J** | **18000** | **3700** | **16000** | **8500** | **7400** | **12000** | **7100** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | < 1700 U | < 1100 U | **910** | **340** | **630** | **1400 J-** | < 600 UJ | **6600** | **1900** | < 350 U | **3400** | **810** | **3600** | **2400** | **1600** | **2500** | **870** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **16000** | **5300** | **6400** | **2100** | **6600** | **17000** | **12000** | **99000** | **17000** | **110 J** | **36000** | **6800** | **38000** | **19000** | **12000** | **23000** | **16000** |
| Fluorene | ug/kg | 3e+006 | | < 1700 U | < 1100 U | **310** | **43 J** | **410** | **1300 J-** | **770 J-** | **14000** | **1300** | < 350 U | **3100** | **380** | **2500** | **1200** | **830** | **1600** | **3600** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-2D | SUSDP19-2D | SUSDP19-2D | SUSDP19-2D | SUSDP19-2M | SUSDP19-2M | SUSDP19-2M | SUSDP19-2M | SUSDP19-2M | SUSDP19-2N | SUSDP19-2O | SUSDP19-2O | SUSDP19-2O | SUSDP19-2O | SUSDP19-2O | SUSDP19-2O | SUSDP19-2O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/17/2017 | 8/17/2017 | 8/17/2017 | 8/17/2017 | 3/23/2017 | 8/16/2017 | 8/16/2017 | 8/16/2017 | 8/16/2017 | 3/23/2017 | 3/23/2017 | 8/23/2017 | 8/23/2017 | 8/23/2017 | 3/28/2018 | 3/28/2018 | 3/28/2018 |
| | | | Sample ID | DPS192D02N | DPS192D03N | DPS192D04N | DPS192D05N | SUS192M02N | DPS192M03N | DPS192M03R | DPS192M04N | DPS192M05N | SUS192N02N | SUS192O02N | DPS192O03N | DPS192O04N | DPS192O05N | DPS192O06N | DPS192O07N | DPS192O10N |
| | | | Depth | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 2 - 3 ft | 3 - 4 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 2 - 3 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 6 - 7 ft | 7 - 8 ft | 10 - 11 ft |
| | | | Type | N | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **5300** | **2300** | **2400** | **990** | **2300** | **4300** | **3300** | **22000** | **5300** | **90 J** | **11000** | **3500** | **11000** | **6800** | **6700** | **9700** | **2800** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | < 1700 U | < 1100 U | < 150 U | < 73 U | **310** | < 610 U | < 600 U | **1700** | **260 J** | < 350 U | **1200** | **180 J** | < 700 U | **430 J** | **300** | **590** | **1000** |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **5600** | **2000** | **3100** | **640** | **3500** | **10000** | **6500** | **99000** | **11000** | < 350 U | **21000** | **4400** | **25000** | **11000** | **4100** | **12000** | **22000** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **11000** | **3800** | **4200** | **1400** | **4900** | **11000** | **8100** | **62000** | **12000** | **95 J** | **27000** | **7700** | **27000** | **14000** | **11000** | **19000** | **14000** |
| BaP-TE | ug/kg | 2100 | | **10100** | **3860** | **4630** | **1800** | **4620** | **10100** | **6350** | **43900** | **10600** | **108** | **24500** | **5780** | **21200** | **12900** | **13100** | **20500** | **8000** |
| Total High-molecular-weight PAHs | ug/kg | | | **76000** | **28000** | **31000** | **11000** | **32000** | **72000** | **51000** | **360000** | **75000** | **740** | **170000** | **40000** | **160000** | **89000** | **79000** | **130000** | **65000** |
| Total Low-molecular-weight PAHs | ug/kg | | | **8300** | **2500** | **4300** | **920** | **5800** | **15000** | **9700** | **150000** | **17000** | < 350 U | **35000** | **6700** | **38000** | **18000** | **9300** | **22000** | **34000** |
| Total PAHs (sum 16) | ug/kg | | | **84000** | **31000** | **35000** | **12000** | **38000** | **87000** | **61000** | **510000** | **92000** | **740** | **210000** | **47000** | **200000** | **110000** | **88000** | **150000** | **99000** |

| | | | Location ID | SUSDP19-2O | SUSDP19-2P | SUSDP19-2P | SUSDP19-2P | SUSDP19-2P | SUSDP19-3F | SUSDP19-3F | SUSDP19-3F | SUSDP19-3F | SUSDP19-3F | SUSDP19-3S | SUSDP19-3S | SUSDP19-3S | SUSDP19-3S | SUSDP19-3S | SUSDP19-3S | SUSDP19-3V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/28/2018 | 3/23/2017 | 8/17/2017 | 8/17/2017 | 8/17/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 |
| | | | Sample ID | DPS192O11N | SUS192P02N | DPS192P03N | DPS192P04N | DPS192P05N | DPS193F01N | DPS193F02N | DPS193F03N | DPS193F04N | DPS193F05N | DPS193S01N | DPS193S01R | DPS193S02N | DPS193S03N | DPS193S04N | DPS193S05N | DPS193V01N |
| | | | Depth | 11 - 12 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-2O | SUSDP19-2P | SUSDP19-2P | SUSDP19-2P | SUSDP19-2P | SUSDP19-3F | SUSDP19-3F | SUSDP19-3F | SUSDP19-3F | SUSDP19-3F | SUSDP19-3S | SUSDP19-3S | SUSDP19-3S | SUSDP19-3S | SUSDP19-3S | SUSDP19-3S | SUSDP19-3V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/28/2018 | 3/23/2017 | 8/17/2017 | 8/17/2017 | 8/17/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 |
| | | | Sample ID | DPS192O11N | SUS192P02N | DPS192P03N | DPS192P04N | DPS192P05N | DPS193F01N | DPS193F02N | DPS193F03N | DPS193F04N | DPS193F05N | DPS193S01N | DPS193S01R | DPS193S02N | DPS193S03N | DPS193S04N | DPS193S05N | DPS193V01N |
| | | | Depth | 11 - 12 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | < 7.7 U | **720** | < 730 U | **290 J** | < 1500 U | < 740 U | **12 J** | **9.3** | **4.5 J** | < 300 U | **53** | **29** | **300 J** | < 1200 U | **420 J** | **520 J** | **420** |
| Acenaphthylene | ug/kg | 4.5e+006 | | < 7.7 U | **210 J** | < 730 U | < 760 U | < 1500 U | < 740 U | **14 J** | **12** | **12** | < 300 U | **28** | **30** | **200 J** | < 1200 U | **590** | **490 J** | **250** |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **2.9 J+** | **2500** | **760** | **1000** | < 1500 U | **430 J** | **48** | **36** | **26** | **110 J** | **230** | **140** | **810** | **770 J** | **1700** | **2200** | **1800** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **5.3 J+** | **7000** | **3200** | **3500** | **1200 J** | **1600** | **220** | **160** | **100** | **210 J** | **730 J-** | **440 J-** | **2900** | **1800** | **6100** | **5800** | **4400** |
| Benzo(a)pyrene | ug/kg | 2100 | | **3.7 J+** | **5800** | **3500** | **3200** | **1200 J** | **1400** | **220** | **150** | **95** | **160 J** | **670 J-** | **450 J-** | **2800** | **1800** | **5300** | **5100** | **4000** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **5.8 J+** | **6900** | **4200** | **3800** | **1200 J** | **1900** | **250** | **180** | **110** | **180 J** | **810 J** | **500 J** | **3400** | **2100** | **7000** | **6200** | **4700** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **3.7 J+** | **4500** | **3200** | **3200** | **1200 J** | **1500** | **210** | **140** | **100** | **260 J** | **590** | **460** | **2900** | **1600** | **4400** | **4600** | **3700** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **2.3 J+** | **2700** | **1400** | **1600** | < 1500 U | **590 J** | **97** | **53** | **46** | < 300 U | **280** | **220** | **1100** | **710 J** | **2400** | **2300** | **1600** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **4.9 J+** | **6600** | **3300** | **3700** | **1200 J** | **1700** | **220** | **160** | **110** | **190 J** | **740 J-** | **460 J-** | **2900** | **2000** | **5600** | **5200** | **4200** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | < 7.7 U | **1300** | < 730 U | **880** | < 1500 U | **400 J** | **55** | **35** | **27** | < 300 U | **150 J+** | **120 J+** | **740** | < 1200 U | < 590 U | **1300** | **890** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **7.8 J+** | **14000** | **6100** | **7900** | **2200** | **3000** | **410** | **270** | **220** | **430** | **1600 J** | **880 J** | **5500** | **3600** | **13000** | **13000** | **10000** |
| Fluorene | ug/kg | 3e+006 | | **1.8 J+** | **690** | < 730 U | < 760 U | < 1500 U | < 740 U | **11 J** | **8.8** | **4.5 J** | < 300 U | **49** | **30** | **280 J** | < 1200 U | **580 J** | **760** | **380** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-2O | SUSDP19-2P | SUSDP19-2P | SUSDP19-2P | SUSDP19-2P | SUSDP19-3F | SUSDP19-3F | SUSDP19-3F | SUSDP19-3F | SUSDP19-3F | SUSDP19-3S | SUSDP19-3S | SUSDP19-3S | SUSDP19-3S | SUSDP19-3S | SUSDP19-3S | SUSDP19-3V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/28/2018 | 3/23/2017 | 8/17/2017 | 8/17/2017 | 8/17/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 |
| | | | Sample ID | DPS192O11N | SUS192P02N | DPS192P03N | DPS192P04N | DPS192P05N | DPS193F01N | DPS193F02N | DPS193F03N | DPS193F04N | DPS193F05N | DPS193S01N | DPS193S01R | DPS193S02N | DPS193S03N | DPS193S04N | DPS193S05N | DPS193V01N |
| | | | Depth | 11 - 12 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | 3.1 J+ | 3900 | 2500 | 2800 | 980 J | 1200 | 180 | 120 | 86 | 150 J | 520 J+ | 390 J+ | 2400 | 1500 | 4200 | 3900 | 3200 |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | < 7.7 U | 130 J | < 730 U | < 760 U | < 1500 U | < 740 U | 6.4 J | 4.5 J | 3.4 J | < 300 U | 20 | 17 J | < 370 U | < 1200 U | < 590 U | 240 J | 150 |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | 9.1 J+ | 8200 | 2500 | 4000 | 910 J | 1600 | 150 | 120 | 82 | 330 | 660 J | 290 J | 2000 | 2000 | 5900 | 6500 | 4700 |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | 11 J+ | 11000 | 5200 | 5400 | 1700 | 2200 | 320 | 210 | 150 | 290 J | 1200 J | 700 J | 4100 | 2500 | 9100 | 8800 | 7500 |
| BaP-TE | ug/kg | 2100 | | 5.15 | 8910 | 4510 | 5110 | 1540 | 2280 | 341 | 232 | 152 | 214 | 1030 | 706 | 4420 | 2350 | 7060 | 8020 | 6140 |
| Total High-molecular-weight PAHs | ug/kg | | | 48 | 64000 | 33000 | 36000 | 11000 | 15000 | 2200 | 1500 | 1000 | 1900 | 7300 | 4600 | 29000 | 18000 | 57000 | 56000 | 44000 |
| Total Low-molecular-weight PAHs | ug/kg | | | 14 | 12000 | 3300 | 5300 | 910 | 2000 | 240 | 190 | 130 | 440 | 1000 | 540 | 3600 | 2800 | 9200 | 11000 | 7700 |
| Total PAHs (sum 16) | ug/kg | | | 61 | 76000 | 36000 | 41000 | 12000 | 18000 | 2400 | 1700 | 1200 | 2300 | 8300 | 5200 | 32000 | 20000 | 66000 | 67000 | 52000 |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-3V | SUSDP19-3V | SUSDP19-3V | SUSDP19-3V | SUSDP19-3X | SUSDP19-3X | SUSDP19-3X | SUSDP19-3X | SUSDP19-3X | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 1/26/2018 | 1/26/2018 | 1/26/2018 | 1/26/2018 | 1/26/2018 | 1/26/2018 | 3/28/2018 | 3/28/2018 |
| | | | Sample ID | DPS193V02N | DPS193V03N | DPS193V04N | DPS193V05N | DPS193X01N | DPS193X02N | DPS193X03N | DPS193X04N | DPS193X05N | DPS194N01N | DPS194N02N | DPS194N02R | DPS194N03N | DPS194N04N | DPS194N05N | DPS194N06N | DPS194N07N |
| | | | Depth | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 6 - 7 ft | 7 - 8 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-3V | SUSDP19-3V | SUSDP19-3V | SUSDP19-3V | SUSDP19-3X | SUSDP19-3X | SUSDP19-3X | SUSDP19-3X | SUSDP19-3X | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 1/26/2018 | 1/26/2018 | 1/26/2018 | 1/26/2018 | 1/26/2018 | 1/26/2018 | 3/28/2018 | 3/28/2018 |
| | | | Sample ID | DPS193V02N | DPS193V03N | DPS193V04N | DPS193V05N | DPS193X01N | DPS193X02N | DPS193X03N | DPS193X04N | DPS193X05N | DPS194N01N | DPS194N02N | DPS194N02R | DPS194N03N | DPS194N04N | DPS194N05N | DPS194N06N | DPS194N07N |
| | | | Depth | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 6 - 7 ft | 7 - 8 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | **590** | **800 J** | **810** | **430 J** | **980** | **3200** | **2400** | < 1700 U | < 710 U | **30** | **1300 J** | **2200 J** | **13000** | **2600** | **2600** | **380** | **3500** |
| Acenaphthylene | ug/kg | 4.5e+006 | | **450** | **710 J** | **740** | **440 J** | **170** | **600 J** | **1100** | < 1700 U | **250 J** | **7.7** | **130** | **140** | **9500** | **460** | **670** | **60 J** | **240 J** |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **2600** | **2600** | **2700** | **1300** | **3600** | **6300** | **7900** | **1600 J** | **550 J** | **82** | **2800 J** | **5200 J** | **17000** | **6100** | **6300** | **590** | **8100** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **8100** | **6800** | **6100** | **2500** | **6600** | **14000** | **13000** | **2900** | **1400** | **350** | **6300 J** | **12000 J** | **39000** | **15000** | **14000** | **3900** | **26000** |
| Benzo(a)pyrene | ug/kg | 2100 | | **7800** | **6800** | **5200** | **2400** | **5600** | **13000** | **11000** | **2500** | **1700** | **280** | **5700 J** | **9800 J** | **37000** | **14000** | **14000** | **3700** | **23000** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **9100** | **6800** | **6700** | **3000** | **6500** | **15000** | **13000** | **3100** | **2000** | **410** | **8000** | **12000** | **57000** | **16000** | **19000** | **5200** | **31000** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **7000** | **6800** | **5100** | **3000** | **4700** | **11000** | **10000** | **3000** | **2400** | **240** | **5000** | **8300** | **45000** | **12000** | **14000** | **3300** | **17000** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **3500** | **3600** | **2400** | **920** | **2000** | **6000** | **5600** | **970 J** | **710** | **110** | **1900 J** | **5600 J** | **15000** | **6900** | **4100** | **2300** | **11000** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **8000** | **7000** | **5800** | **2400** | **6500** | **14000** | **12000** | **2900** | **1700** | **310** | **5800 J** | **11000 J** | **33000** | **13000** | **12000** | **4700** | **29000** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **1800** | **1800** | < 580 U | < 730 U | **1300** | **2800** | **2600** | **860 J** | **680 J** | **70** | **1600** | **2600** | **12000** | **3800** | **3000** | **1000** | **4700** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **17000** | **13000** | **14000** | **6200** | **13000** | **31000** | **29000** | **6600** | **2200** | **540** | **12000 J** | **24000 J** | **63000** | **25000** | **23000** | **11000** | **55000** |
| Fluorene | ug/kg | 3e+006 | | **580** | **1000 J** | **1200** | **720 J** | **1100** | **2600** | **3300** | **690 J** | < 710 U | **25** | **1100 J** | **2200 J** | **33000** | **2000** | **2800** | **210** | **4000** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-3V | SUSDP19-3V | SUSDP19-3V | SUSDP19-3V | SUSDP19-3X | SUSDP19-3X | SUSDP19-3X | SUSDP19-3X | SUSDP19-3X | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N | SUSDP19-4N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 8/18/2017 | 1/26/2018 | 1/26/2018 | 1/26/2018 | 1/26/2018 | 1/26/2018 | 1/26/2018 | 3/28/2018 | 3/28/2018 |
| | | | Sample ID | DPS193V02N | DPS193V03N | DPS193V04N | DPS193V05N | DPS193X01N | DPS193X02N | DPS193X03N | DPS193X04N | DPS193X05N | DPS194N01N | DPS194N02N | DPS194N02R | DPS194N03N | DPS194N04N | DPS194N05N | DPS194N06N | DPS194N07N |
| | | | Depth | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 6 - 7 ft | 7 - 8 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **6300** | **5900** | **4400** | **2500** | **3900** | **9900** | **8900** | **2300** | **2000** | **210** | **4200 J** | **7400 J** | **43000** | **12000** | **12000** | **2900** | **16000** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **150 J** | < 1700 U | < 580 U | **440 J** | **150** | < 760 U | **700 J** | < 1700 U | < 710 U | **11** | **280** | **340** | **16000** | **7900** | **2500** | **590** | **1800** |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **6600** | **6900** | **7500** | **3600** | **9000** | **21000** | **24000** | **5100** | **1600** | **310** | **11000 J** | **24000 J** | **68000** | **21000** | **19000** | **2100** | **34000** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **13000** | **9500** | **11000** | **4400** | **11000** | **23000** | **21000** | **5000** | **1600** | **540** | **12000** | **17000** | **72000** | **25000** | **24000** | **7700** | **43000** |
| BaP-TE | ug/kg | 2100 | | **12000** | **10600** | **6950** | **3210** | **8630** | **19800** | **17200** | **4200** | **2930** | **448** | **9170** | **15600** | **63100** | **22200** | **21600** | **5930** | **35100** |
| Total High-molecular-weight PAHs | ug/kg | | | **82000** | **68000** | **61000** | **27000** | **61000** | **140000** | **130000** | **30000** | **16000** | **3100** | **63000** | **110000** | **420000** | **140000** | **140000** | **46000** | **260000** |
| Total Low-molecular-weight PAHs | ug/kg | | | **11000** | **12000** | **13000** | **6900** | **15000** | **34000** | **39000** | **7400** | **2400** | **470** | **17000** | **34000** | **160000** | **40000** | **34000** | **3900** | **52000** |
| Total PAHs (sum 16) | ug/kg | | | **93000** | **80000** | **74000** | **34000** | **76000** | **170000** | **170000** | **38000** | **19000** | **3500** | **79000** | **140000** | **570000** | **180000** | **170000** | **50000** | **310000** |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-4N | SUSDP19-4N | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4W | SUSDP19-4W | SUSDP19-4W | SUSDP19-4W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/28/2018 | 3/28/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 3/28/2018 | 3/28/2018 | 3/28/2018 | 3/28/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 |
| | | | Sample ID | DPS194N10N | DPS194N11N | DPS194NW01N | DPS194NW02N | DPS194NW03N | DPS194NW04N | DPS194NW05N | DPS194NW06N | DPS194NW07N | DPS194NW10N | DPS194NW11N | DPS194W01N | DPS194W01R | DPS194W02N | DPS194W03N |
| | | | Depth | 10 - 11 ft | 11 - 12 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 6 - 7 ft | 7 - 8 ft | 10 - 11 ft | 11 - 12 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | FD | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-4N | SUSDP19-4N | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4W | SUSDP19-4W | SUSDP19-4W | SUSDP19-4W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/28/2018 | 3/28/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 3/28/2018 | 3/28/2018 | 3/28/2018 | 3/28/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 |
| | | | Sample ID | DPS194N10N | DPS194N11N | DPS194NW01N | DPS194NW02N | DPS194NW03N | DPS194NW04N | DPS194NW05N | DPS194NW06N | DPS194NW07N | DPS194NW10N | DPS194NW11N | DPS194W01N | DPS194W01R | DPS194W02N | DPS194W03N |
| | | | Depth | 10 - 11 ft | 11 - 12 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 6 - 7 ft | 7 - 8 ft | 10 - 11 ft | 11 - 12 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | FD | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | **31** | < 7.7 U | **490** | **280** | < 360 U | **1500 J** | **1600** | **420** | **2000** | **570** | < 8.7 U | **86** | **170** | **530** | **530 J** |
| Acenaphthylene | ug/kg | 4.5e+006 | | **22** | < 7.7 U | **110** | **140 J** | < 360 U | **5400** | **740 J** | < 400 U | **290 J** | **380** | < 8.7 U | **65** | **62** | **450** | < 350 U |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **95** | < 7.7 U | **2000** | **850** | **250 J** | **7500** | **6200** | **1100** | **7900** | **1000** | < 8.7 U | **190 J** | **560 J** | **2100** | **1900 J** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **410** | < 7.7 U | **3500** | **2300** | **720** | **15000** | **15000** | **2300** | **27000** | **2300** | **5.1 J** | **560 J** | **1300 J** | **6700** | **4700** |
| Benzo(a)pyrene | ug/kg | 2100 | | **410** | < 7.7 U | **2600** | **2100** | **660** | **14000** | **16000** | **2300** | **30000** | **2300** | **4.5 J** | **530 J** | **1100 J** | **6600** | **4100** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **510** | < 7.7 U | **4200** | **3400** | **880** | **22000** | **21000** | **2300** | **32000** | **2200** | **6.3 J** | **800 J** | **1700 J** | **8100** | **5500** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **300** | < 7.7 U | **1900** | **2100** | **720** | **12000** | **13000** | **1700** | **20000** | **2000** | **3.9 J** | **460** | **760** | **5700** | **2500 J** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **140** | < 7.7 U | **850** | **700** | **280 J** | **2800** | **4300** | **1100** | **15000** | **1500** | **2.6 J** | **250** | **370** | **3700** | **1800 J** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **430** | < 7.7 U | **3000** | **2000** | **560** | **13000** | **13000** | **2200** | **28000** | **2600** | **5.5 J** | **540 J** | **1200 J** | **6000** | **4100** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **58** | < 7.7 U | **440** | **530** | **320 J** | **4400** | **3000** | **360 J** | **6700** | **450** | < 8.7 U | **100** | **160** | **1300** | **790 J+** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **730** | < 7.7 U | **8600** | **4900** | **1400** | **33000** | **33000** | **5000** | **44000** | **4500** | **11** | **1200 J** | **3100 J** | **12000** | **10000** |
| Fluorene | ug/kg | 3e+006 | | **35** | < 7.7 U | **770** | **290** | < 360 U | **4200** | **2100** | **460** | **3100** | **530** | < 8.7 U | **55** | **160** | **460** | **630 J** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-4N | SUSDP19-4N | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4NW | SUSDP19-4W | SUSDP19-4W | SUSDP19-4W | SUSDP19-4W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/28/2018 | 3/28/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 3/28/2018 | 3/28/2018 | 3/28/2018 | 3/28/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 |
| | | | Sample ID | DPS194N10N | DPS194N11N | DPS194NW01N | DPS194NW02N | DPS194NW03N | DPS194NW04N | DPS194NW05N | DPS194NW06N | DPS194NW07N | DPS194NW10N | DPS194NW11N | DPS194W01N | DPS194W01R | DPS194W02N | DPS194W03N |
| | | | Depth | 10 - 11 ft | 11 - 12 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 6 - 7 ft | 7 - 8 ft | 10 - 11 ft | 11 - 12 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | FD | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **260** | < 7.7 U | **1700** | **1700** | **690** | **11000** | **12000** | **1500** | **19000** | **1600** | **3.2 J** | **410 J** | **710 J** | **4900** | **2400 J** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **15** | < 7.7 U | **230** | **220** | < 360 U | < 2800 U | **1200** | **140 J** | **750** | **250** | < 8.7 U | **67** | **58** | **150 J** | **140 J** |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **360** | < 7.7 U | **5400** | **2400** | **670** | **17000** | **14000** | **3200** | **21000** | **3100** | **6.5 J** | **430 J** | **1900 J** | **5900** | **7100** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **670** | **2.0 J+** | **5100** | **3300** | **970** | **26000** | **25000** | **4600** | **37000** | **4300** | **9.9** | **890 J** | **2000 J** | **9500** | **7100** |
| BaP-TE | ug/kg | 2100 | | **588** | < 7.70 U | **3990** | **3380** | **1210** | **23200** | **23900** | **3280** | **44700** | **3380** | **5.99** | **810** | **1640** | **9910** | **6170** |
| Total High-molecular-weight PAHs | ug/kg | | | **3900** | **2.0** | **32000** | **23000** | **7200** | **150000** | **160000** | **23000** | **260000** | **24000** | **52** | **5700** | **12000** | **65000** | **43000** |
| Total Low-molecular-weight PAHs | ug/kg | | | **560** | < 7.7 U | **9000** | **4200** | **920** | **36000** | **26000** | **5300** | **35000** | **5800** | **6.5** | **890** | **2900** | **9600** | **10000** |
| Total PAHs (sum 16) | ug/kg | | | **4500** | **2.0** | **41000** | **27000** | **8100** | **190000** | **180000** | **29000** | **290000** | **30000** | **59** | **6600** | **15000** | **74000** | **53000** |

# Table 4-7
# Subsurface Soil Results
# VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
# Benning Road Facility RI/FS Project
# 3400 Benning Road, NE
# Washington, DC 20019

| | | | Location ID | SUSDP19-4W | SUSDP19-4W | SUSDP19-5N | SUSDP19-5N | SUSDP19-5N | SUSDP19-5N | SUSDP19-5N | SUSDP19-5NW | SUSDP19-5NW | SUSDP19-5NW | SUSDP19-5NW | SUSDP19-5NW | SUSDP19-5W | SUSDP19-5W | SUSDP19-5W | SUSDP19-5W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 2/1/2018 | 2/1/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 |
| | | | Sample ID | DPS194W04N | DPS194W05N | DPS195N01N | DPS195N02N | DPS195N03N | DPS195N04N | DPS195N05N | DPS195NW01N | DPS195NW02N | DPS195NW03N | DPS195NW04N | DPS195NW05N | DPS195W01N | DPS195W02N | DPS195W03N | DPS195W04N |
| | | | Depth | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-4W | SUSDP19-4W | SUSDP19-5N | SUSDP19-5N | SUSDP19-5N | SUSDP19-5N | SUSDP19-5N | SUSDP19-5NW | SUSDP19-5NW | SUSDP19-5NW | SUSDP19-5NW | SUSDP19-5NW | SUSDP19-5W | SUSDP19-5W | SUSDP19-5W | SUSDP19-5W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 2/1/2018 | 2/1/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 |
| | | | Sample ID | DPS194W04N | DPS194W05N | DPS195N01N | DPS195N02N | DPS195N03N | DPS195N04N | DPS195N05N | DPS195NW01N | DPS195NW02N | DPS195NW03N | DPS195NW04N | DPS195NW05N | DPS195W01N | DPS195W02N | DPS195W03N | DPS195W04N |
| | | | Depth | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | < 750 U | **7.4** | **210** | **5.4 J** | **750** | **1200** | **230** | **440** | **190** | **1100** | < 1300 U | **170 J** | **140 J+** | **220** | **4300** | **38** |
| Acenaphthylene | ug/kg | 4.5e+006 | | **370 J** | **6.9 J** | **280** | **11** | **450** | **270** | **100 J** | **140 J** | **50 J** | **130** | **670 J** | **190** | **45 J+** | **39** | **350 J** | **5.9 J** |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **850** | **31** | **870** | **21** | **3600** | **3800** | **1100** | **1400** | **810** | **4800** | **1200 J** | **810** | **410 J+** | **880** | **15000** | **140** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **2100** | **100** | **2500** | **130** | **7000** | **11000** | **2800** | **4300** | **4000** | **12000** | **3000** | **2100** | **1300 J+** | **1600** | **31000** | **420** |
| Benzo(a)pyrene | ug/kg | 2100 | | **1900** | **110** | **2200** | **120** | **5700** | **9000** | **2400** | **4100** | **3300** | **10000** | **3200** | **2100** | **1100 J+** | **1300** | **25000** | **330** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **2600** | **140** | **3100** | **170** | **7500** | **12000** | **3200** | **5500** | **4300** | **14000** | **4000** | **3000** | **1600 J+** | **1900** | **31000** | **450** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **1900** | **94** | **1800** | **86** | **4300** | **6600** | **2100** | **3900** | **3400** | **9300** | **4000** | **2500** | **940 J+** | **1100** | **20000** | **290** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **850** | **48** | **1100** | **50** | **2900** | **4900** | **1100** | **1900** | **1800** | **2900** | **1300** | **590** | **460 J+** | **530** | **14000** | **130** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **1800** | **97** | **2300** | **110** | **5700** | **9300** | **2500** | **4000** | **3400** | **10000** | **2700** | **2000** | **1200 J+** | **1400** | **26000** | **380** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **730 J** | **22** | **580** | **26** | **1200** | **1600** | **510** | **940** | **740** | **2300** | **1500** | **670** | **210 J+** | **300** | **5300** | **73** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **4100** | **190** | **5300** | **200** | **16000** | **23000** | **6100** | **8000** | **5200** | **25000** | **5900** | **3900** | **2000 J+** | **2900** | **64000** | **630** |
| Fluorene | ug/kg | 3e+006 | | < 750 U | **9.8** | **150 J** | **5.6 J** | **1100** | **1300** | **170** | **360** | **150** | **1300** | < 1300 U | **180 J** | **140 J+** | **300** | **5000** | **45** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-4W | SUSDP19-4W | SUSDP19-5N | SUSDP19-5N | SUSDP19-5N | SUSDP19-5N | SUSDP19-5N | SUSDP19-5NW | SUSDP19-5NW | SUSDP19-5NW | SUSDP19-5NW | SUSDP19-5NW | SUSDP19-5W | SUSDP19-5W | SUSDP19-5W | SUSDP19-5W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 2/1/2018 | 2/1/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 | 2/21/2018 |
| | | | Sample ID | DPS194W04N | DPS194W05N | DPS195N01N | DPS195N02N | DPS195N03N | DPS195N04N | DPS195N05N | DPS195NW01N | DPS195NW02N | DPS195NW03N | DPS195NW04N | DPS195NW05N | DPS195W01N | DPS195W02N | DPS195W03N | DPS195W04N |
| | | | Depth | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **1800** | **83** | **1800** | **82** | **3900** | **6000** | **1800** | **3200** | **2700** | **7600** | **3700** | **2100** | **790 J+** | **990** | **17000** | **240** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | < 750 U | **8.5** | < 190 U | **4.0 J** | **200 J** | **430** | **63 J** | **110 J** | **160** | **190** | < 1300 U | **180 J** | **87 J+** | **100** | **970** | **21** |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **2700** | **120** | **2000** | **74** | **12000** | **14000** | **4200** | **4700** | **2700** | **16000** | **3400** | **2200** | **1700 J+** | **2900** | **54000** | **540** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **3000** | **140** | **3900** | **160** | **10000** | **14000** | **4100** | **8900** | **6400** | **18000** | **3800** | **3000** | **2300 J+** | **3400** | **68000** | **730** |
| BaP-TE | ug/kg | 2100 | | **3290** | **165** | **3530** | **185** | **8770** | **13600** | **3700** | **6360** | **5160** | **15700** | **5790** | **3500** | **1680** | **2060** | **38400** | **516** |
| Total High-molecular-weight PAHs | ug/kg | | | **21000** | **1000** | **25000** | **1100** | **64000** | **97000** | **27000** | **45000** | **35000** | **110000** | **33000** | **22000** | **12000** | **15000** | **300000** | **3700** |
| Total Low-molecular-weight PAHs | ug/kg | | | **3900** | **180** | **3500** | **120** | **18000** | **21000** | **5900** | **7200** | **4100** | **24000** | **5300** | **3700** | **2500** | **4400** | **80000** | **790** |
| Total PAHs (sum 16) | ug/kg | | | **25000** | **1200** | **28000** | **1300** | **82000** | **120000** | **32000** | **52000** | **39000** | **130000** | **38000** | **26000** | **14000** | **20000** | **380000** | **4500** |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-6N | SUSDP19-6N | SUSDP19-6N | SUSDP19-6N | SUSDP19-6NW | SUSDP19-6NW | SUSDP19-6NW | SUSDP19-6NW | SUSDP19-6NW | SUSDP19-6W | SUSDP19-6W | SUSDP19-6W | SUSDP19-7N | SUSDP19-7N | SUSDP19-7N | SUSDP19-7N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/15/2018 | 3/15/2018 | 3/15/2018 | 3/15/2018 | 3/15/2018 | 3/15/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 |
| | | | Sample ID | DPS196N01N | DPS196N02N | DPS196N03N | DPS196N04N | DPS196NW01N | DPS196NW02N | DPS196NW03N | DPS196NW04N | DPS196NW05N | DPS196W01N | DPS196W02N | DPS196W03N | DPS197N01N | DPS197N02N | DPS197N02R | DPS197N03N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft | 2 - 3 ft | 3 - 4 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | FD | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-6N | SUSDP19-6N | SUSDP19-6N | SUSDP19-6N | SUSDP19-6NW | SUSDP19-6NW | SUSDP19-6NW | SUSDP19-6NW | SUSDP19-6NW | SUSDP19-6W | SUSDP19-6W | SUSDP19-6W | SUSDP19-7N | SUSDP19-7N | SUSDP19-7N | SUSDP19-7N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/15/2018 | 3/15/2018 | 3/15/2018 | 3/15/2018 | 3/15/2018 | 3/15/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 |
| | | | Sample ID | DPS196N01N | DPS196N02N | DPS196N03N | DPS196N04N | DPS196NW01N | DPS196NW02N | DPS196NW03N | DPS196NW04N | DPS196NW05N | DPS196W01N | DPS196W02N | DPS196W03N | DPS197N01N | DPS197N02N | DPS197N02R | DPS197N03N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft | 2 - 3 ft | 3 - 4 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | FD | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | < 310 U | **810** | **460** | < 8.7 U | **160 J** | **700** | **67** | **13000** | **5400** | **2600** | **230000** | **56000** | **11000** | **66 J** | **81 J** | **210 J** |
| Acenaphthylene | ug/kg | 4.5e+006 | | **160 J** | **110 J** | **100 J** | < 8.7 U | < 390 U | **270 J** | **6.3 J** | **350 J** | **120 J** | **300** | **7500 J** | **2700 J** | **160 J** | < 200 U | < 230 U | < 230 U |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **180 J** | **3000** | **1300** | **7.4 J** | **370 J** | **2700** | **170** | **27000** | **9600** | **3900** | **480000** | **150000** | **16000** | **200** | **240** | **800 J-** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **670** | **5900** | **5200** | **9.3** | **700** | **16000** | **390** | **46000** | **16000** | **5900** | **720000** | **240000** | **24000** | **830** | **940** | **2400** |
| Benzo(a)pyrene | ug/kg | 2100 | | **760** | **5200** | **4700** | **8.1 J** | **570** | **14000** | **310** | **46000** | **14000** | **5500** | **640000** | **200000** | **19000** | **760** | **860** | **2200** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **920** | **6400** | **6000** | **9.5** | **700** | **19000** | **320** | **36000** | **17000** | **5400** | **420000** | **200000** | **23000** | **1100** | **1200** | **2800** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **700** | **4500** | **3900** | **8.3 J** | **470** | **12000** | **210** | **16000** | **8400** | **3500** | **380000** | **120000** | **13000** | **680** | **780** | **1700** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **320** | **2800** | **2300** | **4.9 J** | **330 J** | **8200** | **210** | **17000** | **6400** | **3200** | **570000** | **120000** | **8600** | **430** | **440** | **1100** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **680** | **5500** | **5200** | **8.5 J** | **700** | **16000** | **320** | **39000** | **14000** | **5400** | **620000** | **210000** | **20000** | **860** | **1000** | **2300 J-** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **200 J** | **1200** | **1200** | < 8.7 U | **110 J** | **3200** | **61** | **5300** | **2800 J-** | **1000** | **100000** | **39000** | **3700** | **170 J** | **250** | **480** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **1200** | **14000** | **11000** | **20** | **1800** | **31000** | **740** | **120000** | **37000** | **14000** | **1500000** | **480000** | **59000** | **1400** | **1400** | **4400** |
| Fluorene | ug/kg | 3e+006 | | < 310 U | **1100** | **410** | **3.0 J** | **130 J** | **580** | **78** | **15000** | **6600** | **2900** | **270000** | **87000** | **8400** | **51 J** | **59 J** | **210 J-** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-6N | SUSDP19-6N | SUSDP19-6N | SUSDP19-6N | SUSDP19-6NW | SUSDP19-6NW | SUSDP19-6NW | SUSDP19-6NW | SUSDP19-6NW | SUSDP19-6W | SUSDP19-6W | SUSDP19-6W | SUSDP19-7N | SUSDP19-7N | SUSDP19-7N | SUSDP19-7N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/15/2018 | 3/15/2018 | 3/15/2018 | 3/15/2018 | 3/15/2018 | 3/15/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 |
| | | | Sample ID | DPS196N01N | DPS196N02N | DPS196N03N | DPS196N04N | DPS196NW01N | DPS196NW02N | DPS196NW03N | DPS196NW04N | DPS196NW05N | DPS196W01N | DPS196W02N | DPS196W03N | DPS197N01N | DPS197N02N | DPS197N02R | DPS197N03N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft | 2 - 3 ft | 3 - 4 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | FD | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | 580 | 3900 | 3600 | 6.6 J | 440 | 11000 | 200 | 20000 | 8000 | 3200 | 380000 | 120000 | 12000 | 560 | 710 | 1400 |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | < 310 U | 230 J | 71 J | < 8.7 U | < 390 U | 150 J | 19 | 2800 | 2000 J- | 2100 | 100000 | 11000 | 5200 | < 200 U | 57 J | 87 J |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | 460 | 12000 | 5600 | 20 | 710 | 9500 | 570 | 74000 | 34000 | 13000 | 1400000 | 420000 | 86000 | 790 | 960 | 2600 J- |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | 910 | 9200 | 7000 | 17 | 1200 | 25000 | 610 | 69000 | 26000 | 10000 | 1200000 | 360000 | 56000 | 1600 | 1700 | 4500 |
| BaP-TE | ug/kg | 2100 | | 1180 | 8050 | 7410 | 10.7 | 868 | 21900 | 464 | 61700 | 21000 | 7990 | 898000 | 296000 | 28700 | 1180 | 1400 | 3350 |
| Total High-molecular-weight PAHs | ug/kg | | | 6900 | 59000 | 50000 | 92 | 7000 | 160000 | 3400 | 410000 | 150000 | 57000 | 6500000 | 2100000 | 240000 | 8400 | 9300 | 23000 |
| Total Low-molecular-weight PAHs | ug/kg | | | 800 | 17000 | 7900 | 30 | 1400 | 14000 | 910 | 130000 | 58000 | 25000 | 2500000 | 730000 | 130000 | 1100 | 1400 | 3900 |
| Total PAHs (sum 16) | ug/kg | | | 7700 | 76000 | 58000 | 120 | 8400 | 170000 | 4300 | 550000 | 210000 | 82000 | 9000000 | 2800000 | 370000 | 9500 | 11000 | 27000 |

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**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-7N | SUSDP19-7NW | SUSDP19-7NW | SUSDP19-7NW | SUSDP19-7NW | SUSDP19-7W | SUSDP19-7W | SUSDP19-7W | SUSDP19-7W | SUSDP19-7W | SUSDP20 | SUSDP20 | SUSDP20 | SUSDP20 | SUSDP20 | SUSDP20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 5/30/2013 | 6/12/2013 | 6/12/2013 | 1/27/2017 | 1/27/2017 | 1/30/2017 |
| | | | Sample ID | DPS197N04N | DPS197NW01N | DPS197NW02N | DPS197NW03N | DPS197NW04N | DPS197W01N | DPS197W02N | DPS197W03N | DPS197W04N | DPS197W05N | DPS2005N | DPS2010N | DPS2018N | DPS20F01N | DPS20F02-05N | DPS20F15N |
| | | | Depth | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 17.5 - 18.5 ft | 1 - 2 ft | 2 - 5 ft | 14.5 - 15.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | **7.84** | **4.66** | < 2.22 U |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | < 21 U | < 19 U | < 20 U | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | < 21 U | **28** | < 20 U | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | < 96 U | < 110 U | < 90 U | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | < 4.7 U | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | < 4.7 U | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | < 4.7 U | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | < 4.7 U | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | < 4.7 U | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | < 4.7 U | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | < 4.7 U | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | < 4.7 U | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | < 4.7 U | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | < 4.7 U | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | < 4.7 U | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | < 4.7 U | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | < 4.7 U | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | < 4.7 U | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | < 4.7 U | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | < 950 U | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | < 4.7 U | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | < 4.7 U | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | < 4.7 U | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | < 19 U | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | < 4.7 U | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | < 4.7 U | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | < 4.7 U | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | < 4.7 U | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | < 4.7 U | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | < 4.7 U | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | < 4.7 U | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | < 4.7 U | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | < 4.7 U | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | < 4.7 U | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | < 4.7 U | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | < 4.7 U | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | < 4.7 U | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | < 4.7 U | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | < 4.7 U | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | < 4.7 U | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | < 4.7 U | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | < 4.7 U | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | < 9.5 U | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | < 4.7 U | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | < 4.7 U | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | < 4.7 U | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | < 4.7 U | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | < 4.7 U | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | < 4.7 U | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | < 4.7 U | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | < 4.7 U | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | < 4.7 U | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | < 4.7 U | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | < 4.7 U | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | < 4.7 U | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | < 4.7 U | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | < 9.5 U | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-7N | SUSDP19-7NW | SUSDP19-7NW | SUSDP19-7NW | SUSDP19-7NW | SUSDP19-7W | SUSDP19-7W | SUSDP19-7W | SUSDP19-7W | SUSDP19-7W | SUSDP20 | SUSDP20 | SUSDP20 | SUSDP20 | SUSDP20 | SUSDP20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 5/30/2013 | 6/12/2013 | 6/12/2013 | 1/27/2017 | 1/27/2017 | 1/30/2017 |
| | | | Sample ID | DPS197N04N | DPS197NW01N | DPS197NW02N | DPS197NW03N | DPS197NW04N | DPS197W01N | DPS197W02N | DPS197W03N | DPS197W04N | DPS197W05N | DPS2005N | DPS2010N | DPS2018N | DPS20F01N | DPS20F02-05N | DPS20F15N |
| | | | Depth | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 17.5 - 18.5 ft | 1 - 2 ft | 2 - 5 ft | 14.5 - 15.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | **18 J** | **61** | < 200 U | **40 J** | **1200** | < 7.0 U | < 7.0 U | < 7.5 U | < 7.9 U | < 7.6 U | | | | **0.98 J** | < 8.7 U | |
| Acenaphthylene | ug/kg | 4.5e+006 | | **38** | **18** | < 200 U | **49 J** | **130** | < 7.0 U | < 7.0 U | < 7.5 U | < 7.9 U | < 7.6 U | | | | < 8.1 U | < 8.7 U | |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **74** | **140** | **120 J** | **130** | **4100** | < 7.0 U | < 7.0 U | < 7.5 U | < 7.9 U | < 7.6 U | | | | **2.5 J** | **1.1 J** | |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **340** | **610** | **260** | **430** | **6500** | < 7.0 U | < 7.0 U | < 7.5 U | < 7.9 U | < 7.6 U | | | | **14** | **9.0** | |
| Benzo(a)pyrene | ug/kg | 2100 | | **320** | **490** | **240** | **390** | **5400** | < 7.0 U | < 7.0 U | < 7.5 U | < 7.9 U | < 7.6 U | | | | **15** | **7.9 J** | |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **360** | **810** | **230** | **530** | **6200** | < 7.0 U | < 7.0 U | < 7.5 U | < 7.9 U | < 7.6 U | | | | **19** | **12** | |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **250** | **460** | **300** | **340** | **3700** | < 7.0 U | < 7.0 U | < 7.5 U | < 7.9 U | < 7.6 U | | | | **11** | **6.7 J** | |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **170** | **250** | **120 J** | **150** | **2200** | < 7.0 U | < 7.0 U | < 7.5 U | < 7.9 U | < 7.6 U | | | | **7.4 J** | **4.7 J** | |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **340** | **720** | **230** | **410** | **5300** | < 7.0 U | < 7.0 U | < 7.5 U | < 7.9 U | < 7.6 U | | | | **16** | **9.8** | |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **64** | **150** | < 200 U | < 78 U | **1000** | < 7.0 U | < 7.0 U | < 7.5 U | < 7.9 U | < 7.6 U | | | | **2.1 J** | **2.0 J** | |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **550** | **1200** | **440** | **810** | **15000** | < 7.0 U | < 7.0 U | < 7.5 U | **2.3 J** | < 7.6 U | | | | **22** | **12** | |
| Fluorene | ug/kg | 3e+006 | | **19 J** | **53** | **41 J** | **35 J** | **1400** | < 7.0 U | < 7.0 U | < 7.5 U | < 7.9 U | < 7.6 U | | | | < 8.1 U | < 8.7 U | |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19-7N | SUSDP19-7NW | SUSDP19-7NW | SUSDP19-7NW | SUSDP19-7NW | SUSDP19-7W | SUSDP19-7W | SUSDP19-7W | SUSDP19-7W | SUSDP19-7W | SUSDP20 | SUSDP20 | SUSDP20 | SUSDP20 | SUSDP20 | SUSDP20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 4/5/2018 | 5/30/2013 | 6/12/2013 | 6/12/2013 | 1/27/2017 | 1/27/2017 | 1/30/2017 |
| | | | Sample ID | DPS197N04N | DPS197NW01N | DPS197NW02N | DPS197NW03N | DPS197NW04N | DPS197W01N | DPS197W02N | DPS197W03N | DPS197W04N | DPS197W05N | DPS2005N | DPS2010N | DPS2018N | DPS20F01N | DPS20F02-05N | DPS20F15N |
| | | | Depth | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 17.5 - 18.5 ft | 1 - 2 ft | 2 - 5 ft | 14.5 - 15.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **210** | **390** | **210** | **290** | **3400** | < 7.0 U | < 7.0 U | < 7.5 U | < 7.9 U | < 7.6 U | | | | **10** | **6.1 J** | |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **11 J** | **150** | < 200 U | **22 J** | **500** | < 7.0 U | < 7.0 U | < 7.5 U | < 7.9 U | < 7.6 U | | | | < 8.1 U | < 8.7 U | |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **240** | **970** | **240** | **450** | **13000** | < 7.0 U | < 7.0 U | < 7.5 U | **2.5 J** | < 7.6 U | | | | **13** | **4.7 J** | |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **530** | **950** | **470** | **800** | **14000** | < 7.0 U | < 7.0 U | < 7.5 U | **2.0 J** | < 7.6 U | | | | **26** | **15** | |
| BaP-TE | ug/kg | 2100 | | **477** | **824** | **311** | **517** | **8040** | < 7.00 U | < 7.00 U | < 7.50 U | < 7.90 U | < 7.60 U | | | | **21.5** | **12.7** | |
| Total High-molecular-weight PAHs | ug/kg | | | **3100** | **6000** | **2500** | **4200** | **63000** | < 7 U | < 7 U | < 7.5 U | **4.3** | < 7.6 U | | | | **140** | **85** | |
| Total Low-molecular-weight PAHs | ug/kg | | | **400** | **1400** | **400** | **730** | **20000** | < 7 U | < 7 U | < 7.5 U | **2.5** | < 7.6 U | | | | **16** | **5.8** | |
| Total PAHs (sum 16) | ug/kg | | | **3500** | **7400** | **2900** | **4900** | **83000** | < 7 U | < 7 U | < 7.5 U | **6.8** | < 7.6 U | | | | **160** | **91** | |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP21 | SUSDP21 | SUSDP21 | SUSDP21-1C | SUSDP21-3A | SUSDP21-3M | SUSDP21-3M | SUSDP21-3M | SUSDP21-3M | SUSDP21-3T | SUSDP21-3T | SUSDP21-3V | SUSDP21-5W | SUSDP21-5W | SUSDP21-6W | SUSDP21-6W | SUSDP22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/27/2017 | 1/27/2017 | 2/2/2017 | 8/24/2017 | 8/25/2017 | 8/28/2017 | 8/28/2017 | 8/28/2017 | 8/28/2017 | 8/25/2017 | 8/25/2017 | 8/25/2017 | 1/26/2018 | 1/26/2018 | 2/21/2018 | 2/21/2018 | 5/22/2013 |
| | | | Sample ID | DPS21F01N | DPS21F02-05N | DPS21F05-10N | DPS211C01N | DPS213A01N | DPS213M01N | DPS213M02N | DPS213M03N | DPS213M04N | DPS213T01N | DPS213T02N | DPS213V01N | DPS215W01N | DPS215W02N | DPS216W01N | DPS216W01R | DPS2203N |
| | | | Depth | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 2.5 - 3.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | FD | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | **739** | **981** | **357** | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | < 190 U |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | **870** |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | | | < 120 U |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP21 | SUSDP21 | SUSDP21 | SUSDP21-1C | SUSDP21-3A | SUSDP21-3M | SUSDP21-3M | SUSDP21-3M | SUSDP21-3M | SUSDP21-3T | SUSDP21-3T | SUSDP21-3V | SUSDP21-5W | SUSDP21-5W | SUSDP21-6W | SUSDP21-6W | SUSDP22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/27/2017 | 1/27/2017 | 2/2/2017 | 8/24/2017 | 8/25/2017 | 8/28/2017 | 8/28/2017 | 8/28/2017 | 8/28/2017 | 8/25/2017 | 8/25/2017 | 8/25/2017 | 1/26/2018 | 1/26/2018 | 2/21/2018 | 2/21/2018 | 5/22/2013 |
| | | | Sample ID | DPS21F01N | DPS21F02-05N | DPS21F05-10N | DPS211C01N | DPS213A01N | DPS213M01N | DPS213M02N | DPS213M03N | DPS213M04N | DPS213T01N | DPS213T02N | DPS213V01N | DPS215W01N | DPS215W02N | DPS216W01N | DPS216W01R | DPS2203N |
| | | | Depth | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 2.5 - 3.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | FD | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | **380** | **110** | **83** | < 1100 U | **120** | **890** | **1500** | **880** | **260** | **340** | **150** | **4.1 J** | **230** | < 750 U | **240 J** | **56 J** | |
| Acenaphthylene | ug/kg | 4.5e+006 | | **48** | **160** | **46** | < 1100 U | **43 J** | **150 J** | **340** | **150 J** | **360** | **55** | **32 J** | **5.2 J** | **210** | < 750 U | **75 J** | **55 J** | |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **700** | **560** | **190** | < 1100 U | **340** | **2500** | **4000** | **2500** | **1100** | **1200** | **470** | **15** | **880** | < 750 U | **930 J** | **270 J** | |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **2000** | **3700** | **560** | < 1100 U | **850** | **6600** | **12000** | **8200** | **3400** | **4000** | **1600** | **98** | **3700** | < 750 U | **1800** | **1100** | |
| Benzo(a)pyrene | ug/kg | 2100 | | **1900** | **3600** | **490** | < 1100 U | **780** | **5600** | **11000** | **8100** | **2700** | **3500** | **1500** | **98** | **3300** | < 750 U | **1400** | **970** | |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **2100** | **4200** | **750** | < 1100 U | **1000** | **7200** | **13000** | **9900** | **3500** | **4400** | **1900** | **120** | **4900** | < 750 U | **1900** | **1400** | |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **1200** | **1900** | **470** | < 1100 U | **730** | **5000** | **8500** | **6700** | **1600** | **3000** | **1100** | **84** | **3200** | < 750 U | **1300** | **870** | |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **810** | **1700** | **220** | < 1100 U | **430** | **2400** | **5500** | **3300** | **1200** | **1500** | **650** | **52** | **1500** | < 750 U | **720** | **470** | |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **1900** | **3400** | **600** | < 1100 U | **940** | **6600** | **11000** | **7700** | **2800** | **3900** | **1600** | **110** | **3300** | < 750 U | **1600 J** | **950 J** | |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **350** | **460** | **150** | < 1100 U | **190** | **1400** | **1700** | **1500** | **520** | **670** | **240** | **22** | **750** | < 750 U | **350** | **220** | |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **3700** | **5000** | **1100** | **440 J** | **2200** | **14000** | **25000** | **18000** | **6000** | **7500** | **3500** | **190** | **5900** | < 750 U | **4000 J** | **2100 J** | |
| Fluorene | ug/kg | 3e+006 | | **230** | **87** | **57** | < 1100 U | **110** | **730** | **1300** | **680** | **280** | **260** | **120** | **3.7 J** | **210** | < 750 U | **280 J** | **63 J** | |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP21 | SUSDP21 | SUSDP21 | SUSDP21-1C | SUSDP21-3A | SUSDP21-3M | SUSDP21-3M | SUSDP21-3M | SUSDP21-3M | SUSDP21-3T | SUSDP21-3T | SUSDP21-3V | SUSDP21-5W | SUSDP21-5W | SUSDP21-6W | SUSDP21-6W | SUSDP22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/27/2017 | 1/27/2017 | 2/2/2017 | 8/24/2017 | 8/25/2017 | 8/28/2017 | 8/28/2017 | 8/28/2017 | 8/28/2017 | 8/25/2017 | 8/25/2017 | 8/25/2017 | 1/26/2018 | 1/26/2018 | 2/21/2018 | 2/21/2018 | 5/22/2013 |
| | | | Sample ID | DPS21F01N | DPS21F02-05N | DPS21F05-10N | DPS211C01N | DPS213A01N | DPS213M01N | DPS213M02N | DPS213M03N | DPS213M04N | DPS213T01N | DPS213T02N | DPS213V01N | DPS215W01N | DPS215W02N | DPS216W01N | DPS216W01R | DPS2203N |
| | | | Depth | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 2.5 - 3.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | FD | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **1200** | **1800** | **450** | < 1100 U | **650** | **4300** | **7200** | **5900** | **1500** | **2700** | **950** | **76** | **2800** | < 750 U | **1200** | **740** | |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **230** | **28 J** | **99** | < 1100 U | **81** | **160 J** | **240 J** | **110 J** | **130 J** | **90** | **38 J** | < 7.1 U | **78** | < 750 U | **93 J** | < 74 U | |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **2400** | **1400** | **830** | < 1100 U | **1500** | **10000** | **16000** | **9900** | **3500** | **4900** | **1700** | **55** | **3600** | < 750 U | **3200 J** | **940 J** | |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **3100** | **4000** | **840** | < 1100 U | **1400** | **13000** | **19000** | **14000** | **5100** | **6500** | **2600** | **130** | **5900** | < 750 U | **2700 J** | **1400 J** | |
| BaP-TE | ug/kg | 2100 | | **2790** | **5050** | **819** | < 1100 U | **1230** | **8840** | **16000** | **12000** | **4070** | **5300** | **2190** | **150** | **5210** | < 750 U | **2250** | **1520** | |
| Total High-molecular-weight PAHs | ug/kg | | | **18000** | **30000** | **5600** | **440** | **9200** | **66000** | **110000** | **83000** | **28000** | **38000** | **16000** | **980** | **35000** | < 750 U | **17000** | **10000** | |
| Total Low-molecular-weight PAHs | ug/kg | | | **4000** | **2300** | **1300** | < 1100 U | **2200** | **14000** | **23000** | **14000** | **5600** | **6800** | **2500** | **83** | **5200** | < 750 U | **4800** | **1400** | |
| Total PAHs (sum 16) | ug/kg | | | **22000** | **32000** | **6900** | **440** | **11000** | **81000** | **140000** | **98000** | **34000** | **45000** | **18000** | **1100** | **40000** | < 750 U | **22000** | **12000** | |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP22 | SUSDP22 | SUSDP23 | SUSDP23 | SUSDP23 | SUSDP24 | SUSDP24 | SUSDP24 | SUSDP24 | SUSDP24 | SUSDP37 | SUSDP37 | SUSDP37 | SUSDP37 | SUSDP37 | SUSDP37 | SUSDP39 | SUSDP39 | SUSDP39 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/12/2013 | 6/12/2013 | 5/28/2013 | 6/12/2013 | 6/12/2013 | 5/20/2013 | 5/20/2013 | 6/4/2013 | 6/4/2013 | 6/4/2013 | 5/16/2013 | 5/23/2013 | 5/23/2013 | 6/10/2013 | 1/25/2017 | 1/25/2017 | 5/17/2013 | 5/22/2013 | 5/22/2013 |
| | | | Sample ID | DPS2210N | DPS2215N | DPS2305N | DPS2310N | DPS2315N | DPS2405N | DPS2405R | DPS2410N | DPS2415N | DPS2410R | DPS3703N | DPS3710N | DPS3715N | DPS3710N2 | DPS37F01N | DPS37F02-05N | DPS3903N | DPS3910N | DPS3915N |
| | | | Depth | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 1 - 2 ft | 2 - 5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft |
| | | | Type | N | N | N | N | N | N | FD | N | N | FD | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | | **1550** | **68.2** | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | < 20 U | < 21 U | < 18 U | < 20 U | < 21 U | < 18 U | < 18 U | < 18 U | < 19 U | < 19 U | **15 J** | < 18 U | < 18 U | | | | **320** | **27** | < 20 U |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | < 20 U | **33** | < 18 U | < 20 U | < 21 U | **11 J** | < 18 U | < 18 U | < 19 U | < 19 U | **180** | < 18 U | < 18 U | | | | **1700** | **180** | **28** |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | < 94 U | < 98 U | < 100 U | < 86 U | < 89 U | < 90 UJ | < 89 UJ | < 100 U | < 93 U | < 100 U | < 90 UJ | < 100 U | < 110 U | | | | **25000** | < 83 U | < 77 U |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 1,2-Dibromoethane | ug/kg | 160 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 1,4-Dioxane | ug/kg | 24000 | | < 1000 U | | | < 890 U | | < 1200 U | < 1100 U | | | | | | | < 890 U | | | < 880 U | | |
| 2-Butanone | ug/kg | 1.9e+007 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 2-Hexanone | ug/kg | 130000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Acetone | ug/kg | 6.7e+007 | | < 20 U | | | < 18 U | | < 24 U | < 22 U | | | | | | | < 18 U | | | < 18 U | | |
| Benzene | ug/kg | 5100 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Bromochloromethane | ug/kg | 63000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Bromodichloromethane | ug/kg | 1300 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Bromoform | ug/kg | 86000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Bromomethane | ug/kg | 3000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Carbon Disulfide | ug/kg | 350000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Carbon Tetrachloride | ug/kg | 2900 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Chlorobenzene | ug/kg | 130000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Chloroethane | ug/kg | 5.7e+006 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Chloroform | ug/kg | 1400 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Chloromethane | ug/kg | 46000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Cyclohexane | ug/kg | 2.7e+006 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Dibromochloromethane | ug/kg | 39000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Ethylbenzene | ug/kg | 25000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Isopropylbenzene | ug/kg | 990000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | **0.77 J** | | |
| m, p-Xylene | ug/kg | 240000 | | < 10 U | | | < 8.9 U | | < 12 U | < 11 U | | | | | | | < 8.9 U | | | **4.8 J** | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Methylene Chloride | ug/kg | 320000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| o-Xylene | ug/kg | 280000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | **3.5 J** | | |
| Styrene | ug/kg | 3.5e+006 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Tetrachloroethylene | ug/kg | 39000 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | **4.2 J** | | |
| Toluene | ug/kg | 4.7e+006 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Trichloroethene | ug/kg | 1900 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Vinyl Chloride | ug/kg | 1700 | | < 5.0 U | | | < 4.4 U | | < 5.9 U | < 5.5 U | | | | | | | < 4.4 U | | | < 4.4 U | | |
| Xylenes (total) | ug/kg | 250000 | | < 10 U | | | < 8.9 U | | < 12 U | < 11 U | | | | | | | < 8.9 U | | | **8.3** | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP22 | SUSDP22 | SUSDP23 | SUSDP23 | SUSDP23 | SUSDP24 | SUSDP24 | SUSDP24 | SUSDP24 | SUSDP24 | SUSDP37 | SUSDP37 | SUSDP37 | SUSDP37 | SUSDP37 | SUSDP37 | SUSDP39 | SUSDP39 | SUSDP39 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/12/2013 | 6/12/2013 | 5/28/2013 | 6/12/2013 | 6/12/2013 | 5/20/2013 | 5/20/2013 | 6/4/2013 | 6/4/2013 | 6/4/2013 | 5/16/2013 | 5/23/2013 | 5/23/2013 | 6/10/2013 | 1/25/2017 | 1/25/2017 | 5/17/2013 | 5/22/2013 | 5/22/2013 |
| | | | Sample ID | DPS2210N | DPS2215N | DPS2305N | DPS2310N | DPS2315N | DPS2405N | DPS2405R | DPS2410N | DPS2415N | DPS2410R | DPS3703N | DPS3710N | DPS3715N | DPS3710N2 | DPS37F01N | DPS37F02-05N | DPS3903N | DPS3910N | DPS3915N |
| | | | Depth | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 1 - 2 ft | 2 - 5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft |
| | | | Type | N | N | N | N | N | N | FD | N | N | FD | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | | | | | | < 7.3 U | < 7.3 U | < 7.2 U | < 7.4 U | < 7.5 U | **8.7 J** | < 7.2 U | < 7.0 U | | < 190 U | **8.0** | **83** | **75** | < 7.9 U |
| Acenaphthylene | ug/kg | 4.5e+006 | | | | | | | < 7.3 U | < 7.3 U | < 7.2 U | < 7.4 U | < 7.5 U | **19 J** | < 7.2 U | < 7.0 U | | **56 J** | **9.8** | **27** | **220** | < 7.9 U |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | | | | | | < 7.3 U | < 7.3 U | < 7.2 U | < 7.4 U | < 7.5 U | **33 J** | < 7.2 U | < 7.0 U | | **90 J** | **25** | **67** | **430** | **2.5 J** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | | | | | | < 7.3 U | < 7.3 U | < 7.2 U | < 7.4 U | < 7.5 U | **170** | < 7.2 U | < 7.0 U | | **210** | **81** | **150** | **1300** | **9.4** |
| Benzo(a)pyrene | ug/kg | 2100 | | | | | | | < 7.3 U | < 7.3 U | < 7.2 U | < 7.4 U | < 7.5 U | **180** | < 7.2 U | < 7.0 U | | **190** | **66** | < 7.6 U | **1400** | **9.9** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | | | | | | **4.0 J** | < 7.3 U | < 7.2 U | < 7.4 U | < 7.5 U | **130** | < 7.2 U | < 7.0 U | | **220** | **99** | **46** | **1300** | **11** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | | | | | | < 7.3 U | < 7.3 U | < 7.2 U | < 7.4 U | < 7.5 U | **140** | < 7.2 U | < 7.0 U | | **200** | **64** | < 7.6 U | **980** | **7.2 J** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | | | | | | < 7.3 U | < 7.3 U | < 7.2 U | < 7.4 U | < 7.5 U | **130** | < 7.2 U | < 7.0 U | | **86 J** | **27** | **71** | **560** | **3.4 J** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | | | | | | < 7.3 U | < 7.3 U | < 7.2 U | < 7.4 U | < 7.5 U | **190** | < 7.2 U | < 7.0 U | | **260** | **91** | **140** | **1300** | **9.8** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | | | | | | < 7.3 U | < 7.3 U | < 7.2 U | < 7.4 U | < 7.5 U | **49** | < 7.2 U | < 7.0 U | | < 190 U | **17** | < 7.6 U | **290** | < 7.9 U |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | | | | | | **7.5** | **10** | **1.3 J** | < 7.4 U | < 7.5 U | **260** | < 7.2 U | < 7.0 U | | **380** | **150** | **550** | **3000** | **18** |
| Fluorene | ug/kg | 3e+006 | | | | | | | < 7.3 U | < 7.3 U | < 7.2 U | < 7.4 U | < 7.5 U | **9.4 J** | < 7.2 U | < 7.0 U | | **38 J** | **9.4** | **65** | **110** | < 7.9 U |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | | | |

| | | | Location ID | SUSDP22 | SUSDP22 | SUSDP23 | SUSDP23 | SUSDP23 | SUSDP24 | SUSDP24 | SUSDP24 | SUSDP24 | SUSDP24 | SUSDP37 | SUSDP37 | SUSDP37 | SUSDP37 | SUSDP37 | SUSDP37 | SUSDP39 | SUSDP39 | SUSDP39 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/12/2013 | 6/12/2013 | 5/28/2013 | 6/12/2013 | 6/12/2013 | 5/20/2013 | 5/20/2013 | 6/4/2013 | 6/4/2013 | 6/4/2013 | 5/16/2013 | 5/23/2013 | 5/23/2013 | 6/10/2013 | 1/25/2017 | 1/25/2017 | 5/17/2013 | 5/22/2013 | 5/22/2013 |
| | | | Sample ID | DPS2210N | DPS2215N | DPS2305N | DPS2310N | DPS2315N | DPS2405N | DPS2405R | DPS2410N | DPS2415N | DPS2410R | DPS3703N | DPS3710N | DPS3715N | DPS3710N2 | DPS37F01N | DPS37F02-05N | DPS3903N | DPS3910N | DPS3915N |
| | | | Depth | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 1 - 2 ft | 2 - 5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft |
| | | | Type | N | N | N | N | N | N | FD | N | N | FD | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | | | | | | < 7.3 U | < 7.3 U | < 7.2 U | < 7.4 U | < 7.5 U | **110** | < 7.2 U | < 7.0 U | | **120 J** | **54** | < 7.6 U | **870** | **6.6 J** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | | | | | | < 7.3 U | < 7.3 U | < 7.2 U | < 7.4 U | < 7.5 U | **12 J** | < 7.2 U | < 7.0 U | | **100 J** | **26** | **410** | **61** | < 7.9 U |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | | | | | | < 7.3 U | **7.1 J** | **1.4 J** | < 7.4 U | < 7.5 U | **130** | < 7.2 U | < 7.0 U | | **270** | **82** | **270** | **1300** | **11** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | | | | | | **5.2 J** | **6.2 J** | **0.87 J** | < 7.4 U | < 7.5 U | **250** | < 7.2 U | < 7.0 U | | **330** | **110** | **370** | **1900** | **12** |
| BaP-TE | ug/kg | 2100 | | | | | | | **0.400** | < 7.30 U | < 7.20 U | < 7.40 U | < 7.50 U | **271** | < 7.20 U | < 7.00 U | | **246** | **107** | **20.5** | **2040** | **12.6** |
| Total High-molecular-weight PAHs | ug/kg | | | | | | | | **17** | **16** | **2.2** | < 7.4 U | < 7.5 U | **1600** | < 7.2 U | < 7.0 U | | **2000** | **760** | **1300** | **13000** | **87** |
| Total Low-molecular-weight PAHs | ug/kg | | | | | | | | < 7.3 U | **7.1** | **1.4** | < 7.4 U | < 7.5 U | **210** | < 7.2 U | < 7.0 U | | **550** | **160** | **920** | **2200** | **14** |
| Total PAHs (sum 16) | ug/kg | | | | | | | | **17** | **23** | **3.6** | < 7.4 U | < 7.5 U | **1800** | < 7.2 U | < 7.0 U | | **2600** | **920** | **2200** | **15000** | **100** |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SUSDP39 | SUSDP39 | SUSDP39 | SUSDP39 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP43 | SUSDP43 | SUSDP43 | SUSDP43 | SUSDP43 | SUSDP43 |
| | | | Sample Date | 1/25/2017 | 1/25/2017 | 1/26/2017 | 1/26/2017 | 5/22/2013 | 5/24/2013 | 5/24/2013 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 5/17/2013 | 6/7/2013 | 6/7/2013 | 1/26/2017 | 1/26/2017 | 1/30/2017 |
| | | | Sample ID | DPS39F01N | DPS39F02-05N | DPS39F05-10N | DPS39F10-15N | DPS4103N | DPS41 10N | DPS41 15N | DPS41F01N | DPS41F02-05N | DPS41F05-10N | DPS41F10-15N | DPS4304N | DPS4310N | DPS4315N | DPS43F01N | DPS43F02-05N | DPS43F05-10N |
| | | | Depth | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 3.5 - 4.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | **3590** | **1270** | **4.72** | < 2.52 U | | | | **473** | **617** | **487** | **14.5** | | | | **691** | **566** | **330** |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | < 200 U | **160** | < 18 U | | | | | < 20 U | < 20 U | **150 J** | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | **550** | **370** | < 18 U | | | | | **22** | **18 J** | **770 J** | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | < 110 U | < 150 U | < 100 U | | | | | < 92 UJ | < 96 UJ | < 100 UJ | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | < 890 U | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | < 18 U | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | < 8.9 U | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | < 4.5 U | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | < 4.5 U | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | < 4.5 U | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | < 8.9 U | | | | |

Table 4-7
Subsurface Soil Results
VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
Benning Road Facility RI/FS Project
3400 Benning Road, NE
Washington, DC 20019

| | | | Location ID | SUSDP39 | SUSDP39 | SUSDP39 | SUSDP39 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP43 | SUSDP43 | SUSDP43 | SUSDP43 | SUSDP43 | SUSDP43 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/25/2017 | 1/25/2017 | 1/26/2017 | 1/26/2017 | 5/22/2013 | 5/24/2013 | 5/24/2013 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 5/17/2013 | 6/7/2013 | 6/7/2013 | 1/26/2017 | 1/26/2017 | 1/30/2017 |
| | | | Sample ID | DPS39F01N | DPS39F02-05N | DPS39F05-10N | DPS39F10-15N | DPS4103N | DPS41 10N | DPS41 15N | DPS41F01N | DPS41F02-05N | DPS41F05-10N | DPS41F10-15N | DPS4304N | DPS4310N | DPS4315N | DPS43F01N | DPS43F02-05N | DPS43F05-10N |
| | | | Depth | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 3.5 - 4.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | < 14 U | < 7.1 U | **9.8** | < 9.1 U | **110** | **220** | < 7.2 U | **54 J** | **150** | **210** | **2.0 J** | | | | **120** | **2900** | **64** |
| Acenaphthylene | ug/kg | 4.5e+006 | | < 14 U | < 7.1 U | **1.0 J** | < 9.1 U | **88** | **50** | < 7.2 U | **110** | **55 J** | **90** | **1.2 J** | | | | **45 J** | **180** | **18 J** |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **150** | < 7.1 U | **24** | < 9.1 U | **310** | **340** | < 7.2 U | **230** | **430** | **480** | **4.7 J** | | | | **360** | **4900** | **150** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **260** | **5.1 J** | **57** | **1.5 J** | **1100** | **570** | < 7.2 U | **890** | **1100** | **780** | **19** | | | | **1100** | **7000** | **350** |
| Benzo(a)pyrene | ug/kg | 2100 | | **1300** | **9.0** | **51** | < 9.1 U | **990** | **530** | < 7.2 U | **680** | **720** | **580** | **12** | | | | **950** | **6500** | **350** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **2300** | **13** | **63** | < 9.1 U | **890** | **540** | < 7.2 U | **880** | **920** | **750** | **17** | | | | **1400** | **7800** | **420** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **1000** | **8.3** | **29 J** | < 9.1 U | **720** | **400** | < 7.2 U | **570** | **530** | **450** | **11** | | | | **640** | **4100** | **250** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | < 14 U | **3.1 J** | **23** | < 9.1 U | **470** | **200** | < 7.2 U | **260** | **380** | **280** | **6.9 J** | | | | **440** | **2900** | **170** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **640** | **7.2** | **55** | **1.1 J** | **1100** | **580** | < 7.2 U | **830** | **1100** | **720** | **18** | | | | **1100** | **6400** | **360** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **310** | < 7.1 U | **8.1 J** | < 9.1 U | **180** | **99** | < 7.2 U | **160** | **160** | **140** | < 7.2 U | | | | **160** | **1100** | **59** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **600** | **12** | **120** | **1.2 J** | **2100** | **1500** | < 7.2 U | **1600** | **2400** | **2000** | **33** | | | | **2000** | **16000** | **660** |
| Fluorene | ug/kg | 3e+006 | | **27** | < 7.1 U | **9.4** | < 9.1 U | **89** | **170** | < 7.2 U | **56 J** | **190** | **260** | **2.0 J** | | | | **120** | **2500** | **57** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP39 | SUSDP39 | SUSDP39 | SUSDP39 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP43 | SUSDP43 | SUSDP43 | SUSDP43 | SUSDP43 | SUSDP43 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/25/2017 | 1/25/2017 | 1/26/2017 | 1/26/2017 | 5/22/2013 | 5/24/2013 | 5/24/2013 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 5/17/2013 | 6/7/2013 | 6/7/2013 | 1/26/2017 | 1/26/2017 | 1/30/2017 |
| | | | Sample ID | DPS39F01N | DPS39F02-05N | DPS39F05-10N | DPS39F10-15N | DPS4103N | DPS41 10N | DPS41 15N | DPS41F01N | DPS41F02-05N | DPS41F05-10N | DPS41F10-15N | DPS4304N | DPS4310N | DPS4315N | DPS43F01N | DPS43F02-05N | DPS43F05-10N |
| | | | Depth | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 3.5 - 4.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **1000** | **6.5 J** | **28** | < 9.1 U | **630** | **340** | < 7.2 U | **460** | **460** | **390** | **9.9** | | | | **630** | **3600** | **240** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **27** | < 7.1 U | **3.2 J** | **0.91 J** | **89** | **280** | < 7.2 U | **48 J** | **80** | **180** | **2.0 J** | | | | **150** | **830** | **63** |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **270** | < 7.1 U | **81** | < 9.1 U | **1000** | **1700** | < 7.2 U | **830** | **1500** | **2000** | **18** | | | | **1300** | **16000** | **560** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **1300** | **32** | **100** | < 9.1 U | **1700** | **1100** | < 7.2 U | **1400** | **1600** | **1400** | **28** | | | | **1700** | **13000** | **690** |
| BaP-TE | ug/kg | 2100 | | **1970** | **11.5** | **74.2** | **0.151** | **1440** | **777** | < 7.20 U | **1070** | **1130** | **916** | **16.7** | | | | **1430** | **9480** | **512** |
| Total High-molecular-weight PAHs | ug/kg | | | **8700** | **96** | **530** | **3.8** | **9900** | **5900** | < 7.2 U | **7700** | **9400** | **7500** | **150** | | | | **10000** | **68000** | **3500** |
| Total Low-molecular-weight PAHs | ug/kg | | | **470** | < 7.1 U | **130** | **0.91** | **1700** | **2800** | < 7.2 U | **1300** | **2400** | **3200** | **30** | | | | **2100** | **27000** | **910** |
| Total PAHs (sum 16) | ug/kg | | | **9200** | **96** | **660** | **4.7** | **12000** | **8600** | < 7.2 U | **9100** | **12000** | **11000** | **180** | | | | **12000** | **96000** | **4500** |

**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP43 | SUSDP43-2J | SUSDP43-2J | SUSDP43-2J | SUSDP43-2J | SUSDP43-2M | SUSDP43-2M | SUSDP43-2M | SUSDP43-2M | SUSDP43-3A | SUSDP43-3A | SUSDP43-3A | SUSDP43-3A | SUSDP43-3P | SUSDP43-3P | SUSDP43-3T | SUSDP43-4NW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/30/2017 | 8/8/2017 | 8/8/2017 | 8/8/2017 | 8/8/2017 | 8/9/2017 | 8/9/2017 | 8/9/2017 | 8/9/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 1/30/2018 | 1/30/2018 | 1/30/2018 | 2/23/2018 |
| | | | Sample ID | DPS43F10-15N | DPS432J01N | DPS432J02N | DPS432J03N | DPS432J04N | DPS432M01N | DPS432M02N | DPS432M03N | DPS432M04N | DPS433A01N | DPS433A02N | DPS433A03N | DPS433A04N | DPS433P01N | DPS433P02N | DPS433T01N | DPS434NW01N |
| | | | Depth | 10 - 15 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | **258** | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | **360** | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | **1100** | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP43 | SUSDP43-2J | SUSDP43-2J | SUSDP43-2J | SUSDP43-2J | SUSDP43-2M | SUSDP43-2M | SUSDP43-2M | SUSDP43-2M | SUSDP43-3A | SUSDP43-3A | SUSDP43-3A | SUSDP43-3A | SUSDP43-3P | SUSDP43-3P | SUSDP43-3T | SUSDP43-4NW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/30/2017 | 8/8/2017 | 8/8/2017 | 8/8/2017 | 8/8/2017 | 8/9/2017 | 8/9/2017 | 8/9/2017 | 8/9/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 1/30/2018 | 1/30/2018 | 1/30/2018 | 2/23/2018 |
| | | | Sample ID | DPS43F10-15N | DPS432J01N | DPS432J02N | DPS432J03N | DPS432J04N | DPS432M01N | DPS432M02N | DPS432M03N | DPS432M04N | DPS433A01N | DPS433A02N | DPS433A03N | DPS433A04N | DPS433P01N | DPS433P02N | DPS433T01N | DPS434NW01N |
| | | | Depth | 10 - 15 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | **32 J** | **2200** | **42** | **2.7 J** | **4.6 J** | **1200** | **12** | **15** | < 8.2 U | **14** | **5.4 J** | **48** | **32** | **240000** | **130 J** | **68** | **860** |
| Acenaphthylene | ug/kg | 4.5e+006 | | **29 J** | **220** | **22** | **6.2 J** | **5.4 J** | **84 J** | **13** | **15** | < 8.2 U | **8.5** | < 8.2 U | **7.3 J** | **11** | < 11000 U | **120 J** | **250** | **140** |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **110** | **5200** | **160** | **8.4** | **17** | **3600** | **40** | **59** | **3.1 J** | **34** | **9.8** | **63** | **67** | **440000** | **440** | **540** | **2100** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **430** | **15000** | **670** | **49** | **73** | **11000** | **200** | **130** | **17** | **110** | **23** | **61** | **130** | **530000** | **2100** | **1100** | **5200** |
| Benzo(a)pyrene | ug/kg | 2100 | | **440** | **13000** | **630** | **47** | **76** | **9700** | **200** | **110** | **21** | **96** | **23** | **50** | **120** | **420000** | **2100** | **1100** | **4300** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **530** | **14000** | **730** | **53** | **89** | **14000** | **230** | **140** | **21** | **140** | **33** | **78** | **180** | **510000** | **2700** | **1900** | **6500** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **350** | **10000** | **640** | **45** | **74** | **6300** | **160** | **88** | **18** | **76** | **15** | **37** | **84** | **260000** | **1800** | **1500** | **3000** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **200** | **6100** | **300** | **31** | **40** | **4200** | **82** | **40** | **9.0** | **52** | **13** | **31** | **73** | **200000** | **1100** | **590** | **1800** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **440** | **14000** | **690** | **53** | **78** | **10000** | **200** | **120** | **17** | **150** | **33** | **86** | **190** | **450000** | **2000** | **1100** | **4700** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **100** | **2300** | **150** | **12** | **18** | **1200** | **44** | **21** | **5.3 J** | **20** | < 8.2 U | < 8.0 U | **25** | **62000** | **500** | **390** | **840** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **700** | **30000** | **1500** | **85** | **150** | **19000** | **350** | **290** | **26** | **290** | **47** | **190** | **300** | **1500000** | **3700** | **2100** | **10000** |
| Fluorene | ug/kg | 3e+006 | | **35 J** | **1700** | **34** | < 8.1 U | **5.5 J** | **1000** | **11** | **17** | < 8.2 U | **24** | **5.7 J** | **71** | **45** | **220000** | **120 J** | **74** | **660** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP43 | SUSDP43-2J | SUSDP43-2J | SUSDP43-2J | SUSDP43-2J | SUSDP43-2M | SUSDP43-2M | SUSDP43-2M | SUSDP43-2M | SUSDP43-3A | SUSDP43-3A | SUSDP43-3A | SUSDP43-3A | SUSDP43-3P | SUSDP43-3P | SUSDP43-3T | SUSDP43-4NW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/30/2017 | 8/8/2017 | 8/8/2017 | 8/8/2017 | 8/8/2017 | 8/9/2017 | 8/9/2017 | 8/9/2017 | 8/9/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 1/30/2018 | 1/30/2018 | 1/30/2018 | 2/23/2018 |
| | | | Sample ID | DPS43F10-15N | DPS432J01N | DPS432J02N | DPS432J03N | DPS432J04N | DPS432M01N | DPS432M02N | DPS432M03N | DPS432M04N | DPS433A01N | DPS433A02N | DPS433A03N | DPS433A04N | DPS433P01N | DPS433P02N | DPS433T01N | DPS434NW01N |
| | | | Depth | 10 - 15 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | 320 | 9100 | 520 | 41 | 63 | 5500 | 150 | 82 | 16 | 67 | 14 | 35 | 80 | 260000 | 1500 | 1100 | 2700 |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | 30 J | 460 | 8.4 | < 8.1 U | < 7.8 U | 410 | 9.1 | 3.9 J | < 8.2 U | 48 | 14 | 45 | 58 | 130000 | < 320 U | 92 | 360 |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | 360 | 20000 | 620 | 33 | 73 | 13000 | 130 | 190 | 7.8 J | 150 | 33 | 170 | 180 | 1700000 | 1700 | 1000 | 7900 |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | 720 | 28000 | 1100 | 66 | 110 | 19000 | 270 | 200 | 21 | 200 | 36 | 130 | 220 | 980000 | 3300 | 1500 | 6900 |
| BaP-TE | ug/kg | 2100 | | 670 | 19200 | 976 | 73.7 | 117 | 14000 | 303 | 167 | 31.8 | 148 | 30.2 | 67.8 | 185 | 614000 | 3240 | 1910 | 6600 |
| Total High-molecular-weight PAHs | ug/kg | | | 4200 | 140000 | 6900 | 480 | 770 | 100000 | 1900 | 1200 | 170 | 1200 | 240 | 700 | 1400 | 5200000 | 21000 | 12000 | 46000 |
| Total Low-molecular-weight PAHs | ug/kg | | | 600 | 30000 | 890 | 50 | 110 | 19000 | 220 | 300 | 11 | 280 | 68 | 400 | 390 | 2700000 | 2500 | 2000 | 12000 |
| Total PAHs (sum 16) | ug/kg | | | 4800 | 170000 | 7800 | 530 | 880 | 120000 | 2100 | 1500 | 180 | 1500 | 300 | 1100 | 1800 | 7900000 | 23000 | 14000 | 58000 |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP43-4NW | SUSDP43-4SW | SUSDP43-4SW | SUSDP43-5NW | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP48 | SUSDP48 | SUSDP48 | SUSDP48 | SUSDP48 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 2/23/2018 | 2/23/2018 | 2/23/2018 | 3/15/2018 | 5/21/2013 | 6/10/2013 | 6/10/2013 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/27/2017 |
| | | | Sample ID | DPS434NW02N | DPS434SW01N | DPS434SW02N | DPS435NW01N | DPS4403N | DPS4410N | DPS4415N | DPS44F01N | DPS44F01R | DPS44F02-05N | DPS44F02-05R | DPS48F01N | DPS48F01R | DPS48F02-05N | DPS48F02-05R | DPS48F05-10N |
| | | | Depth | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 2.5 - 3.5 ft | 3.5 - 5 ft | 3.5 - 5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 5 ft | 2 - 5 ft | 5 - 10 ft |
| | | | Type | N | N | N | N | N | N | N | N | FD | N | FD | N | FD | N | FD | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | **2000** | **1520** | **56.8 J** | **16.6 J** | **23.9** | **26.8** | **199** | **254** | **303** |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | **67 J** | < 18 U | < 21 U | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | **770** | < 18 U | < 21 U | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | < 87 UJ | < 96 U | < 91 U | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | < 4.2 U | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | < 4.2 U | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | < 4.2 U | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | < 4.2 U | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | < 4.2 U | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | < 4.2 U | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | < 4.2 U | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | < 4.2 U | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | < 4.2 U | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | < 4.2 U | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | < 4.2 U | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | < 4.2 U | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | < 4.2 U | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | < 4.2 U | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | < 4.2 U | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | < 830 U | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | < 4.2 U | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | < 4.2 U | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | < 4.2 U | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | **7.8 J** | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | < 4.2 U | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | < 4.2 U | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | < 4.2 U | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | < 4.2 U | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | < 4.2 U | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | < 4.2 U | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | < 4.2 U | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | < 4.2 U | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | < 4.2 U | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | < 4.2 U | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | < 4.2 U | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | < 4.2 U | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | < 4.2 U | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | < 4.2 U | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | < 4.2 U | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | < 4.2 U | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | < 4.2 U | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | < 4.2 U | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | < 8.3 U | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | < 4.2 U | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | < 4.2 U | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | < 4.2 U | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | < 4.2 U | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | < 4.2 U | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | < 4.2 U | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | < 4.2 U | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | < 4.2 U | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | < 4.2 U | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | < 4.2 U | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | < 4.2 U | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | < 4.2 U | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | < 4.2 U | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | < 8.3 U | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP43-4NW | SUSDP43-4SW | SUSDP43-4SW | SUSDP43-5NW | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP48 | SUSDP48 | SUSDP48 | SUSDP48 | SUSDP48 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 2/23/2018 | 2/23/2018 | 2/23/2018 | 3/15/2018 | 5/21/2013 | 6/10/2013 | 6/10/2013 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/27/2017 |
| | | | Sample ID | DPS434NW02N | DPS434SW01N | DPS434SW02N | DPS435NW01N | DPS4403N | DPS4410N | DPS4415N | DPS44F01N | DPS44F01R | DPS44F02-05N | DPS44F02-05R | DPS48F01N | DPS48F01R | DPS48F02-05N | DPS48F02-05R | DPS48F05-10N |
| | | | Depth | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 2.5 - 3.5 ft | 3.5 - 5 ft | 3.5 - 5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 5 ft | 2 - 5 ft | 5 - 10 ft |
| | | | Type | N | N | N | N | N | N | N | N | FD | N | FD | N | FD | N | FD | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | **28** | **150** | **31** | < 7.6 U | | | | **110** | **120** | **0.87 J** | **0.85 J** | < 8.1 U | < 7.4 U | **60** | **30 J** | **24 J** |
| Acenaphthylene | ug/kg | 4.5e+006 | | **4.8 J** | **150** | **160** | < 7.6 U | | | | **17 J** | **22 J** | **0.99 J** | < 7.7 U | < 8.1 U | < 7.4 U | **40** | **24 J** | **26 J** |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **15** | **1300** | **190** | **2.4 J** | | | | **210** | **240** | **1.9 J** | **2.8 J** | **4.4 J** | < 7.4 U | **170** | **110** | **97** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **26** | **770** | **260** | **8.7** | | | | **1100** | **1200** | **8.2** | **17** | **37 J** | **2.0 J** | **560** | **390** | **270** |
| Benzo(a)pyrene | ug/kg | 2100 | | **24** | **750** | **280** | **9.3** | | | | **1100** | **1200** | **9.3** | **18** | **24 J** | < 7.4 U | **580** | **420** | **260** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **39** | **1400** | **480** | **12** | | | | **1500** | **1800** | **16** | **27** | **37 J** | **3.7 J** | **750** | **540** | **400** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **18** | **630** | **340** | **7.7** | | | | **720** | **850** | **7.6 J** | **14** | **17 J** | **1.3 J** | **380** | **270** | **210** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **10** | **390** | **130** | **5.8 J** | | | | **500** | **580** | **5.1 J** | **9.4** | **20 J** | **1.8 J** | **330** | **240** | **120** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **27** | **890** | **300** | **8.9** | | | | **1200** | **1400** | **12** | **19** | **37 J** | **2.5 J** | **620** | **420** | **290** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **8.3** | **180** | **80** | < 7.6 U | | | | **180** | **200** | **1.9 J** | **4.6 J** | **3.6 J** | < 7.4 U | **110** | **83** | **50** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **64** | **2400** | **430** | **16** | | | | **1600** | **2000** | **11** | **23** | **56 J** | **3.5 J** | **1000** | **720** | **470** |
| Fluorene | ug/kg | 3e+006 | | **8.5** | **140** | **37** | < 7.6 U | | | | **120** | **130** | **1.5 J** | **1.0 J** | < 8.1 U | < 7.4 U | **54** | **25 J** | **34 J** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP43-4NW | SUSDP43-4SW | SUSDP43-4SW | SUSDP43-5NW | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP48 | SUSDP48 | SUSDP48 | SUSDP48 | SUSDP48 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 2/23/2018 | 2/23/2018 | 2/23/2018 | 3/15/2018 | 5/21/2013 | 6/10/2013 | 6/10/2013 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/27/2017 |
| | | | Sample ID | DPS434NW02N | DPS434SW01N | DPS434SW02N | DPS435NW01N | DPS4403N | DPS4410N | DPS4415N | DPS44F01N | DPS44F01R | DPS44F02-05N | DPS44F02-05R | DPS48F01N | DPS48F01R | DPS48F02-05N | DPS48F02-05R | DPS48F05-10N |
| | | | Depth | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 2.5 - 3.5 ft | 3.5 - 5 ft | 3.5 - 5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 5 ft | 2 - 5 ft | 5 - 10 ft |
| | | | Type | N | N | N | N | N | N | N | N | FD | N | FD | N | FD | N | FD | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **20** | **580** | **270** | **9.4** | | | | **630** | **760** | **7.3 J** | **13** | **17 J** | **1.2 J** | **340** | **230** | **200** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **7.0 J** | **270** | **190** | **1.8 J** | | | | **160** | **160** | **1.9 J** | **1.7 J** | < 8.1 U | < 7.4 U | **83** | **52** | **93** |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **50** | **880** | **370** | **10** | | | | **930** | **1100** | **9.3** | **13** | **17 J** | **2.7 J** | **600** | **390** | **310** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | < 38 U | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **48** | **650** | **320** | **13** | | | | **1100** | **1300** | **8.8** | **22** | **53 J** | **2.9 J** | **940** | **660** | **490** |
| BaP-TE | ug/kg | 2100 | | **40.9** | **1210** | **463** | **12.4** | | | | **1610** | **1780** | **14.4** | **28.4** | **36.9** | **0.711** | **859** | **622** | **398** |
| Total High-molecular-weight PAHs | ug/kg | | | **280** | **8600** | **2900** | **91** | | | | **9600** | **11000** | **87** | **170** | **300** | **19** | **5600** | **4000** | **2800** |
| Total Low-molecular-weight PAHs | ug/kg | | | **110** | **2900** | **980** | **14** | | | | **1500** | **1800** | **16** | **19** | **21** | **2.7** | **1000** | **630** | **580** |
| Total PAHs (sum 16) | ug/kg | | | **400** | **12000** | **3900** | **110** | | | | **11000** | **13000** | **100** | **190** | **320** | **22** | **6600** | **4600** | **3300** |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP48 | SUSDP49-1E | SUSDP49-1E | SUSDP50 | SUSDP50 | SUSDP50 | SUSDP50-2A | SUSDP50-2A | SUSDP50-3A | SUSDP51 | SUSDP51 | SUSDP51 | SUSDP51 | SUSDP53 | SUSDP53 | SUSDP53 | SUSDP53 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/27/2017 | 8/11/2017 | 8/11/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/8/2017 | 8/15/2017 | 1/30/2018 | 1/26/2017 | 1/26/2017 | 1/27/2017 | 1/27/2017 | 1/31/2017 | 1/31/2017 | 2/2/2017 | 2/2/2017 |
| | | | Sample ID | DPS48F10-15N | DPS491E03N | DPS491E04N | DPS5001N | DPS5001R | DPS5002N | DPS502A02N | DPS502A01N | DPS503A01N | DPS51F01N | DPS51F02-05N | DPS51F05-10N | DPS51F10-15N | DPS53F01N | DPS53F02-05N | DPS53F05-10N | DPS53F10-15N |
| | | | Depth | 10 - 15 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft |
| | | | Type | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | **257** | | | | | | | | | **66.2** | **41.8** | **33.8** | **19.6** | **186** | **1.48 J** | **11.2** | **7.38** |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | **5000** | **7900** | **98** | < 20 U | **700** | **470** | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | **5200 J** | **9400 J** | **91** | **38** | **2000** | **360** | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP48 | SUSDP49-1E | SUSDP49-1E | SUSDP50 | SUSDP50 | SUSDP50 | SUSDP50-2A | SUSDP50-2A | SUSDP50-3A | SUSDP51 | SUSDP51 | SUSDP51 | SUSDP51 | SUSDP53 | SUSDP53 | SUSDP53 | SUSDP53 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/27/2017 | 8/11/2017 | 8/11/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/8/2017 | 8/15/2017 | 1/30/2018 | 1/26/2017 | 1/26/2017 | 1/27/2017 | 1/27/2017 | 1/31/2017 | 1/31/2017 | 2/2/2017 | 2/2/2017 |
| | | | Sample ID | DPS48F10-15N | DPS491E03N | DPS491E04N | DPS5001N | DPS5001R | DPS5002N | DPS502A02N | DPS502A01N | DPS503A01N | DPS51F01N | DPS51F02-05N | DPS51F05-10N | DPS51F10-15N | DPS53F01N | DPS53F02-05N | DPS53F05-10N | DPS53F10-15N |
| | | | Depth | 10 - 15 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft |
| | | | Type | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | **38 J** | **9.0** | < 7.4 U | < 300 U | | **27** | | | | **13** | **2.6 J** | < 7.4 U | < 7.5 U | **0.89 J** | < 8.1 U | **1.6 J** | **1.7 J** |
| Acenaphthylene | ug/kg | 4.5e+006 | | **34 J** | **10** | < 7.4 U | < 300 U | | **190** | | | | **16** | **2.8 J** | < 7.4 U | < 7.5 U | < 7.5 U | < 8.1 U | **3.7 J** | **2.4 J** |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **140** | **32** | **3.5 J** | < 300 U | | **90** | | | | **48** | **6.3 J** | < 7.4 U | < 7.5 U | **2.5 J** | < 8.1 U | **2.3 J** | **2.0 J** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **430** | **81** | **14** | **130 J** | | **380** | | | | **150** | **22** | < 7.4 U | < 7.5 U | **11** | **1.1 J** | **1.8 J** | **1.7 J** |
| Benzo(a)pyrene | ug/kg | 2100 | | **410** | **42** | **9.2** | **140 J** | | **480** | | | | **140** | **21** | < 7.4 U | < 7.5 U | **11** | < 8.1 U | < 8.1 U | < 9.1 U |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **470** | **110** | **26** | **350** | | **450** | | | | **210** | **27** | < 7.4 U | < 7.5 U | **16** | < 8.1 U | < 8.1 U | **1.9 J** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **330** | **40** | **9.9** | < 300 U | | **440** | | | | **89** | **14** | < 7.4 U | < 7.5 U | **9.3** | < 8.1 U | < 8.1 U | < 9.1 U |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **200** | **35** | **4.6 J** | < 300 U | | **130** | | | | **83** | **12** | < 7.4 U | < 7.5 U | **4.6 J** | < 8.1 U | < 8.1 U | < 9.1 U |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **430** | **180** | **33** | **280 J** | | **350** | | | | **170** | **24** | < 7.4 U | < 7.5 U | **13** | < 8.1 U | **2.8 J** | **2.0 J** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **73** | **16** | **4.1 J** | < 300 U | | **53** | | | | **23** | **4.3 J** | < 7.4 U | < 7.5 U | **2.1 J** | < 8.1 U | < 8.1 U | < 9.1 U |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **710** | **260** | **29** | **320** | | **770** | | | | **250** | **40** | < 7.4 U | < 7.5 U | **12** | **1.3 J** | **3.2 J** | **1.9 J** |
| Fluorene | ug/kg | 3e+006 | | **49** | **9.3** | < 7.4 U | < 300 U | | **25** | | | | **20** | **3.2 J** | < 7.4 U | < 7.5 U | < 7.5 U | < 8.1 U | < 8.1 U | < 9.1 U |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP48 | SUSDP49-1E | SUSDP49-1E | SUSDP50 | SUSDP50 | SUSDP50 | SUSDP50-2A | SUSDP50-2A | SUSDP50-3A | SUSDP51 | SUSDP51 | SUSDP51 | SUSDP51 | SUSDP53 | SUSDP53 | SUSDP53 | SUSDP53 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/27/2017 | 8/11/2017 | 8/11/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/8/2017 | 8/15/2017 | 1/30/2018 | 1/26/2017 | 1/26/2017 | 1/27/2017 | 1/27/2017 | 1/31/2017 | 1/31/2017 | 2/2/2017 | 2/2/2017 |
| | | | Sample ID | DPS48F10-15N | DPS491E03N | DPS491E04N | DPS5001N | DPS5001R | DPS5002N | DPS502A02N | DPS502A01N | DPS503A01N | DPS51F01N | DPS51F02-05N | DPS51F05-10N | DPS51F10-15N | DPS53F01N | DPS53F02-05N | DPS53F05-10N | DPS53F10-15N |
| | | | Depth | 10 - 15 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft |
| | | | Type | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **300** | **38** | **8.6** | **150 J** | | **300** | | | | **81** | **14** | < 7.4 U | < 7.5 U | **7.4 J** | < 8.1 U | < 8.1 U | < 9.1 U |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **35 J** | **56** | **14** | < 300 U | | **170** | | | | **15** | **3.5 J** | < 7.4 U | < 7.5 U | **1.3 J** | < 8.1 U | **1.8 J** | **1.8 J** |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **430** | **330** | **39** | **300** | | **210** | | | | **110** | **17** | < 7.4 U | < 7.5 U | **9.2** | **1.6 J** | < 8.1 U | < 9.1 U |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **770** | **170** | **22** | **480** | | **1100** | | | | **220** | **33** | < 7.4 U | < 7.5 U | **19** | **1.5 J** | **2.8 J** | **2.1 J** |
| BaP-TE | ug/kg | 2100 | | **605** | **81.4** | **18.2** | **203** | | **648** | | | | **208** | **31.7** | < 7.40 U | < 7.50 U | **16.6** | **0.110** | **0.183** | **0.362** |
| Total High-molecular-weight PAHs | ug/kg | | | **4100** | **970** | **160** | **1900** | | **4500** | | | | **1400** | **210** | < 7.4 U | < 7.5 U | **110** | **3.9** | **11** | **9.6** |
| Total Low-molecular-weight PAHs | ug/kg | | | **730** | **450** | **57** | **300** | | **710** | | | | **220** | **35** | < 7.4 U | < 7.5 U | **14** | **1.6** | **9.4** | **7.9** |
| Total PAHs (sum 16) | ug/kg | | | **4800** | **1400** | **220** | **2200** | | **5200** | | | | **1600** | **250** | < 7.4 U | < 7.5 U | **120** | **5.5** | **20** | **18** |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP64 | SUSDPCT16-1C | SUSDPCT16-1C | SUSDPCT16-1C | SUSDPCT16-1E | SUSDPCT16-1E | SUSDPCT16-1G | SUSDPCT16-1G | SUSDPCT16-1G | SUSDPCT16-1G | SUSDPCT16-2E | SUSDPCT16-2E | SUSDPCT16-2E | SUSDPCT16-2E | SUSDPCT16-2I |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/10/2017 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 |
| | | | Sample ID | DPS6401N | DPCT161C02N | DPCT161C03N | DPCT161C04N | DPCT161E01N | DPCT161E02N | DPCT161G01N | DPCT161G02N | DPCT161G03N | DPCT161G04N | DPSCT162E01N | DPSCT162E02N | DPSCT162E03N | DPSCT162E04N | DPSCT162I01N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | **4480** | | | | | | | **283** | **532** |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | **7520** | | | | | | | **1240** | **279** |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | **4220** | **2820** | | **1490** | **130** | **13600** | **2360** | | | **1320** | **1610** | **1520** | **2110** | **836** |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | **70** | | | **99** | | | **6900** | | **440** | **140** | | | | **50 J** | **530** |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | **150** | | | **300** | | | **11000** | | **1100** | **800** | | | | **370** | **340** |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP64 | SUSDPCT16-1C | SUSDPCT16-1C | SUSDPCT16-1C | SUSDPCT16-1E | SUSDPCT16-1E | SUSDPCT16-1G | SUSDPCT16-1G | SUSDPCT16-1G | SUSDPCT16-1G | SUSDPCT16-2E | SUSDPCT16-2E | SUSDPCT16-2E | SUSDPCT16-2E | SUSDPCT16-2I |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/10/2017 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 |
| | | | Sample ID | DPS6401N | DPCT161C02N | DPCT161C03N | DPCT161C04N | DPCT161E01N | DPCT161E02N | DPCT161G01N | DPCT161G02N | DPCT161G03N | DPCT161G04N | DPSCT162E01N | DPSCT162E02N | DPSCT162E03N | DPSCT162E04N | DPSCT162I01N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | | | | | | | | | | | | | | | |
| Acenaphthylene | ug/kg | 4.5e+006 | | | | | | | | | | | | | | | | |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | | | | | | | | | | | | | | | |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | | | | | | | | | | | | | | | |
| Benzo(a)pyrene | ug/kg | 2100 | | | | | | | | | | | | | | | | |
| Benzo(b)fluoranthene | ug/kg | 21000 | | | | | | | | | | | | | | | | |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | |
| Benzo(k)fluoranthene | ug/kg | 210000 | | | | | | | | | | | | | | | | |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | | | | | | | | | | | | | | | |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | | | | | | | | | | | | | | | |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | | | | | | | | | | | | | | | |
| Fluorene | ug/kg | 3e+006 | | | | | | | | | | | | | | | | |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | |

| | | | Location ID | SUSDP64 | SUSDPCT16-1C | SUSDPCT16-1C | SUSDPCT16-1C | SUSDPCT16-1E | SUSDPCT16-1E | SUSDPCT16-1G | SUSDPCT16-1G | SUSDPCT16-1G | SUSDPCT16-1G | SUSDPCT16-2E | SUSDPCT16-2E | SUSDPCT16-2E | SUSDPCT16-2E | SUSDPCT16-2I |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/10/2017 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 |
| | | | Sample ID | DPS6401N | DPCT161C02N | DPCT161C03N | DPCT161C04N | DPCT161E01N | DPCT161E02N | DPCT161G01N | DPCT161G02N | DPCT161G03N | DPCT161G04N | DPSCT162E01N | DPSCT162E02N | DPSCT162E03N | DPSCT162E04N | DPSCT162I01N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | | | | | | | | | | | | | | | |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | | | | | | | | | | | | | | | |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | | | | | | | | | | | | | | | |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | |
| BaP-TE | ug/kg | 2100 | | | | | | | | | | | | | | | | |
| Total High-molecular-weight PAHs | ug/kg | | | | | | | | | | | | | | | | | |
| Total Low-molecular-weight PAHs | ug/kg | | | | | | | | | | | | | | | | | |
| Total PAHs (sum 16) | ug/kg | | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPCT16-2I | SUSDPCT16-2I | SUSDPCT16-2I | SUSDPCT16-2M | SUSDPCT16-2M | SUSDPCT16-2M | SUSDPCT16-2M | SUSDPCT16-3R | SUSDPCT16-3R | SUSDPCT16-3R | SUSDPCT16-3R | SUSDPCT16-3R | SUSDPCT16-3S | SUSDPCT16-3S | SUSDPCT16-3S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 5/31/2018 | 5/31/2018 | 5/31/2018 | 5/31/2018 | 5/31/2018 | 3/15/2018 | 3/15/2018 | 3/15/2018 |
| | | | Sample ID | DPSCT162I02N | DPSCT162I03N | DPSCT162I04N | DPSCT162M01N | DPSCT162M02N | DPSCT162M03N | DPSCT162M04N | DPSCT163R01N | DPSCT163R02N | DPSCT163R03N | DPSCT163R03R | DPSCT163R04N | DPSCT163S01N | DPSCT163S02N | DPSCT163S03N |
| | | | Depth | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | **18600** | **7110** | | | | | | | | | **11700** | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | **25100** | **8610** | | | | | | | | | **39900** | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | **181** | **27.6** | **178** | **45600** | **16200** | **6340** | **3290** | | | | | | **274** | **61000** | **177** |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | **11000** | **5700** | **1600** | **15 J** | **260** | **89** | **62** | **110 J-** | | **3600** | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | **14000** | **6700** | **1900** | **37** | **150** | **65** | **51** | **560** | | **13000** | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | | |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDPCT16-2I | SUSDPCT16-2I | SUSDPCT16-2I | SUSDPCT16-2M | SUSDPCT16-2M | SUSDPCT16-2M | SUSDPCT16-2M | SUSDPCT16-3R | SUSDPCT16-3R | SUSDPCT16-3R | SUSDPCT16-3R | SUSDPCT16-3R | SUSDPCT16-3S | SUSDPCT16-3S | SUSDPCT16-3S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 5/31/2018 | 5/31/2018 | 5/31/2018 | 5/31/2018 | 5/31/2018 | 3/15/2018 | 3/15/2018 | 3/15/2018 |
| | | | Sample ID | DPSCT162I02N | DPSCT162I03N | DPSCT162I04N | DPSCT162M01N | DPSCT162M02N | DPSCT162M03N | DPSCT162M04N | DPSCT163R01N | DPSCT163R02N | DPSCT163R03N | DPSCT163R03R | DPSCT163R04N | DPSCT163S01N | DPSCT163S02N | DPSCT163S03N |
| | | | Depth | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | | | | | | | | | | | | | | | |
| Acenaphthylene | ug/kg | 4.5e+006 | | | | | | | | | | | | | | | | |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | | | | | | | | | | | | | | | |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | | | | | | | | | | | | | | | |
| Benzo(a)pyrene | ug/kg | 2100 | | | | | | | | | | | | | | | | |
| Benzo(b)fluoranthene | ug/kg | 21000 | | | | | | | | | | | | | | | | |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | |
| Benzo(k)fluoranthene | ug/kg | 210000 | | | | | | | | | | | | | | | | |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | | | | | | | | | | | | | | | |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | | | | | | | | | | | | | | | |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | | | | | | | | | | | | | | | |
| Fluorene | ug/kg | 3e+006 | | | | | | | | | | | | | | | | |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPCT16-2I | SUSDPCT16-2I | SUSDPCT16-2I | SUSDPCT16-2M | SUSDPCT16-2M | SUSDPCT16-2M | SUSDPCT16-2M | SUSDPCT16-3R | SUSDPCT16-3R | SUSDPCT16-3R | SUSDPCT16-3R | SUSDPCT16-3R | SUSDPCT16-3S | SUSDPCT16-3S | SUSDPCT16-3S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 5/31/2018 | 5/31/2018 | 5/31/2018 | 5/31/2018 | 5/31/2018 | 3/15/2018 | 3/15/2018 | 3/15/2018 |
| | | | Sample ID | DPSCT162I02N | DPSCT162I03N | DPSCT162I04N | DPSCT162M01N | DPSCT162M02N | DPSCT162M03N | DPSCT162M04N | DPSCT163R01N | DPSCT163R02N | DPSCT163R03N | DPSCT163R03R | DPSCT163R04N | DPSCT163S01N | DPSCT163S02N | DPSCT163S03N |
| | | | Depth | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | | | | | | | | | | | | | | | |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | | | | | | | | | | | | | | | |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | | | | | | | | | | | | | | | |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | | |
| BaP-TE | ug/kg | 2100 | | | | | | | | | | | | | | | | |
| Total High-molecular-weight PAHs | ug/kg | | | | | | | | | | | | | | | | | |
| Total Low-molecular-weight PAHs | ug/kg | | | | | | | | | | | | | | | | | |
| Total PAHs (sum 16) | ug/kg | | | | | | | | | | | | | | | | | |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDPCT16-3S | SUSDPCT16-4W | SUSDPCT16-4W | SUSDPCT16-4W | SUSDPGD21-G1 | SUSDPGD21-G1 | SUSDPGD21-G1 | SUSDPGD21-I1 | SUSDPGD21-I1 | SUSDPGD21-I1 | SUSDPGD21-I1 | SUSDPGD21-I2 | SUSDPGD21-I2 | SUSDPGD21-J1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/15/2018 | 4/6/2018 | 4/6/2018 | 4/6/2018 | 4/4/2018 | 4/4/2018 | 4/4/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 1/24/2018 |
| | | | Sample ID | DPSCT163S04N | DPSCT164W02N | DPSCT164W03N | DPSCT164W04N | DPSGD21G101N | DPSGD21G102N | DPSGD21G103N | DPSGD21I101N | DPSGD21I101R | DPSGD21I102N | DPSGD21I103N | DPSGD21I201N | DPSGD21I202N | DPSGD21J101N |
| | | | Depth | 4 - 5 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | **408** | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | **18 J** | < 21 U | < 21 U | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | **85** | **10 J** | **28** | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | |

# Table 4-7
## Subsurface Soil Results
## VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDPCT16-3S | SUSDPCT16-4W | SUSDPCT16-4W | SUSDPCT16-4W | SUSDPGD21-G1 | SUSDPGD21-G1 | SUSDPGD21-G1 | SUSDPGD21-I1 | SUSDPGD21-I1 | SUSDPGD21-I1 | SUSDPGD21-I1 | SUSDPGD21-I2 | SUSDPGD21-I2 | SUSDPGD21-J1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/15/2018 | 4/6/2018 | 4/6/2018 | 4/6/2018 | 4/4/2018 | 4/4/2018 | 4/4/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 1/24/2018 |
| | | | Sample ID | DPSCT163S04N | DPSCT164W02N | DPSCT164W03N | DPSCT164W04N | DPSGD21G101N | DPSGD21G102N | DPSGD21G103N | DPSGD21I101N | DPSGD21I101R | DPSGD21I102N | DPSGD21I103N | DPSGD21I201N | DPSGD21I202N | DPSGD21J101N |
| | | | Depth | 4 - 5 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | | | | | **520** | **100 J** | **5.3 J** | **120 J** | < 370 U | **380** | **37** | **32 J** | < 36 U | **55 J** |
| Acenaphthylene | ug/kg | 4.5e+006 | | | | | | **160 J** | **420** | **26** | < 370 U | < 370 U | < 190 U | **22** | **98** | **22 J** | **140** |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | | | | | **730** | **350** | **25** | **430** | **240 J** | **1400** | **120** | **140** | **51** | **350** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | | | | | **1800** | **950** | **72** | **1100** | **680** | **2700** | **330** | **400** | **180** | **1400 J** |
| Benzo(a)pyrene | ug/kg | 2100 | | | | | | **1500** | **1200** | **88** | **1000** | **630** | **2200** | **280** | **420** | **200** | **1600 J** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | | | | | **2000** | **1400** | **130** | **1300** | **840** | **3000** | **370** | **620** | **240** | **2200 J** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | | | | | **1300** | **1100** | **130** | **990** | **590** | **1400** | **240** | **380** | **240** | **1700** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | | | | | **830** | **630** | **43** | **500** | **340 J** | **1300** | **100** | **160** | **100** | **800** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | | | | | **1900** | **990** | **150** | **940** | **610** | **2400** | **290** | **350** | **180** | **1400 J** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | | | | | < 190 U | **260** | **28** | **470** | **370** | **380** | **62** | **130** | **59** | **360** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | | | | | **4000** | **1600** | **130** | **1800** | **1300** | **6500** | **560** | **820** | **330** | **2200 J** |
| Fluorene | ug/kg | 3e+006 | | | | | | **650** | **110 J** | < 15 U | **140 J** | < 370 U | **390** | **37** | **34 J** | < 36 U | **70 J** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPCT16-3S | SUSDPCT16-4W | SUSDPCT16-4W | SUSDPCT16-4W | SUSDPGD21-G1 | SUSDPGD21-G1 | SUSDPGD21-G1 | SUSDPGD21-I1 | SUSDPGD21-I1 | SUSDPGD21-I1 | SUSDPGD21-I1 | SUSDPGD21-I2 | SUSDPGD21-I2 | SUSDPGD21-J1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/15/2018 | 4/6/2018 | 4/6/2018 | 4/6/2018 | 4/4/2018 | 4/4/2018 | 4/4/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 1/24/2018 |
| | | | Sample ID | DPSCT163S04N | DPSCT164W02N | DPSCT164W03N | DPSCT164W04N | DPSGD21G101N | DPSGD21G102N | DPSGD21G103N | DPSGD21I101N | DPSGD21I101R | DPSGD21I102N | DPSGD21I103N | DPSGD21I201N | DPSGD21I202N | DPSGD21J101N |
| | | | Depth | 4 - 5 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | | | | | **1000** | **800** | **88** | **960** | **670** | **1400** | **210** | **350** | **190** | **1400** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | | | | | **320** | **130 J** | **20** | < 370 U | < 370 U | **110 J** | **9.4** | **21 J** | < 36 U | **89** |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | | | | | **2800** | **980** | **62** | **1500 J** | **660 J** | **5300** | **500** | **380** | **120** | **1200 J** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | | | | | **3300** | **1500** | **120** | **1800 J** | **860 J** | **4900** | **620** | **540** | **240** | **1900 J** |
| BaP-TE | ug/kg | 2100 | | | | | | **1990** | **1780** | **146** | **1810** | **1220** | **3310** | **434** | **689** | **321** | **2470** |
| Total High-molecular-weight PAHs | ug/kg | | | | | | | **18000** | **10000** | **980** | **11000** | **6900** | **26000** | **3100** | **4200** | **2000** | **15000** |
| Total Low-molecular-weight PAHs | ug/kg | | | | | | | **5200** | **2100** | **140** | **2200** | **900** | **7600** | **730** | **710** | **190** | **1900** |
| Total PAHs (sum 16) | ug/kg | | | | | | | **23000** | **13000** | **1100** | **13000** | **7800** | **34000** | **3800** | **4900** | **2200** | **17000** |

| | | | Location ID | SUSDPGD21-J1 | SUSDPGD21-J1 | SUSDPGD21-J1 | SUSDPGD21-J1 | SUSDPGD21-J1 | SUSDPGD21-J2 | SUSDPGD21-J2 | SUSDPGD21-J2 | SUSDPGD21-K1 | SUSDPGD21-K1 | SUSDPGD21-K1 | SUSDPGD21-K1 | SUSDPGD21-K1 | SUSDPGD21-K1.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/26/2018 |
| | | | Sample ID | DPSGD21J101R | DPSGD21J102N | DPSGD21J103N | DPSGD21J104N | DPSGD21J105N | DPSGD21J201N | DPSGD21J202N | DPSGD21J203N | DPSGD21K101N | DPSGD21K102N | DPSGD21K103N | DPSGD21K104N | DPSGD21K105N | DPSGD21K1.501N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft |
| | | | Type | FD | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPGD21-J1 | SUSDPGD21-J1 | SUSDPGD21-J1 | SUSDPGD21-J1 | SUSDPGD21-J1 | SUSDPGD21-J2 | SUSDPGD21-J2 | SUSDPGD21-J2 | SUSDPGD21-K1 | SUSDPGD21-K1 | SUSDPGD21-K1 | SUSDPGD21-K1 | SUSDPGD21-K1 | SUSDPGD21-K1.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/26/2018 |
| | | | Sample ID | DPSGD21J101R | DPSGD21J102N | DPSGD21J103N | DPSGD21J104N | DPSGD21J105N | DPSGD21J201N | DPSGD21J202N | DPSGD21J203N | DPSGD21K101N | DPSGD21K102N | DPSGD21K103N | DPSGD21K104N | DPSGD21K105N | DPSGD21K1.501N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft |
| | | | Type | FD | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | < 150 U | **2000 J+** | < 3900 U | < 7.8 U | < 7.7 U | < 72 U | < 55 U | < 170 U | **130 J** | < 190 U | **340** | **130** | < 7.3 U | **48** |
| Acenaphthylene | ug/kg | 4.5e+006 | | **120 J** | < 730 U | < 3900 U | < 7.8 U | < 7.7 U | **36 J** | < 55 U | < 170 U | **390** | **71 J** | **490** | **210** | < 7.3 U | **44** |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **220** | **6100** | **2300 J** | < 7.8 U | < 7.7 U | **95** | **43 J** | **170** | **740** | **160 J** | **1400** | **770** | < 7.3 U | **200** |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **810 J** | **12000** | **6500** | **8.0** | < 7.7 U | **370** | **130** | **700** | **2900** | **540** | **3900** | **3500** | **3.9 J** | **880** |
| Benzo(a)pyrene | ug/kg | 2100 | | **940 J** | **9000** | **4400** | **7.3 J** | < 7.7 U | **360** | **110** | **680** | **3100** | **520** | **3400** | **3100** | **3.5 J** | **820** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **1200 J** | **12000** | **7000** | **8.7** | < 7.7 U | **440** | **170** | **950** | **4700** | **710** | **4000** | **3700** | **5.9 J** | **1200** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **1100** | **6400** | **4400** | **8.4** | < 7.7 U | **330** | **130** | **580** | **3100** | **460** | **2600** | **2500** | < 7.3 U | **650** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **510** | **4200** | **2300 J** | **5.6 J** | < 7.7 U | **180** | **62** | **450** | **1600** | **210** | **1700** | **1700** | < 7.3 U | **350** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **760 J** | **10000** | **6000** | **7.1 J** | < 7.7 U | **340** | **130** | **650** | **3100** | **520** | **3600** | **3400** | **2.9 J** | **830** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **300** | **1700 J+** | < 3900 U | **6.2 J** | < 7.7 U | **110** | **54 J** | **190** | **790** | **190** | **880** | **580** | < 7.3 U | **200** |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **1100 J** | **21000** | **15000** | **16** | **3.6 J** | **660** | **280** | **1400** | **5100** | **1100** | **7800** | **5900** | **5.3 J** | **1200** |
| Fluorene | ug/kg | 3e+006 | | < 150 U | **1900 J+** | < 3900 U | < 7.8 U | < 7.7 U | < 72 U | < 55 U | < 170 U | **120 J** | < 190 U | **350** | **130** | < 7.3 U | **46** |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPGD21-J1 | SUSDPGD21-J1 | SUSDPGD21-J1 | SUSDPGD21-J1 | SUSDPGD21-J1 | SUSDPGD21-J2 | SUSDPGD21-J2 | SUSDPGD21-J2 | SUSDPGD21-K1 | SUSDPGD21-K1 | SUSDPGD21-K1 | SUSDPGD21-K1 | SUSDPGD21-K1 | SUSDPGD21-K1.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/26/2018 |
| | | | Sample ID | DPSGD21J101R | DPSGD21J102N | DPSGD21J103N | DPSGD21J104N | DPSGD21J105N | DPSGD21J201N | DPSGD21J202N | DPSGD21J203N | DPSGD21K101N | DPSGD21K102N | DPSGD21K103N | DPSGD21K104N | DPSGD21K105N | DPSGD21K1.501N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft |
| | | | Type | FD | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **970** | **6100** | **5200** | **11** | **5.0 J** | **300** | **120** | **560** | **2800** | **480** | **2300** | **2100** | **5.6 J** | **700** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **110 J** | **600 J** | < 3900 U | < 7.8 U | < 7.7 U | < 72 U | < 55 U | < 170 U | **160 J** | < 190 U | **210** | **230** | < 7.3 U | **32 J** |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **480 J** | **24000** | **12000** | **8.7** | < 7.7 U | **280** | **160** | **650** | **1800** | **460** | **6000** | **2400** | **4.3 J** | **690** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **980 J** | **23000** | **11000** | **11** | < 7.7 U | **470** | **210** | **930** | **3800** | **740** | **5300** | **4500** | **4.3 J** | **1100** |
| BaP-TE | ug/kg | 2100 | | **1540** | **13800** | **6300** | **16.3** | **0.500** | **583** | **207** | **1100** | **4950** | **886** | **5320** | **4630** | **5.04** | **1300** |
| Total High-molecular-weight PAHs | ug/kg | | | **8700** | **110000** | **62000** | **89** | **8.6** | **3600** | **1400** | **7100** | **31000** | **5500** | **35000** | **31000** | **31** | **7900** |
| Total Low-molecular-weight PAHs | ug/kg | | | **930** | **35000** | **14000** | **8.7** | < 7.7 U | **410** | **200** | **820** | **3300** | **690** | **8800** | **3900** | **4.3** | **1100** |
| Total PAHs (sum 16) | ug/kg | | | **9600** | **140000** | **76000** | **98** | **8.6** | **4000** | **1600** | **7900** | **34000** | **6200** | **44000** | **35000** | **36** | **9000** |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPGD21-K1.5 | SUSDPGD21-K1.5 | SUSDPGD21-K1.5 | SUSDPGD21-K2 | SUSDPGD21-K2 | SUSDPGD21-L1 | SUSDPGD21-L1 | SUSDPGD21-L1 | SUSDPGD21-L1 | SUSDPGD21-L2 | SUSDPGD21-L2 | SUSDPGD21-L2 | SUSDPGD21-L2 | SUSDPGD21-L2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/26/2018 | 1/26/2018 | 1/26/2018 | 1/24/2018 | 1/24/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 |
| | | | Sample ID | DPSGD21K1.502N | DPSGD21K1.503N | DPSGD21K1.504N | DPSGD21K201N | DPSGD21K202N | DPSGD21L101N | DPSGD21L102N | DPSGD21L103N | DPSGD21L104N | DPSGD21L201N | DPSGD21L201R | DPSGD21L202N | DPSGD21L203N | DPSGD21L204N |
| | | | Depth | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | FD | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | |

| | | | Location ID | SUSDPGD21-K1.5 | SUSDPGD21-K1.5 | SUSDPGD21-K1.5 | SUSDPGD21-K2 | SUSDPGD21-K2 | SUSDPGD21-L1 | SUSDPGD21-L1 | SUSDPGD21-L1 | SUSDPGD21-L1 | SUSDPGD21-L2 | SUSDPGD21-L2 | SUSDPGD21-L2 | SUSDPGD21-L2 | SUSDPGD21-L2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/26/2018 | 1/26/2018 | 1/26/2018 | 1/24/2018 | 1/24/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 |
| | | | Sample ID | DPSGD21K1.502N | DPSGD21K1.503N | DPSGD21K1.504N | DPSGD21K201N | DPSGD21K202N | DPSGD21L101N | DPSGD21L102N | DPSGD21L103N | DPSGD21L104N | DPSGD21L201N | DPSGD21L201R | DPSGD21L202N | DPSGD21L203N | DPSGD21L204N |
| | | | Depth | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | FD | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | **210** | **1600** | **140** | **33 J** | **67 J** | **550** | **220** | < 3800 U | < 2300 U | **89** | **47 J** | **73 J** | **950** | < 3800 U |
| Acenaphthylene | ug/kg | 4.5e+006 | | **52 J** | **430** | **130** | **50 J** | **70 J** | **350** | **130** | < 3800 U | < 2300 U | **53 J** | **68** | **120 J** | **660 J** | < 3800 U |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **790** | **7600** | **540** | **220** | **240** | **1800** | **820** | < 3800 U | < 2300 U | **320** | **200** | **390** | **5000** | < 3800 U |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **2500** | **19000** | **1900** | **1000** | **580** | **5300** | **2600** | < 3800 U | < 2300 U | **1100** | **750** | **1200** | **9200** | < 3800 U |
| Benzo(a)pyrene | ug/kg | 2100 | | **2000** | **15000** | **1100** | **910** | **560** | **4600** | **2300** | < 3800 U | < 2300 U | **950** | **700** | **1200** | **6500** | < 3800 U |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **2500** | **18000** | **1700** | **1300** | **880** | **6300** | **3400** | < 3800 U | < 2300 U | **1500** | **1000** | **1500** | **10000** | < 3800 U |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **1500** | **9900** | **920** | **1100** | **560** | **4000** | **2000** | < 3800 U | < 2300 U | **820** | **670** | **960** | **3900** | < 3800 U |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **870** | **6600** | **480** | **420** | **170** | **2500** | **850** | < 3800 U | < 2300 U | **380** | **360** | **540** | **2400** | < 3800 U |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **2000** | **17000** | **1600** | **900** | **580** | **4900** | **2300** | < 3800 U | < 2300 U | **990** | **720** | **1100** | **8100** | < 3800 U |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **350** | **2100** | **290** | **260** | **140** | **980** | **480** | < 3800 U | < 2300 U | **200** | **160** | **290** | **1100** | < 3800 U |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **4200** | **38000** | **2600** | **1600** | **1400** | **13000** | **6000** | < 3800 U | < 2300 U | **2500** | **1500** | **2500** | **25000** | < 3800 U |
| Fluorene | ug/kg | 3e+006 | | **190** | **910** | **130** | **36 J** | **52 J** | **590** | **200** | < 3800 U | < 2300 U | **82** | **47 J** | **76 J** | **900** | < 3800 U |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPGD21-K1.5 | SUSDPGD21-K1.5 | SUSDPGD21-K1.5 | SUSDPGD21-K2 | SUSDPGD21-K2 | SUSDPGD21-L1 | SUSDPGD21-L1 | SUSDPGD21-L1 | SUSDPGD21-L1 | SUSDPGD21-L2 | SUSDPGD21-L2 | SUSDPGD21-L2 | SUSDPGD21-L2 | SUSDPGD21-L2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/26/2018 | 1/26/2018 | 1/26/2018 | 1/24/2018 | 1/24/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 |
| | | | Sample ID | DPSGD21K1.502N | DPSGD21K1.503N | DPSGD21K1.504N | DPSGD21K201N | DPSGD21K202N | DPSGD21L101N | DPSGD21L102N | DPSGD21L103N | DPSGD21L104N | DPSGD21L201N | DPSGD21L201R | DPSGD21L202N | DPSGD21L203N | DPSGD21L204N |
| | | | Depth | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | FD | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **1400** | **9000** | **830** | **1000** | **470** | **3600** | **1700** | < 3800 U | < 2300 U | **710** | **590** | **870** | **3900** | < 3800 U |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **63 J** | **430** | **110** | < 73 U | **33 J** | **120** | **46 J** | < 3800 U | < 2300 U | < 78 U | < 61 U | **62 J** | < 770 U | < 3800 U |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **3000** | **33000** | **2300** | **590** | **590** | **7400** | **3100** | < 3800 U | < 2300 U | **1300 J** | **650 J** | **1400** | **23000** | < 3800 U |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **5100** | **28000** | **2500** | **1200** | **950** | **7600** | **3800** | < 3800 U | < 2300 U | **1600** | **1000** | **1800** | **16000** | < 3800 U |
| BaP-TE | ug/kg | 2100 | | **3000** | **21800** | **1840** | **1510** | **895** | **7130** | **3560** | < 3800 U | < 2300 U | **1490** | **1100** | **1850** | **9940** | < 3800 U |
| Total High-molecular-weight PAHs | ug/kg | | | **22000** | **160000** | **14000** | **9700** | **6300** | **53000** | **25000** | < 3800 U | < 2300 U | **11000** | **7500** | **12000** | **86000** | < 3800 U |
| Total Low-molecular-weight PAHs | ug/kg | | | **4300** | **44000** | **3400** | **930** | **1100** | **11000** | **4500** | < 3800 U | < 2300 U | **1800** | **1000** | **2100** | **31000** | < 3800 U |
| Total PAHs (sum 16) | ug/kg | | | **27000** | **210000** | **17000** | **11000** | **7300** | **64000** | **30000** | < 3800 U | < 2300 U | **13000** | **8500** | **14000** | **120000** | < 3800 U |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SUSDPGD21-M1 | SUSDPGD21-M1 | SUSDPGD21-M1 | SUSDPGD21-M1 | SUSDPGD21-M1 | SUSDPGD21-M2 | SUSDPGD21-M2 | SUSDPGD21-M2 | SUSDPGD21-M2 | SUSDPGD21-M2 | SUSDPGD21-N1 | SUSDPGD21-N1 | SUSDPGD21-N1 |
| | | | Sample Date | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 4/4/2018 | 4/4/2018 | 4/4/2018 |
| | | | Sample ID | DPSGD21M101N | DPSGD21M101R | DPSGD21M102N | DPSGD21M103N | DPSGD21M104N | DPSGD21M201N | DPSGD21M201R | DPSGD21M202N | DPSGD21M203N | DPSGD21M204N | DPSGD21N101N | DPSGD21N102N | DPSGD21N103N |
| | | | Depth | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft |
| | | | Type | N | FD | N | N | N | N | FD | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPGD21-M1 | SUSDPGD21-M1 | SUSDPGD21-M1 | SUSDPGD21-M1 | SUSDPGD21-M1 | SUSDPGD21-M2 | SUSDPGD21-M2 | SUSDPGD21-M2 | SUSDPGD21-M2 | SUSDPGD21-M2 | SUSDPGD21-N1 | SUSDPGD21-N1 | SUSDPGD21-N1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 4/4/2018 | 4/4/2018 | 4/4/2018 |
| | | | Sample ID | DPSGD21M101N | DPSGD21M101R | DPSGD21M102N | DPSGD21M103N | DPSGD21M104N | DPSGD21M201N | DPSGD21M201R | DPSGD21M202N | DPSGD21M203N | DPSGD21M204N | DPSGD21N101N | DPSGD21N102N | DPSGD21N103N |
| | | | Depth | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft |
| | | | Type | N | FD | N | N | N | N | FD | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | 1300 J | 4200 J | 420 J | < 5900 U | < 3000 U | 290 J | < 750 U | 260 J | < 75 U | < 370 U | 200 J | 590 | 85 J |
| Acenaphthylene | ug/kg | 4.5e+006 | | 340 J | 470 | 100 J | < 5900 U | < 3000 U | 120 J | < 750 U | < 720 U | < 75 U | 210 J | 210 J | 110 J | 140 J |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | 4500 J | 15000 J | 1500 J | < 5900 U | < 3000 U | 890 | 600 J | 770 J- | 19 J | 220 J | 430 | 2600 | 320 |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | 12000 J | 23000 J | 4900 | 2600 J | < 3000 U | 2800 | 2200 | 3400 | 70 J | 910 | 890 | 12000 | 1400 |
| Benzo(a)pyrene | ug/kg | 2100 | | 9800 J | 18000 J | 3900 | 2100 J | < 3000 U | 2500 | 2000 | 2700 J- | 76 | 1000 | 720 | 9700 | 1400 |
| Benzo(b)fluoranthene | ug/kg | 21000 | | 13000 J | 23000 J | 5900 | 3200 J | < 3000 U | 3000 | 2400 | 3800 | 99 | 1200 | 1100 | 12000 | 1900 |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | 8100 J | 14000 J | 3300 | 2200 J | < 3000 U | 2000 | 1500 | 2200 J- | 76 | 960 | 590 | 7200 | 1200 |
| Benzo(k)fluoranthene | ug/kg | 210000 | | 5700 | 8200 | 2100 J | < 5900 U | < 3000 U | 1300 | 1100 | 1500 J- | 33 J | 480 | 380 | 5200 | 660 |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | 11000 J | 20000 J | 4800 | 2500 J | < 3000 U | 2800 | 1900 | 3000 | 77 | 900 | 810 | 11000 | 1400 |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | 2700 | 4200 | 900 J+ | 3400 J | < 3000 U | 540 | < 750 U | 660 J- | < 75 U | 270 J | 140 J | 2000 | 330 |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | 28000 J | 51000 J | 12000 | 5300 J | < 3000 U | 5700 | 4200 | 6500 | 110 | 1400 | 1900 | 22000 | 2300 |
| Fluorene | ug/kg | 3e+006 | | 1500 J | 4800 J | 430 J | < 5900 U | < 3000 U | 280 J | < 750 U | 230 J | < 75 U | < 370 U | 240 | 520 | 88 J |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPGD21-M1 | SUSDPGD21-M1 | SUSDPGD21-M1 | SUSDPGD21-M1 | SUSDPGD21-M1 | SUSDPGD21-M2 | SUSDPGD21-M2 | SUSDPGD21-M2 | SUSDPGD21-M2 | SUSDPGD21-M2 | SUSDPGD21-N1 | SUSDPGD21-N1 | SUSDPGD21-N1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 4/4/2018 | 4/4/2018 | 4/4/2018 |
| | | | Sample ID | DPSGD21M101N | DPSGD21M101R | DPSGD21M102N | DPSGD21M103N | DPSGD21M104N | DPSGD21M201N | DPSGD21M201R | DPSGD21M202N | DPSGD21M203N | DPSGD21M204N | DPSGD21N101N | DPSGD21N102N | DPSGD21N103N |
| | | | Depth | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft |
| | | | Type | N | FD | N | N | N | N | FD | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **7600 J** | **13000 J** | **3100** | **4300 J** | < 3000 U | **1800** | **1500** | **1900 J-** | **83** | **790** | **510** | **6300** | **1000** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | **150 J** | **970 J** | < 380 U | < 5900 U | < 3000 U | < 380 U | < 750 U | < 720 U | < 75 U | < 370 U | **880** | **170 J** | **66 J** |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **18000 J** | **48000 J** | **6400** | **3300 J** | < 3000 U | **3300** | **2000** | **3500** | **46 J** | **530** | **1200** | **11000** | **910** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **18000 J** | **35000 J** | **7200** | **3500 J** | < 3000 U | **4000** | **2900** | **4700** | **99** | **1200** | **1900** | **20000** | **2500** |
| BaP-TE | ug/kg | 2100 | | **15800** | **28200** | **6220** | **6510** | < 3000 U | **3820** | **2620** | **4290** | **102** | **1570** | **1110** | **14800** | **2170** |
| Total High-molecular-weight PAHs | ug/kg | | | **120000** | **210000** | **48000** | **29000** | < 3000 U | **26000** | **20000** | **30000** | **720** | **9100** | **8900** | **110000** | **14000** |
| Total Low-molecular-weight PAHs | ug/kg | | | **26000** | **73000** | **8900** | **3300** | < 3000 U | **4900** | **3000** | **4800** | **65** | **960** | **3200** | **15000** | **1600** |
| Total PAHs (sum 16) | ug/kg | | | **140000** | **280000** | **57000** | **32000** | < 3000 U | **31000** | **22000** | **35000** | **790** | **10000** | **12000** | **120000** | **16000** |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPGD21-N2 | SUSDPGD21-N2 | SUSDPGD21-N2 | SUSDPGD21-P1 | SUSDPGD21-P1 | SUSDPGD21-P1 | SUSDPGD21-R1 | SUSDPGD21-R1 | SUSDPGD21-R1 | SUSDPGD21-R2 | SUSDPGD21-R2 | SUSDPGD21-R2 | SUSDPGD21-S1 | SUSDPGD21-S1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 4/4/2018 | 4/4/2018 | 4/4/2018 | 5/30/2018 | 5/30/2018 | 5/30/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 |
| | | | Sample ID | DPSGD21N201N | DPSGD21N201R | DPSGD21N202N | DPSGD21P101N | DPSGD21P101R | DPSGD21P102N | DPSGD21R101N | DPSGD21R102N | DPSGD21R103N | DPSGD21R201N | DPSGD21R202N | DPSGD21R203N | DPSGD21S101N | DPSGD21S102N |
| | | | Depth | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft |
| | | | Type | N | FD | N | N | FD | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 3.6e+006 | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 2700 | | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 2.8e+006 | | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 630 | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 16000 | | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 100000 | | | | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 93000 | | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 26000 | | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 64 | | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 160 | | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 930000 | | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 2000 | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 6600 | | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 11000 | | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | 24000 | | | | | | | | | | | | | | | |
| 2-Butanone | ug/kg | 1.9e+007 | | | | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | 130000 | | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 1.4e+007 | | | | | | | | | | | | | | | |
| Acetone | ug/kg | 6.7e+007 | | | | | | | | | | | | | | | |
| Benzene | ug/kg | 5100 | | | | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | 63000 | | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | 1300 | | | | | | | | | | | | | | | |
| Bromoform | ug/kg | 86000 | | | | | | | | | | | | | | | |
| Bromomethane | ug/kg | 3000 | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | 350000 | | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | 2900 | | | | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | 130000 | | | | | | | | | | | | | | | |
| Chloroethane | ug/kg | 5.7e+006 | | | | | | | | | | | | | | | |
| Chloroform | ug/kg | 1400 | | | | | | | | | | | | | | | |
| Chloromethane | ug/kg | 46000 | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 230000 | | | | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | |
| Cyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | 39000 | | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 37000 | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | 25000 | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | 990000 | | | | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | 240000 | | | | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | 1.2e+008 | | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 210000 | | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | 2.7e+006 | | | | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | 320000 | | | | | | | | | | | | | | | |
| o-Xylene | ug/kg | 280000 | | | | | | | | | | | | | | | |
| Styrene | ug/kg | 3.5e+006 | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | 39000 | | | | | | | | | | | | | | | |
| Toluene | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 2.3e+006 | | | | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 8200 | | | | | | | | | | | | | | | |
| Trichloroethene | ug/kg | 1900 | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | 3.5e+007 | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | 1700 | | | | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | 250000 | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPGD21-N2 | SUSDPGD21-N2 | SUSDPGD21-N2 | SUSDPGD21-P1 | SUSDPGD21-P1 | SUSDPGD21-P1 | SUSDPGD21-R1 | SUSDPGD21-R1 | SUSDPGD21-R1 | SUSDPGD21-R2 | SUSDPGD21-R2 | SUSDPGD21-R2 | SUSDPGD21-S1 | SUSDPGD21-S1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 4/4/2018 | 4/4/2018 | 4/4/2018 | 5/30/2018 | 5/30/2018 | 5/30/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 |
| | | | Sample ID | DPSGD21N201N | DPSGD21N201R | DPSGD21N202N | DPSGD21P101N | DPSGD21P101R | DPSGD21P102N | DPSGD21R101N | DPSGD21R102N | DPSGD21R103N | DPSGD21R201N | DPSGD21R202N | DPSGD21R203N | DPSGD21S101N | DPSGD21S102N |
| | | | Depth | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft |
| | | | Type | N | FD | N | N | FD | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 20000 | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 250000 | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 7400 | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 1500 | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 6e+006 | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | 580000 | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 300000 | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | 4.1e+006 | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | 800000 | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | 11000 | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | 110000 | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | < 75 U | < 300 U | **1000** | **100 J** | **140 J** | < 1100 U | **690** | **290 J** | **21 J** | **26 J** | < 150 U | **29 J** | < 300 U | < 310 U |
| Acenaphthylene | ug/kg | 4.5e+006 | | **49 J** | < 300 U | **93 J** | **94 J** | **200** | < 1100 U | **100** | **230 J** | **66** | **40 J** | < 150 U | **110** | < 300 U | < 310 U |
| Acetophenone | ug/kg | 1.2e+007 | | | | | | | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | **150** | **93 J** | **3000** | **160 J** | **310** | < 1100 U | **1800** | **1000** | **90** | **93** | **100 J** | **200** | **180 J** | < 310 U |
| Atrazine | ug/kg | 10000 | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | 820000 | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | **300** | **280 J** | **10000** | **500 J** | **970 J** | **460 J** | **4700** | **3400** | **370** | **470** | **530** | **1100** | **610** | **340** |
| Benzo(a)pyrene | ug/kg | 2100 | | **310** | **290 J** | **8100** | **410** | **790** | **420 J** | **3500** | **2800** | **420** | **500** | **530** | **1100** | **520** | **310** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **370** | **310** | **11000** | **560 J** | **1000 J** | **440 J** | **4500** | **3300** | **530** | **550** | **650** | **1200** | **640** | **380** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **300** | **280 J** | **6200** | **410** | **800** | **450 J** | **2300** | **2100** | **360** | **440** | **460** | **850** | **380** | **250 J** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **180** | **130 J** | **5100** | **290** | **600** | < 1100 U | **1800** | **1700** | **230** | **260** | **240** | **560** | **320** | **210 J** |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | | | | | | | | | | | | | | | |
| Caprolactam | ug/kg | 4e+007 | | | | | | | | | | | | | | | |
| Carbazole | ug/kg | 3e+006 | | | | | | | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | **300** | **250 J** | **9500** | **540 J** | **1000 J** | **500 J** | **4300** | **3200** | **450** | **470** | **530** | **1100** | **550** | **330** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **87** | < 300 U | **1800** | **110 J** | **180 J** | < 1100 U | **740** | **580** | **95** | **110** | **130 J** | **240** | < 300 U | < 310 U |
| Dibenzofuran | ug/kg | 100000 | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | 6.6e+007 | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | 820000 | | | | | | | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | **510** | **390** | **21000** | **990 J** | **1700 J** | **710 J** | **10000** | **6700** | **640** | **790** | **920** | **1800** | **1200** | **630** |
| Fluorene | ug/kg | 3e+006 | | **26 J** | < 300 U | **1100** | **120 J** | **210** | < 1100 U | **710** | **360** | **22 J** | **26 J** | < 150 U | **35 J** | < 300 U | < 310 U |
| Hexachlorobenzene | ug/kg | 960 | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | 5300 | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | 8000 | | | | | | | | | | | | | | | |

**Table 4-7**
**Subsurface Soil Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPGD21-N2 | SUSDPGD21-N2 | SUSDPGD21-N2 | SUSDPGD21-P1 | SUSDPGD21-P1 | SUSDPGD21-P1 | SUSDPGD21-R1 | SUSDPGD21-R1 | SUSDPGD21-R1 | SUSDPGD21-R2 | SUSDPGD21-R2 | SUSDPGD21-R2 | SUSDPGD21-S1 | SUSDPGD21-S1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 4/4/2018 | 4/4/2018 | 4/4/2018 | 5/30/2018 | 5/30/2018 | 5/30/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 |
| | | | Sample ID | DPSGD21N201N | DPSGD21N201R | DPSGD21N202N | DPSGD21P101N | DPSGD21P101R | DPSGD21P102N | DPSGD21R101N | DPSGD21R102N | DPSGD21R103N | DPSGD21R201N | DPSGD21R202N | DPSGD21R203N | DPSGD21S101N | DPSGD21S102N |
| | | | Depth | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft |
| | | | Type | N | FD | N | N | FD | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **250** | **230 J** | **5600** | **360** | **710** | **320 J** | **2200** | **1900** | **320** | **360** | **380** | **740** | **340** | **200 J** |
| Isophorone | ug/kg | 2.4e+006 | | | | | | | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | < 75 U | < 300 U | < 300 U | **640 J** | **1100 J** | < 1100 U | **57 J** | < 300 U | **80** | < 75 U | < 150 U | **34 J** | < 300 U | < 310 U |
| Nitrobenzene | ug/kg | 22000 | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 470000 | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | 4000 | | | | | | | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | **270** | **230 J** | **14000** | **620 J** | **1200 J** | **540 J** | **8000** | **4300** | **370** | **300** | **360** | **560** | **720** | **250 J** |
| Phenol | ug/kg | 2.5e+007 | | | | | | | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | **470** | **370** | **17000** | **820 J** | **1500 J** | **730 J** | **7400** | **5800** | **580** | **750** | **810** | **1500** | **990** | **520** |
| BaP-TE | ug/kg | 2100 | | **491** | **374** | **12600** | **665** | **1250** | **543** | **5400** | **4260** | **640** | **751** | **819** | **1650** | **683** | **404** |
| Total High-molecular-weight PAHs | ug/kg | | | **3100** | **2500** | **95000** | **5000** | **9300** | **4000** | **41000** | **31000** | **4000** | **4700** | **5200** | **10000** | **5600** | **3200** |
| Total Low-molecular-weight PAHs | ug/kg | | | **500** | **320** | **19000** | **1700** | **3200** | **540** | **11000** | **6200** | **650** | **490** | **460** | **970** | **900** | **250** |
| Total PAHs (sum 16) | ug/kg | | | **3600** | **2900** | **110000** | **6700** | **12000** | **4600** | **53000** | **38000** | **4600** | **5200** | **5600** | **11000** | **6500** | **3400** |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable
RSL Table, May 2018 Industrial Soil [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
JN = The analyte was tentatively identified; the associated numerical value is the
approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the
sample and meet quality control criteria. The presence or absence of the analyte cannot be
verified.
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | Location ID | CT16SO9G | CT16SO9H | CT16SO9H | CT16SO9I | CT16SO9I | DP26 | DP26 | DP26 | DP27 | DP27 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample Date | 3/1/2017 | 8/4/2017 | 8/4/2017 | 8/4/2017 | 8/4/2017 | 3/28/2013 | 3/29/2013 | 3/29/2013 | 3/26/2013 | 3/26/2013 |
| | | | | | | | | | | | | | Sample ID | CT16S09G-12 | CT16S09H01N | CT16SO9H02N | CT16SO9I01N | CT16SO9I02N | DPS2604N | DPS2614N | DPS2630N | DPS2707N | DPS2722N |
| | | | | | | | | | | | | | Depth | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 3.5 - 4.5 ft | 13.5 - 14.5 ft | 29.5 - 30.5 ft | 6.5 - 7.5 ft | 21.5 - 22.5 ft |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | SW8081B LL | 72-54-8 | 2.3 | 0.017 | 1.1 | 1.6 | SUSDP19 | 5 | | 12 | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | SW8081B LL | 72-55-9 | 58 | 0.018 | 12 | 0.029 | SUSDP08 | 5 | | 12 | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | SW8081B LL | 50-29-3 | 12 | 0.018 | 3.4 | 0.085 | SUSDP19 | 9 | | 12 | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | SW8081B LL | 309-00-2 | 1.6 | 0.034 | 0.98 | 1.3 | SUSDP08 | 3 | | 12 | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | SW8081B LL | 319-84-6 | | | | | | | | 12 | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | SW8081B LL | 319-85-7 | 1.2 | 1.2 | 1.2 | 1.2 | SUSDP19 | 1 | | 12 | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | SW8081B LL | 5103-71-9 | 6.5 | 6.5 | 6.5 | 6.5 | SUSDP08 | 1 | | 12 | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | SW8081B LL | 319-86-8 | 2 | 0.49 | 1 | 0.63 | SUSDP19 | 3 | | 12 | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | SW8081B LL | 60-57-1 | 3.5 | 0.028 | 1.4 | 1.1 | SUSDP19 | 4 | | 12 | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | SW8081B LL | 959-98-8 | 0.023 | 0.023 | 0.023 | 0.023 | SUSDP24 | 1 | | 12 | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | SW8081B LL | 33213-65-9 | 2.1 | 0.02 | 1 | 1 | SUSDP19 | 4 | | 12 | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | SW8081B LL | 1031-07-8 | 2.1 | 0.018 | 0.66 | 0.074 | SUSDP08 | 9 | | 12 | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | SW8081B LL | 72-20-8 | 15 | 0.03 | 2.4 | 0.099 | SUSDP08 | 9 | | 12 | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | SW8081B LL | 7421-93-4 | 2.2 | 0.031 | 0.86 | 0.4 | SUSDP19 | 5 | | 12 | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | SW8081B LL | 53494-70-5 | 0.05 | 0.024 | 0.037 | 0.037 | SUSDP17 | 2 | | 12 | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | SW8081B LL | 58-89-9 | 2.9 | 0.023 | 0.65 | 0.044 | SUSDP19 | 8 | | 12 | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | SW8081B LL | 76-44-8 | 1.2 | 0.52 | 0.86 | 0.86 | SUSDP19 | 2 | | 12 | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | SW8081B LL | 1024-57-3 | 1.5 | 0.025 | 0.67 | 0.48 | SUSDP08 | 3 | | 12 | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | SW8081B LL | 72-43-5 | 36 | 0.046 | 18 | 18 | SUSDP19 | 4 | | 12 | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | SW8081B LL | 8001-35-2 | | | | | | | | 12 | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | SW8081B LL | 5103-74-2 | 15 | 0.02 | 3.6 | 1.3 | SUSDP08 | 5 | | 12 | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | SW8082A/SW8082A LL | 12674-11-2 | 54 | 14 | 34 | 34 | SUSDP08 | 2 | | 425 | | < 21 U | < 45 U | < 9.1 U | < 50 U | < 92 U | < 4.7 U | < 4.7 U | < 5.2 U | < 4.9 U | < 6.1 U |
| Aroclor-1221 | ug/kg | | SW8082A/SW8082A LL | 11104-28-2 | | | | | | | | 425 | | < 21 U | < 45 U | < 9.1 U | < 50 U | < 92 U | < 4.7 U | < 4.7 U | < 5.2 U | < 4.9 U | < 6.1 U |
| Aroclor-1232 | ug/kg | | SW8082A/SW8082A LL | 11141-16-5 | | | | | | | | 425 | | < 21 U | < 45 U | < 9.1 U | < 50 U | < 92 U | < 4.7 U | < 4.7 U | < 5.2 U | < 4.9 U | < 6.1 U |
| Aroclor-1242 | ug/kg | | SW8082A/SW8082A LL | 53469-21-9 | 10000 | 9.6 | 780 | 130 | SUSDP21-1C | 21 | | 425 | | < 21 U | < 45 U | < 9.1 U | < 50 U | < 92 U | < 4.7 U | < 4.7 U | < 5.2 U | < 4.9 U | < 6.1 U |
| Aroclor-1248 | ug/kg | | SW8082A/SW8082A LL | 12672-29-6 | 6900 | 1 | 400 | 110 | SUSDP21-3M | 85 | 1 | 425 | | < 21 U | < 45 U | < 9.1 U | < 50 U | < 92 U | < 4.7 U | < 4.7 U | < 5.2 U | **170** | < 6.1 U |
| Aroclor-1254 | ug/kg | | SW8082A/SW8082A LL | 11097-69-1 | 4800 | 0.65 | 210 | 81 | SUSDP21-1C | 95 | 1 | 425 | | < 21 U | < 45 U | < 9.1 U | < 50 U | < 92 U | < 4.7 U | < 4.7 U | < 5.2 U | < 4.9 U | < 6.1 U |
| Aroclor-1260 | ug/kg | | SW8082A/SW8082A LL | 11096-82-5 | 450000 | 0.59 | 4400 | 150 | SUSDPGD21-G1 | 277 | | 425 | | **2900** | **2500** | **480** | **2800** | **540** | < 4.7 U | < 4.7 U | < 5.2 U | **180** | < 6.1 U |
| Aroclor-1262 | ug/kg | | SW8082A/SW8082A LL | 37324-23-5 | | | | | | | | 425 | | < 21 U | < 45 U | < 9.1 U | < 50 U | < 92 U | < 4.7 U | < 4.7 U | < 5.2 U | < 4.9 U | < 6.1 U |
| Aroclor-1268 | ug/kg | | SW8082A/SW8082A LL | 11100-14-4 | 300 | 0.41 | 35 | 19 | SUSDP12 | 44 | | 425 | | < 21 U | < 45 U | < 9.1 U | < 50 U | < 92 U | < 4.7 U | < 4.7 U | < 5.2 U | < 4.9 U | < 6.1 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | SW8082A/SW8082A LL | TOT-PCB-ARO-C | 450000 | 0.83 | 4400 | 230 | SUSDPGD21-G1 | 291 | | 425 | | **2900** | **2500** | **480** | **2800** | **540** | < 4.7 U | < 4.7 U | < 5.2 U | **350** | < 6.1 U |

## Table 4-8
## Subsurface Soil Results
## PCBs and Pesticides Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | DP27 | DP28 | DP28 | DP28 | DP29 | DP29 | DP29 | DP30 | DP30 | DP31 | DP31 | DP32 | DP32 | DP32 | DP32 | DP33 | DP33 | DP34 | DP34 | DP34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/26/2013 | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/2/2013 | 4/3/2013 | 4/3/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/1/2013 | 4/4/2013 | 4/4/2013 | 3/13/2013 | 3/29/2013 | 3/29/2013 |
| | | | Sample ID | DPS2758N | DPS2808N | DPS2821N | DPS2832N | DPS2910N | DPS2930N | DPS2950N | DPS3050N | DPS3028N | DPS3120N | DPS3142N | DPS3210N | DPS3210R | DPS3230N | DPS3243N | DPS3315N | DPS3335N | DPS3405N | DPS3418N | DPS3445N |
| | | | Depth | 57.5 - 58.5 ft | 7.5 - 8.5 ft | 20.5 - 21.5 ft | 31 - 33 ft | 9 - 11 ft | 29 - 31 ft | 49 - 51 ft | 49 - 51 ft | 27 - 29 ft | 19.5 - 20.5 ft | 41.5 - 42.5 ft | 9.5 - 10.5 ft | 9.5 - 10.5 ft | 29.5 - 30.5 ft | 42.5 - 43.5 ft | 14 - 16 ft | 34 - 36 ft | 4.5 - 5.5 ft | 17.5 - 18.5 ft | 44.5 - 45.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 1.0 U | < 0.90 U | < 0.92 U | < 1.2 U | < 1.0 U | < 0.98 U | < 0.96 U | < 1.1 U | < 0.98 U | < 0.94 U | < 1.0 U | < 0.99 U | < 0.98 U | < 0.93 U | < 1.0 U | < 0.98 U | < 1.3 U | < 0.98 U | < 5.5 U | < 4.9 U |
| Aroclor-1221 | ug/kg | | | < 1.0 U | < 0.90 U | < 0.92 U | < 1.2 U | < 1.0 U | < 0.98 U | < 0.96 U | < 1.1 U | < 0.98 U | < 0.94 U | < 1.0 U | < 0.99 U | < 0.98 U | < 0.93 U | < 1.0 U | < 0.98 U | < 1.3 U | < 0.98 U | < 5.5 U | < 4.9 U |
| Aroclor-1232 | ug/kg | | | < 1.0 U | < 0.90 U | < 0.92 U | < 1.2 U | < 1.0 U | < 0.98 U | < 0.96 U | < 1.1 U | < 0.98 U | < 0.94 U | < 1.0 U | < 0.99 U | < 0.98 U | < 0.93 U | < 1.0 U | < 0.98 U | < 1.3 U | < 0.98 U | < 5.5 U | < 4.9 U |
| Aroclor-1242 | ug/kg | | | < 1.0 U | < 0.90 U | < 0.92 U | < 1.2 U | < 1.0 U | < 0.98 U | < 0.96 U | < 1.1 U | < 0.98 U | < 0.94 U | < 1.0 U | < 0.99 U | < 0.98 U | < 0.93 U | < 1.0 U | < 0.98 U | < 1.3 U | < 0.98 U | < 5.5 U | < 4.9 U |
| Aroclor-1248 | ug/kg | | | < 1.0 U | < 0.90 U | < 0.92 U | < 1.2 U | < 1.0 U | < 0.98 U | < 0.96 U | < 1.1 U | < 0.98 U | < 0.94 U | < 1.0 U | < 0.99 U | < 0.98 U | < 0.93 U | < 1.0 U | < 0.98 U | < 1.3 U | < 0.98 U | < 5.5 U | < 4.9 U |
| Aroclor-1254 | ug/kg | | | < 1.0 U | < 0.90 U | < 0.92 U | < 1.2 U | < 1.0 U | < 0.98 U | < 0.96 U | < 1.1 U | < 0.98 U | < 0.94 U | < 1.0 U | < 0.99 U | < 0.98 U | < 0.93 U | < 1.0 U | < 0.98 U | < 1.3 U | < 0.98 U | < 5.5 U | < 4.9 U |
| Aroclor-1260 | ug/kg | | | < 1.0 U | < 0.90 U | < 0.92 U | < 1.2 U | < 1.0 U | < 0.98 U | < 0.96 U | < 1.1 U | < 0.98 U | < 0.94 U | < 1.0 U | < 0.99 U | < 0.98 U | < 0.93 U | < 1.0 U | < 0.98 U | < 1.3 U | < 0.98 U | < 5.5 U | < 4.9 U |
| Aroclor-1262 | ug/kg | | | < 1.0 U | < 0.90 U | < 0.92 U | < 1.2 U | < 1.0 U | < 0.98 U | < 0.96 U | < 1.1 U | < 0.98 U | < 0.94 U | < 1.0 U | < 0.99 U | < 0.98 U | < 0.93 U | < 1.0 U | < 0.98 U | < 1.3 U | < 0.98 U | < 5.5 U | < 4.9 U |
| Aroclor-1268 | ug/kg | | | < 1.0 U | < 0.90 U | < 0.92 U | < 1.2 U | < 1.0 U | < 0.98 U | < 0.96 U | < 1.1 U | < 0.98 U | < 0.94 U | < 1.0 U | < 0.99 U | < 0.98 U | < 0.93 U | < 1.0 U | < 0.98 U | < 1.3 U | < 0.98 U | < 5.5 U | < 4.9 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | < 1.0 U | < 0.90 U | < 0.92 U | < 1.2 U | < 1.0 U | < 0.98 U | < 0.96 U | < 1.1 U | < 0.98 U | < 0.94 U | < 1.0 U | < 0.99 U | < 0.98 U | < 0.93 U | < 1.0 U | < 0.98 U | < 1.3 U | < 0.98 U | < 5.5 U | < 4.9 U |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP34 | DP35 | DP35 | DP36 | DP36 | DP36 | DP38 | DP38 | DP38 | DP40 | DP40 | DP40 | DP42 | DP42 | DP42 | DP45 | DP45 | DP45 | DP46 | DP46 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/29/2013 | 3/28/2013 | 3/28/2013 | 5/17/2013 | 5/20/2013 | 5/20/2013 | 5/16/2013 | 5/22/2013 | 5/22/2013 | 5/20/2013 | 5/28/2013 | 5/28/2013 | 5/21/2013 | 5/29/2013 | 5/29/2013 | 5/23/2013 | 6/4/2013 | 6/4/2013 | 5/22/2013 | 6/5/2013 |
| | | | Sample ID | DPS3460N | DPS3515N | DPS3534N | DPS3605N | DPS3610N | DPS3615N | DPS3805N | DPS3810N | DPS3815N | DPS4003N | DPS4010N | DPS4015N | DPS4205N | DPS4210N | DPS4215N | DPS4503N | DPS4510N | DPS4515N | DPS4605N | DPS4610N |
| | | | Depth | 59.5 - 60.5 ft | 14.5 - 15.5 ft | 33.5 - 34.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 5.0 U | < 4.9 U | < 5.1 U | < 1.0 U | < 4.7 U | < 4.7 U | < 0.92 U | < 4.7 U | < 4.4 U | **14** | < 4.9 U | < 4.5 U | < 4.7 U | < 5.4 U | < 5.3 U | < 4.9 U | < 4.4 U | < 4.7 U | < 4.3 U | < 4.8 U |
| Aroclor-1221 | ug/kg | | | < 5.0 U | < 4.9 U | < 5.1 U | < 1.0 U | < 4.7 U | < 4.7 U | < 0.92 U | < 4.7 U | < 4.4 U | < 5.0 U | < 4.9 U | < 4.5 U | < 4.7 U | < 5.4 U | < 5.3 U | < 4.9 U | < 4.4 U | < 4.7 U | < 4.3 U | < 4.8 U |
| Aroclor-1232 | ug/kg | | | < 5.0 U | < 4.9 U | < 5.1 U | < 1.0 U | < 4.7 U | < 4.7 U | < 0.92 U | < 4.7 U | < 4.4 U | < 5.0 U | < 4.9 U | < 4.5 U | < 4.7 U | < 5.4 U | < 5.3 U | < 4.9 U | < 4.4 U | < 4.7 U | < 4.3 U | < 4.8 U |
| Aroclor-1242 | ug/kg | | | < 5.0 U | < 4.9 U | < 5.1 U | < 1.0 U | < 4.7 U | < 4.7 U | < 0.92 U | < 4.7 U | < 4.4 U | < 5.0 U | < 4.9 U | < 4.5 U | < 4.7 U | < 5.4 U | < 5.3 U | < 4.9 U | < 4.4 U | < 4.7 U | < 4.3 U | < 4.8 U |
| Aroclor-1248 | ug/kg | | | < 5.0 U | < 4.9 U | < 5.1 U | < 1.0 U | < 4.7 U | < 4.7 U | < 0.92 U | < 4.7 U | < 4.4 U | < 5.0 U | **3.6 J** | < 4.5 U | < 4.7 U | < 5.4 U | < 5.3 U | < 4.9 U | < 4.4 U | < 4.7 U | < 4.3 U | < 4.8 U |
| Aroclor-1254 | ug/kg | | | < 5.0 U | < 4.9 U | < 5.1 U | < 1.0 U | < 4.7 U | < 4.7 U | < 0.92 U | < 4.7 U | < 4.4 U | **170** | < 4.9 U | < 4.5 U | < 4.7 U | **40 J** | **160 J** | < 4.9 U | < 4.4 U | < 4.7 U | < 4.3 U | < 4.8 U |
| Aroclor-1260 | ug/kg | | | < 5.0 U | < 4.9 U | < 5.1 U | < 1.0 U | < 4.7 U | < 4.7 U | < 0.92 U | **5.2** | **1.9 J** | < 5.0 U | **10 J** | < 4.5 U | **23** | **24 J** | **50 J** | **2.5 J** | < 4.4 U | < 4.7 U | **1.5 J** | < 4.8 U |
| Aroclor-1262 | ug/kg | | | < 5.0 U | < 4.9 U | < 5.1 U | < 1.0 U | < 4.7 U | < 4.7 U | < 0.92 U | < 4.7 U | < 4.4 U | < 5.0 U | < 4.9 U | < 4.5 U | < 4.7 U | < 5.4 U | < 5.3 U | < 4.9 U | < 4.4 U | < 4.7 U | < 4.3 U | < 4.8 U |
| Aroclor-1268 | ug/kg | | | < 5.0 U | < 4.9 U | < 5.1 U | < 1.0 U | < 4.7 U | < 4.7 U | < 0.92 U | < 4.7 U | < 4.4 U | < 5.0 U | < 4.9 U | < 4.5 U | < 4.7 U | < 5.4 U | < 5.3 U | < 4.9 U | < 4.4 U | < 4.7 U | < 4.3 U | < 4.8 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | < 5.0 U | < 4.9 U | < 5.1 U | < 1.0 U | < 4.7 U | < 4.7 U | < 0.92 U | **5.2** | **1.9** | **180** | **14** | < 4.5 U | **23** | **64** | **210** | **2.5** | < 4.4 U | < 4.7 U | **1.5** | < 4.8 U |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP46 | DP47 | DP47 | DP47 | SB2 | SB2 | SB2 | SB2 | SBS0303N-North | SUSDP01 | SUSDP01 | SUSDP01 | SUSDP02 | SUSDP02 | SUSDP02 | SUSDP02 | SUSDP02 | SUSDP03 | SUSDP03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/5/2013 | 5/28/2013 | 6/5/2013 | 6/5/2013 | 1/25/2017 | 1/25/2017 | 1/26/2017 | 1/26/2017 | 2/15/2017 | 5/20/2013 | 5/20/2013 | 5/20/2013 | 5/14/2013 | 5/20/2013 | 5/20/2013 | 1/25/2017 | 1/25/2017 | 5/14/2013 | 5/21/2013 |
| | | | Sample ID | DPS4615N | DPS4702N | DPS4710N | DPS4715N | SBS0201N | SBS0202-05N | SBS0205-10N | SBS0210-15N | SB50303N-NORTH | DPS0103N | DPS0110N | DPS0115N | DPS0205N | DPS0210N | DPS0215N | DPS02F01N | DPS02F02-05N | DPS0305N | DPS0310N |
| | | | Depth | 14.5 - 15.5 ft | 1.5 - 2.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 3 - 3.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | < 0.91 U | | | < 0.095 U | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | < 0.91 U | | | < 0.095 U | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | < 0.91 U | | | **0.070 J** | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | < 0.91 U | | | < 0.095 U | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | < 0.91 U | | | < 0.095 U | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | < 0.91 U | | | < 0.095 U | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | < 0.91 U | | | < 0.095 U | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | < 0.91 U | | | < 0.095 U | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | < 0.91 U | | | < 0.095 U | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | < 0.91 U | | | < 0.095 U | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | < 0.91 U | | | < 0.095 U | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | < 0.91 U | | | **0.074 J** | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | < 0.91 U | | | **0.042 J** | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | < 0.91 U | | | **0.031 J** | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | < 0.91 U | | | < 0.095 U | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | < 0.91 U | | | **0.053 J** | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | < 0.91 U | | | < 0.095 U | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | < 0.91 U | | | < 0.095 U | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | < 1.8 U | | | < 0.19 U | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | < 36 U | | | < 3.8 U | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | < 0.91 U | | | < 0.095 U | | | | | | |
| Aroclor-1016 | ug/kg | | | < 4.9 U | < 4.5 U | < 4.6 U | < 4.9 U | < 0.89 U | < 0.85 U | < 0.90 U | < 1.0 U | < 18 U | < 4.5 U | < 4.5 U | < 4.9 U | < 0.95 U | < 4.5 U | < 4.8 U | < 1.8 U | < 1.0 U | < 0.96 U | < 4.6 U |
| Aroclor-1221 | ug/kg | | | < 4.9 U | < 4.5 U | < 4.6 U | < 4.9 U | < 0.89 U | < 0.85 U | < 0.90 U | < 1.0 U | < 18 U | < 4.5 U | < 4.5 U | < 4.9 U | < 0.95 U | < 4.5 U | < 4.8 U | < 1.8 U | < 1.0 U | < 0.96 U | < 4.6 U |
| Aroclor-1232 | ug/kg | | | < 4.9 U | < 4.5 U | < 4.6 U | < 4.9 U | < 0.89 U | < 0.85 U | < 0.90 U | < 1.0 U | < 18 U | < 4.5 U | < 4.5 U | < 4.9 U | < 0.95 U | < 4.5 U | < 4.8 U | < 1.8 U | < 1.0 U | < 0.96 U | < 4.6 U |
| Aroclor-1242 | ug/kg | | | < 4.9 U | < 4.5 U | < 4.6 U | < 4.9 U | < 0.89 U | < 0.85 U | < 0.90 U | < 1.0 U | < 18 U | < 4.5 U | < 4.5 U | < 4.9 U | < 0.95 U | < 4.5 U | < 4.8 U | < 1.8 U | < 1.0 U | < 0.96 U | < 4.6 U |
| Aroclor-1248 | ug/kg | | | < 4.9 U | < 4.5 U | < 4.6 U | < 4.9 U | < 0.89 U | < 0.85 U | < 0.90 U | < 1.0 U | < 18 U | < 4.5 U | < 4.5 U | < 4.9 U | < 0.95 U | < 4.5 U | < 4.8 U | < 1.8 U | < 1.0 U | < 0.96 U | < 4.6 U |
| Aroclor-1254 | ug/kg | | | < 4.9 U | < 4.5 U | < 4.6 U | < 4.9 U | < 0.89 U | < 0.85 U | < 0.90 U | < 1.0 U | < 18 U | < 4.5 U | < 4.5 U | < 4.9 U | < 0.95 U | < 4.5 U | < 4.8 U | < 1.8 U | < 1.0 U | < 0.96 U | < 4.6 U |
| Aroclor-1260 | ug/kg | | | < 4.9 U | **340** | < 4.6 U | < 4.9 U | < 0.89 U | **0.83 J** | < 0.90 U | < 1.0 U | **1300** | < 4.5 U | < 4.5 U | < 4.9 U | < 0.95 U | < 4.5 U | < 4.8 U | **86** | **2.7** | **0.91 J** | < 4.6 U |
| Aroclor-1262 | ug/kg | | | < 4.9 U | < 4.5 U | < 4.6 U | < 4.9 U | < 0.89 U | < 0.85 U | < 0.90 U | < 1.0 U | < 18 U | < 4.5 U | < 4.5 U | < 4.9 U | < 0.95 U | < 4.5 U | < 4.8 U | < 1.8 U | < 1.0 U | < 0.96 U | < 4.6 U |
| Aroclor-1268 | ug/kg | | | < 4.9 U | < 4.5 U | < 4.6 U | < 4.9 U | < 0.89 U | < 0.85 U | < 0.90 U | < 1.0 U | < 18 U | < 4.5 U | < 4.5 U | < 4.9 U | < 0.95 U | < 4.5 U | < 4.8 U | < 1.8 U | < 1.0 U | < 0.96 U | < 4.6 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | < 4.9 U | **340** | < 4.6 U | < 4.9 U | < 0.89 U | **0.83** | < 0.9 U | < 1 U | **1300** | < 4.5 U | < 4.5 U | < 4.9 U | < 0.95 U | < 4.5 U | < 4.8 U | **86** | **2.7** | **0.91** | < 4.6 U |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP03 | SUSDP03 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04 | SUSDP04-1A | SUSDP04-1A | SUSDP04-1A | SUSDP04-1C | SUSDP04-1C | SUSDP04-1C | SUSDP04-1E | SUSDP04-1E | SUSDP04-1E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/21/2013 | 5/21/2013 | 5/15/2013 | 5/20/2013 | 5/20/2013 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 1/27/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 |
| | | | Sample ID | DPS0310R | DPS0315N | DPS0403N | DPS0410N | DPS0415N | DPS04F01N | DPS04F01R | DPS04F02-05N | DPS04F10-15N | DPS041A02N | DPS041A03N | DPS041A04N | DPS041C02N | DPS041C03N | DPS041C04N | DPS041E02N | DPS041E03N | DPS041E04N |
| | | | Depth | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 5 ft | 10 - 15 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft |
| | | | Type | FD | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 4.4 U | < 4.5 U | < 0.99 U | < 4.5 U | < 4.4 U | < 5.8 U | < 5.0 U | < 23 U | < 0.88 U | < 9.1 U | < 9.2 U | < 9.7 U | < 8.7 U | < 8.8 U | < 9.3 U | < 44 U | < 9.2 U | < 8.8 U |
| Aroclor-1221 | ug/kg | | | < 4.4 U | < 4.5 U | < 0.99 U | < 4.5 U | < 4.4 U | < 5.8 U | < 5.0 U | < 23 U | < 0.88 U | < 9.1 U | < 9.2 U | < 9.7 U | < 8.7 U | < 8.8 U | < 9.3 U | < 44 U | < 9.2 U | < 8.8 U |
| Aroclor-1232 | ug/kg | | | < 4.4 U | < 4.5 U | < 0.99 U | < 4.5 U | < 4.4 U | < 5.8 U | < 5.0 U | < 23 U | < 0.88 U | < 9.1 U | < 9.2 U | < 9.7 U | < 8.7 U | < 8.8 U | < 9.3 U | < 44 U | < 9.2 U | < 8.8 U |
| Aroclor-1242 | ug/kg | | | < 4.4 U | < 4.5 U | < 0.99 U | < 4.5 U | < 4.4 U | < 5.8 U | < 5.0 U | **1600 J+** | < 0.88 U | < 9.1 U | **450 J+** | **63 J+** | < 8.7 U | < 8.8 U | **11 J+** | **1100 J+** | **76 J+** | **9.6 J+** |
| Aroclor-1248 | ug/kg | | | < 4.4 U | < 4.5 U | < 0.99 U | < 4.5 U | < 4.4 U | **120 J+** | **150 J+** | < 23 U | < 0.88 U | **9.9 J+** | < 9.2 U | < 9.7 U | < 8.7 U | < 8.8 U | < 9.3 U | < 44 U | < 9.2 U | < 8.8 U |
| Aroclor-1254 | ug/kg | | | < 4.4 U | < 4.5 U | < 0.99 U | < 4.5 U | < 4.4 U | **93 J+** | **83 J+** | **910 J+** | < 0.88 U | **11 J+** | **320 J+** | **44 J+** | **37 J+** | **25 J+** | **6.1 J+** | **1800 J+** | **110 J+** | **9.6 J+** |
| Aroclor-1260 | ug/kg | | | < 4.4 U | < 4.5 U | < 0.99 U | < 4.5 U | < 4.4 U | **87 J+** | **81 J+** | **2300 J+** | < 0.88 U | **23 J+** | **340 J+** | **43 J+** | **29 J+** | **11 J+** | < 9.3 U | **4000 J+** | **200 J+** | **11 J+** |
| Aroclor-1262 | ug/kg | | | < 4.4 U | < 4.5 U | < 0.99 U | < 4.5 U | < 4.4 U | < 5.8 U | < 5.0 U | < 23 U | < 0.88 U | < 9.1 U | < 9.2 U | < 9.7 U | < 8.7 U | < 8.8 U | < 9.3 U | < 44 U | < 9.2 U | < 8.8 U |
| Aroclor-1268 | ug/kg | | | < 4.4 U | < 4.5 U | < 0.99 U | < 4.5 U | < 4.4 U | < 5.8 U | < 5.0 U | < 23 U | < 0.88 U | < 9.1 U | < 9.2 U | < 9.7 U | < 8.7 U | < 8.8 U | < 9.3 U | < 44 U | < 9.2 U | < 8.8 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | < 4.4 U | < 4.5 U | < 0.99 U | < 4.5 U | < 4.4 U | **300** | **310** | **4800** | < 0.88 U | **44** | **1100** | **150** | **66** | **36** | **17** | **6900** | **390** | **30** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP04-1G | SUSDP04-1G | SUSDP04-1G | SUSDP04-1G | SUSDP04-2I | SUSDP05 | SUSDP05 | SUSDP05 | SUSDP05 | SUSDP05 | SUSDP06 | SUSDP06 | SUSDP06 | SUSDP06 | SUSDP06 | SUSDP07 | SUSDP07 | SUSDP07 | SUSDP08 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/1/2017 | 8/1/2017 | 8/1/2017 | 8/1/2017 | 2/1/2018 | 5/15/2013 | 5/21/2013 | 5/21/2013 | 1/24/2017 | 1/24/2017 | 5/15/2013 | 5/22/2013 | 5/22/2013 | 3/13/2017 | 3/13/2017 | 5/15/2013 | 5/22/2013 | 5/22/2013 | 5/15/2013 |
| | | | Sample ID | DPS041G02N | DPS041G03N | DPS041G04N | DPS041G05N | DPS042I02N | DPS0505N | DPS0510N | DPS0515N | DPS05F01N | DPS05F02-05N | DPS0605N | DPS0610N | DPS0615N | DPS06F01N | DPS06F02-05N | DPS0705N | DPS0710N | DPS0715N | DPS0803N |
| | | | Depth | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 2 - 3 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | | **1.6 J** |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | | | **58** |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | | | **10 J** |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | | | **1.6** |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | | < 1.0 U |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | | < 1.0 U |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | | **6.5** |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | | **0.63 J** |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | | | < 1.0 U |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | < 1.0 U |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | **0.79 J** |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | | **2.1 J** |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | **15** |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | **1.6** |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | | < 1.0 U |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | | **0.72 J** |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | | | **0.52 J** |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | | | **1.5 J** |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | | | **14 J** |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | | | < 40 U |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | | **15** |
| Aroclor-1016 | ug/kg | | | < 2.6 U | < 2.4 U | < 2.8 U | < 1.0 U | < 0.90 U | < 0.96 U | < 4.4 U | < 4.5 U | < 4.5 U | < 4.5 U | < 1.0 U | < 4.9 U | < 4.6 U | < 4.8 U | < 4.4 U | < 1.0 U | < 4.8 U | < 5.0 U | **54** |
| Aroclor-1221 | ug/kg | | | < 2.6 U | < 2.4 U | < 2.8 U | < 1.0 U | < 0.90 U | < 0.96 U | < 4.4 U | < 4.5 U | < 4.5 U | < 4.5 U | < 1.0 U | < 4.9 U | < 4.6 U | < 4.8 U | < 4.4 U | < 1.0 U | < 4.8 U | < 5.0 U | < 10 U |
| Aroclor-1232 | ug/kg | | | < 2.6 U | < 2.4 U | < 2.8 U | < 1.0 U | < 0.90 U | < 0.96 U | < 4.4 U | < 4.5 U | < 4.5 U | < 4.5 U | < 1.0 U | < 4.9 U | < 4.6 U | < 4.8 U | < 4.4 U | < 1.0 U | < 4.8 U | < 5.0 U | < 10 U |
| Aroclor-1242 | ug/kg | | | < 2.6 U | < 2.4 U | < 2.8 U | **94 J+** | **38** | < 0.96 U | < 4.4 U | < 4.5 U | < 4.5 U | < 4.5 U | < 1.0 U | < 4.9 U | < 4.6 U | < 4.8 U | < 4.4 U | < 1.0 U | < 4.8 U | < 5.0 U | < 10 U |
| Aroclor-1248 | ug/kg | | | < 2.6 U | **270** | **530** | < 1.0 U | < 0.90 U | < 0.96 U | < 4.4 U | < 4.5 U | < 4.5 U | < 4.5 U | < 1.0 U | < 4.9 U | < 4.6 U | < 4.8 U | < 4.4 U | < 1.0 U | < 4.8 U | < 5.0 U | < 10 U |
| Aroclor-1254 | ug/kg | | | < 2.6 U | < 2.4 U | < 2.8 U | **59 J+** | < 0.90 U | **3.3** | **19** | **190** | **13 J+** | **48 J+** | < 1.0 U | < 4.9 U | < 4.6 U | < 4.8 U | < 4.4 U | < 1.0 U | < 4.8 U | < 5.0 U | **360** |
| Aroclor-1260 | ug/kg | | | **33** | **250** | **850** | **130 J+** | **110** | < 0.96 U | < 4.4 U | < 4.5 U | **55 J+** | **16 J+** | **5.0 J** | < 4.9 U | **12** | < 4.8 U | < 4.4 U | **1.2** | < 4.8 U | < 5.0 U | < 10 U |
| Aroclor-1262 | ug/kg | | | < 2.6 U | < 2.4 U | < 2.8 U | < 1.0 U | < 0.90 U | < 0.96 U | < 4.4 U | < 4.5 U | < 4.5 U | < 4.5 U | < 1.0 U | < 4.9 U | < 4.6 U | < 4.8 U | < 4.4 U | < 1.0 U | < 4.8 U | < 5.0 U | < 10 U |
| Aroclor-1268 | ug/kg | | | < 2.6 U | < 2.4 U | < 2.8 U | < 1.0 U | < 0.90 U | < 0.96 U | < 4.4 U | < 4.5 U | < 4.5 U | < 4.5 U | **7.8 J** | < 4.9 U | < 4.6 U | < 4.8 U | < 4.4 U | < 1.0 U | < 4.8 U | < 5.0 U | < 10 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **33** | **520** | **1400** | **280** | **150** | **3.3** | **19** | **190** | **68** | **64** | **13** | < 4.9 U | **12** | < 4.8 U | < 4.4 U | **1.2** | < 4.8 U | < 5.0 U | **410** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08 | SUSDP08-1E | SUSDP08-1E | SUSDP09 | SUSDP09 | SUSDP09 | SUSDP10 | SUSDP10 | SUSDP10 | SUSDP10 | SUSDP10 | SUSDP10-3F | SUSDP10-3X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/23/2013 | 5/23/2013 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 8/2/2017 | 8/2/2017 | 5/17/2013 | 6/11/2013 | 6/11/2013 | 5/15/2013 | 6/10/2013 | 6/10/2013 | 1/27/2017 | 1/27/2017 | 8/8/2017 | 8/8/2017 |
| | | | Sample ID | DPS0810N | DPS0815N | DPS08F01N | DPS08F02-05N | DPS08F05-10N | DPS08F10-15N | DPS081E01N | DPS081E01R | DPS0905N | DPS0910N | DPS0915N | DPS1005N | DPS1010N | DPS1015N | DPS10F01N | DPS10F02-05N | DPS103F01N | DPS103X01N |
| | | | Depth | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 1 - 2 ft | 1 - 2 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 1 - 2 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | < 0.51 U | | | < 0.47 UJ | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | **0.27 J** | | | < 0.47 UJ | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | < 0.51 U | | | < 0.47 U | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | < 0.51 U | | | < 0.47 UJ | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | < 0.51 U | | | < 0.47 UJ | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | < 0.51 U | | | < 0.47 UJ | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | < 0.51 U | | | < 0.47 U | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | < 0.51 U | | | < 0.47 U | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | < 0.51 U | | | < 0.47 UJ | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | < 0.51 U | | | < 0.47 UJ | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | < 0.51 U | | | < 0.47 UJ | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | **0.054 J** | | | **0.054 J** | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | **0.099 J** | | | < 0.47 U | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | < 0.51 U | | | **0.091 J** | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | < 0.51 U | | | < 0.47 UJ | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | < 0.51 U | | | < 0.47 UJ | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | < 0.51 U | | | < 0.47 U | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | < 0.51 U | | | < 0.47 UJ | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | < 1.0 U | | | < 0.94 U | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | < 20 U | | | < 19 U | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | < 0.51 U | | | < 0.47 U | | | | | | |
| Aroclor-1016 | ug/kg | | | < 4.9 U | < 5.2 U | < 5.4 U | < 4.8 U | < 4.9 U | < 5.1 U | < 2.9 U | < 3.2 U | < 5.1 U | < 5.1 U | < 4.5 U | < 4.7 U | < 4.6 U | < 4.9 U | < 11 U | < 0.95 U | < 4.5 U | < 9.1 U |
| Aroclor-1221 | ug/kg | | | < 4.9 U | < 5.2 U | < 5.4 U | < 4.8 U | < 4.9 U | < 5.1 U | < 2.9 U | < 3.2 U | < 5.1 U | < 5.1 U | < 4.5 U | < 4.7 U | < 4.6 U | < 4.9 U | < 11 U | < 0.95 U | < 4.5 U | < 9.1 U |
| Aroclor-1232 | ug/kg | | | < 4.9 U | < 5.2 U | < 5.4 U | < 4.8 U | < 4.9 U | < 5.1 U | < 2.9 U | < 3.2 U | < 5.1 U | < 5.1 U | < 4.5 U | < 4.7 U | < 4.6 U | < 4.9 U | < 11 U | < 0.95 U | < 4.5 U | < 9.1 U |
| Aroclor-1242 | ug/kg | | | < 4.9 U | < 5.2 U | < 5.4 U | < 4.8 U | < 4.9 U | < 5.1 U | < 2.9 U | < 3.2 U | < 5.1 U | < 5.1 U | < 4.5 U | < 4.7 U | < 4.6 U | < 4.9 U | < 11 U | < 0.95 U | < 4.5 U | < 9.1 U |
| Aroclor-1248 | ug/kg | | | **79 J** | < 5.2 U | **480 J+** | **50 J+** | < 4.9 U | < 5.1 U | < 2.9 U | < 3.2 U | < 5.1 U | < 5.1 U | < 4.5 U | < 4.7 U | < 4.6 U | **4.0 J** | < 11 U | < 0.95 U | **95 J+** | **1700 J+** |
| Aroclor-1254 | ug/kg | | | < 4.9 U | < 5.2 U | **370 J+** | **30 J+** | < 4.9 U | < 5.1 U | **400 J** | < 3.2 UJ | < 5.1 U | < 5.1 U | < 4.5 U | < 4.7 U | < 4.6 U | < 4.9 U | < 11 U | < 0.95 U | **120 J+** | **310 J+** |
| Aroclor-1260 | ug/kg | | | **65 J** | < 5.2 U | **120 J+** | **23 J+** | **140 J+** | < 5.1 U | **200 J+** | **130** | < 5.1 U | < 5.1 U | < 4.5 U | < 4.7 U | < 4.6 U | **5.9** | **9.4 J** | < 0.95 U | **93 J+** | **170 J+** |
| Aroclor-1262 | ug/kg | | | < 4.9 U | < 5.2 U | < 5.4 U | < 4.8 U | < 4.9 U | < 5.1 U | < 2.9 U | < 3.2 U | < 5.1 U | < 5.1 U | < 4.5 U | < 4.7 U | < 4.6 U | < 4.9 U | < 11 U | < 0.95 U | < 4.5 U | < 9.1 U |
| Aroclor-1268 | ug/kg | | | < 4.9 U | < 5.2 U | < 5.4 U | < 4.8 U | < 4.9 U | < 5.1 U | < 2.9 U | < 3.2 U | < 5.1 U | < 5.1 U | < 4.5 U | < 4.7 U | < 4.6 U | < 4.9 U | < 11 U | < 0.95 U | **16 J+** | < 9.1 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **140** | < 5.2 U | **970** | **100** | **140** | < 5.1 U | **600** | **130** | < 5.1 U | < 5.1 U | < 4.5 U | < 4.7 U | < 4.6 U | **9.9** | **9.4** | < 0.95 U | **320** | **2200** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP10-3X | SUSDP10-3X | SUSDP10-3X | SUSDP10-4E | SUSDP10-4NW | SUSDP10-4NW | SUSDP10-4NW | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11 | SUSDP11-1A | SUSDP11-1A | SUSDP11-1A | SUSDP11-1A | SUSDP11-1A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/8/2017 | 8/8/2017 | 8/8/2017 | 2/1/2018 | 1/30/2018 | 1/30/2018 | 1/30/2018 | 5/14/2013 | 5/28/2013 | 5/28/2013 | 1/25/2017 | 1/25/2017 | 1/25/2017 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 |
| | | | Sample ID | DPS103X02N | DPS103X03N | DPS103X04N | DPS104E01N | DPS104NW01N | DPS104NW02N | DPS104NW03N | DPS1105N | DPS1110N | DPS1115N | DPS11F01N | DPS11F02-05N | DPS11F05-10N | DPS111A01N | DPS111A02N | DPS111A03N | DPS111A04N | DPS111A05N |
| | | | Depth | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | **0.085 J** | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | **0.018 J** | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | **0.085 J** | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | **0.034 J** | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | < 0.099 U | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | < 0.099 U | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | < 0.099 U | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | < 0.099 U | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | **0.036 J** | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | < 0.099 U | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | < 0.099 U | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | **0.076 J** | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | **0.18** | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | < 0.099 U | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | < 0.099 U | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | **0.035 J** | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | < 0.099 U | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | < 0.099 U | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | < 0.20 U | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | < 4.0 U | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | < 0.099 U | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 9.9 U | < 10 U | < 10 U | < 0.95 U | < 0.93 U | < 0.93 U | < 0.93 U | < 0.99 U | < 5.2 U | < 4.8 U | < 430 U | < 5.0 U | < 1.0 U | < 930 U | < 940 U | < 1000 U | < 1200 U | < 97 U |
| Aroclor-1221 | ug/kg | | | < 9.9 U | < 10 U | < 10 U | < 0.95 U | < 0.93 U | < 0.93 U | < 0.93 U | < 0.99 U | < 5.2 U | < 4.8 U | < 430 U | < 5.0 U | < 1.0 U | < 930 U | < 940 U | < 1000 U | < 1200 U | < 97 U |
| Aroclor-1232 | ug/kg | | | < 9.9 U | < 10 U | < 10 U | < 0.95 U | < 0.93 U | < 0.93 U | < 0.93 U | < 0.99 U | < 5.2 U | < 4.8 U | < 430 U | < 5.0 U | < 1.0 U | < 930 U | < 940 U | < 1000 U | < 1200 U | < 97 U |
| Aroclor-1242 | ug/kg | | | < 9.9 U | < 10 U | < 10 U | < 0.95 U | < 0.93 U | < 0.93 U | < 0.93 U | < 0.99 U | < 5.2 U | < 4.8 U | < 430 U | < 5.0 U | < 1.0 U | < 930 U | < 940 U | < 1000 U | < 1200 U | < 97 U |
| Aroclor-1248 | ug/kg | | | **1300** | **600 J** | **330 J+** | **1.0 J+** | < 0.93 U | < 0.93 U | < 0.93 U | < 0.99 U | < 5.2 U | < 4.8 U | < 430 U | < 5.0 U | < 1.0 U | < 930 U | < 940 U | < 1000 U | < 1200 U | < 97 U |
| Aroclor-1254 | ug/kg | | | < 9.9 U | **600 J+** | **89 J+** | **0.65 J+** | **69 J+** | **49 J+** | < 0.93 U | < 0.99 U | < 5.2 U | < 4.8 U | < 430 U | < 5.0 U | < 1.0 U | < 930 U | < 940 U | < 1000 U | < 1200 U | < 97 U |
| Aroclor-1260 | ug/kg | | | **570** | **720 J+** | **110 J+** | **0.59 J+** | **99 J+** | **51 J+** | **12** | **1.9** | < 5.2 U | **3.5 J** | **11000** | **1400** | < 1.0 U | **10000** | **7600** | **9100** | **14000** | **5500** |
| Aroclor-1262 | ug/kg | | | < 9.9 U | < 10 U | < 10 U | < 0.95 U | < 0.93 U | < 0.93 U | < 0.93 U | < 0.99 U | < 5.2 U | < 4.8 U | < 430 U | < 5.0 U | < 1.0 U | < 930 U | < 940 U | < 1000 U | < 1200 U | < 97 U |
| Aroclor-1268 | ug/kg | | | < 9.9 U | < 10 U | < 10 U | < 0.95 U | < 0.93 U | < 0.93 U | < 0.93 U | < 0.99 U | < 5.2 U | < 4.8 U | < 430 U | < 5.0 U | < 1.0 U | < 930 U | < 940 U | < 1000 U | < 1200 U | < 97 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **1900** | **1900** | **530** | **2.2** | **170** | **100** | **12** | **1.9** | < 5.2 U | **3.5** | **11000** | **1400** | < 1 U | **10000** | **7600** | **9100** | **14000** | **5500** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP11-1A | SUSDP11-1B | SUSDP11-1B | SUSDP11-1B | SUSDP11-1B | SUSDP11-1B | SUSDP11-1H | SUSDP11-1H | SUSDP11-1H | SUSDP11-1H | SUSDP11-1H | SUSDP11-2A | SUSDP11-2A | SUSDP11-2A | SUSDP11-2A | SUSDP11-2A | SUSDP11-2D | SUSDP11-2N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/28/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 3/16/2018 | 4/5/2018 | 4/6/2018 |
| | | | Sample ID | DPS111A06N | DPS111B01N | DPS111B02N | DPS111B03N | DPS111B04N | DPS111B05N | DPS111H01N | DPS111H02N | DPS111H03N | DPS111H04N | DPS111H05N | DPS112A01N | DPS112A02N | DPS112A03N | DPS112A04N | DPS112A05N | DPS112D01N | DPS112N01N |
| | | | Depth | 6 - 7 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 8.7 U | < 9.0 U | < 9.0 U | < 0.86 U | < 9.0 U | < 8.6 U | < 92 U | < 9.5 U | < 9.3 U | < 0.92 U | < 9.7 U | < 9.4 U | < 9.0 U | < 9.1 U | < 8.8 U | < 9.1 U | < 9.5 U | < 9.7 U |
| Aroclor-1221 | ug/kg | | | < 8.7 U | < 9.0 U | < 9.0 U | < 0.86 U | < 9.0 U | < 8.6 U | < 92 U | < 9.5 U | < 9.3 U | < 0.92 U | < 9.7 U | < 9.4 U | < 9.0 U | < 9.1 U | < 8.8 U | < 9.1 U | < 9.5 U | < 9.7 U |
| Aroclor-1232 | ug/kg | | | < 8.7 U | < 9.0 U | < 9.0 U | < 0.86 U | < 9.0 U | < 8.6 U | < 92 U | < 9.5 U | < 9.3 U | < 0.92 U | < 9.7 U | < 9.4 U | < 9.0 U | < 9.1 U | < 8.8 U | < 9.1 U | < 9.5 U | < 9.7 U |
| Aroclor-1242 | ug/kg | | | < 8.7 U | < 9.0 U | < 9.0 U | < 0.86 U | < 9.0 U | < 8.6 U | < 92 U | < 9.5 U | < 9.3 U | < 0.92 U | < 9.7 U | < 9.4 U | < 9.0 U | < 9.1 U | < 8.8 U | < 9.1 U | < 9.5 U | < 9.7 U |
| Aroclor-1248 | ug/kg | | | < 8.7 U | < 9.0 U | < 9.0 U | < 0.86 U | < 9.0 U | < 8.6 U | < 92 U | < 9.5 U | < 9.3 U | < 0.92 U | < 9.7 U | < 9.4 U | < 9.0 U | < 9.1 U | < 8.8 U | < 9.1 U | < 9.5 U | < 9.7 U |
| Aroclor-1254 | ug/kg | | | < 8.7 U | < 9.0 U | < 9.0 U | < 0.86 U | < 9.0 U | < 8.6 U | < 92 U | < 9.5 U | < 9.3 U | < 0.92 U | < 9.7 U | < 9.4 U | < 9.0 U | < 9.1 U | < 8.8 U | < 9.1 U | < 9.5 U | < 9.7 U |
| Aroclor-1260 | ug/kg | | | **370** | **2000** | **1300** | **5.5** | **640** | **24** | **5700** | **1500** | **150** | **19** | **96** | **2700 J+** | **650** | **44** | **53** | **71** | **940 J+** | **760** |
| Aroclor-1262 | ug/kg | | | < 8.7 U | < 9.0 U | < 9.0 U | < 0.86 U | < 9.0 U | < 8.6 U | < 92 U | < 9.5 U | < 9.3 U | < 0.92 U | < 9.7 U | < 9.4 U | < 9.0 U | < 9.1 U | < 8.8 U | < 9.1 U | < 9.5 U | < 9.7 U |
| Aroclor-1268 | ug/kg | | | < 8.7 U | < 9.0 U | < 9.0 U | < 0.86 U | < 9.0 U | < 8.6 U | < 92 U | < 9.5 U | < 9.3 U | < 0.92 U | < 9.7 U | < 9.4 U | < 9.0 U | < 9.1 U | < 8.8 U | < 9.1 U | < 9.5 U | < 9.7 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **370** | **2000** | **1300** | **5.5** | **640** | **24** | **5700** | **1500** | **150** | **19** | **96** | **2700** | **650** | **44** | **53** | **71** | **940** | **760** |

# Table 4-8
## Subsurface Soil Results
## PCBs and Pesticides Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP11-2N | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12 | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1A | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1C | SUSDP12-1E | SUSDP12-1E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 4/6/2018 | 6/13/2013 | 6/13/2013 | 6/13/2013 | 1/26/2017 | 1/26/2017 | 1/30/2017 | 1/30/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/11/2017 | 8/11/2017 |
| | | | Sample ID | DPS112N02N | DPS1205N | DPS1210N | DPS1215N | DPS12F01N | DPS12F02-05N | DPS12F05-10N | DPS12F10-15N | DPS121A01N | DPS121A02N | DPS121A03N | DPS121A04N | DPS121C01N | DPS121C02N | DPS121C03N | DPS121C04N | DPS121E02N | DPS121E03N |
| | | | Depth | 2 - 3 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 2 - 3 ft | 3 - 4 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 19 U | < 4.6 U | < 5.1 U | < 5.4 U | < 0.95 U | < 4.5 U | < 9.2 U | < 1.1 U | < 11 U | < 1.1 U | < 1.0 U | < 0.94 U | < 9.3 U | < 0.97 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Aroclor-1221 | ug/kg | | | < 19 U | < 4.6 U | < 5.1 U | < 5.4 U | < 0.95 U | < 4.5 U | < 9.2 U | < 1.1 U | < 11 U | < 1.1 U | < 1.0 U | < 0.94 U | < 9.3 U | < 0.97 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Aroclor-1232 | ug/kg | | | < 19 U | < 4.6 U | < 5.1 U | < 5.4 U | < 0.95 U | < 4.5 U | < 9.2 U | < 1.1 U | < 11 U | < 1.1 U | < 1.0 U | < 0.94 U | < 9.3 U | < 0.97 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Aroclor-1242 | ug/kg | | | < 19 U | < 4.6 U | < 5.1 U | < 5.4 U | < 0.95 U | < 4.5 U | < 9.2 U | < 1.1 U | < 11 U | < 1.1 U | < 1.0 U | < 0.94 U | < 9.3 U | < 0.97 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Aroclor-1248 | ug/kg | | | < 19 U | **99 J** | < 5.1 U | < 5.4 U | < 0.95 U | < 4.5 U | < 9.2 U | < 1.1 U | < 11 U | < 1.1 U | < 1.0 U | < 0.94 U | < 9.3 U | < 0.97 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Aroclor-1254 | ug/kg | | | < 19 U | < 4.6 U | < 5.1 U | < 5.4 U | < 0.95 U | < 4.5 U | **21 J+** | **5.3 J+** | < 11 U | < 1.1 U | **0.87 J** | < 0.94 U | < 9.3 U | < 0.97 U | < 1.0 U | **3.1 J+** | < 1.0 U | < 1.0 U |
| Aroclor-1260 | ug/kg | | | **1200 J+** | **290 J** | < 5.1 U | < 5.4 U | **70 J+** | **750 J+** | **140 J+** | **9.9 J+** | **54** | < 1.1 U | < 1.0 U | < 0.94 U | < 9.3 U | **5.7 J+** | **44 J+** | **5.0 J+** | **9.2 J+** | **0.86 J** |
| Aroclor-1262 | ug/kg | | | < 19 U | < 4.6 U | < 5.1 U | < 5.4 U | < 0.95 U | < 4.5 U | < 9.2 U | < 1.1 U | < 11 U | < 1.1 U | < 1.0 U | < 0.94 U | < 9.3 U | < 0.97 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Aroclor-1268 | ug/kg | | | < 19 U | < 4.6 U | < 5.1 U | < 5.4 U | **25 J+** | **300 J+** | **56 J+** | **3.3 J+** | < 11 U | < 1.1 U | < 1.0 U | < 0.94 U | < 9.3 U | **0.68 J+** | **21 J+** | **1.6 J+** | **1.2 J+** | < 1.0 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **1200** | **390** | < 5.1 U | < 5.4 U | **95** | **1100** | **220** | **19** | **54** | < 1.1 U | **0.87** | < 0.94 U | < 9.3 U | **6.4** | **65** | **9.7** | **10** | **0.86** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP12-1E | SUSDP12-1G | SUSDP12-1G | SUSDP12-1G | SUSDP13 | SUSDP13 | SUSDP13 | SUSDP14 | SUSDP14 | SUSDP14 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15 | SUSDP15-1C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/11/2017 | 8/11/2017 | 8/11/2017 | 8/11/2017 | 5/20/2013 | 5/29/2013 | 5/29/2013 | 5/22/2013 | 6/6/2013 | 6/6/2013 | 5/21/2013 | 6/6/2013 | 6/10/2013 | 1/30/2017 | 1/30/2017 | 2/2/2017 | 2/2/2017 | 8/14/2017 |
| | | | Sample ID | DPS121E04N | DPS121G02N | DPS121G03N | DPS121G04N | DPS1305N | DPS1310N | DPS1315N | DPS1403N | DPS1410N | DPS1415N | DPS1504N | DPS1510N | DPS1515N | DPS15F01N | DPS15F02-05N | DPS15F05-10N | DPS15F10-15N | DPS151C01N |
| | | | Depth | 4 - 5 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 3.5 - 4.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 1.1 U | < 0.92 U | < 0.99 U | < 1.0 U | < 4.8 U | < 4.6 U | < 5.3 U | < 5.1 U | < 5.2 U | < 5.1 U | < 4.9 U | < 5.2 U | < 5.3 U | < 9.2 U | < 0.97 U | < 1.0 U | < 1.1 U | < 9.3 U |
| Aroclor-1221 | ug/kg | | | < 1.1 U | < 0.92 U | < 0.99 U | < 1.0 U | < 4.8 U | < 4.6 U | < 5.3 U | < 5.1 U | < 5.2 U | < 5.1 U | < 4.9 U | < 5.2 U | < 5.3 U | < 9.2 U | < 0.97 U | < 1.0 U | < 1.1 U | < 9.3 U |
| Aroclor-1232 | ug/kg | | | < 1.1 U | < 0.92 U | < 0.99 U | < 1.0 U | < 4.8 U | < 4.6 U | < 5.3 U | < 5.1 U | < 5.2 U | < 5.1 U | < 4.9 U | < 5.2 U | < 5.3 U | < 9.2 U | < 0.97 U | < 1.0 U | < 1.1 U | < 9.3 U |
| Aroclor-1242 | ug/kg | | | < 1.1 U | < 0.92 U | < 0.99 U | < 1.0 U | < 4.8 U | < 4.6 U | < 5.3 U | < 5.1 U | < 5.2 U | < 5.1 U | < 4.9 U | < 5.2 U | < 5.3 U | **150 J+** | < 0.97 U | < 1.0 U | < 1.1 U | < 9.3 U |
| Aroclor-1248 | ug/kg | | | < 1.1 U | < 0.92 U | < 0.99 U | **41 J+** | < 4.8 U | **9.4** | < 5.3 U | **180 J** | < 5.2 U | < 5.1 U | **170 J** | **420 J** | **96** | < 9.2 U | < 0.97 U | < 1.0 U | < 1.1 U | **170 J+** |
| Aroclor-1254 | ug/kg | | | < 1.1 U | **2.9 J+** | < 0.99 U | **83 J+** | < 4.8 U | < 4.6 U | < 5.3 U | < 5.1 U | < 5.2 U | < 5.1 U | < 4.9 U | < 5.2 U | < 5.3 U | **190 J** | **40 J+** | < 1.0 U | < 1.1 U | **230 J+** |
| Aroclor-1260 | ug/kg | | | < 1.1 U | **1.6 J+** | < 0.99 U | **310 J+** | **4.1 J** | **3.6 J** | < 5.3 U | **530 J** | < 5.2 U | < 5.1 U | **400 J** | **720 J** | **280** | **940 J+** | **300 J+** | **160** | < 1.1 U | **510 J+** |
| Aroclor-1262 | ug/kg | | | < 1.1 U | < 0.92 U | < 0.99 U | < 1.0 U | < 4.8 U | < 4.6 U | < 5.3 U | < 5.1 U | < 5.2 U | < 5.1 U | < 4.9 U | < 5.2 U | < 5.3 U | < 9.2 U | < 0.97 U | < 1.0 U | < 1.1 U | < 9.3 U |
| Aroclor-1268 | ug/kg | | | < 1.1 U | **0.41 J+** | < 0.99 U | < 1.0 U | < 4.8 U | < 4.6 U | < 5.3 U | < 5.1 U | < 5.2 U | < 5.1 U | < 4.9 U | < 5.2 U | < 5.3 U | < 9.2 U | < 0.97 U | < 1.0 U | < 1.1 U | < 9.3 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | < 1.1 U | **4.9** | < 0.99 U | **430** | **4.1** | **13** | < 5.3 U | **710** | < 5.2 U | < 5.1 U | **570** | **1100** | **380** | **1300** | **300** | **160** | < 1.1 U | **910** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP15-1C | SUSDP15-1C | SUSDP15-1C | SUSDP15-1C | SUSDP15-1C | SUSDP15-1G | SUSDP15-1G | SUSDP15-1G | SUSDP16 | SUSDP16 | SUSDP16 | SUSDP16 | SUSDP17 | SUSDP17 | SUSDP17 | SUSDP18 | SUSDP18 | SUSDP18 | SUSDP18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/14/2017 | 8/14/2017 | 8/14/2017 | 8/22/2017 | 8/22/2017 | 8/15/2017 | 8/30/2017 | 8/30/2017 | 5/15/2013 | 6/10/2013 | 6/10/2013 | 6/10/2013 | 5/23/2013 | 6/11/2013 | 6/11/2013 | 5/23/2013 | 6/4/2013 | 6/4/2013 | 1/26/2017 |
| | | | Sample ID | DPS151C01R | DPS151C02N | DPS151C03N | DPS151C09N | DPS151C10N | DPS151G01N | DPS151G09N | DPS151G10N | DPS1605N | DPS1610N | DPS1615N | DPS1615R | DPS1705N | DPS1710N | DPS1715N | DPS1803N | DPS1810N | DPS1818N | DPS18F01N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 9 - 10 ft | 10 - 11 ft | 1 - 2 ft | 9 - 10 ft | 10 - 11 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14 - 15 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 17.5 - 18.5 ft | 1 - 2 ft |
| | | | Type | FD | N | N | N | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | < 0.092 U | | | < 0.089 U | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | < 0.092 U | | | < 0.089 U | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | **0.052 J** | | | **0.12** | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | < 0.092 U | | | < 0.089 U | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | < 0.092 U | | | < 0.089 U | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | < 0.092 U | | | < 0.089 U | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | < 0.092 U | | | < 0.089 U | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | < 0.092 U | | | < 0.089 U | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | < 0.092 U | | | **0.028 J** | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | < 0.092 U | | | < 0.089 U | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | < 0.092 U | | | **0.020 J** | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | **0.018 J** | | | **0.037 J** | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | **0.036 J** | | | < 0.089 U | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | < 0.092 U | | | < 0.089 U | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | **0.050 J** | | | < 0.089 U | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | < 0.092 U | | | **0.023 J** | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | < 0.092 U | | | < 0.089 U | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | < 0.092 U | | | **0.025 J** | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | < 0.18 U | | | **0.046 J** | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | < 3.7 U | | | < 3.6 U | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | **0.020 J** | | | **0.023 J** | | | |
| Aroclor-1016 | ug/kg | | | < 9.7 U | < 9.9 U | < 9.6 U | < 9.7 U | < 9.7 U | < 0.95 U | < 9.9 U | < 9.7 U | < 0.97 U | < 4.7 U | < 4.5 U | < 4.6 U | < 4.6 U | < 4.5 U | < 4.7 U | < 4.4 U | < 4.7 U | < 4.7 U | < 0.90 U |
| Aroclor-1221 | ug/kg | | | < 9.7 U | < 9.9 U | < 9.6 U | < 9.7 U | < 9.7 U | < 0.95 U | < 9.9 U | < 9.7 U | < 0.97 U | < 4.7 U | < 4.5 U | < 4.6 U | < 4.6 U | < 4.5 U | < 4.7 U | < 4.4 U | < 4.7 U | < 4.7 U | < 0.90 U |
| Aroclor-1232 | ug/kg | | | < 9.7 U | < 9.9 U | < 9.6 U | < 9.7 U | < 9.7 U | < 0.95 U | < 9.9 U | < 9.7 U | < 0.97 U | < 4.7 U | < 4.5 U | < 4.6 U | < 4.6 U | < 4.5 U | < 4.7 U | < 4.4 U | < 4.7 U | < 4.7 U | < 0.90 U |
| Aroclor-1242 | ug/kg | | | < 9.7 U | < 9.9 U | **150 J+** | < 9.7 U | < 9.7 U | < 0.95 U | < 9.9 U | < 9.7 U | < 0.97 U | < 4.7 U | < 4.5 U | < 4.6 U | < 4.6 U | < 4.5 U | < 4.7 U | < 4.4 U | < 4.7 U | < 4.7 U | < 0.90 U |
| Aroclor-1248 | ug/kg | | | **160 J+** | **180 J+** | < 9.6 U | < 9.7 U | < 9.7 U | **53 J+** | < 9.9 U | < 9.7 U | < 0.97 U | < 4.7 U | < 4.5 U | < 4.6 U | < 4.6 U | < 4.5 U | < 4.7 U | < 4.4 U | < 4.7 U | < 4.7 U | < 0.90 U |
| Aroclor-1254 | ug/kg | | | **310 J+** | **320 J+** | **150 J+** | < 9.7 U | < 9.7 U | **97 J+** | < 9.9 U | **46 J+** | < 0.97 U | < 4.7 U | < 4.5 U | < 4.6 U | < 4.6 U | < 4.5 U | < 4.7 U | < 4.4 U | < 4.7 U | < 4.7 U | < 0.90 U |
| Aroclor-1260 | ug/kg | | | **550 J+** | **710 J+** | **210 J+** | **180** | < 9.7 U | **210 J+** | < 9.9 U | **50 J+** | < 0.97 U | < 4.7 U | < 4.5 U | < 4.6 U | < 4.6 U | < 4.5 U | < 4.7 U | **4.6** | < 4.7 U | < 4.7 U | **150** |
| Aroclor-1262 | ug/kg | | | < 9.7 U | < 9.9 U | < 9.6 U | < 9.7 U | < 9.7 U | < 0.95 U | < 9.9 U | < 9.7 U | < 0.97 U | < 4.7 U | < 4.5 U | < 4.6 U | < 4.6 U | < 4.5 U | < 4.7 U | < 4.4 U | < 4.7 U | < 4.7 U | < 0.90 U |
| Aroclor-1268 | ug/kg | | | < 9.7 U | < 9.9 U | < 9.6 U | < 9.7 U | < 9.7 U | < 0.95 U | < 9.9 U | **29 J+** | < 0.97 U | < 4.7 U | < 4.5 U | < 4.6 U | < 4.6 U | < 4.5 U | < 4.7 U | < 4.4 U | < 4.7 U | < 4.7 U | < 0.90 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **1000** | **1200** | **510** | **180** | < 9.7 U | **360** | < 9.9 U | **130** | < 0.97 U | < 4.7 U | < 4.5 U | < 4.6 U | < 4.6 U | < 4.5 U | < 4.7 U | **4.6** | < 4.7 U | < 4.7 U | **150** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP18 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP19 | SUSDP20 | SUSDP20 | SUSDP20 | SUSDP20 | SUSDP20 | SUSDP21 | SUSDP21 | SUSDP21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/26/2017 | 5/23/2013 | 5/23/2013 | 6/5/2013 | 6/5/2013 | 6/5/2013 | 1/30/2017 | 1/30/2017 | 2/8/2017 | 2/8/2017 | 5/30/2013 | 6/12/2013 | 6/12/2013 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 1/27/2017 | 2/2/2017 |
| | | | Sample ID | DPS18F02-05N | DPS1902N | DPS1902R | DPS1910N | DPS1915N | DPS1915R | DPS19F01N | DPS19F02-05N | DPS19F05-10N | DPS19F10-15N | DPS2005N | DPS2010N | DPS2018N | DPS20F01N | DPS20F02-05N | DPS21F01N | DPS21F02-05N | DPS21F05-10N |
| | | | Depth | 2 - 5 ft | 1.5 - 2.5 ft | 1.5 - 2.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 17.5 - 18.5 ft | 1 - 2 ft | 2 - 5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft |
| | | | Type | N | N | FD | N | N | FD | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | **2.3 J** | **1.6 J** | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | < 0.96 U | < 0.92 U | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | **12 J** | **7.8 J** | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | **1.3 J** | < 0.92 U | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | < 0.96 U | < 0.92 U | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | **1.2 J** | < 0.92 U | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | < 0.96 U | < 0.92 U | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | **2.0 J** | **0.49 J** | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | **3.5 J** | **2.2 J** | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | < 0.96 U | < 0.92 U | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | **2.1 J** | **1.2 J** | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | **1.9 J** | **1.6 J** | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | **3.9 J** | **2.5 J** | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | **2.2 J** | **0.40 J** | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | < 0.96 U | < 0.92 U | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | **2.9 J** | **1.4 J** | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | **1.2 J** | < 0.92 U | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | **0.48 J** | < 0.92 U | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | **36 J** | **21 J** | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | < 38 U | < 37 U | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | **1.5 J** | **1.3 J** | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 0.89 U | < 4.8 U | < 4.7 U | < 9.5 U | < 4.7 U | < 4.9 U | < 0.92 U | < 0.92 U | < 10 U | < 4.6 UJ | < 5.2 U | < 4.8 U | < 4.8 U | < 0.98 U | < 1.1 U | < 9.8 U | < 9.2 U | < 1.1 U |
| Aroclor-1221 | ug/kg | | | < 0.89 U | < 4.8 U | < 4.7 U | < 9.5 U | < 4.7 U | < 4.9 U | < 0.92 U | < 0.92 U | < 10 U | < 4.6 UJ | < 5.2 U | < 4.8 U | < 4.8 U | < 0.98 U | < 1.1 U | < 9.8 U | < 9.2 U | < 1.1 U |
| Aroclor-1232 | ug/kg | | | < 0.89 U | < 4.8 U | < 4.7 U | < 9.5 U | < 4.7 U | < 4.9 U | < 0.92 U | < 0.92 U | < 10 U | < 4.6 UJ | < 5.2 U | < 4.8 U | < 4.8 U | < 0.98 U | < 1.1 U | < 9.8 U | < 9.2 U | < 1.1 U |
| Aroclor-1242 | ug/kg | | | < 0.89 U | < 4.8 U | < 4.7 U | < 9.5 U | < 4.7 U | < 4.9 U | < 0.92 U | < 0.92 U | < 10 U | < 4.6 UJ | < 5.2 U | < 4.8 U | < 4.8 U | < 0.98 U | < 1.1 U | < 9.8 U | < 9.2 U | < 1.1 U |
| Aroclor-1248 | ug/kg | | | < 0.89 U | **16 J** | **12 J** | < 9.5 U | < 4.7 U | < 4.9 U | < 0.92 U | < 0.92 U | < 10 U | < 4.6 UJ | < 5.2 U | < 4.8 U | < 4.8 U | < 0.98 U | < 1.1 U | **430 J+** | **360 J+** | < 1.1 U |
| Aroclor-1254 | ug/kg | | | < 0.89 U | < 4.8 U | < 4.7 U | < 9.5 U | < 4.7 U | < 4.9 U | < 0.92 U | < 0.92 U | < 10 U | < 4.6 UJ | < 5.2 U | < 4.8 U | < 4.8 U | < 0.98 U | < 1.1 U | **120 J+** | **250 J+** | **4.9 J+** |
| Aroclor-1260 | ug/kg | | | **1.0** | **91 J** | **93 J** | < 9.5 U | < 4.7 U | < 4.9 U | **260** | **42 J+** | < 10 U | < 4.6 UJ | < 5.2 U | **7.4** | < 4.8 U | < 0.98 U | < 1.1 U | **450 J+** | **280 J+** | **4.8 J+** |
| Aroclor-1262 | ug/kg | | | < 0.89 U | < 4.8 U | < 4.7 U | < 9.5 U | < 4.7 U | < 4.9 U | < 0.92 U | < 0.92 U | < 10 U | < 4.6 UJ | < 5.2 U | < 4.8 U | < 4.8 U | < 0.98 U | < 1.1 U | < 9.8 U | < 9.2 U | < 1.1 U |
| Aroclor-1268 | ug/kg | | | < 0.89 U | < 4.8 U | < 4.7 U | < 9.5 U | < 4.7 U | **17** | < 0.92 U | **2.7 J+** | < 10 U | < 4.6 UJ | < 5.2 U | < 4.8 U | < 4.8 U | < 0.98 U | < 1.1 U | < 9.8 U | < 9.2 U | < 1.1 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **1.0** | **110** | **110** | < 9.5 U | < 4.7 U | **17** | **260** | **45** | < 10 U | < 4.6 U | < 5.2 U | **7.4** | < 4.8 U | < 0.98 U | < 1.1 U | **1000** | **890** | **9.7** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP21-1C | SUSDP21-1C | SUSDP21-1C | SUSDP21-3A | SUSDP21-3A | SUSDP21-3G | SUSDP21-3G | SUSDP21-3M | SUSDP21-3M | SUSDP21-3T | SUSDP21-3T | SUSDP21-3T | SUSDP21-3V | SUSDP21-5W | SUSDP21-5W | SUSDP22 | SUSDP22 | SUSDP22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/25/2017 | 8/25/2017 | 8/28/2017 | 8/28/2017 | 8/28/2017 | 8/28/2017 | 8/25/2017 | 8/25/2017 | 8/25/2017 | 8/25/2017 | 1/26/2018 | 1/26/2018 | 5/22/2013 | 6/12/2013 | 6/12/2013 |
| | | | Sample ID | DPS211C01N | DPS211C02N | DPS211C03N | DPS213A01N | DPS213A02N | DPS213G01N | DPS213G02N | DPS213M01N | DPS213M02N | DPS213T01N | DPS213T02N | DPS213T03N | DPS213V01N | DPS215W01N | DPS215W02N | DPS2203N | DPS2210N | DPS2215N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 95 U | < 11 U | < 10 U | < 8.9 U | < 8.9 U | < 9.6 U | < 9.5 U | < 94 U | < 9.4 U | < 9.2 U | < 9.3 U | < 9.0 U | < 8.9 U | < 4.6 U | < 9.2 U | < 4.8 U | < 5.0 U | < 5.0 U |
| Aroclor-1221 | ug/kg | | | < 95 U | < 11 U | < 10 U | < 8.9 U | < 8.9 U | < 9.6 U | < 9.5 U | < 94 U | < 9.4 U | < 9.2 U | < 9.3 U | < 9.0 U | < 8.9 U | < 4.6 U | < 9.2 U | < 4.8 U | < 5.0 U | < 5.0 U |
| Aroclor-1232 | ug/kg | | | < 95 U | < 11 U | < 10 U | < 8.9 U | < 8.9 U | < 9.6 U | < 9.5 U | < 94 U | < 9.4 U | < 9.2 U | < 9.3 U | < 9.0 U | < 8.9 U | < 4.6 U | < 9.2 U | < 4.8 U | < 5.0 U | < 5.0 U |
| Aroclor-1242 | ug/kg | | | **10000 J+** | **230** | **22** | **130** | **670** | < 9.6 U | < 9.5 U | < 94 U | < 9.4 U | **860 J+** | **730** | < 9.0 U | < 8.9 U | < 4.6 U | < 9.2 U | < 4.8 U | < 5.0 U | < 5.0 U |
| Aroclor-1248 | ug/kg | | | < 95 U | < 11 U | < 10 U | < 8.9 U | < 8.9 U | **300** | **560** | **6900** | **88** | < 9.2 U | < 9.3 U | < 9.0 U | < 8.9 U | < 4.6 U | < 9.2 U | < 4.8 U | < 5.0 U | **15 J** |
| Aroclor-1254 | ug/kg | | | **4800 J+** | < 11 U | < 10 U | < 8.9 U | < 8.9 U | < 9.6 U | < 9.5 U | < 94 U | < 9.4 U | **660 J+** | < 9.3 U | **30 J+** | < 8.9 U | < 4.6 U | < 9.2 U | < 4.8 U | < 5.0 U | < 5.0 U |
| Aroclor-1260 | ug/kg | | | **2200 J+** | **73 J+** | < 10 U | **980 J+** | **190** | < 9.6 U | < 9.5 U | **9300** | **180** | **1400 J+** | **1100** | **40 J+** | **55** | **430** | **98** | **30** | **2.1 J** | **22 J** |
| Aroclor-1262 | ug/kg | | | < 95 U | < 11 U | < 10 U | < 8.9 U | < 8.9 U | < 9.6 U | < 9.5 U | < 94 U | < 9.4 U | < 9.2 U | < 9.3 U | < 9.0 U | < 8.9 U | < 4.6 U | < 9.2 U | < 4.8 U | < 5.0 U | < 5.0 U |
| Aroclor-1268 | ug/kg | | | < 95 U | **15 J+** | < 10 U | **74 J** | < 8.9 U | < 9.6 U | < 9.5 U | < 94 U | < 9.4 U | < 9.2 U | < 9.3 U | < 9.0 U | < 8.9 U | < 4.6 U | < 9.2 U | < 4.8 U | < 5.0 U | **41 J** |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **17000** | **320** | **22** | **1200** | **860** | **300** | **560** | **16000** | **270** | **2900** | **1800** | **70** | **55** | **430** | **98** | **30** | **2.1** | **78** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP23 | SUSDP23 | SUSDP23 | SUSDP24 | SUSDP24 | SUSDP24 | SUSDP24 | SUSDP24 | SUSDP37 | SUSDP37 | SUSDP37 | SUSDP37 | SUSDP37 | SUSDP39 | SUSDP39 | SUSDP39 | SUSDP39 | SUSDP39 | SUSDP39 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/28/2013 | 6/12/2013 | 6/12/2013 | 5/20/2013 | 5/20/2013 | 6/4/2013 | 6/4/2013 | 6/4/2013 | 5/16/2013 | 5/23/2013 | 5/23/2013 | 1/25/2017 | 1/25/2017 | 5/17/2013 | 5/22/2013 | 5/22/2013 | 1/25/2017 | 1/25/2017 | 1/26/2017 |
| | | | Sample ID | DPS2305N | DPS2310N | DPS2315N | DPS2405N | DPS2405R | DPS2410N | DPS2415N | DPS2410R | DPS3703N | DPS3710N | DPS3715N | DPS37F01N | DPS37F02-05N | DPS3903N | DPS3910N | DPS3915N | DPS39F01N | DPS39F02-05N | DPS39F05-10N |
| | | | Depth | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 4.5 - 5.5 ft | 4.5 - 5.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 9.5 - 10.5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft |
| | | | Type | N | N | N | N | FD | N | N | FD | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | **0.017 J** | < 0.091 U | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | **0.029 J** | **0.026 J** | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | **0.021 J** | **0.018 J** | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | < 0.091 U | < 0.091 U | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | < 0.091 U | < 0.091 U | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | < 0.091 U | < 0.091 U | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | < 0.091 U | < 0.091 U | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | < 0.091 U | < 0.091 U | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | < 0.091 U | < 0.091 U | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | < 0.091 U | **0.023 J** | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | < 0.091 U | < 0.091 U | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | < 0.091 U | < 0.091 U | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | **0.038 J** | **0.030 J** | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | < 0.091 UJ | < 0.091 U | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | **0.024 J** | < 0.091 U | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | **0.027 J** | **0.030 J** | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | < 0.091 U | < 0.091 U | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | < 0.091 U | < 0.091 U | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | < 0.18 U | < 0.18 U | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | < 3.7 U | < 3.6 U | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | < 0.091 U | < 0.091 U | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 4.6 U | < 4.9 U | < 5.3 U | < 4.6 U | < 4.5 U | < 4.6 U | < 4.7 U | < 4.8 U | < 0.96 U | < 4.5 U | < 4.5 U | < 9.3 U | < 4.6 U | < 0.94 U | < 4.9 U | < 4.9 U | < 1.8 U | < 0.88 U | < 1.1 U |
| Aroclor-1221 | ug/kg | | | < 4.6 U | < 4.9 U | < 5.3 U | < 4.6 U | < 4.5 U | < 4.6 U | < 4.7 U | < 4.8 U | < 0.96 U | < 4.5 U | < 4.5 U | < 9.3 U | < 4.6 U | < 0.94 U | < 4.9 U | < 4.9 U | < 1.8 U | < 0.88 U | < 1.1 U |
| Aroclor-1232 | ug/kg | | | < 4.6 U | < 4.9 U | < 5.3 U | < 4.6 U | < 4.5 U | < 4.6 U | < 4.7 U | < 4.8 U | < 0.96 U | < 4.5 U | < 4.5 U | < 9.3 U | < 4.6 U | < 0.94 U | < 4.9 U | < 4.9 U | < 1.8 U | < 0.88 U | < 1.1 U |
| Aroclor-1242 | ug/kg | | | < 4.6 U | < 4.9 U | < 5.3 U | < 4.6 U | < 4.5 U | < 4.6 U | < 4.7 U | < 4.8 U | < 0.96 U | < 4.5 U | < 4.5 U | < 9.3 U | < 4.6 U | < 0.94 U | < 4.9 U | < 4.9 U | < 1.8 U | < 0.88 U | < 1.1 U |
| Aroclor-1248 | ug/kg | | | < 4.6 U | < 4.9 U | < 5.3 U | < 4.6 U | < 4.5 U | < 4.6 U | < 4.7 U | < 4.8 U | < 0.96 U | < 4.5 U | < 4.5 U | < 9.3 U | < 4.6 U | < 0.94 U | < 4.9 U | < 4.9 U | < 1.8 U | < 0.88 U | < 1.1 U |
| Aroclor-1254 | ug/kg | | | < 4.6 U | < 4.9 U | < 5.3 U | < 4.6 U | < 4.5 U | < 4.6 U | < 4.7 U | < 4.8 U | **2.7** | < 4.5 U | < 4.5 U | < 9.3 U | < 4.6 U | **38 J** | < 4.9 U | < 4.9 U | < 1.8 U | < 0.88 U | < 1.1 U |
| Aroclor-1260 | ug/kg | | | < 4.6 U | **3.0 J** | < 5.3 U | < 4.6 U | < 4.5 U | < 4.6 U | < 4.7 U | < 4.8 U | < 0.96 U | < 4.5 U | < 4.5 U | < 9.3 U | < 4.6 U | **55 J** | **57** | **1.9 J** | **110** | **7.9 J+** | < 1.1 U |
| Aroclor-1262 | ug/kg | | | < 4.6 U | < 4.9 U | < 5.3 U | < 4.6 U | < 4.5 U | < 4.6 U | < 4.7 U | < 4.8 U | < 0.96 U | < 4.5 U | < 4.5 U | < 9.3 U | < 4.6 U | < 0.94 U | < 4.9 U | < 4.9 U | < 1.8 U | < 0.88 U | < 1.1 U |
| Aroclor-1268 | ug/kg | | | < 4.6 U | < 4.9 U | < 5.3 U | < 4.6 U | < 4.5 U | < 4.6 U | < 4.7 U | < 4.8 U | < 0.96 U | < 4.5 U | < 4.5 U | < 9.3 U | < 4.6 U | < 0.94 U | < 4.9 U | < 4.9 U | < 1.8 U | **1.4 J+** | < 1.1 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | < 4.6 U | **3.0** | < 5.3 U | < 4.6 U | < 4.5 U | < 4.6 U | < 4.7 U | < 4.8 U | **2.7** | < 4.5 U | < 4.5 U | < 9.3 U | < 4.6 U | **93** | **57** | **1.9** | **110** | **9.3** | < 1.1 U |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP39 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP41 | SUSDP43 | SUSDP43 | SUSDP43 | SUSDP43 | SUSDP43 | SUSDP43 | SUSDP43 | SUSDP43-2J | SUSDP43-2J | SUSDP43-2J |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/26/2017 | 5/22/2013 | 5/24/2013 | 5/24/2013 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 1/24/2017 | 5/17/2013 | 6/7/2013 | 6/7/2013 | 1/26/2017 | 1/26/2017 | 1/30/2017 | 1/30/2017 | 8/8/2017 | 8/8/2017 | 8/8/2017 |
| | | | Sample ID | DPS39F10-15N | DPS4103N | DPS41 10N | DPS41 15N | DPS41F01N | DPS41F02-05N | DPS41F05-10N | DPS41F10-15N | DPS4304N | DPS4310N | DPS4315N | DPS43F01N | DPS43F02-05N | DPS43F05-10N | DPS43F10-15N | DPS432J01N | DPS432J02N | DPS432J03N |
| | | | Depth | 10 - 15 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 3.5 - 4.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 1.1 U | < 5.0 U | < 5.2 U | < 4.4 U | < 5.1 U | < 4.9 U | < 5.0 U | < 4.4 U | < 1.0 U | < 5.1 U | < 5.3 U | < 9.1 U | < 9.9 U | < 9.3 U | < 1.0 U | < 0.98 U | < 0.98 U | < 1.0 U |
| Aroclor-1221 | ug/kg | | | < 1.1 U | < 5.0 U | < 5.2 U | < 4.4 U | < 5.1 U | < 4.9 U | < 5.0 U | < 4.4 U | < 1.0 U | < 5.1 U | < 5.3 U | < 9.1 U | < 9.9 U | < 9.3 U | < 1.0 U | < 0.98 U | < 0.98 U | < 1.0 U |
| Aroclor-1232 | ug/kg | | | < 1.1 U | < 5.0 U | < 5.2 U | < 4.4 U | < 5.1 U | < 4.9 U | < 5.0 U | < 4.4 U | < 1.0 U | < 5.1 U | < 5.3 U | < 9.1 U | < 9.9 U | < 9.3 U | < 1.0 U | < 0.98 U | < 0.98 U | < 1.0 U |
| Aroclor-1242 | ug/kg | | | < 1.1 U | < 5.0 U | < 5.2 U | < 4.4 U | < 5.1 U | < 4.9 U | < 5.0 U | < 4.4 U | < 1.0 U | < 5.1 U | < 5.3 U | < 9.1 U | < 9.9 U | < 9.3 U | < 1.0 U | < 0.98 U | < 0.98 U | < 1.0 U |
| Aroclor-1248 | ug/kg | | | < 1.1 U | **67 J** | **41 J** | < 4.4 U | **110 J+** | **110 J+** | **32 J+** | < 4.4 U | < 1.0 U | **180 J** | **4.2 J** | < 9.1 U | < 9.9 U | < 9.3 U | **4.4 J+** | < 0.98 U | < 0.98 U | < 1.0 U |
| Aroclor-1254 | ug/kg | | | < 1.1 U | < 5.0 U | < 5.2 U | < 4.4 U | **110 J+** | **130 J+** | **110 J+** | **4.8 J+** | **8.0 J** | < 5.1 U | < 5.3 U | **160 J+** | **97 J+** | < 9.3 U | **3.2 J+** | < 0.98 U | < 0.98 U | < 1.0 U |
| Aroclor-1260 | ug/kg | | | < 1.1 U | **88 J** | **150 J** | < 4.4 U | **87 J+** | **140 J+** | **140 J+** | **3.7 J+** | **5.8 J** | **100 J** | **2.9 J** | **1500 J+** | **1200 J+** | **240 J+** | **19 J+** | **120 J+** | < 0.98 U | < 1.0 U |
| Aroclor-1262 | ug/kg | | | < 1.1 U | < 5.0 U | < 5.2 U | < 4.4 U | < 5.1 U | < 4.9 U | < 5.0 U | < 4.4 U | < 1.0 U | < 5.1 U | < 5.3 U | < 9.1 U | < 9.9 U | < 9.3 U | < 1.0 U | < 0.98 U | < 0.98 U | < 1.0 U |
| Aroclor-1268 | ug/kg | | | < 1.1 U | < 5.0 U | < 5.2 U | < 4.4 U | < 5.1 U | < 4.9 U | < 5.0 U | < 4.4 U | < 1.0 U | < 5.1 U | < 5.3 U | **180 J+** | **100 J+** | **26 J+** | **9.3 J+** | **36 J+** | < 0.98 U | < 1.0 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | < 1.1 U | **160** | **190** | < 4.4 U | **310** | **380** | **280** | **8.5** | **14** | **280** | **7.1** | **1800** | **1400** | **270** | **36** | **160** | < 0.98 U | < 1 U |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SUSDP43-2J | SUSDP43-2M | SUSDP43-2M | SUSDP43-2M | SUSDP43-2M | SUSDP43-3A | SUSDP43-3A | SUSDP43-3A | SUSDP43-3A | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP44 | SUSDP44-1D | SUSDP44-1D | SUSDP44-1H | SUSDP44-1H |
| | | | Sample Date | 8/8/2017 | 8/9/2017 | 8/9/2017 | 8/9/2017 | 8/9/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 8/10/2017 | 5/21/2013 | 6/10/2013 | 6/10/2013 | 1/27/2017 | 1/27/2017 | 8/9/2017 | 8/9/2017 | 8/9/2017 | 8/9/2017 |
| | | | Sample ID | DPS432J04N | DPS432M01N | DPS432M02N | DPS432M03N | DPS432M04N | DPS433A01N | DPS433A02N | DPS433A03N | DPS433A04N | DPS4403N | DPS4410N | DPS4415N | DPS44F01N | DPS44F02-05N | DPS441D02N | DPS441D03N | DPS441H02N | DPS441H03N |
| | | | Depth | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 2.5 - 3.5 ft | 9.5 - 10.5 ft | 14.5 - 15.5 ft | 2.5 - 3.5 ft | 3.5 - 5 ft | 2 - 3 ft | 3 - 4 ft | 2 - 3 ft | 3 - 4 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 0.97 U | < 1.0 U | < 0.95 U | < 1.0 U | < 1.0 U | < 10 U | < 1.0 U | < 0.99 U | < 1.0 U | < 47 U | < 4.5 U | < 5.3 U | < 9.2 U | < 1.0 U | < 0.91 U | < 0.90 U | < 5.0 U | < 0.91 U |
| Aroclor-1221 | ug/kg | | | < 0.97 U | < 1.0 U | < 0.95 U | < 1.0 U | < 1.0 U | < 10 U | < 1.0 U | < 0.99 U | < 1.0 U | < 47 U | < 4.5 U | < 5.3 U | < 9.2 U | < 1.0 U | < 0.91 U | < 0.90 U | < 5.0 U | < 0.91 U |
| Aroclor-1232 | ug/kg | | | < 0.97 U | < 1.0 U | < 0.95 U | < 1.0 U | < 1.0 U | < 10 U | < 1.0 U | < 0.99 U | < 1.0 U | < 47 U | < 4.5 U | < 5.3 U | < 9.2 U | < 1.0 U | < 0.91 U | < 0.90 U | < 5.0 U | < 0.91 U |
| Aroclor-1242 | ug/kg | | | < 0.97 U | < 1.0 U | < 0.95 U | < 1.0 U | < 1.0 U | < 10 U | < 1.0 U | < 0.99 U | < 1.0 U | < 47 U | < 4.5 U | < 5.3 U | < 9.2 U | < 1.0 U | **10 J+** | < 0.90 U | < 5.0 U | < 0.91 U |
| Aroclor-1248 | ug/kg | | | **1.1 J+** | < 1.0 U | < 0.95 U | < 1.0 U | < 1.0 U | **210 J** | **8.3 J+** | < 0.99 U | < 1.0 U | **1500 J** | < 4.5 U | < 5.3 U | **1400 J+** | < 1.0 U | < 0.91 U | **2.2 J+** | **480 J+** | **78 J+** |
| Aroclor-1254 | ug/kg | | | **1.2 J+** | < 1.0 U | < 0.95 U | < 1.0 U | < 1.0 U | **150 J+** | **5.8 J+** | **0.95 J+** | **3.2 J+** | < 47 U | < 4.5 U | < 5.3 U | **1100 J+** | **14 J+** | **13 J+** | **4.0 J+** | **700 J+** | **81 J+** |
| Aroclor-1260 | ug/kg | | | < 0.97 U | **150 J+** | < 0.95 U | **2.0** | < 1.0 U | **100 J+** | **3.5 J+** | **1.3 J+** | **1.7 J+** | **1600 J** | < 4.5 U | < 5.3 U | **1900 J+** | **27 J+** | **9.1 J+** | **3.1 J+** | **530 J+** | **53 J+** |
| Aroclor-1262 | ug/kg | | | < 0.97 U | < 1.0 U | < 0.95 U | < 1.0 U | < 1.0 U | < 10 U | < 1.0 U | < 0.99 U | < 1.0 U | < 47 U | < 4.5 U | < 5.3 U | < 9.2 U | < 1.0 U | < 0.91 U | < 0.90 U | < 5.0 U | < 0.91 U |
| Aroclor-1268 | ug/kg | | | < 0.97 U | **33 J+** | < 0.95 U | < 1.0 U | < 1.0 U | **14 J+** | < 1.0 U | < 0.99 U | < 1.0 U | < 47 U | < 4.5 U | < 5.3 U | **150 J+** | **2.3 J+** | < 0.91 U | **0.56 J+** | **65 J+** | **9.4 J+** |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **2.3** | **180** | < 0.95 U | **2.0** | < 1 U | **470** | **18** | **2.3** | **4.9** | **3100** | < 4.5 U | < 5.3 U | **4600** | **43** | **32** | **9.9** | **1800** | **220** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP44-2N | SUSDP44-2N | SUSDP44-2N | SUSDP48 | SUSDP48 | SUSDP48 | SUSDP48 | SUSDP48 | SUSDP48 | SUSDP48-1C | SUSDP48-1E | SUSDP48-1G | SUSDP48-2E | SUSDP49 | SUSDP49 | SUSDP49 | SUSDP49-1C | SUSDP49-1C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/9/2017 | 8/9/2017 | 8/9/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/26/2017 | 1/27/2017 | 1/27/2017 | 8/15/2017 | 8/16/2017 | 8/16/2017 | 1/30/2018 | 8/11/2017 | 8/11/2017 | 8/11/2017 | 8/11/2017 | 8/11/2017 |
| | | | Sample ID | DPS442N01N | DPS442N02N | DPS442N02R | DPS48F01N | DPS48F01R | DPS48F02-05N | DPS48F02-05R | DPS48F05-10N | DPS48F10-15N | DPS481C01N | DPS481E01N | DPS481G01N | DPS482E01N | DPS4901N | DPS4901R | DPS4902N | DPS491C01N | DPS491C02N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 2 - 5 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft |
| | | | Type | N | N | FD | N | FD | N | FD | N | N | N | N | N | N | N | FD | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 0.91 U | < 0.93 U | < 0.93 U | < 0.99 U | < 0.93 U | < 0.92 U | < 0.93 U | < 0.89 U | < 0.98 U | < 11 U | < 9.1 U | < 8.8 U | < 9.5 U | < 9.4 U | < 9.3 U | < 11 U | < 9.4 U | < 10 U |
| Aroclor-1221 | ug/kg | | | < 0.91 U | < 0.93 U | < 0.93 U | < 0.99 U | < 0.93 U | < 0.92 U | < 0.93 U | < 0.89 U | < 0.98 U | < 11 U | < 9.1 U | < 8.8 U | < 9.5 U | < 9.4 U | < 9.3 U | < 11 U | < 9.4 U | < 10 U |
| Aroclor-1232 | ug/kg | | | < 0.91 U | < 0.93 U | < 0.93 U | < 0.99 U | < 0.93 U | < 0.92 U | < 0.93 U | < 0.89 U | < 0.98 U | < 11 U | < 9.1 U | < 8.8 U | < 9.5 U | < 9.4 U | < 9.3 U | < 11 U | < 9.4 U | < 10 U |
| Aroclor-1242 | ug/kg | | | < 0.91 U | < 0.93 U | < 0.93 U | < 0.99 U | < 0.93 U | < 0.92 U | < 0.93 U | < 0.89 U | **13 J+** | < 11 U | < 9.1 U | < 8.8 U | < 9.5 U | < 9.4 U | < 9.3 U | < 11 U | < 9.4 U | < 10 U |
| Aroclor-1248 | ug/kg | | | **51 J+** | **110 J+** | **110 J+** | < 0.99 U | **3.8 J+** | **110 J+** | **88 J+** | **51 J+** | < 0.98 U | **72 J+** | < 9.1 U | < 8.8 U | < 9.5 U | **790 J** | **950 J** | **250 J+** | **2700 J+** | < 10 U |
| Aroclor-1254 | ug/kg | | | **70 J+** | **210 J+** | **150 J+** | < 0.99 U | < 0.93 U | **52 J+** | **41 J+** | **51 J** | **5.3 J+** | **250 J+** | < 9.1 U | < 8.8 U | < 9.5 U | **480 J** | **480 J+** | **180 J+** | **460 J+** | < 10 U |
| Aroclor-1260 | ug/kg | | | **200 J+** | **160 J+** | **160 J+** | **10 J+** | **8.8 J+** | **180 J+** | **140 J+** | **120 J+** | **11 J+** | **490 J+** | **420 J+** | < 8.8 U | **910 J+** | **500 J+** | **600 J+** | **99 J+** | **340 J+** | < 10 U |
| Aroclor-1262 | ug/kg | | | < 0.91 U | < 0.93 U | < 0.93 U | < 0.99 U | < 0.93 U | < 0.92 U | < 0.93 U | < 0.89 U | < 0.98 U | < 11 U | < 9.1 U | < 8.8 U | < 9.5 U | < 9.4 U | < 9.3 U | < 11 U | < 9.4 U | < 10 U |
| Aroclor-1268 | ug/kg | | | **37 J+** | **29 J+** | **29 J+** | < 0.99 U | < 0.93 U | **21 J+** | **16 J+** | **11 J+** | **1.1 J+** | < 11 U | < 9.1 U | < 8.8 U | < 9.5 U | **37 J+** | **43 J+** | < 11 U | **40 J+** | < 10 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **360** | **510** | **450** | **10** | **13** | **360** | **290** | **230** | **30** | **810** | **420** | < 8.8 U | **910** | **1800** | **2100** | **530** | **3500** | < 10 U |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP49-1E | SUSDP49-1E | SUSDP50 | SUSDP50 | SUSDP51 | SUSDP51 | SUSDP51 | SUSDP51 | SUSDP53 | SUSDP53 | SUSDP53 | SUSDP53 | SUSDP64 | SUSDP65 | SUSDPCT16-1C | SUSDPCT16-1E | SUSDPCT16-1G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 8/11/2017 | 8/11/2017 | 8/10/2017 | 8/10/2017 | 1/26/2017 | 1/26/2017 | 1/27/2017 | 1/27/2017 | 1/31/2017 | 1/31/2017 | 2/2/2017 | 2/2/2017 | 8/10/2017 | 1/30/2018 | 2/1/2018 | 2/1/2018 | 2/1/2018 |
| | | | Sample ID | DPS491E01N | DPS491E02N | DPS5001N | DPS5002N | DPS51F01N | DPS51F02-05N | DPS51F05-10N | DPS51F10-15N | DPS53F01N | DPS53F02-05N | DPS53F05-10N | DPS53F10-15N | DPS6401N | DPS6501N | DPCT161C01N | DPCT161E01N | DPCT161G01N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 1 - 2 ft | 2 - 5 ft | 5 - 10 ft | 10 - 15 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 5.0 U | < 10 U | < 45 U | < 10 U | < 0.92 U | < 0.90 U | < 0.95 U | < 0.95 U | < 0.92 U | < 0.98 U | < 1.0 U | < 1.1 U | < 10 U | < 9.2 U | < 0.99 U | < 0.89 U | < 18 U |
| Aroclor-1221 | ug/kg | | | < 5.0 U | < 10 U | < 45 U | < 10 U | < 0.92 U | < 0.90 U | < 0.95 U | < 0.95 U | < 0.92 U | < 0.98 U | < 1.0 U | < 1.1 U | < 10 U | < 9.2 U | < 0.99 U | < 0.89 U | < 18 U |
| Aroclor-1232 | ug/kg | | | < 5.0 U | < 10 U | < 45 U | < 10 U | < 0.92 U | < 0.90 U | < 0.95 U | < 0.95 U | < 0.92 U | < 0.98 U | < 1.0 U | < 1.1 U | < 10 U | < 9.2 U | < 0.99 U | < 0.89 U | < 18 U |
| Aroclor-1242 | ug/kg | | | < 5.0 U | < 10 U | < 45 U | < 10 U | < 0.92 U | < 0.90 U | < 0.95 U | < 0.95 U | **17 J+** | < 0.98 U | < 1.0 U | < 1.1 U | < 10 U | < 9.2 U | < 0.99 U | < 0.89 U | < 18 U |
| Aroclor-1248 | ug/kg | | | **900 J+** | < 10 U | **190** | < 10 U | **100 J+** | **15 J+** | < 0.95 U | < 0.95 U | < 0.92 U | < 0.98 U | < 1.0 U | < 1.1 U | **520 J** | **140** | < 0.99 U | < 0.89 U | < 18 U |
| Aroclor-1254 | ug/kg | | | **200 J+** | < 10 U | < 45 U | < 10 U | **49 J+** | **7.2 J+** | < 0.95 U | < 0.95 U | **5.7 J+** | < 0.98 U | < 1.0 U | < 1.1 U | **190 J** | < 9.2 U | < 0.99 U | < 0.89 U | < 18 U |
| Aroclor-1260 | ug/kg | | | **230 J+** | **68** | **440** | < 10 U | **19 J+** | **2.9 J+** | < 0.95 U | < 0.95 U | **27 J+** | < 0.98 U | < 1.0 U | < 1.1 U | **100 J+** | **290** | **270** | **81** | **1900** |
| Aroclor-1262 | ug/kg | | | < 5.0 U | < 10 U | < 45 U | < 10 U | < 0.92 U | < 0.90 U | < 0.95 U | < 0.95 U | < 0.92 U | < 0.98 U | < 1.0 U | < 1.1 U | < 10 U | < 9.2 U | < 0.99 U | < 0.89 U | < 18 U |
| Aroclor-1268 | ug/kg | | | **24 J+** | < 10 U | < 45 U | < 10 U | **5.1 J+** | < 0.90 U | < 0.95 U | < 0.95 U | < 0.92 U | < 0.98 U | < 1.0 U | < 1.1 U | **9.2 J+** | < 9.2 U | < 0.99 U | < 0.89 U | < 18 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **1400** | **68** | **630** | < 10 U | **170** | **25** | < 0.95 U | < 0.95 U | **50** | < 0.98 U | < 1 U | < 1.1 U | **820** | **430** | **270** | **81** | **1900** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPCT16-1G | SUSDPCT16-2E | SUSDPCT16-2I | SUSDPCT16-2M | SUSDPCT16-2M | SUSDPCT16-2M | SUSDPCT16-2M | SUSDPCT16-3Q | SUSDPCT16-3Q | SUSDPCT16-3R | SUSDPCT16-3R | SUSDPCT16-3S | SUSDPCT16-3S | SUSDPCT16-3S | SUSDPCT16-3S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 2/1/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 2/22/2018 | 6/29/2018 | 6/29/2018 | 5/31/2018 | 5/31/2018 | 3/15/2018 | 3/15/2018 | 3/15/2018 | 3/15/2018 |
| | | | Sample ID | DPCT161G02N | DPSCT162E01N | DPSCT162I01N | DPSCT162M01N | DPSCT162M02N | DPSCT162M03N | DPSCT162M04N | DPSCT163Q01N | DPSCT163Q02N | DPSCT163R01N | DPSCT163R02N | DPSCT163S01N | DPSCT163S02N | DPSCT163S03N | DPSCT163S04N |
| | | | Depth | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 0.97 U | < 4.6 U | < 0.93 U | < 98 U | < 110 U | < 10 U | < 10 U | < 62 U | < 63 U | < 0.91 U | < 0.95 U | < 9.1 U | < 8.8 U | < 1.0 U | < 1.1 U |
| Aroclor-1221 | ug/kg | | | < 0.97 U | < 4.6 U | < 0.93 U | < 98 U | < 110 U | < 10 U | < 10 U | < 62 U | < 63 U | < 0.91 U | < 0.95 U | < 9.1 U | < 8.8 U | < 1.0 U | < 1.1 U |
| Aroclor-1232 | ug/kg | | | < 0.97 U | < 4.6 U | < 0.93 U | < 98 U | < 110 U | < 10 U | < 10 U | < 62 U | < 63 U | < 0.91 U | < 0.95 U | < 9.1 U | < 8.8 U | < 1.0 U | < 1.1 U |
| Aroclor-1242 | ug/kg | | | < 0.97 U | < 4.6 U | < 0.93 U | < 98 U | < 110 U | < 10 U | < 10 U | < 62 U | < 63 U | < 0.91 U | < 0.95 U | < 9.1 U | < 8.8 U | < 1.0 U | < 1.1 U |
| Aroclor-1248 | ug/kg | | | < 0.97 UJ | < 4.6 U | < 0.93 U | < 98 U | < 110 U | < 10 U | < 10 U | < 62 U | < 63 U | < 0.91 U | < 0.95 U | < 9.1 U | < 8.8 U | < 1.0 U | < 1.1 U |
| Aroclor-1254 | ug/kg | | | < 0.97 UJ | < 4.6 U | < 0.93 U | < 98 U | < 110 U | < 10 U | < 10 U | < 62 U | < 63 U | < 0.91 U | **35** | < 9.1 U | < 8.8 U | < 1.0 U | < 1.1 U |
| Aroclor-1260 | ug/kg | | | **190 J** | **99** | **34** | **7000** | **6400** | **660** | **400** | < 62 U | < 63 U | **82** | < 0.95 U | **140** | **1600** | **3.5** | **33** |
| Aroclor-1262 | ug/kg | | | < 0.97 U | < 4.6 U | < 0.93 U | < 98 U | < 110 U | < 10 U | < 10 U | < 62 U | < 63 U | < 0.91 U | < 0.95 U | < 9.1 U | < 8.8 U | < 1.0 U | < 1.1 U |
| Aroclor-1268 | ug/kg | | | < 0.97 U | < 4.6 U | < 0.93 U | < 98 U | < 110 U | < 10 U | < 10 U | < 62 U | < 63 U | < 0.91 U | < 0.95 U | < 9.1 U | < 8.8 U | < 1.0 U | < 1.1 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **190** | **99** | **34** | **7000** | **6400** | **660** | **400** | < 62 U | < 63 U | **82** | **35** | **140** | **1600** | **3.5** | **33** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPCT16-4W | SUSDPCT16-4W | SUSDPGD21-C3 | SUSDPGD21-C3 | SUSDPGD21-C3 | SUSDPGD21-C5 | SUSDPGD21-C5 | SUSDPGD21-C5 | SUSDPGD21-C5 | SUSDPGD21-D1 | SUSDPGD21-D1 | SUSDPGD21-D1 | SUSDPGD21-D1 | SUSDPGD21-E1 | SUSDPGD21-E1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 4/6/2018 | 4/6/2018 | 7/2/2018 | 7/2/2018 | 7/2/2018 | 5/31/2018 | 5/31/2018 | 5/31/2018 | 5/31/2018 | 5/30/2018 | 5/30/2018 | 5/30/2018 | 5/30/2018 | 5/30/2018 | 5/30/2018 |
| | | | Sample ID | DPSCT164W01N | DPSCT164W02N | DPSGD21C301N | DPSGD21C302N | DPSGD21C303N | DPSGD21C501N | DPSGD21C502N | DPSGD21C503N | DPSGD21C504N | DPSGD21D101N | DPSGD21D102N | DPSGD21D103N | DPSGD21D104N | DPSGD21E101N | DPSGD21E102N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 1.1 U | < 1.0 U | < 10 U | < 1.1 U | < 1.0 U | < 53 U | < 57 U | < 55 U | < 57 U | < 95 U | < 94 U | < 9.7 U | < 9.7 U | < 96 U | < 9.5 U |
| Aroclor-1221 | ug/kg | | | < 1.1 U | < 1.0 U | < 10 U | < 1.1 U | < 1.0 U | < 53 U | < 57 U | < 55 U | < 57 U | < 95 U | < 94 U | < 9.7 U | < 9.7 U | < 96 U | < 9.5 U |
| Aroclor-1232 | ug/kg | | | < 1.1 U | < 1.0 U | < 10 U | < 1.1 U | < 1.0 U | < 53 U | < 57 U | < 55 U | < 57 U | < 95 U | < 94 U | < 9.7 U | < 9.7 U | < 96 U | < 9.5 U |
| Aroclor-1242 | ug/kg | | | < 1.1 U | < 1.0 U | < 10 U | < 1.1 U | < 1.0 U | < 53 U | < 57 U | < 55 U | < 57 U | < 95 U | < 94 U | < 9.7 U | < 9.7 U | < 96 U | < 9.5 U |
| Aroclor-1248 | ug/kg | | | < 1.1 U | < 1.0 U | < 10 U | < 1.1 U | < 1.0 U | < 53 U | < 57 U | < 55 U | < 57 U | < 95 U | < 94 U | < 9.7 U | < 9.7 U | < 96 U | < 9.5 U |
| Aroclor-1254 | ug/kg | | | < 1.1 U | < 1.0 U | < 10 U | < 1.1 U | < 1.0 U | < 53 U | < 57 U | < 55 U | < 57 U | < 95 U | < 94 U | < 9.7 U | < 9.7 U | < 96 U | < 9.5 U |
| Aroclor-1260 | ug/kg | | | **6.1** | **3.8 J** | **160** | **2.5 J+** | < 1.0 U | **94** | < 57 U | < 55 U | < 57 U | **11000** | **7000** | **1600** | **59** | **7700** | **28** |
| Aroclor-1262 | ug/kg | | | < 1.1 U | < 1.0 U | < 10 U | < 1.1 U | < 1.0 U | < 53 U | < 57 U | < 55 U | < 57 U | < 95 U | < 94 U | < 9.7 U | < 9.7 U | < 96 U | < 9.5 U |
| Aroclor-1268 | ug/kg | | | < 1.1 U | < 1.0 U | < 10 U | **1.4 J+** | < 1.0 U | < 53 U | < 57 U | < 55 U | < 57 U | < 95 U | < 94 U | < 9.7 U | < 9.7 U | < 96 U | < 9.5 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **6.1** | **3.8** | **160** | **3.9** | < 1 U | **94** | < 57 U | < 55 U | < 57 U | **11000** | **7000** | **1600** | **59** | **7700** | **28** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPGD21-E1 | SUSDPGD21-E1 | SUSDPGD21-F1 | SUSDPGD21-F1 | SUSDPGD21-F1 | SUSDPGD21-F1 | SUSDPGD21-G1 | SUSDPGD21-G1 | SUSDPGD21-G1 | SUSDPGD21-G1 | SUSDPGD21-G1 | SUSDPGD21-G2 | SUSDPGD21-G2 | SUSDPGD21-H1 | SUSDPGD21-H1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/30/2018 | 5/30/2018 | 5/30/2018 | 5/30/2018 | 5/30/2018 | 5/30/2018 | 4/4/2018 | 4/4/2018 | 4/4/2018 | 4/4/2018 | 4/4/2018 | 4/4/2018 | 4/4/2018 | 3/14/2018 | 3/14/2018 |
| | | | Sample ID | DPSGD21E103N | DPSGD21E104N | DPSGD21F101N | DPSGD21F102N | DPSGD21F103N | DPSGD21F104N | DPSGD21G101N | DPSGD21G102N | DPSGD21G103N | DPSGD21G104N | DPSGD21G105N | DPSGD21G201N | DPSGD21G202N | DPSGD21H101N | DPSGD21H102N |
| | | | Depth | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 1 - 2 ft | 2 - 3 ft | 3 - 4 ft | 4 - 5 ft | 5 - 6 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 9.8 U | < 10 U | < 500 U | < 9.9 U | < 9.7 U | < 9.6 U | < 9500 U | < 470 U | < 4900 U | < 470 U | < 9.3 U | < 88 U | < 8.4 U | < 9.1 U | < 9.3 U |
| Aroclor-1221 | ug/kg | | | < 9.8 U | < 10 U | < 500 U | < 9.9 U | < 9.7 U | < 9.6 U | < 9500 U | < 470 U | < 4900 U | < 470 U | < 9.3 U | < 88 U | < 8.4 U | < 9.1 U | < 9.3 U |
| Aroclor-1232 | ug/kg | | | < 9.8 U | < 10 U | < 500 U | < 9.9 U | < 9.7 U | < 9.6 U | < 9500 U | < 470 U | < 4900 U | < 470 U | < 9.3 U | < 88 U | < 8.4 U | < 9.1 U | < 9.3 U |
| Aroclor-1242 | ug/kg | | | < 9.8 U | < 10 U | < 500 U | < 9.9 U | < 9.7 U | < 9.6 U | < 9500 U | < 470 U | < 4900 U | < 470 U | < 9.3 U | < 88 U | < 8.4 U | < 9.1 U | < 9.3 U |
| Aroclor-1248 | ug/kg | | | < 9.8 U | < 10 U | < 500 U | < 9.9 U | < 9.7 U | < 9.6 U | < 9500 U | < 470 U | < 4900 U | < 470 U | < 9.3 U | < 88 U | < 8.4 U | < 9.1 U | < 9.3 U |
| Aroclor-1254 | ug/kg | | | < 9.8 U | < 10 U | < 500 U | < 9.9 U | < 9.7 U | < 9.6 U | < 9500 U | < 470 U | < 4900 U | < 470 U | < 9.3 U | < 88 U | < 8.4 U | < 9.1 U | < 9.3 U |
| Aroclor-1260 | ug/kg | | | **210** | **87** | **52000** | **21** | **190** | **250** | **450000** | **77000** | **180000** | **23000** | **190** | **5300** | **1500** | **1900** | **230** |
| Aroclor-1262 | ug/kg | | | < 9.8 U | < 10 U | < 500 U | < 9.9 U | < 9.7 U | < 9.6 U | < 9500 U | < 470 U | < 4900 U | < 470 U | < 9.3 U | < 88 U | < 8.4 U | < 9.1 U | < 9.3 U |
| Aroclor-1268 | ug/kg | | | < 9.8 U | < 10 U | < 500 U | < 9.9 U | < 9.7 U | < 9.6 U | < 9500 U | < 470 U | < 4900 U | < 470 U | < 9.3 U | < 88 U | < 8.4 U | < 9.1 U | < 9.3 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **210** | **87** | **52000** | **21** | **190** | **250** | **450000** | **77000** | **180000** | **23000** | **190** | **5300** | **1500** | **1900** | **230** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPGD21-H2 | SUSDPGD21-H2 | SUSDPGD21-I1 | SUSDPGD21-I1 | SUSDPGD21-I1 | SUSDPGD21-I2 | SUSDPGD21-I2 | SUSDPGD21-J1 | SUSDPGD21-J1 | SUSDPGD21-J1 | SUSDPGD21-J2 | SUSDPGD21-J2 | SUSDPGD21-K1 | SUSDPGD21-K1 | SUSDPGD21-K1.5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 3/14/2018 | 3/14/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/24/2018 | 1/26/2018 |
| | | | Sample ID | DPSGD21H201N | DPSGD21H202N | DPSGD21I101N | DPSGD21I101R | DPSGD21I102N | DPSGD21I201N | DPSGD21I202N | DPSGD21J101N | DPSGD21J101R | DPSGD21J102N | DPSGD21J201N | DPSGD21J202N | DPSGD21K101N | DPSGD21K102N | DPSGD21K1.501N |
| | | | Depth | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft |
| | | | Type | N | N | N | FD | N | N | N | N | FD | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 8.7 U | < 8.5 U | < 93 U | < 470 U | < 0.96 U | < 490 U | < 44 U | < 93 U | < 93 U | < 0.89 U | < 88 U | < 8.7 U | < 460 U | < 0.96 U | < 94 U |
| Aroclor-1221 | ug/kg | | | < 8.7 U | < 8.5 U | < 93 U | < 470 U | < 0.96 U | < 490 U | < 44 U | < 93 U | < 93 U | < 0.89 U | < 88 U | < 8.7 U | < 460 U | < 0.96 U | < 94 U |
| Aroclor-1232 | ug/kg | | | < 8.7 U | < 8.5 U | < 93 U | < 470 U | < 0.96 U | < 490 U | < 44 U | < 93 U | < 93 U | < 0.89 U | < 88 U | < 8.7 U | < 460 U | < 0.96 U | < 94 U |
| Aroclor-1242 | ug/kg | | | < 8.7 U | < 8.5 U | < 93 U | < 470 U | < 0.96 U | < 490 U | < 44 U | < 93 U | < 93 U | < 0.89 U | < 88 U | < 8.7 U | < 460 U | < 0.96 U | < 94 U |
| Aroclor-1248 | ug/kg | | | < 8.7 U | < 8.5 U | **1100 J** | **2300 J** | **25 J** | < 490 U | < 44 U | < 93 U | < 93 U | R | < 88 U | < 8.7 U | < 460 U | < 0.96 U | < 94 U |
| Aroclor-1254 | ug/kg | | | < 8.7 U | < 8.5 U | < 93 U | < 470 U | < 0.96 UJ | < 490 U | < 44 U | < 93 U | < 93 U | R | < 88 U | < 8.7 U | < 460 U | < 0.96 U | < 94 U |
| Aroclor-1260 | ug/kg | | | **2400 J+** | **900** | **18000** | **22000** | **100 J** | **14000** | **4900** | **9500** | **9200** | **50 J-** | **7700** | **690** | **42000** | **34** | **8800** |
| Aroclor-1262 | ug/kg | | | < 8.7 U | < 8.5 U | < 93 U | < 470 U | < 0.96 U | < 490 U | < 44 U | < 93 U | < 93 U | < 0.89 U | < 88 U | < 8.7 U | < 460 U | < 0.96 U | < 94 U |
| Aroclor-1268 | ug/kg | | | < 8.7 U | < 8.5 U | < 93 U | < 470 U | < 0.96 U | < 490 U | < 44 U | < 93 U | < 93 U | < 0.89 U | < 88 U | < 8.7 U | < 460 U | < 0.96 U | < 94 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **2400** | **900** | **19000** | **24000** | **130** | **14000** | **4900** | **9500** | **9200** | **50** | **7700** | **690** | **42000** | **34** | **8800** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPGD21-K1.5 | SUSDPGD21-K2 | SUSDPGD21-K2 | SUSDPGD21-L1 | SUSDPGD21-L1 | SUSDPGD21-L2 | SUSDPGD21-L2 | SUSDPGD21-L2 | SUSDPGD21-M1 | SUSDPGD21-M1 | SUSDPGD21-M1 | SUSDPGD21-M2 | SUSDPGD21-M2 | SUSDPGD21-M2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 1/26/2018 | 1/24/2018 | 1/24/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 2/20/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 | 3/14/2018 |
| | | | Sample ID | DPSGD21K1.502N | DPSGD21K201N | DPSGD21K202N | DPSGD21L101N | DPSGD21L102N | DPSGD21L201N | DPSGD21L201R | DPSGD21L202N | DPSGD21M101N | DPSGD21M101R | DPSGD21M102N | DPSGD21M201N | DPSGD21M201R | DPSGD21M202N |
| | | | Depth | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft |
| | | | Type | N | N | N | N | N | N | FD | N | N | FD | N | N | FD | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 0.96 U | < 460 U | < 9.6 U | < 460 U | < 0.99 U | < 4.9 U | < 4.8 U | < 9.4 U | < 9.7 U | < 9.8 U | < 9.5 U | < 9.4 U | < 92 U | < 18 U |
| Aroclor-1221 | ug/kg | | | < 0.96 U | < 460 U | < 9.6 U | < 460 U | < 0.99 U | < 4.9 U | < 4.8 U | < 9.4 U | < 9.7 U | < 9.8 U | < 9.5 U | < 9.4 U | < 92 U | < 18 U |
| Aroclor-1232 | ug/kg | | | < 0.96 U | < 460 U | < 9.6 U | < 460 U | < 0.99 U | < 4.9 U | < 4.8 U | < 9.4 U | < 9.7 U | < 9.8 U | < 9.5 U | < 9.4 U | < 92 U | < 18 U |
| Aroclor-1242 | ug/kg | | | < 0.96 U | < 460 U | < 9.6 U | < 460 U | < 0.99 U | < 4.9 U | < 4.8 U | < 9.4 U | < 9.7 U | < 9.8 U | < 9.5 U | < 9.4 U | < 92 U | < 18 U |
| Aroclor-1248 | ug/kg | | | **15 J+** | < 460 U | < 9.6 U | **1800** | **8.0** | **230** | **310** | **110** | < 9.7 U | < 9.8 U | < 9.5 U | < 9.4 U | < 92 U | < 18 U |
| Aroclor-1254 | ug/kg | | | **8.8 J+** | < 460 U | < 9.6 U | < 460 U | < 0.99 U | < 4.9 U | < 4.8 U | < 9.4 U | < 9.7 U | < 9.8 U | < 9.5 U | < 9.4 U | < 92 U | < 18 U |
| Aroclor-1260 | ug/kg | | | **40 J+** | **42000** | **810** | **7900** | **88** | **720** | **680** | **980** | **120** | **76** | **56** | **1800 J** | **5900 J** | **730** |
| Aroclor-1262 | ug/kg | | | < 0.96 U | < 460 U | < 9.6 U | < 460 U | < 0.99 U | < 4.9 U | < 4.8 U | < 9.4 U | < 9.7 U | < 9.8 U | < 9.5 U | < 9.4 U | < 92 U | < 18 U |
| Aroclor-1268 | ug/kg | | | < 0.96 U | < 460 U | < 9.6 U | < 460 U | < 0.99 U | < 4.9 U | < 4.8 U | < 9.4 U | < 9.7 U | < 9.8 U | < 9.5 U | < 9.4 U | < 92 U | < 18 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **64** | **42000** | **810** | **9700** | **96** | **950** | **990** | **1100** | **120** | **76** | **56** | **1800** | **5900** | **730** |

**Table 4-8**
**Subsurface Soil Results**
**PCBs and Pesticides Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDPGD21-N1 | SUSDPGD21-N2 | SUSDPGD21-N2 | SUSDPGD21-P1 | SUSDPGD21-P1 | SUSDPGD21-P1 | SUSDPGD21-R1 | SUSDPGD21-R2 | SUSDPGD21-S1 | SUSDPGD21-S2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 4/4/2018 | 4/4/2018 | 4/4/2018 | 5/30/2018 | 5/30/2018 | 5/30/2018 | 1/23/2018 | 1/23/2018 | 1/23/2018 | 1/24/2018 |
| | | | Sample ID | DPSGD21N101N | DPSGD21N201N | DPSGD21N201R | DPSGD21P101N | DPSGD21P101R | DPSGD21P102N | DPSGD21R101N | DPSGD21R201N | DPSGD21S101N | DPSGD21S201N |
| | | | Depth | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft | 1 - 2 ft |
| | | | Type | N | N | FD | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 2500 | | | | | | | | | | | |
| 4,4'-DDE | ug/kg | 9300 | | | | | | | | | | | |
| 4,4'-DDT | ug/kg | 8500 | | | | | | | | | | | |
| Aldrin | ug/kg | 180 | | | | | | | | | | | |
| alpha-BHC | ug/kg | 360 | | | | | | | | | | | |
| beta-BHC | ug/kg | 1300 | | | | | | | | | | | |
| cis-Chlordane | ug/kg | 7700 | | | | | | | | | | | |
| delta-BHC | ug/kg | 360 | | | | | | | | | | | |
| Dieldrin | ug/kg | 140 | | | | | | | | | | | |
| Endosulfan I | ug/kg | 700000 | | | | | | | | | | | |
| Endosulfan II | ug/kg | 700000 | | | | | | | | | | | |
| Endosulfan Sulfate | ug/kg | 700000 | | | | | | | | | | | |
| Endrin | ug/kg | 25000 | | | | | | | | | | | |
| Endrin aldehyde | ug/kg | 25000 | | | | | | | | | | | |
| Endrin ketone | ug/kg | 25000 | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/kg | 2500 | | | | | | | | | | | |
| Heptachlor | ug/kg | 630 | | | | | | | | | | | |
| Heptachlor Epoxide | ug/kg | 330 | | | | | | | | | | | |
| Methoxychlor | ug/kg | 410000 | | | | | | | | | | | |
| Toxaphene | ug/kg | 2100 | | | | | | | | | | | |
| trans-Chlordane | ug/kg | 7700 | | | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | < 9.1 U | < 9.4 U | < 9.4 U | < 93 U | < 93 U | < 9.2 U | < 9.5 U | < 9.4 U | < 9.3 U | < 9.4 U |
| Aroclor-1221 | ug/kg | | | < 9.1 U | < 9.4 U | < 9.4 U | < 93 U | < 93 U | < 9.2 U | < 9.5 U | < 9.4 U | < 9.3 U | < 9.4 U |
| Aroclor-1232 | ug/kg | | | < 9.1 U | < 9.4 U | < 9.4 U | < 93 U | < 93 U | < 9.2 U | < 9.5 U | < 9.4 U | < 9.3 U | < 9.4 U |
| Aroclor-1242 | ug/kg | | | < 9.1 U | < 9.4 U | < 9.4 U | < 93 U | < 93 U | < 9.2 U | < 9.5 U | < 9.4 U | < 9.3 U | < 9.4 U |
| Aroclor-1248 | ug/kg | | | < 9.1 U | **120 J+** | **110 J+** | < 93 U | < 93 U | < 9.2 U | **15** | **73** | **84 J+** | < 9.4 U |
| Aroclor-1254 | ug/kg | | | < 9.1 U | **230 J+** | **220 J+** | < 93 U | < 93 U | < 9.2 U | < 9.5 U | < 9.4 U | **95 J+** | < 9.4 U |
| Aroclor-1260 | ug/kg | | | **360** | **460 J+** | **450 J+** | **11000** | **15000** | **140** | **7.0 J** | **150** | **89 J+** | < 9.4 U |
| Aroclor-1262 | ug/kg | | | < 9.1 U | < 9.4 U | < 9.4 U | < 93 U | < 93 U | < 9.2 U | < 9.5 U | < 9.4 U | < 9.3 U | < 9.4 U |
| Aroclor-1268 | ug/kg | | | < 9.1 U | < 9.4 U | < 9.4 U | < 93 U | < 93 U | < 9.2 U | < 9.5 U | < 9.4 U | < 9.3 U | < 9.4 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | **360** | **810** | **780** | **11000** | **15000** | **140** | **22** | **220** | **270** | < 9.4 U |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable
RSL Table, May 2018 Industrial Soil [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
JN = The analyte was tentatively identified; the associated numerical value is the
approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the
sample and meet quality control criteria. The presence or absence of the analyte cannot be
verified.
ug/kg = micrograms per kilogram

**Table 4-9**
**Subsurface Soil Results**
**Dioxins and Furans Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Location ID | SUSDP01 | SUSDP02 |
| | | | | | | | | | | | | Sample Date | 5/20/2013 | 5/14/2013 |
| | | | | | | | | | | | | Sample ID | DPS0103N | DPS0205N |
| | | | | | | | | | | | | Depth | 2.5 - 3.5 ft | 4.5 - 5.5 ft |
| | | | | | | | | | | | | Type | N | N |
| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/g | | SW8290A | 67562-39-4 | 109 | 0.0628 | 16.7 | 3.81 | SUSDP44-2N | 19 | 21 | | **0.579 JN** | **4.24 JN** |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/g | | SW8290A | 35822-46-9 | 598 | 0.915 | 93.5 | 28.7 | SUSDP44-2N | 21 | 21 | | **3.72 J** | **6.94** |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/g | | SW8290A | 55673-89-7 | 9.05 | 0.137 | 2.76 | 1.5 | SUSDP44-2N | 10 | 21 | | **0.159 JN** | **0.668 JN** |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/g | | SW8290A | 70648-26-9 | 9.57 | 0.0688 | 2.93 | 1.62 | SUSDP44-2N | 11 | 21 | | **0.173 JN** | **1.13 JN** |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | SW8290A | 39227-28-6 | 6.34 | 0.128 | 1.82 | 0.912 | SUSDP44-2N | 15 | 21 | | **0.132 JN** | **0.176 JN** |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/g | | SW8290A | 57117-44-9 | 7.46 | 0.0752 | 2.49 | 1.16 | SUSDP19 | 14 | 21 | | **0.307 JN** | **0.393 JN** |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | SW8290A | 57653-85-7 | 22.2 | 0.147 | 3.63 | 0.896 | SUSDP44-2N | 20 | 21 | | **0.147 JN** | **0.411 J** |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/g | | SW8290A | 72918-21-9 | 0.862 | 0.862 | 0.862 | 0.862 | SUSDP10-3G | 1 | 21 | | < 0.0424 U | < 0.104 U |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/g | | SW8290A | 19408-74-3 | 13.5 | 0.288 | 3.33 | 1.74 | SUSDP44-2N | 19 | 21 | | **0.486 J** | **0.864 J** |
| 1,2,3,7,8-PeCDF | pg/g | | SW8290A | 57117-41-6 | 3.02 | 0.23 | 1.24 | 0.615 | SUSDP44-2N | 6 | 21 | | < 0.0415 U | < 0.133 U |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/g | | SW8290A | 40321-76-4 | 3.83 | 0.0461 | 1.09 | 0.637 | SUSDP10-3G | 10 | 21 | | < 0.0376 U | < 0.260 U |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/g | | SW8290A | 60851-34-5 | 11.5 | 0.0944 | 2.59 | 1.52 | SUSDP10-3G | 14 | 21 | | **0.195 J** | **0.421 JN** |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/g | | SW8290A | 57117-31-4 | 16.7 | 0.0835 | 4.18 | 2.75 | SUSDP10-3G | 10 | 21 | | < 0.0406 U | **0.270 JN** |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/g | | SW8290A | 51207-31-9 | 2.69 | 0.0462 | 1.19 | 0.675 | SUSDP19 | 9 | 21 | | < 0.0388 U | < 0.166 U |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/g | 22 | SW8290A | 1746-01-6 | 0.735 | 0.124 | 0.43 | 0.43 | SUSDP10-3G | 2 | 21 | | < 0.0208 U | < 0.235 U |
| Octachlorochlorodibenzofuran | pg/g | | SW8290A | 39001-02-0 | 295 | 0.147 | 45.7 | 4.92 | SUSDP44-2N | 17 | 21 | | **0.703 J** | **3.37 JN** |
| Octachlorochlorodibenzo-p-dioxin | pg/g | | SW8290A | 3268-87-9 | 5430 | 12.4 | 1220 | 623 | SUSDP44-2N | 21 | 21 | | **81.0** | **59.4** |
| Total HpCDD | pg/g | | SW8290A | 37871-00-4 | 997 | 2.38 | 178 | 67.2 | SUSDP44-2N | 21 | 21 | | **8.74 J** | **15.8** |
| Total HpCDF | pg/g | | SW8290A | 38998-75-3 | 315 | 0.0628 | 47.4 | 10.2 | SUSDP44-2N | 19 | 21 | | **1.14 JN** | **8.51 JN** |
| Total HxCDD | pg/g | | SW8290A | 34465-46-8 | 129 | 1.38 | 31.5 | 19.9 | SUSDP10-3G | 21 | 21 | | **3.40 JN** | **7.66 JN** |
| Total HxCDF | pg/g | | SW8290A | 55684-94-1 | 184 | 0.266 | 39.3 | 5.86 | SUSDP10-3G | 20 | 21 | | **5.29 JN** | **6.42 JN** |
| Total PeCDD | pg/g | | SW8290A | 36088-22-9 | 162 | 0.0461 | 19.2 | 3.93 | SUSDP19 | 20 | 21 | | **0.409 JN** | **3.21 JN** |
| Total PeCDF | pg/g | | SW8290A | 30402-15-4 | 165 | 0.0368 | 38.6 | 14.6 | SUSDP19 | 20 | 21 | | **12.8 JN** | **1.57 JN** |
| Total TCDD | pg/g | | SW8290A | 41903-57-5 | 19.3 | 0.258 | 2.79 | 0.72 | SUSDP10-3G | 19 | 21 | | **1.14 JN** | **0.484 JN** |
| Total TCDF | pg/g | | SW8290A | 55722-27-5 | 121 | 0.0871 | 29.9 | 11.4 | SUSDP19 | 18 | 21 | | **8.02 JN** | **0.279 JN** |
| TCDD TEQ HH | pg/g | 22 | SW8290A | DFTEQ-HH | 23.5 | 0.0367 | 3.97 | 1.25 | SUSDP10-3G | 21 | 21 | | **0.213** | **0.558** |

# Table 4-9
## Subsurface Soil Results
## Dioxins and Furans Concentrations in Subsurface Soils
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP08 | SUSDP08-2G | SUSDP08-2G | SUSDP09 | SUSDP10 | SUSDP10-3F | SUSDP10-3G | SUSDP10-3G | SUSDP10-4E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 5/15/2013 | 8/3/2017 | 8/3/2017 | 5/17/2013 | 5/15/2013 | 8/8/2017 | 8/8/2017 | 8/8/2017 | 2/1/2018 |
| | | | Sample ID | DPS0803N | DPS082G01N | DPS082G01R | DPS0905N | DPS1005N | DPS103F01N | DPS103G01N | DPS103G02N | DPS104E01R |
| | | | Depth | 2.5 - 3.5 ft | 1 - 2 ft | 1 - 2 ft | 4.5 - 5.5 ft | 4.5 - 5.5 ft | 1 - 2 ft | 1 - 2 ft | 2 - 3 ft | 1 - 2 ft |
| | | | Type | N | N | FD | N | N | N | N | N | FD |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/g | | | **3.27 J** | **6.24** | **7.47** | < 0.141 U | **0.322 JN** | **18.5** | **85.6** | **13.9** | **0.68 JN** |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/g | | | **25.1** | **73** | **90.9** | **17.5** | **3.43 J** | **102** | **460** | **109** | **31.3** |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/g | | | **0.355 J** | < 0.491 U | < 0.298 U | < 0.0419 U | < 0.125 U | **1.68 J** | **7.09** | **1.31 J** | **0.137 JN** |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/g | | | **0.379 JN** | < 0.307 U | **1.11 J** | < 0.0442 U | < 0.0743 U | **2.39** | **8.55** | **1.62 J** | < 0.11 U |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | **0.370 JN** | < 0.594 U | < 0.339 U | < 0.125 U | < 0.116 U | **2.01 J** | **5.98** | **2.22** | **0.93 JN** |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/g | | | **2.92 J** | **0.664 JN** | **0.849 J** | < 0.0409 U | **0.216 JN** | **1.92 J** | **6.84** | **1.48 J** | < 0.149 U |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | **0.842 JN** | **1.8 JN** | **2.11** | **0.340 JN** | < 0.107 U | **4.58** | **18.2** | **4.27** | **0.95 JN** |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/g | | | < 0.143 U | < 0.388 U | < 0.255 U | < 0.0507 U | < 0.0857 U | < 0.535 U | **0.862 JN** | < 0.238 U | < 0.115 U |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/g | | | **0.729 JN** | **1.28 JN** | **1.26 J** | **1.74 J** | < 0.104 U | **3.75** | **13.1** | **4.96** | **2.26** |
| 1,2,3,7,8-PeCDF | pg/g | | | **0.230 JN** | < 0.287 U | **0.396 J** | < 0.0285 U | < 0.111 U | **0.715 J** | **2.56** | **0.514 J** | < 0.125 U |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/g | | | < 0.292 U | **0.87 J** | < 0.279 U | < 0.0668 U | < 0.154 U | **1.03 J** | **3.83** | **0.989 J** | **0.403 J** |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/g | | | **0.378 JN** | **1.46 J** | **1.57 J** | < 0.0395 U | < 0.0686 U | **2.81** | **11.5** | **2.08** | < 0.0934 U |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/g | | | **0.411 JN** | **2.87** | **2.63** | < 0.0264 U | < 0.103 U | **3.62** | **16.7** | **3.3** | < 0.118 U |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/g | | | **0.270 JN** | < 0.304 U | **0.505** | < 0.0391 U | < 0.135 U | **0.675** | **2.64** | **0.472** | < 0.135 U |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/g | 22 | | < 0.266 U | < 0.366 U | < 0.174 U | < 0.0408 U | < 0.182 U | < 0.487 U | **0.735** | **0.124 JN** | < 0.165 U |
| Octachlorochlorodibenzofuran | pg/g | | | **4.92 J** | **15.7** | **16.2** | **0.564 JN** | < 0.201 U | **45.2** | **228** | **39.3** | < 0.516 U |
| Octachlorochlorodibenzo-p-dioxin | pg/g | | | **623** | **1330** | **1620** | **288** | **263 J** | **777** | **4940** | **1130** | **372** |
| Total HpCDD | pg/g | | | **54.3** | **146** | **179** | **67.2** | **7.60 J** | **194** | **904** | **228** | **75.4** |
| Total HpCDF | pg/g | | | **10.4 JN** | **16.1** | **19** | < 0.344 U | **0.587 JN** | **49.9** | **240** | **39.5** | **1.19** |
| Total HxCDD | pg/g | | | **10.6 JN** | **19.9** | **19.9** | **22.7 JN** | **1.38 JN** | **45** | **129** | **60.9** | **22.7** |
| Total HxCDF | pg/g | | | **32.9 JN** | **19.9** | **20.7** | **0.328 JN** | **2.94 JN** | **41.3** | **184** | **31.8** | **0.266** |
| Total PeCDD | pg/g | | | **102 JN** | **7.56** | **4.15** | **2.01 JN** | < 0.154 U | **10.9** | **32.5** | **11.2** | **2.49** |
| Total PeCDF | pg/g | | | **70.9 JN** | **25.1** | **24.1** | **1.09 JN** | **7.36 JN** | **28.3** | **146** | **25.2** | **0.305** |
| Total TCDD | pg/g | | | **1.13 JN** | **0.61** | **1.14** | **0.482 JN** | **0.546 JN** | **2.7** | **19.3** | **4.06** | **0.668** |
| Total TCDF | pg/g | | | **73.5 JN** | **10.7** | **12** | **1.58 JN** | **7.74 JN** | **10.2** | **66.3** | **12.4** | < 0.135 U |
| TCDD TEQ HH | pg/g | 22 | | **1.19** | **3.45** | **3.02** | **0.470** | **0.138** | **5.42** | **23.5** | **5.42** | **1.25** |

**Table 4-9**
**Subsurface Soil Results**
**Dioxins and Furans Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP10-4E | SUSDP11 | SUSDP17 | SUSDP18 | SUSDP19 | SUSDP19 | SUSDP24 | SUSDP24 | SUSDP44-1D | SUSDP44-2N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 2/1/2018 | 5/14/2013 | 5/23/2013 | 5/23/2013 | 5/23/2013 | 5/23/2013 | 5/20/2013 | 5/20/2013 | 8/9/2017 | 8/9/2017 |
| | | | Sample ID | DPS104E01N | DPS1105N | DPS1705N | DPS1803N | DPS1902N | DPS1902R | DPS2405N | DPS2405R | DPS441D01N | DPS442N01N |
| | | | Depth | 1 - 2 ft | 4.5 - 5.5 ft | 4.5 - 5.5 ft | 2.5 - 3.5 ft | 1.5 - 2.5 ft | 1.5 - 2.5 ft | 4.5 - 5.5 ft | 4.5 - 5.5 ft | 1 - 2 ft | 1 - 2 ft |
| | | | Type | N | N | N | N | N | FD | N | FD | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/g | | | **0.449 J** | **0.303 J** | **0.0628 JN** | < 0.129 U | **29.7 J** | **31.0** | **3.81 J** | **0.596 JN** | **0.842 J** | **109** |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/g | | | **19.2** | **15.0** | **28.7** | **0.915 J** | **175** | **153** | **8.30** | **5.17 J** | **38.2** | **598** |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/g | | | < 0.105 U | < 0.134 U | < 0.121 U | < 0.224 U | **3.53 JN** | **3.59 JN** | < 0.0505 U | < 0.0684 U | < 0.104 U | **9.05** |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/g | | | < 0.0827 U | < 0.0763 U | < 0.0567 U | < 0.117 U | **3.57 JN** | **3.69 JN** | **0.0688 JN** | < 0.0444 U | < 0.0337 U | **9.57** |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | **0.524 JN** | **0.149 JN** | **0.712 JN** | < 0.135 U | **4.27 J** | **2.49 JN** | **0.128 J** | < 0.0708 U | **0.912 JN** | **6.34** |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/g | | | < 0.085 U | < 0.0721 U | < 0.0480 U | < 0.0953 U | **7.46 JN** | **5.39 JN** | **0.131 JN** | < 0.0404 U | **0.0752 JN** | **6.25** |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | **0.598 JN** | **0.336 JN** | **0.721 J** | **0.238 J** | **7.78 JN** | **5.19 JN** | **0.431 J** | **0.179 JN** | **1.19 J** | **22.2** |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/g | | | < 0.102 U | < 0.0858 U | < 0.0546 U | < 0.120 U | < 0.825 U | < 0.537 U | < 0.0311 U | < 0.0562 U | < 0.0536 U | < 0.445 U |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/g | | | **1.48** | **1.15 JN** | **2.54 J** | < 0.127 U | **6.64 J** | **4.81 JN** | **0.343 J** | **0.288 JN** | **2.16** | **13.5** |
| 1,2,3,7,8-PeCDF | pg/g | | | < 0.0774 U | < 0.138 U | < 0.0893 U | < 0.122 U | < 1.18 U | < 0.713 U | < 0.0173 U | < 0.0291 U | < 0.0394 U | **3.02** |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/g | | | **0.229 J** | < 0.206 U | **0.309 JN** | < 0.177 U | < 2.17 U | < 0.978 U | **0.0461 JN** | < 0.0384 U | **0.268 JN** | **2.94** |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/g | | | < 0.0826 U | **0.130 JN** | < 0.0417 U | < 0.0911 U | **3.22 JN** | **2.12 J** | **0.0944 JN** | < 0.0411 U | **0.0944 J** | **10.2** |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/g | | | < 0.072 U | < 0.117 U | < 0.0731 U | < 0.109 U | < 1.31 U | **1.88 JN** | < 0.0174 U | < 0.0238 U | **0.0835 JN** | **10** |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/g | | | < 0.144 UJ | < 0.188 U | < 0.105 U | < 0.148 U | **2.69 JN** | **1.82 JN** | < 0.0189 U | **0.0462 JN** | < 0.0543 U | **1.63 JN** |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/g | 22 | | < 0.142 U | < 0.253 U | < 0.160 U | < 0.196 U | < 2.26 U | < 1.24 U | < 0.0142 U | < 0.0370 U | < 0.0881 U | < 0.237 U |
| Octachlorochlorodibenzofuran | pg/g | | | < 0.338 U | **0.451 J** | **0.147 JN** | < 0.276 U | **64.3 J** | **56.6 J** | **4.12 J** | **0.918 J** | **1.27 J** | **295** |
| Octachlorochlorodibenzo-p-dioxin | pg/g | | | **275 J-** | **906** | **1250** | **12.4** | **2990** | **2390** | **246** | **190** | **445** | **5430** |
| Total HpCDD | pg/g | | | **46.6** | **49.0** | **63.9** | **2.38 J** | **312** | **277** | **19.0** | **12.2** | **87.3** | **997** |
| Total HpCDF | pg/g | | | **0.846** | **0.585 J** | **0.0628 JN** | < 0.165 U | **96.4 JN** | **87.2 JN** | **10.2 JN** | **1.70 JN** | **1.66** | **315** |
| Total HxCDD | pg/g | | | **16** | **15.4 JN** | **31.7 JN** | **1.98 JN** | **54.2 JN** | **45.9 JN** | **3.29 JN** | **2.93 JN** | **27.8** | **120** |
| Total HxCDF | pg/g | | | < 0.0873 U | **4.75 JN** | **0.276 JN** | **4.59 JN** | **125 JN** | **117 JN** | **4.42 JN** | **0.503 JN** | **0.969** | **182** |
| Total PeCDD | pg/g | | | **1.25** | **3.88 JN** | **3.98 JN** | **0.319 JN** | **8.97 JN** | **162 JN** | **0.0461 JN** | **0.126 JN** | **2.38** | **24.5** |
| Total PeCDF | pg/g | | | < 0.0747 U | **16.3 JN** | **1.05 JN** | **12.4 JN** | **165 JN** | **143 JN** | **1.34 JN** | **0.0368 JN** | **0.264** | **89.5** |
| Total TCDD | pg/g | | | **0.431** | < 0.253 U | **2.99 JN** | **0.290 JN** | < 2.26 U | **4.58 JN** | **0.300 JN** | **0.258 JN** | **0.72** | **11.2** |
| Total TCDF | pg/g | | | < 0.144 U | **27.7 JN** | **1.93 JN** | **24.5 JN** | **121 JN** | **119 JN** | **1.63 JN** | **0.0871 JN** | < 0.0543 U | **40.4** |
| TCDD TEQ HH | pg/g | 22 | | **0.768** | **0.601** | **1.37** | **0.0367** | **6.56** | **5.72** | **0.362** | **0.166** | **1.26** | **21.9** |

**Table 4-9**
**Subsurface Soil Results**
**Dioxins and Furans Concentrations in Subsurface Soils**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable
RSL Table, May 2018 Industrial Soil [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
pg/g = picograms per gram

**Table 4-10**
**Groundwater Results**
**Inorganic Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | Location ID<br>Sample ID<br>Depth<br>Sample Date<br>Type | DP26<br>DPW26(25-30)N<br>25 - 30 ft<br>3/29/2013<br>N | DP28<br>DPW2821N<br>20 - 22 ft<br>4/2/2013<br>N | DP28<br>DPW2821R<br>20 - 22 ft<br>4/2/2013<br>FD | DP30<br>DPW3028N<br>27 - 29 ft<br>4/3/2013<br>N | DP31<br>DPW3120N<br>19.5 - 20.5 ft<br>4/1/2013<br>N | DP33<br>DPW33(27-32)N<br>27 - 32 ft<br>4/4/2013<br>N | DP35<br>DPW3515N<br>14 - 16 ft<br>3/28/2013<br>N | DP36<br>DPW3612-17N<br>12 - 17 ft<br>5/20/2013<br>N | DP38<br>DPW3815-20N<br>15 - 20 ft<br>5/23/2013<br>N | DP40<br>DPW4015-20N<br>15 - 20 ft<br>5/28/2013<br>N | DP42<br>DPW4220-25N<br>20 - 25 ft<br>5/29/2013<br>N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | ug/l | 2000 | SW6020A | D | 7429-90-5 | 970 | 2.7 | 92 | 21 | SUSDP17 | 29 | 45 | | < 30 UJ | 4.5 J+ | < 30 UJ | 2.8 J+ | 2.7 J+ | 37 J+ | 800 | 19 J | 19 J | 130 | < 30 U |
| Antimony | ug/l | 6 | SW6020A | D | 7440-36-0 | 1.4 | 0.054 | 0.34 | 0.24 | SUSDP37 | 35 | 45 | | 0.19 J | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | 0.22 J | 0.19 J | 0.28 J | 0.35 J | 0.054 J |
| Arsenic | ug/l | 10 | SW6020A | D | 7440-38-2 | 2.8 | 0.31 | 1 | 0.65 | DP46 | 18 | 45 | | 1.1 | 1.3 | < 1.0 U | < 1.0 U | < 1.0 U | 0.31 J | 2.7 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Barium | ug/l | 1000 | SW6020A | D | 7440-39-3 | 580 | 19 | 120 | 93 | SUSDP08 | 45 | 45 | | 150 | 210 | 220 | 240 | 240 | 110 | 49 | 93 | 26 | 26 | 110 |
| Beryllium | ug/l | 4 | SW6020A | D | 7440-41-7 | 1.3 | 0.057 | 0.36 | 0.26 | DP35 | 11 | 45 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | 1.0 J+ | 1.3 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cadmium | ug/l | 5 | SW6020A | D | 7440-43-9 | 7.9 | 0.12 | 1.5 | 0.64 | DP35 | 18 | 45 | | 0.41 J | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | 1.5 | 7.9 | 0.40 J | < 1.0 U | < 1.0 U | 0.12 J |
| Calcium | ug/l | EN | SW6020A | D | 7440-70-2 | 170000 | 5000 | 70000 | 57000 | DP40 | 45 | 45 | | 24000 | 83000 | 82000 | 37000 | 57000 | 51000 | 65000 | 100000 | 56000 | 170000 | 100000 |
| Chromium | ug/l | 100 | SW6020A | D | 7440-47-3 | 5.6 | 0.55 | 2.3 | 1.9 | SUSDP14 | 41 | 45 | | 2.0 | 1.9 J | 1.5 J | 2.3 | 1.9 J | 1.7 J | 4.3 | 0.59 J | 0.91 J | 0.95 J | 3.2 |
| Cobalt | ug/l | 0.6 | SW6020A | D | 7440-48-4 | 71 | 0.29 | 15 | 7.8 | DP35 | 45 | 45 | | 4.0 | 2.1 | 2.7 | 13 | 9.8 | 37 | 71 | 23 | 0.88 | 12 | 7.8 |
| Copper | ug/l | 1300 | SW6020A | D | 7440-50-8 | 9.5 | 0.3 | 1.8 | 1.2 | DP28 | 43 | 45 | | 1.5 J | < 8.1 U | 9.5 | 8.8 | 8.5 | < 7.7 U | 4.0 | 1.3 J | 0.36 J | 2.1 | 0.59 J |
| Iron | ug/l | 1400 | SW6020A | D | 7439-89-6 | 150000 | 6.1 | 6100 | 320 | SUSDP22 | 32 | 45 | | 2400 | < 50 U | < 50 U | 360 | < 50 U | 1700 | 1100 | 59 | 35 J | 3600 | < 50 U |
| Lead | ug/l | 15 | SW6020A | D | 7439-92-1 | 0.087 | 0.019 | 0.043 | 0.04 | SUSDP17 | 19 | 45 | | < 1.0 U | 0.028 J | 0.028 J | 0.019 J | 0.048 J | 0.082 J | < 1.0 U | 0.040 J | < 1.0 U | < 1.0 U | < 1.0 U |
| Magnesium | ug/l | EN | SW6020A | D | 7439-95-4 | 33000 | 3800 | 16000 | 17000 | DP35<br>SUSDP14 | 45 | 45 | | 13000 J+ | 19000 J+ | 19000 J+ | 12000 J+ | 22000 J+ | 25000 J+ | 33000 | 18000 | 5800 | 18000 | 24000 |
| Manganese | ug/l | 43 | SW6020A | D | 7439-96-5 | 4900 | 25 | 1100 | 790 | SUSDP10 | 45 | 45 | | 3100 | 93 | 120 | 2200 | 3700 | 1900 | 2500 | 1100 | 200 | 1200 | 1400 |
| Nickel | ug/l | 39 | SW6020A | D | 7440-02-0 | 85 | 0.73 | 12 | 5.5 | DP35 | 43 | 45 | | 5.5 | 2.8 | 2.4 | 7.2 | 5.7 | 41 | 85 | 7.4 | 1.0 | 3.2 | 3.4 |
| Potassium | ug/l | EN | SW6020A | D | 7440-09-7 | 16000 | 2000 | 8300 | 8100 | SUSDP14 | 45 | 45 | | 8200 | 9900 | 9800 | 5400 | 8400 | 11000 | 9200 | 7400 | 5200 | 12000 | 8100 |
| Selenium | ug/l | 50 | SW6020A | D | 7782-49-2 | 2.8 | 0.57 | 1.6 | 1.6 | DP38<br>DP40 | 16 | 45 | | 0.60 J | 1.3 J | 1.0 J | 0.76 J | 1.0 J | 1.1 J | 1.9 J | < 5.0 U | 2.8 J | 2.8 J | < 5.0 U |
| Silver | ug/l | 50 | SW6020A | D | 7440-22-4 | | | | | | | 45 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | EN | SW6020A | D | 7440-23-5 | 700000 | 12000 | 150000 | 130000 | SUSDP03 | 45 | 45 | | 56000 J+ | 190000 J+ | 190000 J+ | 200000 J+ | 340000 J+ | 310000 J+ | 220000 | 230000 | 87000 | 83000 | 69000 |
| Thallium | ug/l | 2 | SW6020A | D | 7440-28-0 | 0.22 | 0.024 | 0.12 | 0.12 | SUSDP05<br>SUSDP41 | 22 | 45 | | < 1.0 U | 0.13 J | 0.11 J | 0.061 J | 0.16 J | 0.10 J | < 1.0 U | 0.16 J | 0.032 J | 0.17 J | < 1.0 U |
| Vanadium | ug/l | 8.6 | SW6020A | D | 7440-62-2 | 5.4 | 0.21 | 1.5 | 0.86 | DP46 | 20 | 45 | | 0.92 J | 1.4 | < 1.0 U | 0.59 J | 0.58 J | < 1.0 U | 1.5 | 0.36 J | < 1.0 U | < 1.0 U | < 1.0 U |
| Zinc | ug/l | 600 | SW6020A | D | 7440-66-6 | 490 | 1.3 | 37 | 8.5 | SUSDP17 | 41 | 45 | | 12 J- | 3.2 J- | 2.5 J- | 10 J- | 170 J- | 72 J- | 170 | 8.1 | < 5.0 U | 22 | 5.5 |
| Aluminum | ug/l | 2000 | SW6020A | T | 7429-90-5 | 170000 | 43 | 18000 | 2100 | SUSDP12 | 45 | 45 | | 890 | 12000 | 13000 | 380 | 24000 | 14000 | 5300 | 7800 J | 4000 J | 47000 J | 270 |
| Antimony | ug/l | 6 | SW6020A | T | 7440-36-0 | 1.9 | 0.08 | 0.58 | 0.31 | SUSDP12<br>SUSDP37 | 31 | 45 | | < 2.0 UJ | 0.46 J | 0.56 J | 0.080 J | 0.77 J | 0.57 J | < 2.0 U | 0.73 J | 0.16 J | 0.57 J | < 2.0 U |
| Arsenic | ug/l | 10 | SW6020A | T | 7440-38-2 | 74 | 0.41 | 16 | 8.2 | SUSDP09 | 38 | 45 | | 6.4 J | 19 J | 20 J | 0.44 J | 50 J | 32 J | 4.0 | 6.4 | 2.8 | 41 | 4.9 |
| Barium | ug/l | 1000 | SW6020A | T | 7440-39-3 | 1800 | 17 | 260 | 110 | DP40 | 45 | 45 | | 130 | 270 | 270 | 280 | 400 | 160 | 52 | 150 | 44 | 1800 | 120 |
| Beryllium | ug/l | 4 | SW6020A | T | 7440-41-7 | 40 | 0.041 | 3.7 | 0.53 | SUSDP12 | 42 | 45 | | 0.38 J | 1.6 J | 1.9 J | 0.094 J | 2.6 J | 3.6 J | 1.1 | 0.93 J | 0.36 J | 5.0 | 0.050 J |
| Cadmium | ug/l | 5 | SW6020A | T | 7440-43-9 | 6.5 | 0.14 | 1.5 | 0.7 | DP35 | 31 | 45 | | 0.31 J | 0.55 J | 0.54 J | < 1.0 UJ | 0.27 J | 2.2 J | 6.5 | 0.82 J | 0.29 J | 0.55 J | 0.14 J |
| Calcium | ug/l | EN | SW6020A | T | 7440-70-2 | 150000 | 4900 | 64000 | 57000 | DP40 | 45 | 45 | | 23000 J | 82000 J | 76000 J | 39000 J | 54000 J | 45000 J | 52000 | 110000 | 47000 | 150000 | 100000 |
| Chromium | ug/l | 100 | SW6020A | T | 7440-47-3 | 650 | 0.72 | 73 | 8.5 | SUSDP14 | 45 | 45 | | 5.5 J | 44 J | 44 J | 1.7 J | 120 J | 97 J | 8.5 | 67 | 11 | 110 | 2.2 |
| Cobalt | ug/l | 0.6 | SW6020A | T | 7440-48-4 | 560 | 0.69 | 44 | 18 | SUSDP37 | 45 | 45 | | 6.2 J | 61 J | 12 J | 15 J | 61 J | 51 J | 54 | 96 | 6.6 | 120 | 9.7 |
| Copper | ug/l | 1300 | SW6020A | T | 7440-50-8 | 960 | 0.6 | 77 | 7.6 | SUSDP12 | 44 | 45 | | 6.4 J | 48 J | 46 J | 7.5 J | 68 J | 52 J | 7.7 | 29 | 7.3 | 270 | 1.9 J |
| Iron | ug/l | 1400 | SW6020A | T | 7439-89-6 | 1200000 | 130 | 99000 | 29000 | SUSDP37 | 45 | 45 | | 29000 | 160000 | 160000 | 50000 | 130000 | 35000 | 11000 | 46000 J | 13000 J | 340000 J | 24000 |
| Lead | ug/l | 15 | SW6020A | T | 7439-92-1 | 220 | 0.37 | 43 | 12 | SUSDP23 | 32 | 45 | | 1.1 J | 15 J | 15 J | 0.37 J | 41 J | 28 J | 3.8 | 11 | 3.3 | 180 | 1.2 |
| Magnesium | ug/l | EN | SW6020A | T | 7439-95-4 | 33000 | 3600 | 16000 | 16000 | DP35 | 45 | 45 | | 14000 | 19000 | 18000 | 13000 | 21000 | 23000 | 33000 | 19000 | 6400 | 23000 | 23000 |
| Manganese | ug/l | 43 | SW6020A | T | 7439-96-5 | 4900 | 56 | 1300 | 1200 | DP31 | 45 | 45 | | 2800 J | 640 J | 640 J | 2400 J | 4900 J | 1800 J | 2000 | 2500 | 420 | 1900 | 1400 |
| Nickel | ug/l | 39 | SW6020A | T | 7440-02-0 | 260 | 0.96 | 35 | 15 | SUSDP37 | 44 | 45 | | 7.1 J | 24 J | 26 J | 8.5 J | 35 J | 54 J | 66 | 31 | 6.1 | 60 | 2.5 |
| Potassium | ug/l | EN | SW6020A | T | 7440-09-7 | 27000 | 3000 | 8800 | 7900 | DP40 | 45 | 45 | | 7400 J | 10000 J | 9800 J | 5700 J | 10000 J | 11000 J | 7600 | 9100 | 5100 | 27000 | 8200 |
| Selenium | ug/l | 50 | SW6020A | T | 7782-49-2 | 7.1 | 0.5 | 2.5 | 1.4 | DP33 | 12 | 45 | | < 5.0 U | 1.4 J | 2.0 J | 0.97 J | 1.8 J | 7.1 | 1.1 J | < 5.0 U | < 5.0 U | 6.2 | < 5.0 U |
| Silver | ug/l | 50 | SW6020A | T | 7440-22-4 | 0.85 | 0.044 | 0.28 | 0.26 | SUSDP14 | 13 | 45 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | 0.26 J | 0.42 J | < 1.0 U |
| Sodium | ug/l | EN | SW6020A | T | 7440-23-5 | 670000 | 11000 | 130000 | 110000 | SUSDP03 | 45 | 45 | | 53000 J | 180000 J | 170000 J | 210000 J | 290000 J | 260000 J | 190000 | 240000 | 84000 | 80000 | 70000 |
| Thallium | ug/l | 2 | SW6020A | T | 7440-28-0 | 2.6 | 0.022 | 0.45 | 0.15 | DP40 | 28 | 45 | | 0.089 J | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | 0.44 J | 0.098 J | 2.6 | < 1.0 U |
| Vanadium | ug/l | 8.6 | SW6020A | T | 7440-62-2 | 850 | 0.18 | 98 | 15 | SUSDP12 | 43 | 45 | | 7.1 J | 76 J | 76 J | 2.0 J | 170 J | 93 J | 23 | 50 | 15 | 200 | 2.4 |
| Zinc | ug/l | 600 | SW6020A | T | 7440-66-6 | 870 | 3.3 | 130 | 40 | SUSDP37 | 43 | 45 | | 16 J | 64 J | 68 J | 18 J | 120 J | 120 J | 140 | 67 | 22 | 200 | 26 |
| Mercury | ug/l | 2 | SW7470A | D | 7439-97-6 | 0.042 | 0.04 | 0.041 | 0.041 | SUSDP01 | 2 | 45 | | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | 0.040 J | < 0.20 U | < 0.20 U | < 0.20 U |
| Mercury | ug/l | 2 | SW7470A | T | 7439-97-6 | 3 | 0.038 | 0.37 | 0.081 | SUSDP14 | 20 | 45 | | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | 0.084 J+ | 0.10 J+ | < 0.20 U | 0.056 J | < 0.20 U | 0.44 | < 0.20 U |

**Table 4-10**
**Groundwater Results**
**Inorganic Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP45 | DP46 | DP47 | SUSDP01 | SUSDP02 | SUSDP03 | SUSDP04 | SUSDP05 | SUSDP05 | SUSDP07 | SUSDP08 | SUSDP09 | SUSDP10 | SUSDP11 | SUSDP12 | SUSDP13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW4515-20N | DPW4615-20N | DPW4710-15N | DPW0112-15N | DPW0212-17N | DPW0310-15N | DPW0415-20N | DPW0514-19N | DPW0514-19R | DPW0720-25N | DPW0815-25N | DPW0925-30N | DPW1015-20N | DPW1110-15N | DPW1215-20N | DPW1310-15N |
| | | | Depth | 15 - 20 ft | 15 - 20 ft | 10 - 15 ft | 12 - 15 ft | 12 - 17 ft | 10 - 15 ft | 15 - 20 ft | 14 - 19 ft | 14 - 19 ft | 20 - 25 ft | 15 - 25 ft | 25 - 30 ft | 15 - 20 ft | 10 - 15 ft | 15 - 20 ft | 10 - 15 ft |
| | | | Sample Date | 6/4/2013 | 6/5/2013 | 6/5/2013 | 5/20/2013 | 5/20/2013 | 5/21/2013 | 5/20/2013 | 5/21/2013 | 5/21/2013 | 5/22/2013 | 5/24/2013 | 6/11/2013 | 6/10/2013 | 5/28/2013 | 6/13/2013 | 5/29/2013 |
| | | | Type | N | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Aluminum | ug/l | 2000 | | < 30 U | 37 | < 30 U | 18 J | 6.6 J | 3.5 J | 3.7 J | 3.8 J | 30 | 4.6 J | 35 | 24 J | < 30 U | < 30 U | 10 J | < 30 U |
| Antimony | ug/l | 6 | | 0.20 J | 0.13 J | 0.27 J | 0.44 J | 0.26 J | 0.49 J | 0.57 J | 0.21 J | 1.2 J | 0.48 J | 0.39 J | < 2.0 U | < 2.0 U | 0.88 J | 0.41 J | 0.18 J |
| Arsenic | ug/l | 10 | | 0.44 J | 2.8 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | 0.42 J | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.4 U | 1.8 | 0.64 J | < 3.9 U | < 1.0 U |
| Barium | ug/l | 1000 | | 58 | 47 | 67 | 51 | 19 | 110 | 33 | 41 | 41 | 65 | 580 | 110 | 120 | 100 | 170 | 81 |
| Beryllium | ug/l | 4 | | 0.26 J | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cadmium | ug/l | 5 | | 2.5 | 0.13 J | < 1.0 U | < 1.0 U | < 1.0 U | 0.53 J | 0.17 J | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | 0.26 J | 0.67 J | < 1.0 U | < 1.0 U | < 1.0 U |
| Calcium | ug/l | EN | | 20000 | 43000 | 90000 | 85000 | 32000 | 120000 | 110000 | 57000 | 57000 | 130000 | 110000 | 55000 | 26000 | 74000 | 120000 | 30000 |
| Chromium | ug/l | 100 | | 3.7 | 4.3 | 3.8 | 1.2 J | 0.55 J | < 2.0 U | 0.98 J | < 2.0 U | 0.59 J | 0.57 J | 0.75 J | 0.81 J | 1.2 J | 3.8 | 1.4 J | 4.2 |
| Cobalt | ug/l | 0.6 | | 38 | 0.86 | 5.7 | 0.39 J | 18 | 16 | 10 | 5.2 | 5.4 | 0.29 J | 1.2 | 12 | 32 | 0.32 J | 0.77 | 1.5 |
| Copper | ug/l | 1300 | | 0.53 J | 1.7 J | 1.5 J | 1.1 J | 1.3 J | 1.0 J | 2.0 | 1.4 J | 1.3 J | 1.1 J | 1.0 J | 0.84 J | 0.43 J | 0.93 J | 2.3 | 0.53 J |
| Iron | ug/l | 1400 | | 1400 | 210 | 180 | 32 J | 21 J | 12 J | 310 | 120 | 190 | 23 J | 230 | 880 | 5400 | < 50 U | < 50 U | < 50 U |
| Lead | ug/l | 15 | | < 1.0 U | < 1.0 U | < 1.0 U | 0.040 J | 0.047 J | 0.029 J | 0.051 J | 0.021 J | 0.044 J | < 1.0 U | < 1.0 U | 0.063 J | < 1.0 U | < 1.0 U | 0.056 J | < 1.0 U |
| Magnesium | ug/l | EN | | 14000 | 24000 | 21000 | 7600 | 4200 | 25000 | 11000 | 12000 | 12000 | 10000 | 18000 | 30000 | 16000 | 23000 | 18000 | 3800 |
| Manganese | ug/l | 43 | | 1300 | 500 | 100 | 25 | 510 | 820 | 1100 | 190 | 190 | 360 | 1400 | 830 | 4900 | 790 | 590 | 71 |
| Nickel | ug/l | 39 | | 32 | 1.8 | 3.2 | 0.95 J | 5.5 | 14 | 6.3 | 3.1 | 3.4 | < 1.0 U | 2.9 | 13 | 6.7 | 4.0 | < 1.0 U | 3.6 |
| Potassium | ug/l | EN | | 5600 | 5600 | 15000 | 9400 | 3000 | 13000 | 12000 | 6700 | 6700 | 8300 | 11000 | 9200 | 7100 | 9900 | 13000 | 5700 |
| Selenium | ug/l | 50 | | < 5.0 U | < 5.0 U | < 5.0 U | 1.8 J | 1.6 J | 2.2 J | < 5.0 U | 2.1 J | 2.2 J | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.8 U | < 5.0 U |
| Silver | ug/l | 50 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | EN | | 31000 | 170000 | 420000 | 240000 | 32000 | 700000 | 63000 | 53000 | 53000 | 12000 | 160000 | 210000 | 98000 | 52000 | 200000 | 24000 |
| Thallium | ug/l | 2 | | < 1.0 U | < 1.0 U | < 1.0 U | 0.076 J | 0.13 J | 0.14 J | 0.16 J | 0.11 J | 0.22 J | < 1.0 U | 0.024 J | < 1.0 U | 0.064 J | < 1.0 U | < 1.0 U | < 1.0 U |
| Vanadium | ug/l | 8.6 | | 2.3 | 5.4 | < 1.0 U | 0.79 J | < 1.0 U | < 1.0 U | 0.41 J | < 1.0 U | 0.58 J | 0.64 J | < 1.0 U | 0.21 J | < 1.1 U | < 1.0 U | 1.9 | < 1.0 U |
| Zinc | ug/l | 600 | | 31 | 4.9 J | 1.7 J | 4.4 J | 8.5 | 19 | 14 | 4.2 J | 4.0 J | 3.9 J | 4.0 J | 24 | 16 | < 5.0 U | 2.6 J | 2.5 J |
| Aluminum | ug/l | 2000 | | 400 | 12000 | 430 | 1300 J | 43 J | 330 J | 100 J | 640 J | 940 J | 310 J | 32000 J | 26000 J | 740 | 1100 | 170000 J | 2100 |
| Antimony | ug/l | 6 | | 0.11 J | < 2.0 U | < 2.0 U | 1.3 J | 0.14 J | 0.19 J | 0.25 J | 0.28 J | 0.18 J | < 2.0 U | 0.53 J | 0.62 J | < 2.0 U | 1.7 J | 1.9 J | 0.15 J |
| Arsenic | ug/l | 10 | | 0.47 J | 13 | 1.6 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | 0.46 J | < 1.0 U | 15 | 74 J- | 3.9 | 20 | 64 J- | 0.41 J |
| Barium | ug/l | 1000 | | 62 | 90 | 63 | 55 | 17 | 100 | 35 | 42 | 42 | 92 | 950 | 170 | 100 | 170 | 820 | 91 |
| Beryllium | ug/l | 4 | | 0.15 J | 4.0 | 0.11 J | 0.11 J | < 1.0 U | 0.043 J | 0.041 J | 0.063 J | 0.082 J | < 1.0 U | 5.5 | 9.2 | 0.21 J | 0.10 J | 40 | 0.044 J |
| Cadmium | ug/l | 5 | | 2.7 | 1.1 | < 1.0 U | < 1.0 U | < 1.0 U | 0.36 J | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | 0.70 J | 0.90 J | 0.51 J | < 1.0 U | 5.3 | < 1.0 U |
| Calcium | ug/l | EN | | 20000 | 36000 | 83000 | 93000 | 33000 | 130000 | 120000 | 57000 | 62000 | 140000 | 94000 | 47000 | 23000 | 67000 | 87000 | 27000 |
| Chromium | ug/l | 100 | | 2.9 | 56 | 2.3 | 4.3 | 0.72 J | 2.1 | 1.1 J | 2.6 | 3.5 | 1.6 J | 91 | 140 | 2.3 | 3.4 | 550 | 5.3 |
| Cobalt | ug/l | 0.6 | | 41 | 11 | 5.8 | 2.9 | 18 | 16 | 11 | 7.4 | 7.9 | 0.69 | 49 | 33 | 30 | 1.4 | 90 | 3.4 |
| Copper | ug/l | 1300 | | 1.7 J | 68 | 3.3 | 2.0 | 0.60 J | 1.3 J | 1.1 J | 1.8 J | 2.4 | 2.1 | 74 | 140 | 5.7 | 3.0 | 960 | 3.8 |
| Iron | ug/l | 1400 | | 6700 | 91000 | 6300 | 2900 J | 210 J | 2600 J | 7000 J | 2500 J | 4000 J | 3200 J | 92000 J | 350000 | 9700 | 32000 | 470000 | 4100 |
| Lead | ug/l | 15 | | < 1.0 U | 16 | < 1.0 U | 1.6 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | 1.0 | < 1.0 U | 41 | 41 J- | < 1.4 U | 44 | 210 J- | 2.8 |
| Magnesium | ug/l | EN | | 14000 | 19000 | 18000 | 7300 | 3600 | 24000 | 11000 | 11000 | 11000 | 10000 | 19000 | 28000 | 13000 | 20000 | 21000 | 3600 |
| Manganese | ug/l | 43 | | 1300 | 770 | 100 | 140 | 550 | 930 | 1200 | 230 | 270 | 400 | 1800 | 1200 J- | 4300 | 1400 | 1600 J- | 92 |
| Nickel | ug/l | 39 | | 34 | 19 | 3.2 | 1.8 | 5.4 | 14 | 6.2 | 3.8 | 4.4 | < 1.0 U | 51 | 53 | 6.7 | 1.8 | 120 | 3.8 |
| Potassium | ug/l | EN | | 5800 | 5400 | 14000 | 10000 | 3000 | 14000 | 13000 | 6800 | 7300 | 8300 | 11000 | 10000 | 6100 | 8900 | 14000 | 5400 |
| Selenium | ug/l | 50 | | < 5.0 U | < 5.0 U | < 5.0 U | 1.3 J | < 5.0 U | 0.76 J | < 5.0 U | < 5.0 U | 1.1 J | < 5.0 U | < 5.0 U | < 5.5 U | < 5.0 U | 0.50 J | < 10 U | < 5.0 U |
| Silver | ug/l | 50 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | 0.22 J | 0.26 J | < 1.0 U | < 1.0 U | 0.044 J | 0.39 J | < 1.0 U |
| Sodium | ug/l | EN | | 32000 | 130000 | 380000 | 250000 | 31000 | 670000 | 67000 | 52000 | 54000 | 13000 | 140000 | 180000 | 79000 | 45000 | 140000 | 21000 |
| Thallium | ug/l | 2 | | < 1.0 U | 0.16 J | 0.20 J | 0.15 J | 0.051 J | 0.094 J | 0.22 J | 0.14 J | 0.13 J | 0.022 J | 0.45 J | < 1.0 U | 0.055 J | < 1.0 U | 1.7 | < 1.0 U |
| Vanadium | ug/l | 8.6 | | 3.1 | 93 | 2.8 | 4.2 | < 1.0 U | 1.8 | 0.18 J | 2.8 | 4.2 | 1.1 | 140 | 220 | 5.3 | 5.5 | 850 | 7.7 |
| Zinc | ug/l | 600 | | 32 | 79 | 3.8 J | 5.1 | 5.3 | 14 | 4.8 J | 3.3 J | 4.5 J | < 9.7 U | 190 | 190 | 17 | 9.7 | 660 | 16 |
| Mercury | ug/l | 2 | | < 0.20 U | < 0.20 U | < 0.20 U | 0.042 J | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U |
| Mercury | ug/l | 2 | | < 0.20 U | 0.10 J | < 0.20 U | 0.045 J | 0.042 J | < 0.20 U | 0.071 J | < 0.20 U | < 0.20 U | 0.043 J | 0.077 J | 0.11 J | < 0.20 U | < 0.20 U | 1.3 | < 0.20 U |

**Table 4-10**
**Groundwater Results**
**Inorganic Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP14 | SUSDP15 | SUSDP16 | SUSDP16 | SUSDP17 | SUSDP18 | SUSDP19 | SUSDP20 | SUSDP22 | SUSDP23 | SUSDP24 | SUSDP24 | SUSDP37 | SUSDP37 | SUSDP39 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW1423-28N | DPW1520-25N | DPW1615-20N | DPW1615-20R | DPW1713-18N | DPW1815-20N | DPW1915-20N | DPW2015-20N | DPW2215-20N | DPW2323-28N | DPW2415-20N | DPW2415-20R | DPW3713-18N | DPW3725-30N | DPW3913-18N |
| | | | Depth | 23 - 28 ft | 20 - 25 ft | 15 - 20 ft | 15 - 20 ft | 13 - 18 ft | 15 - 20 ft | 15 - 20 ft | 13 - 20 ft | 15 - 20 ft | 23 - 28 ft | 15 - 20 ft | 15 - 20 ft | 13 - 18 ft | 25 - 30 ft | 13 - 18 ft |
| | | | Sample Date | 6/6/2013 | 6/6/2013 | 6/10/2013 | 6/10/2013 | 6/11/2013 | 6/4/2013 | 6/5/2013 | 6/12/2013 | 6/12/2013 | 6/12/2013 | 6/4/2013 | 6/4/2013 | 5/23/2013 | 5/23/2013 | 5/22/2013 |
| | | | Type | N | N | N | FD | N | N | N | N | N | N | N | FD | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| Aluminum | ug/l | 2000 | | < 30 U | < 30 U | 140 | 51 | 970 | < 30 U | < 30 U | < 30 U | 28 J | 8.1 J | 75 | 99 | < 30 U | 70 | 2.8 J |
| Antimony | ug/l | 6 | | 0.24 J | 0.18 J | 0.11 J | < 2.0 U | < 2.0 U | 0.53 J | 0.12 J | 0.16 J | 0.23 J | < 2.0 U | 0.094 J | 0.13 J | 0.11 J | 1.4 J | 0.27 J |
| Arsenic | ug/l | 10 | | 1.2 | 1.3 | 0.51 J | < 1.0 U | < 1.0 U | 0.65 J | 0.63 J | < 2.1 U | < 1.5 U | < 2.0 U | 0.53 J | < 1.0 U | < 1.0 U | 0.55 J | 0.40 J |
| Barium | ug/l | 1000 | | 210 | 200 | 130 | 130 | 69 | 54 | 270 | 60 | 470 | 160 | 33 | 36 | 23 | 120 | 29 |
| Beryllium | ug/l | 4 | | < 1.0 U | < 1.0 U | 0.30 J | 0.31 J | 0.19 J | 0.057 J | < 1.0 U | < 1.0 U | 0.26 J | 0.13 J | 0.064 J | 0.12 J | < 1.0 U | < 1.0 U | < 1.0 U |
| Cadmium | ug/l | 5 | | < 1.0 U | < 1.0 U | 0.51 J | 0.61 J | 6.6 | 1.5 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | 0.82 J | 0.95 J | < 1.0 U | < 1.0 U | < 1.0 U |
| Calcium | ug/l | EN | | 100000 | 120000 | 5100 | 5000 | 110000 | 31000 | 150000 | 76000 | 16000 | 12000 | 28000 | 29000 | 33000 | 60000 | 41000 |
| Chromium | ug/l | 100 | | 5.6 | 3.6 | 2.4 | 2.1 | 1.4 J | 3.6 | 3.5 | 0.95 J | < 2.0 U | 4.1 | 4.3 | 4.4 | 1.6 J | 1.3 J | < 2.0 U |
| Cobalt | ug/l | 0.6 | | 1.9 | 6.8 | 9.1 | 9.4 | 70 | 64 | 0.54 | 16 | 5.5 | 9.0 | 24 | 26 | 1.3 | 0.85 | 1.8 |
| Copper | ug/l | 1300 | | 3.1 | 1.2 J | 1.9 J | 1.6 J | 2.1 | 0.30 J | 0.41 J | 0.70 J | 1.2 J | 0.32 J | 1.6 J | 3.9 J | 0.55 J | 1.7 J | 0.62 J |
| Iron | ug/l | 1400 | | < 50 U | < 50 U | 660 | 320 | 180 | 10000 | 94 | < 50 U | 150000 | 12000 | < 56 UJ | 600 J | < 50 U | 920 | 59 |
| Lead | ug/l | 15 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | 0.087 J | < 1.0 U | < 1.0 U | 0.020 J | 0.054 J | 0.038 J | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | 0.029 J |
| Magnesium | ug/l | EN | | 33000 | 28000 | 5100 | 5100 | 17000 | 13000 | 30000 | 12000 | 17000 | 8300 | 10000 | 10000 | 4700 | 12000 | 4400 |
| Manganese | ug/l | 43 | | 660 | 120 | 560 | 560 | 1800 | 1300 | 1700 | 690 | 1300 | 520 | 490 | 520 | 47 | 45 | 1300 |
| Nickel | ug/l | 39 | | 16 | 2.3 | 15 | 15 | 34 | 18 | 0.98 J | 3.8 | 4.1 | 11 | 37 | 44 | 0.75 J | 2.8 | 0.73 J |
| Potassium | ug/l | EN | | 16000 | 15000 | 4600 | 4600 | 8200 | 5200 | 14000 | 7900 | 2900 | 2000 | 5600 | 5700 | 3400 | 7100 | 3500 |
| Selenium | ug/l | 50 | | 0.57 J | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 12 U | < 5.0 U | < 5.5 U | < 5.0 U | < 5.0 U | 1.6 J | < 5.0 U | < 5.0 U |
| Silver | ug/l | 50 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | EN | | 190000 | 180000 | 14000 | 14000 | 180000 | 120000 | 320000 | 270000 | 230000 | 30000 | 75000 | 73000 | 61000 | 120000 | 13000 |
| Thallium | ug/l | 2 | | < 1.0 U | < 1.0 U | 0.061 J | 0.036 J | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | 0.086 J | 0.12 J | < 1.0 U |
| Vanadium | ug/l | 8.6 | | < 1.0 U | < 1.0 U | < 2.4 U | < 1.8 U | 1.4 | < 1.0 U | 3.8 | 0.66 J | 0.25 J | 3.4 | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Zinc | ug/l | 600 | | 2.9 J | 2.2 J | 33 | 36 | 490 | 32 | 1.3 J | 4.7 J | 30 | 79 | 61 | 64 | < 5.0 U | < 16 U | 3.0 J |
| Aluminum | ug/l | 2000 | | 130000 | 12000 | 930 | 770 | 5800 J | 150 | 4400 J+ | 6400 J | 6100 J | 130000 J | 1300 J | 2800 J | 46 J | 110000 J | 2100 J |
| Antimony | ug/l | 6 | | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | 0.16 J | 0.69 J | < 2.0 U | 0.29 J | 1.8 J | 1.0 J | 0.11 J | 0.31 J | 0.22 J | 1.9 J | 0.18 J |
| Arsenic | ug/l | 10 | | 22 | 17 | 1.6 | 1.3 | 6.2 J- | 0.71 J | 1.6 J- | 22 J- | 12 J- | 47 J- | 4.5 J | 10 J | < 1.0 U | 64 | 11 |
| Barium | ug/l | 1000 | | 1100 | 250 | 110 | 120 | 130 | 58 | 330 | 95 | 460 | 1100 | 38 | 44 | 26 | 580 | 65 |
| Beryllium | ug/l | 4 | | 32 | 1.6 | 0.55 J | 0.52 J | 0.61 J | 0.072 J | 0.54 J | 0.67 J | 0.83 J | 20 | 0.27 J | 0.42 J | < 1.0 U | 19 | 0.19 J |
| Cadmium | ug/l | 5 | | 2.4 | 0.23 J | 0.45 J | 0.40 J | 6.0 | 1.5 | < 1.0 U | 0.19 J | < 1.0 U | 3.1 | 0.97 J | 0.99 J | < 1.0 U | 3.5 J | < 1.0 U |
| Calcium | ug/l | EN | | 64000 | 91000 | 4900 | 4900 | 93000 | 32000 | 120000 | 63000 | 16000 | 22000 | 25000 | 25000 | 30000 | 62000 | 38000 |
| Chromium | ug/l | 100 | | 650 | 42 | 3.7 | 3.9 | 18 | 1.3 J | 26 | 29 | 28 | 530 | 9.3 | 17 | 0.97 J | 500 | 4.5 |
| Cobalt | ug/l | 0.6 | | 160 | 19 | 9.3 | 9.4 | 65 | 63 | 2.1 | 69 | 9.9 | 46 | 22 | 24 | 1.6 | 560 | 4.6 |
| Copper | ug/l | 1300 | | 490 | 28 | 4.1 | 3.7 | 11 | 1.6 J | 9.8 | 21 | 24 | 390 | 7.1 J | 18 J | < 2.0 U | 480 | 6.0 |
| Iron | ug/l | 1400 | | 380000 | 46000 | 4500 | 4000 | 27000 | 16000 | 42000 | 110000 | 180000 | 200000 | 12000 J | 23000 J | 130 J | 1200000 J | 43000 J |
| Lead | ug/l | 15 | | 190 | 15 | < 1.1 U | < 1.0 U | 10 J- | < 1.0 U | 11 | 11 J- | 12 J- | 220 J- | 3.7 J | 8.3 J | < 1.0 U | 130 | 5.7 |
| Magnesium | ug/l | EN | | 29000 | 21000 | 4200 | 4300 | 15000 | 13000 | 22000 | 11000 | 16000 | 22000 | 8900 | 9300 | 5300 | 17000 | 4200 |
| Manganese | ug/l | 43 | | 2300 | 170 | 530 | 540 | 1600 J- | 1200 | 1400 | 770 J- | 1200 J- | 790 J- | 440 | 470 | 56 | 2200 | 1500 |
| Nickel | ug/l | 39 | | 240 | 10 | 16 | 16 | 32 | 17 | 4.9 | 11 | 8.5 | 100 | 35 | 39 | 0.96 J | 260 | 2.9 |
| Potassium | ug/l | EN | | 17000 | 12000 | 4200 | 4300 | 7900 | 5300 | 12000 | 7200 | 3400 | 7800 | 5200 | 5400 | 3300 | 11000 | 3600 |
| Selenium | ug/l | 50 | | 5.5 | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 7.9 U | < 5.0 U | < 14 U | < 5.0 U | < 5.0 U | < 5.0 U | < 50 U | < 5.0 U |
| Silver | ug/l | 50 | | 0.85 J | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | 0.11 J | < 1.0 U | < 1.0 U | 0.058 J | 0.53 J | 0.27 J |
| Sodium | ug/l | EN | | 92000 | 140000 | 12000 | 12000 | 160000 | 120000 | 240000 | 220000 | 210000 | 20000 | 66000 | 67000 | 65000 | 100000 | 11000 |
| Thallium | ug/l | 2 | | 1.4 | 0.11 J | 0.030 J | 0.023 J | < 1.0 U | < 1.0 U | 0.063 J | < 1.0 U | < 1.0 U | 1.7 | < 1.0 U | < 1.0 U | 0.19 J | 2.0 J | 0.080 J |
| Vanadium | ug/l | 8.6 | | 600 | 59 | 7.6 | 6.5 | 27 | 0.94 J | 78 | 46 | 44 | 790 | 13 J | 28 J | < 1.0 U | 400 | 6.6 |
| Zinc | ug/l | 600 | | 590 | 32 | 41 | 35 | 450 | 38 | 16 | 40 | 53 | 800 | 57 | 75 | < 5.0 U | 870 | 17 |
| Mercury | ug/l | 2 | | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U |
| Mercury | ug/l | 2 | | 3.0 | < 0.20 U | < 0.20 U | < 0.20 U | 0.066 J | < 0.20 U | 0.045 J | 0.038 J | < 0.20 U | 1.2 | < 0.20 U | < 0.20 U | < 0.20 U | 0.28 | 0.053 J |

**Table 4-10**
**Groundwater Results**
**Inorganic Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | Location ID | SUSDP41 | SUSDP43 | SUSDP44 |
| | | | Sample ID | DPW41 15-25N | DPW4315-20N | DPW4413-18N |
| | | | Depth | 15 - 25 ft | 15 - 20 ft | 13 - 18 ft |
| | | | Sample Date | 5/24/2013 | 6/6/2013 | 6/10/2013 |
| | | | Type | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | |
| Aluminum | ug/l | 2000 | | **21 J** | < 30 U | < 30 U |
| Antimony | ug/l | 6 | | **0.26 J** | **0.16 J** | **0.52 J** |
| Arsenic | ug/l | 10 | | < 1.0 U | **1.4** | < 1.0 U |
| Barium | ug/l | 1000 | | **32** | **220** | **87** |
| Beryllium | ug/l | 4 | | < 1.0 U | < 1.0 U | < 1.0 U |
| Cadmium | ug/l | 5 | | < 1.0 U | < 1.0 U | **1.1** |
| Calcium | ug/l | EN | | **150000** | **140000** | **53000** |
| Chromium | ug/l | 100 | | **0.78 J** | **2.9** | **1.6 J** |
| Cobalt | ug/l | 0.6 | | **13** | **1.4** | **65** |
| Copper | ug/l | 1300 | | **0.98 J** | **0.43 J** | **0.54 J** |
| Iron | ug/l | 1400 | | **1900** | < 50 U | **6.1 J** |
| Lead | ug/l | 15 | | < 1.0 U | < 1.0 U | < 1.0 U |
| Magnesium | ug/l | EN | | **17000** | **21000** | **23000** |
| Manganese | ug/l | 43 | | **1000** | **920** | **2800** |
| Nickel | ug/l | 39 | | **8.7** | **2.8** | **14** |
| Potassium | ug/l | EN | | **14000** | **12000** | **8000** |
| Selenium | ug/l | 50 | | < 5.0 U | < 5.0 U | < 5.0 U |
| Silver | ug/l | 50 | | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | EN | | **130000** | **170000** | **150000** |
| Thallium | ug/l | 2 | | **0.22 J** | < 1.0 U | **0.19 J** |
| Vanadium | ug/l | 8.6 | | < 1.0 U | **2.5** | < 2.1 U |
| Zinc | ug/l | 600 | | **5.6** | **8.0** | **43** |
| Aluminum | ug/l | 2000 | | **1700 J** | **15000** | **350** |
| Antimony | ug/l | 6 | | **0.16 J** | < 2.0 U | < 2.0 U |
| Arsenic | ug/l | 10 | | **2.6** | **14** | **0.70 J** |
| Barium | ug/l | 1000 | | **51** | **380** | **84** |
| Beryllium | ug/l | 4 | | **0.18 J** | **1.8** | **0.13 J** |
| Cadmium | ug/l | 5 | | **0.16 J** | **0.38 J** | **0.94 J** |
| Calcium | ug/l | EN | | **130000** | **120000** | **51000** |
| Chromium | ug/l | 100 | | **3.1** | **33** | **2.2** |
| Cobalt | ug/l | 0.6 | | **18** | **15** | **68** |
| Copper | ug/l | 1300 | | **9.1** | **86** | **2.2** |
| Iron | ug/l | 1400 | | **30000 J** | **62000** | **2400** |
| Lead | ug/l | 15 | | **1.6** | **92** | < 1.0 U |
| Magnesium | ug/l | EN | | **16000** | **17000** | **20000** |
| Manganese | ug/l | 43 | | **870** | **1000** | **2800** |
| Nickel | ug/l | 39 | | **10** | **57** | **14** |
| Potassium | ug/l | EN | | **12000** | **11000** | **7700** |
| Selenium | ug/l | 50 | | < 5.0 U | < 5.0 U | < 5.0 U |
| Silver | ug/l | 50 | | **0.12 J** | **0.069 J** | < 1.0 U |
| Sodium | ug/l | EN | | **110000** | **140000** | **140000** |
| Thallium | ug/l | 2 | | **0.22 J** | **0.17 J** | **0.10 J** |
| Vanadium | ug/l | 8.6 | | **5.3** | **53** | **2.0** |
| Zinc | ug/l | 600 | | **30** | **450** | **44** |
| Mercury | ug/l | 2 | | < 0.20 U | < 0.20 U | < 0.20 U |
| Mercury | ug/l | 2 | | < 0.20 U | **0.18 J** | < 0.20 U |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
D = Dissolved
T = Total
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable
Heirarchy: 1) Lower of DOEE/MCL (primary standards). 2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte

JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
ug/l = micrograms per liter

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | Location ID | DP26 | DP28 | DP28 | DP30 | DP31 | DP33 | DP35 | DP36 | DP38 |
| | | | | | | | | | | | | | | Sample ID | DPW26(25-30)N | DPW2821N | DPW2821R | DPW3028N | DPW3120N | DPW33(27-32)N | DPW3515N | DPW3612-17N | DPW3815-20N |
| | | | | | | | | | | | | | | Depth | 25 - 30 ft | 20 - 22 ft | 20 - 22 ft | 27 - 29 ft | 19.5 - 20.5 ft | 27 - 32 ft | 14 - 16 ft | 12 - 17 ft | 15 - 20 ft |
| | | | | | | | | | | | | | | Sample Date | 3/29/2013 | 4/2/2013 | 4/2/2013 | 4/3/2013 | 4/1/2013 | 4/4/2013 | 3/28/2013 | 5/20/2013 | 5/23/2013 |
| | | | | | | | | | | | | | | Type | N | N | FD | N | N | N | N | N | N |
| Diesel Range Organics (C10-C20) | ug/l | 100 | SW8015C DRO | N | C10C20 | 540 | 320 | 430 | 450 | DP46 | 6 | | 45 | | < 510 U | < 480 UJ | < 480 UJ | < 500 U | < 480 U | < 480 U | < 480 U | < 480 U | < 500 U |
| Oil Range Organics (C20-C36) | ug/l | 6000 | SW8015C DRO | N | C20C36 | 1900 | 230 | 760 | 560 | SUSDP43 | 11 | | 45 | | < 510 U | **240 J** | **250 J** | **550** | **590** | < 480 U | < 480 U | < 480 U | < 500 U |
| Gasoline Range Organics (C6-C10) | ug/l | 3.3 | SW8015C GRO | N | 8006-61-9 | | | | | | | | 46 | | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U |
| 1,1,1-Trichloroethane | ug/l | 200 | SW8260B/SW8260C | N | 71-55-6 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | SW8260B/SW8260C | N | 79-34-5 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | SW8260B/SW8260C | N | 76-13-1 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloroethane | ug/l | 5 | SW8260B/SW8260C | N | 79-00-5 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethane | ug/l | 2.8 | SW8260B/SW8260C | N | 75-34-3 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethene | ug/l | 7 | SW8260B/SW8260C | N | 75-35-4 | | | | | | | | 96 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | SW8260B/SW8260C | N | 87-61-6 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,4-Trichlorobenzene | ug/l | 70 | SW8260B/SW8260C | N | 120-82-1 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | SW8260B/SW8260C | N | 96-12-8 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromoethane | ug/l | 0.05 | SW8260B/SW8260C | N | 106-93-4 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichlorobenzene | ug/l | 600 | SW8260B/SW8260C | N | 95-50-1 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloroethane | ug/l | 5 | SW8260B/SW8260C | N | 107-06-2 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloropropane | ug/l | 5 | SW8260B/SW8260C | N | 78-87-5 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,3-Dichlorobenzene | ug/l | 0.48 | SW8260B/SW8260C | N | 541-73-1 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dichlorobenzene | ug/l | 75 | SW8260B/SW8260C | N | 106-46-7 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dioxane | ug/l | 0.46 | SW8260B/SW8260C | N | 123-91-1 | | | | | | | 6 | 75 | | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U |
| 2-Butanone | ug/l | 560 | SW8260B/SW8260C | N | 78-93-3 | 13 | 0.74 | 4.1 | 1.3 | DP58 | 4 | | 75 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 2-Hexanone | ug/l | 3.8 | SW8260B/SW8260C | N | 591-78-6 | | | | | | | | 75 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 4-Methyl-2-pentanone | ug/l | 630 | SW8260B/SW8260C | N | 108-10-1 | | | | | | | | 75 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Acetone | ug/l | 1400 | SW8260B/SW8260C | N | 67-64-1 | 73 | 2.7 | 7.8 | 4.3 | DP58 | 29 | | 75 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **3.2 J** | < 5.0 U |
| Benzene | ug/l | 5 | SW8260B/SW8260C | N | 71-43-2 | 0.26 | 0.21 | 0.24 | 0.24 | DP33 | 2 | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.26 J** | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromochloromethane | ug/l | 8.3 | SW8260B/SW8260C | N | 74-97-5 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromodichloromethane | ug/l | 80 | SW8260B/SW8260C | N | 75-27-4 | 2.6 | 0.36 | 1.5 | 1.5 | DP60 | 2 | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromoform | ug/l | 80 | SW8260B/SW8260C | N | 75-25-2 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromomethane | ug/l | 0.75 | SW8260B/SW8260C | N | 74-83-9 | | | | | | | 6 | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Butyl alcohol, tert- | ug/l | 14 | SW8260B/SW8260C | N | 75-65-0 | 110 | 110 | 110 | 110 | DP58 | 1 | | 29 | | | | | | | | | | |
| Carbon Disulfide | ug/l | 81 | SW8260B/SW8260C | N | 75-15-0 | 1.5 | 0.39 | 0.87 | 0.84 | DP58 | 9 | | 75 | | < 1.0 U | **0.46 J** | **0.39 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Carbon Tetrachloride | ug/l | 5 | SW8260B/SW8260C | N | 56-23-5 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chlorobenzene | ug/l | 100 | SW8260B/SW8260C | N | 108-90-7 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroethane | ug/l | 2100 | SW8260B/SW8260C | N | 75-00-3 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroform | ug/l | 80 | SW8260B/SW8260C | N | 67-66-3 | 15 | 0.26 | 2.2 | 1.1 | DP60 | 13 | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloromethane | ug/l | 19 | SW8260B/SW8260C | N | 74-87-3 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,2-Dichloroethylene | ug/l | 70 | SW8260B/SW8260C | N | 156-59-2 | 23 | 0.35 | 7.4 | 5.6 | DPB7 | 20 | | 96 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.81 J** | **0.56 J** | < 1.0 U | < 1.0 U |
| cis-1,3-Dichloropropene | ug/l | 0.47 | SW8260B/SW8260C | N | 10061-01-5 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cyclohexane | ug/l | 1300 | SW8260B/SW8260C | N | 110-82-7 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dibromochloromethane | ug/l | 80 | SW8260B/SW8260C | N | 124-48-1 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dichlorodifluoromethane | ug/l | 20 | SW8260B/SW8260C | N | 75-71-8 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Diisopropyl ether | ug/l | 150 | SW8260B/SW8260C | N | 108-20-3 | 0.63 | 0.33 | 0.48 | 0.48 | TA19C1 | 2 | | 29 | | | | | | | | | | |
| Ethylbenzene | ug/l | 700 | SW8260B/SW8260C | N | 100-41-4 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Ethyl-Tert-Butyl-Ether | ug/l | | SW8260B/SW8260C | N | 637-92-3 | | | | | | | | 29 | | | | | | | | | | |
| Isopropylbenzene | ug/l | 45 | SW8260B/SW8260C | N | 98-82-8 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| m, p-Xylene | ug/l | 10000 | SW8260B/SW8260C | N | XYLMP | 0.56 | 0.27 | 0.44 | 0.46 | SUSDP06 | 4 | | 75 | | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Methyl Acetate | ug/l | 2000 | SW8260B/SW8260C | N | 79-20-9 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | SW8260B/SW8260C | N | 1634-04-4 | 48 | 0.21 | 5.6 | 1.2 | DP45 | 45 | | 75 | | **2.2** | **1.2** | **1.2** | **0.47 J** | **2.0** | **21** | < 1.0 U | **0.53 J** | < 1.0 U |
| Methylcyclohexane | ug/l | 1300 | SW8260B/SW8260C | N | 108-87-2 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methylene Chloride | ug/l | 5 | SW8260B/SW8260C | N | 75-09-2 | 0.49 | 0.2 | 0.32 | 0.31 | SUSDP02 | 6 | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| o-Xylene | ug/l | 10000 | SW8260B/SW8260C | N | 95-47-6 | 0.24 | 0.11 | 0.16 | 0.15 | SUSDP06 | 4 | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Styrene | ug/l | 100 | SW8260B/SW8260C | N | 100-42-5 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | SW8260B/SW8260C | N | 994-05-8 | 1.3 | 0.2 | 0.64 | 0.53 | DP57 | 4 | | 29 | | | | | | | | | | |
| Tetrachloroethylene | ug/l | 5 | SW8260B/SW8260C | N | 127-18-4 | 470 | 0.2 | 70 | 2.1 | DPB7 | 41 | | 96 | | **0.27 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.81 J** | **0.20 J** | < 1.0 U | < 1.0 U |
| Toluene | ug/l | 1000 | SW8260B/SW8260C | N | 108-88-3 | 2.1 | 0.15 | 0.42 | 0.26 | SUSDP06 | 35 | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,2-Dichloroethene | ug/l | 100 | SW8260B/SW8260C | N | 156-60-5 | | | | | | | | 96 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,3-Dichloropropene | ug/l | 0.47 | SW8260B/SW8260C | N | 10061-02-6 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |

Table 4-11
Groundwater Results
VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples
Benning Road Facility RI/FS Project
3400 Benning Road, NE
Washington, DC 20019

| | | | | | | | | | | | | | | Location ID | DP26 | DP28 | DP28 | DP30 | DP31 | DP33 | DP35 | DP36 | DP38 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | Sample ID | DPW26(25-30)N | DPW2821N | DPW2821R | DPW3028N | DPW3120N | DPW33(27-32)N | DPW3515N | DPW3612-17N | DPW3815-20N |
| | | | | | | | | | | | | | | Depth | 25 - 30 ft | 20 - 22 ft | 20 - 22 ft | 27 - 29 ft | 19.5 - 20.5 ft | 27 - 32 ft | 14 - 16 ft | 12 - 17 ft | 15 - 20 ft |
| | | | | | | | | | | | | | | Sample Date | 3/29/2013 | 4/2/2013 | 4/2/2013 | 4/3/2013 | 4/1/2013 | 4/4/2013 | 3/28/2013 | 5/20/2013 | 5/23/2013 |
| | | | | | | | | | | | | | | Type | N | N | FD | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | | | |
| Trichloroethene | ug/l | 5 | SW8260B/SW8260C | N | 79-01-6 | 26 | 0.17 | 9.8 | 6.4 | DPA4 DPB7 | 22 | | 96 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.17 J** | < 1.0 U | < 1.0 U | < 1.0 U |
| Trichlorofluoromethane | ug/l | 520 | SW8260B/SW8260C | N | 75-69-4 | | | | | | | | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Vinyl Chloride | ug/l | 2 | SW8260B/SW8260C | N | 75-01-4 | | | | | | | | 96 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Xylenes (total) | ug/l | 10000 | SW8260B/SW8260C | N | 1330-20-7 | 0.8 | 0.11 | 0.4 | 0.37 | SUSDP06 | 6 | | 75 | | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| 1,1'-Biphenyl | ug/l | 0.083 | SW8270D LL | N | 92-52-4 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | SW8270D LL | N | 95-94-3 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | SW8270D LL | N | 108-60-1 | | | | | | | | 7 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | SW8270D LL | N | 58-90-2 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 2,4,5-Trichlorophenol | ug/l | 120 | SW8270D LL | N | 95-95-4 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | SW8270D LL | N | 88-06-2 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 2,4-Dichlorophenol | ug/l | 4.6 | SW8270D LL | N | 120-83-2 | | | | | | | | 7 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | | |
| 2,4-Dimethylphenol | ug/l | 36 | SW8270D LL | N | 105-67-9 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 2,4-Dinitrophenol | ug/l | 3.9 | SW8270D LL | N | 51-28-5 | | | | | | | | 7 | | < 4.9 U | < 4.8 U | < 4.8 U | < 4.9 U | < 4.8 U | < 4.8 U | < 4.9 U | | |
| 2,4-Dinitrotoluene | ug/l | 0.24 | SW8270D LL | N | 121-14-2 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 2,6-Dinitrotoluene | ug/l | 0.049 | SW8270D LL | N | 606-20-2 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 2-Chloronaphthalene | ug/l | 75 | SW8270D LL | N | 91-58-7 | | | | | | | | 7 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | | |
| 2-Chlorophenol | ug/l | 9.1 | SW8270D LL | N | 95-57-8 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 2-Methylnaphthalene | ug/l | 3.6 | SW8270D LL | N | 91-57-6 | 0.076 | 0.067 | 0.072 | 0.072 | DP26 | 2 | | 7 | | **0.076 J** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | **0.067 J** | | |
| 2-Methylphenol | ug/l | 93 | SW8270D LL | N | 95-48-7 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 2-Nitroaniline | ug/l | 19 | SW8270D LL | N | 88-74-4 | | | | | | | | 7 | | < 4.9 U | < 4.8 U | < 4.8 U | < 4.9 U | < 4.8 U | < 4.8 U | < 4.9 U | | |
| 2-Nitrophenol | ug/l | 580 | SW8270D LL | N | 88-75-5 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | SW8270D LL | N | 91-94-1 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 3-Nitroaniline | ug/l | 3.8 | SW8270D LL | N | 99-09-2 | | | | | | | | 7 | | < 4.9 U | < 4.8 U | < 4.8 U | < 4.9 U | < 4.8 U | < 4.8 U | < 4.9 U | | |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | SW8270D LL | N | 534-52-1 | | | | | | | | 7 | | < 4.9 U | < 4.8 U | < 4.8 U | < 4.9 U | < 4.8 U | < 4.8 U | < 4.9 U | | |
| 4-Bromophenyl-phenylether | ug/l | | SW8270D LL | N | 101-55-3 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 4-Chloro-3-methylphenol | ug/l | 140 | SW8270D LL | N | 59-50-7 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 4-Chloroaniline | ug/l | 0.37 | SW8270D LL | N | 106-47-8 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 4-Chlorophenyl-phenylether | ug/l | | SW8270D LL | N | 7005-72-3 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 4-Methylphenol | ug/l | 190 | SW8270D LL | N | 106-44-5 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| 4-Nitroaniline | ug/l | 3.8 | SW8270D LL | N | 100-01-6 | | | | | | | | 7 | | < 4.9 U | < 4.8 U | < 4.8 U | < 4.9 U | < 4.8 U | < 4.8 U | < 4.9 U | | |
| 4-Nitrophenol | ug/l | 580 | SW8270D LL | N | 100-02-7 | | | | | | | | 7 | | < 4.9 U | < 4.8 U | < 4.8 U | < 4.9 U | < 4.8 U | < 4.8 U | < 4.9 U | | |
| Acenaphthene | ug/l | 53 | SW8270D LL | N | 83-32-9 | 0.28 | 0.017 | 0.071 | 0.033 | SUSDP39 | 7 | | 45 | | **0.021 J** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | **0.033 J** | < 0.19 U | < 0.19 U |
| Acenaphthylene | ug/l | 53 | SW8270D LL | N | 208-96-8 | 0.057 | 0.057 | 0.057 | 0.057 | SUSDP20 | 1 | | 45 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Acetophenone | ug/l | 190 | SW8270D LL | N | 98-86-2 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| Anthracene | ug/l | 180 | SW8270D LL | N | 120-12-7 | 0.51 | 0.023 | 0.15 | 0.082 | SUSDP37 | 15 | | 45 | | < 0.19 U | **0.20** | **0.082 J** | **0.047 J** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Atrazine | ug/l | 3 | SW8270D LL | N | 1912-24-9 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| Benzaldehyde | ug/l | 19 | SW8270D LL | N | 100-52-7 | 0.9 | 0.9 | 0.9 | 0.9 | DP35 | 1 | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | **0.90 J** | | |
| Benzo(a)anthracene | ug/l | 0.03 | SW8270D LL | N | 56-55-3 | 3.4 | 0.047 | 0.82 | 0.37 | SUSDP37 | 10 | | 45 | | < 0.19 U | **1.2 J** | **0.48 J** | **0.42** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Benzo(a)pyrene | ug/l | 0.2 | SW8270D LL | N | 50-32-8 | 2.9 | 0.094 | 0.94 | 0.38 | SUSDP37 | 7 | | 45 | | < 0.19 U | **0.81 J** | **0.38 J** | **0.37** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Benzo(b)fluoranthene | ug/l | 0.25 | SW8270D LL | N | 205-99-2 | 3.1 | 0.067 | 0.98 | 0.59 | SUSDP37 | 8 | | 45 | | < 0.19 U | **1.2 J** | **0.69 J** | **0.48** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Benzo(g,h,i)perylene | ug/l | 12 | SW8270D LL | N | 191-24-2 | 3.9 | 0.071 | 1.4 | 0.89 | SUSDP37 | 6 | | 45 | | < 0.19 U | **1.1 J** | **0.68 J** | **0.51** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Benzo(k)fluoranthene | ug/l | 2.5 | SW8270D LL | N | 207-08-9 | 4 | 0.063 | 1.3 | 0.67 | SUSDP37 | 7 | | 45 | | < 0.19 U | **1.3 J** | **0.67 J** | **0.59** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | SW8270D LL | N | 111-91-1 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | SW8270D LL | N | 111-44-4 | | | | | | | | 7 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | | |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | SW8270D LL | N | 117-81-7 | 7.6 | 7.6 | 7.6 | 7.6 | DP35 | 1 | | 7 | | < 1.9 U | < 1.9 U | < 1.9 U | < 1.9 U | < 1.9 U | < 1.9 U | **7.6** | | |
| Butylbenzylphthalate | ug/l | 16 | SW8270D LL | N | 85-68-7 | 0.9 | 0.15 | 0.4 | 0.27 | DP33 | 5 | | 7 | | < 0.97 U | **0.44 J** | **0.24 J** | **0.27 J** | **0.15 J** | **0.90 J** | < 0.97 U | | |
| Caprolactam | ug/l | 990 | SW8270D LL | N | 105-60-2 | | | | | | | | 7 | | < 4.9 U | < 4.8 U | < 4.8 U | < 4.9 U | < 4.8 U | < 4.8 U | < 4.9 U | | |
| Carbazole | ug/l | 29 | SW8270D LL | N | 86-74-8 | | | | | | | | 7 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | | |
| Chrysene | ug/l | 25 | SW8270D LL | N | 218-01-9 | 3.8 | 0.057 | 0.91 | 0.39 | SUSDP37 | 10 | | 45 | | < 0.19 U | **1.3 J** | **0.71 J** | **0.48** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | SW8270D LL | N | 53-70-3 | 3.8 | 0.51 | 1.7 | 1.2 | SUSDP37 | 5 | | 45 | | < 0.19 U | **1.2 J** | **0.63 J** | **0.51** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Dibenzofuran | ug/l | 0.79 | SW8270D LL | N | 132-64-9 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| Diethylphthalate | ug/l | 1500 | SW8270D LL | N | 84-66-2 | 0.4 | 0.16 | 0.3 | 0.3 | DP28 | 6 | | 7 | | **0.16 J** | **0.38 J** | **0.40 J** | < 0.97 U | **0.33 J** | **0.26 J** | **0.27 J** | | |
| Dimethylphthalate | ug/l | 1500 | SW8270D LL | N | 131-11-3 | 0.13 | 0.13 | 0.13 | 0.13 | DP35 | 1 | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | **0.13 J** | | |
| Di-n-butylphthalate | ug/l | 90 | SW8270D LL | N | 84-74-2 | 1.5 | 0.13 | 0.82 | 0.82 | DP35 | 2 | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | **0.13 J** | **1.5** | | |
| Di-n-octylphthalate | ug/l | 20 | SW8270D LL | N | 117-84-0 | 0.73 | 0.62 | 0.68 | 0.68 | DP28 | 2 | | 7 | | < 0.97 U | **0.73 J** | **0.62 J** | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| Fluoranthene | ug/l | 80 | SW8270D LL | N | 206-44-0 | 1.6 | 0.036 | 0.27 | 0.099 | SUSDP39 | 14 | | 45 | | < 0.19 U | **0.39 J** | **0.18 J** | **0.079 J** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | Location ID | DP26 | DP28 | DP28 | DP30 | DP31 | DP33 | DP35 | DP36 | DP38 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | Sample ID | DPW26(25-30)N | DPW2821N | DPW2821R | DPW3028N | DPW3120N | DPW33(27-32)N | DPW3515N | DPW3612-17N | DPW3815-20N |
| | | | | | | | | | | | | | | Depth | 25 - 30 ft | 20 - 22 ft | 20 - 22 ft | 27 - 29 ft | 19.5 - 20.5 ft | 27 - 32 ft | 14 - 16 ft | 12 - 17 ft | 15 - 20 ft |
| | | | | | | | | | | | | | | Sample Date | 3/29/2013 | 4/2/2013 | 4/2/2013 | 4/3/2013 | 4/1/2013 | 4/4/2013 | 3/28/2013 | 5/20/2013 | 5/23/2013 |
| | | | | | | | | | | | | | | Type | N | N | FD | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | | | |
| Fluorene | ug/l | 29 | SW8270D LL | N | 86-73-7 | 0.25 | 0.022 | 0.1 | 0.063 | SUSDP39 | 4 | | 45 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Hexachlorobenzene | ug/l | 1 | SW8270D LL | N | 118-74-1 | | | | | | | | 7 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | | |
| Hexachlorobutadiene | ug/l | 0.14 | SW8270D LL | N | 87-68-3 | | | | | | | | 7 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | | |
| Hexachlorocyclo-pentadiene | ug/l | 50 | SW8270D LL | N | 77-47-4 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| Hexachloroethane | ug/l | 0.33 | SW8270D LL | N | 67-72-1 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | SW8270D LL | N | 193-39-5 | 3.7 | 0.063 | 1.4 | 0.96 | SUSDP37 | 6 | | 45 | | < 0.19 U | **1.2 J** | **0.71 J** | **0.51** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Isophorone | ug/l | 78 | SW8270D LL | N | 78-59-1 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| Naphthalene | ug/l | 0.17 | SW8270D LL | N | 91-20-3 | 0.46 | 0.044 | 0.2 | 0.094 | DP26 | 5 | | 45 | | **0.46** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | **0.31** | < 0.19 U | < 0.19 U |
| Nitrobenzene | ug/l | 0.14 | SW8270D LL | N | 98-95-3 | | | | | | | | 7 | | < 1.9 U | < 1.9 U | < 1.9 U | < 1.9 U | < 1.9 U | < 1.9 U | < 1.9 U | | |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | SW8270D LL | N | 621-64-7 | | | | | | | | 7 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | | |
| N-Nitrosodiphenylamine | ug/l | 12 | SW8270D LL | N | 86-30-6 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| Pentachlorophenol | ug/l | 1 | SW8270D LL | N | 87-86-5 | | | | | | | | 7 | | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | < 0.96 U | < 0.96 U | < 0.97 U | | |
| Phenanthrene | ug/l | 180 | SW8270D LL | N | 85-01-8 | 1.5 | 0.042 | 0.21 | 0.069 | SUSDP39 | 13 | | 45 | | < 0.19 U | **0.069 J** | **0.057 J** | < 0.19 U | < 0.19 U | < 0.19 U | **0.059 J** | < 0.19 U | < 0.19 U |
| Phenol | ug/l | 580 | SW8270D LL | N | 108-95-2 | | | | | | | | 7 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | | |
| Pyrene | ug/l | 12 | SW8270D LL | N | 129-00-0 | 1.2 | 0.059 | 0.26 | 0.13 | SUSDP39 | 12 | | 45 | | < 0.19 U | **0.29** | **0.17 J** | **0.059 J** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| BaP-TE | ug/l | 0.2 | SW8270D LL | N | BAP | 7.76 | 0.00476 | 1.76 | 0.66 | SUSDP37 | 10 | | 45 | | < 0.190 U | **2.38** | **1.21** | **1.03** | < 0.190 U | < 0.190 U | < 0.190 U | < 0.190 U | < 0.190 U |
| Total High-molecular-weight PAHs | ug/l | | SW8270D LL | N | TOT-PAH-HMW | 30 | 0.039 | 5.3 | 0.78 | SUSDP37 | 14 | | 45 | | < 0.19 U | **10** | **5.3** | **4.0** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Total Low-molecular-weight PAHs | ug/l | | SW8270D LL | N | TOT-PAH-LMW | 2.5 | 0.033 | 0.33 | 0.16 | SUSDP39 | 21 | | 45 | | **0.48** | **0.27** | **0.14** | **0.047** | < 0.19 U | < 0.19 U | **0.40** | < 0.19 U | < 0.19 U |
| Total PAHs (sum 16) | ug/l | | SW8270D LL | N | TOT-PAH | 30 | 0.043 | 3.6 | 0.37 | SUSDP37 | 22 | | 45 | | **0.48** | **10** | **5.4** | **4.1** | < 0.19 U | < 0.19 U | **0.40** | < 0.19 U | < 0.19 U |

# Table 4-11
## Groundwater Results
## VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | DP40 | DP42 | DP45 | DP46 | DP47 | DP54 | DP55 | DP55 | DP56 | DP57 | DP57 | DP58 | DP59 | DP60 | DP61 | DP62 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW4015-20N | DPW4220-25N | DPW4515-20N | DPW4615-20N | DPW4710-15N | DPW5415-20N | DPW5515-20N | DPW5515-20R | DPW5615-20N | DPW5715-20N | DPW5715-20R | DPW5815-20N | DPW5915-20N | DPW6015-20N | DPW6115-20N | DPW6215-20N |
| | | | Depth | 15 - 20 ft | 20 - 25 ft | 15 - 20 ft | 15 - 20 ft | 10 - 15 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft |
| | | | Sample Date | 5/28/2013 | 5/29/2013 | 6/4/2013 | 6/5/2013 | 6/5/2013 | 2/2/2017 | 2/2/2017 | 2/2/2017 | 2/3/2017 | 2/3/2017 | 2/3/2017 | 2/6/2017 | 2/3/2017 | 2/6/2017 | 2/6/2017 | 2/6/2017 |
| | | | Type | N | N | N | N | N | N | N | FD | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | ug/l | 100 | | < 480 U | < 500 U | < 480 UJ | **540** | < 480 U | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | ug/l | 6000 | | < 480 U | < 500 U | **230 J** | **940** | < 480 U | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/l | 3.3 | | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/l | 200 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 UJ |
| 1,1,2-Trichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethane | ug/l | 2.8 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethene | ug/l | 7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 UJ |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 UJ |
| 1,2,4-Trichlorobenzene | ug/l | 70 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromoethane | ug/l | 0.05 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichlorobenzene | ug/l | 600 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloropropane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,3-Dichlorobenzene | ug/l | 0.48 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dichlorobenzene | ug/l | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dioxane | ug/l | 0.46 | | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | R | < 200 U | R | R | R |
| 2-Butanone | ug/l | 560 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **13** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 2-Hexanone | ug/l | 3.8 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 4-Methyl-2-pentanone | ug/l | 630 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Acetone | ug/l | 1400 | | **2.7 J** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **3.9 J** | **3.1 J** | < 5.0 U | **3.4 J** | < 5.0 U | **73** | **10** | **7.6** | **4.4 J** | **3.4 J** |
| Benzene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromochloromethane | ug/l | 8.3 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromodichloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **2.6** | < 1.0 U | < 1.0 U |
| Bromoform | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromomethane | ug/l | 0.75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U | R | R | R |
| Butyl alcohol, tert- | ug/l | 14 | | | | | | | < 40 U | < 40 U | < 40 U | < 40 U | < 40 U | < 40 U | **110 J-** | < 40 U | < 40 U | < 40 U | < 40 U |
| Carbon Disulfide | ug/l | 81 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **1.5** | **0.57 J** | < 1.0 U | < 1.0 U | < 1.0 U |
| Carbon Tetrachloride | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chlorobenzene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroethane | ug/l | 2100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroform | ug/l | 80 | | **1.5** | **1.1** | < 1.0 U | **0.44 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **15** | < 1.0 U | < 1.0 U |
| Chloromethane | ug/l | 19 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U |
| cis-1,2-Dichloroethylene | ug/l | 70 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dibromochloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dichlorodifluoromethane | ug/l | 20 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U |
| Diisopropyl ether | ug/l | 150 | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ |
| Ethylbenzene | ug/l | 700 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Ethyl-Tert-Butyl-Ether | ug/l | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Isopropylbenzene | ug/l | 45 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| m, p-Xylene | ug/l | 10000 | | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.27 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methyl Acetate | ug/l | 2000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | | **0.96 J** | < 1.0 U | **48** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.55 J** | **37 J** | **20 J** | **6.8** | < 1.0 U | **0.21 J** | **0.31 J** | **0.28 J** |
| Methylcyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methylene Chloride | ug/l | 5 | | **0.24 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| o-Xylene | ug/l | 10000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Styrene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **1.3** | **0.68 J** | < 1.0 UJ | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U |
| Tetrachloroethylene | ug/l | 5 | | < 1.0 U | < 1.0 U | **0.70 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.30 J** | **0.44 J** | < 1.0 U | < 1.0 U |
| Toluene | ug/l | 1000 | | **0.24 J** | **0.21 J** | < 1.0 U | < 1.0 U | < 1.0 U | **0.26 J** | **0.22 J** | **0.17 J** | < 1.0 U | **0.27 J** | **0.25 J** | **0.74 J** | < 1.0 U | **0.20 J** | < 1.0 UJ | **0.22 J** |
| trans-1,2-Dichloroethene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP40 | DP42 | DP45 | DP46 | DP47 | DP54 | DP55 | DP55 | DP56 | DP57 | DP57 | DP58 | DP59 | DP60 | DP61 | DP62 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW4015-20N | DPW4220-25N | DPW4515-20N | DPW4615-20N | DPW4710-15N | DPW5415-20N | DPW5515-20N | DPW5515-20R | DPW5615-20N | DPW5715-20N | DPW5715-20R | DPW5815-20N | DPW5915-20N | DPW6015-20N | DPW6115-20N | DPW6215-20N |
| | | | Depth | 15 - 20 ft | 20 - 25 ft | 15 - 20 ft | 15 - 20 ft | 10 - 15 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft |
| | | | Sample Date | 5/28/2013 | 5/29/2013 | 6/4/2013 | 6/5/2013 | 6/5/2013 | 2/2/2017 | 2/2/2017 | 2/2/2017 | 2/3/2017 | 2/3/2017 | 2/3/2017 | 2/6/2017 | 2/3/2017 | 2/6/2017 | 2/6/2017 | 2/6/2017 |
| | | | Type | N | N | N | N | N | N | N | FD | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/l | 5 | | < 1.0 U | < 1.0 U | **0.19 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Trichlorofluoromethane | ug/l | 520 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U |
| Vinyl Chloride | ug/l | 2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Xylenes (total) | ug/l | 10000 | | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | **0.27** | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1'-Biphenyl | ug/l | 0.083 | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/l | 120 | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/l | 4.6 | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/l | 36 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/l | 3.9 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/l | 0.24 | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/l | 0.049 | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/l | 75 | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/l | 9.1 | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/l | 3.6 | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/l | 93 | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/l | 19 | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/l | 580 | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/l | 3.8 | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/l | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/l | 140 | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/l | 0.37 | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/l | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/l | 190 | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/l | 3.8 | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/l | 580 | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/l | 53 | | < 0.19 U | **0.033 J** | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| Acenaphthylene | ug/l | 53 | | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| Acetophenone | ug/l | 190 | | | | | | | | | | | | | | | | | |
| Anthracene | ug/l | 180 | | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| Atrazine | ug/l | 3 | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/l | 19 | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/l | 0.03 | | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| Benzo(a)pyrene | ug/l | 0.2 | | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| Benzo(b)fluoranthene | ug/l | 0.25 | | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| Benzo(g,h,i)perylene | ug/l | 12 | | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| Benzo(k)fluoranthene | ug/l | 2.5 | | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/l | 16 | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/l | 990 | | | | | | | | | | | | | | | | | |
| Carbazole | ug/l | 29 | | | | | | | | | | | | | | | | | |
| Chrysene | ug/l | 25 | | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| Dibenzofuran | ug/l | 0.79 | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/l | 1500 | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/l | 1500 | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/l | 90 | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/l | 20 | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/l | 80 | | < 0.19 U | **0.039 J** | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP40 | DP42 | DP45 | DP46 | DP47 | DP54 | DP55 | DP55 | DP56 | DP57 | DP57 | DP58 | DP59 | DP60 | DP61 | DP62 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW4015-20N | DPW4220-25N | DPW4515-20N | DPW4615-20N | DPW4710-15N | DPW5415-20N | DPW5515-20N | DPW5515-20R | DPW5615-20N | DPW5715-20N | DPW5715-20R | DPW5815-20N | DPW5915-20N | DPW6015-20N | DPW6115-20N | DPW6215-20N |
| | | | Depth | 15 - 20 ft | 20 - 25 ft | 15 - 20 ft | 15 - 20 ft | 10 - 15 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft |
| | | | Sample Date | 5/28/2013 | 5/29/2013 | 6/4/2013 | 6/5/2013 | 6/5/2013 | 2/2/2017 | 2/2/2017 | 2/2/2017 | 2/3/2017 | 2/3/2017 | 2/3/2017 | 2/6/2017 | 2/3/2017 | 2/6/2017 | 2/6/2017 | 2/6/2017 |
| | | | Type | N | N | N | N | N | N | N | FD | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Fluorene | ug/l | 29 | | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| Hexachlorobenzene | ug/l | 1 | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/l | 0.14 | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/l | 50 | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/l | 0.33 | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| Isophorone | ug/l | 78 | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/l | 0.17 | | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| Nitrobenzene | ug/l | 0.14 | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/l | 12 | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/l | 1 | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/l | 180 | | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| Phenol | ug/l | 580 | | | | | | | | | | | | | | | | | |
| Pyrene | ug/l | 12 | | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| BaP-TE | ug/l | 0.2 | | < 0.190 U | < 0.200 U | < 0.190 U | < 0.190 U | < 0.190 U | | | | | | | | | | | |
| Total High-molecular-weight PAHs | ug/l | | | < 0.19 U | **0.039** | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| Total Low-molecular-weight PAHs | ug/l | | | < 0.19 U | **0.033** | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |
| Total PAHs (sum 16) | ug/l | | | < 0.19 U | **0.072** | < 0.19 U | < 0.19 U | < 0.19 U | | | | | | | | | | | |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP62 | DP63 | DPA2 | DPA2 | DPA3 | DPA4 | DPA5 | DPA5 | DPB10 | DPB11 | DPB12 | DPB2 | DPB3 | DPB5 | DPB6 | DPB7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW6215-20R | DPW6315-20N | DPWA220-25N | DPWA220-25R | DPWA325-30N | DPWA425-30N | DPWA525-30N | DPWA525-30R | DPWB1025-30N | DPWB1125-30N | DPWB1225-30N | DPWB220-25N | DPWB325-30N | DPWB525-30N | DPWB625-30N | DPWB730-35N |
| | | | Depth | 15 - 20 ft | 15 - 20 ft | 20 - 25 ft | 20 - 25 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 20 - 25 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 30 - 35 ft |
| | | | Sample Date | 2/6/2017 | 2/6/2017 | 4/17/2014 | 4/17/2014 | 4/16/2014 | 4/16/2014 | 4/16/2014 | 4/16/2014 | 4/17/2014 | 4/17/2014 | 4/17/2014 | 4/17/2014 | 4/16/2014 | 4/16/2014 | 4/16/2014 | 4/16/2014 |
| | | | Type | FD | N | N | FD | N | N | N | FD | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | ug/l | 100 | | | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | ug/l | 6000 | | | | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/l | 3.3 | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/l | 200 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | | < 1.0 UJ | < 1.0 U | | | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/l | 2.8 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/l | 7 | | < 1.0 UJ | < 1.0 U | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | | < 1.0 UJ | < 1.0 U | | | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/l | 70 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/l | 0.05 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/l | 600 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/l | 5 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/l | 0.48 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/l | 75 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| 1,4-Dioxane | ug/l | 0.46 | | R | R | | | | | | | | | | | | | | |
| 2-Butanone | ug/l | 560 | | < 5.0 U | < 5.0 U | | | | | | | | | | | | | | |
| 2-Hexanone | ug/l | 3.8 | | < 5.0 U | < 5.0 U | | | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/l | 630 | | < 5.0 U | < 5.0 U | | | | | | | | | | | | | | |
| Acetone | ug/l | 1400 | | **3.5 J** | **4.3 J** | | | | | | | | | | | | | | |
| Benzene | ug/l | 5 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Bromochloromethane | ug/l | 8.3 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Bromodichloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Bromoform | ug/l | 80 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Bromomethane | ug/l | 0.75 | | R | R | | | | | | | | | | | | | | |
| Butyl alcohol, tert- | ug/l | 14 | | < 40 U | < 40 U | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/l | 81 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/l | 5 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Chlorobenzene | ug/l | 100 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Chloroethane | ug/l | 2100 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Chloroform | ug/l | 80 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Chloromethane | ug/l | 19 | | < 1.0 U | < 1.0 UJ | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/l | 70 | | < 1.0 U | < 1.0 U | < 1 | < 1 | **11** | **15** | **12** | **13** | **1.5** | < 1 | < 1 | < 1 | **5** | **7** | **14** | **23** |
| cis-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Cyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Dibromochloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/l | 20 | | < 1.0 U | < 1.0 UJ | | | | | | | | | | | | | | |
| Diisopropyl ether | ug/l | 150 | | < 1.0 UJ | < 1.0 UJ | | | | | | | | | | | | | | |
| Ethylbenzene | ug/l | 700 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Ethyl-Tert-Butyl-Ether | ug/l | | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/l | 45 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| m, p-Xylene | ug/l | 10000 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Methyl Acetate | ug/l | 2000 | | < 5.0 U | < 5.0 U | | | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | | **0.23 J** | **0.28 J** | | | | | | | | | | | | | | |
| Methylcyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Methylene Chloride | ug/l | 5 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| o-Xylene | ug/l | 10000 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Styrene | ug/l | 100 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | | < 1.0 U | < 1.0 UJ | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/l | 5 | | < 1.0 U | < 1.0 U | **2.3** | **2.1** | **270** | **300** | **240** | **260** | **25** | < 1 | < 1 | **3** | **140** | **190** | **330** | **470** |
| Toluene | ug/l | 1000 | | **0.23 J** | **0.35 J** | | | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 |
| trans-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | | | | | | | | | | | | | | |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP62 | DP63 | DPA2 | DPA2 | DPA3 | DPA4 | DPA5 | DPA5 | DPB10 | DPB11 | DPB12 | DPB2 | DPB3 | DPB5 | DPB6 | DPB7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW6215-20R | DPW6315-20N | DPWA220-25N | DPWA220-25R | DPWA325-30N | DPWA425-30N | DPWA525-30N | DPWA525-30R | DPWB1025-30N | DPWB1125-30N | DPWB1225-30N | DPWB220-25N | DPWB325-30N | DPWB525-30N | DPWB625-30N | DPWB730-35N |
| | | | Depth | 15 - 20 ft | 15 - 20 ft | 20 - 25 ft | 20 - 25 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 20 - 25 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 30 - 35 ft |
| | | | Sample Date | 2/6/2017 | 2/6/2017 | 4/17/2014 | 4/17/2014 | 4/16/2014 | 4/16/2014 | 4/16/2014 | 4/16/2014 | 4/17/2014 | 4/17/2014 | 4/17/2014 | 4/17/2014 | 4/16/2014 | 4/16/2014 | 4/16/2014 | 4/16/2014 |
| | | | Type | FD | N | N | FD | N | N | N | FD | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1 | < 1 | **19** | **26** | **22** | **23** | **0.94** | < 1 | < 1 | < 1 | **10** | **14** | **22** | **26** |
| Trichlorofluoromethane | ug/l | 520 | | < 1.0 U | < 1.0 UJ | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/l | 2 | | < 1.0 U | < 1.0 U | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 |
| Xylenes (total) | ug/l | 10000 | | < 1 U | < 1 U | | | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/l | 0.083 | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/l | 120 | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/l | 4.6 | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/l | 36 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/l | 3.9 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/l | 0.24 | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/l | 0.049 | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/l | 75 | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/l | 9.1 | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/l | 3.6 | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/l | 93 | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/l | 19 | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/l | 580 | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/l | 3.8 | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/l | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/l | 140 | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/l | 0.37 | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/l | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/l | 190 | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/l | 3.8 | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/l | 580 | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/l | 53 | | | | | | | | | | | | | | | | | |
| Acenaphthylene | ug/l | 53 | | | | | | | | | | | | | | | | | |
| Acetophenone | ug/l | 190 | | | | | | | | | | | | | | | | | |
| Anthracene | ug/l | 180 | | | | | | | | | | | | | | | | | |
| Atrazine | ug/l | 3 | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/l | 19 | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/l | 0.03 | | | | | | | | | | | | | | | | | |
| Benzo(a)pyrene | ug/l | 0.2 | | | | | | | | | | | | | | | | | |
| Benzo(b)fluoranthene | ug/l | 0.25 | | | | | | | | | | | | | | | | | |
| Benzo(g,h,i)perylene | ug/l | 12 | | | | | | | | | | | | | | | | | |
| Benzo(k)fluoranthene | ug/l | 2.5 | | | | | | | | | | | | | | | | | |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/l | 16 | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/l | 990 | | | | | | | | | | | | | | | | | |
| Carbazole | ug/l | 29 | | | | | | | | | | | | | | | | | |
| Chrysene | ug/l | 25 | | | | | | | | | | | | | | | | | |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | | | | | | | | | | | | | | | | | |
| Dibenzofuran | ug/l | 0.79 | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/l | 1500 | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/l | 1500 | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/l | 90 | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/l | 20 | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/l | 80 | | | | | | | | | | | | | | | | | |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP62 | DP63 | DPA2 | DPA2 | DPA3 | DPA4 | DPA5 | DPA5 | DPB10 | DPB11 | DPB12 | DPB2 | DPB3 | DPB5 | DPB6 | DPB7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW6215-20R | DPW6315-20N | DPWA220-25N | DPWA220-25R | DPWA325-30N | DPWA425-30N | DPWA525-30N | DPWA525-30R | DPWB1025-30N | DPWB1125-30N | DPWB1225-30N | DPWB220-25N | DPWB325-30N | DPWB525-30N | DPWB625-30N | DPWB730-35N |
| | | | Depth | 15 - 20 ft | 15 - 20 ft | 20 - 25 ft | 20 - 25 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 20 - 25 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 30 - 35 ft |
| | | | Sample Date | 2/6/2017 | 2/6/2017 | 4/17/2014 | 4/17/2014 | 4/16/2014 | 4/16/2014 | 4/16/2014 | 4/16/2014 | 4/17/2014 | 4/17/2014 | 4/17/2014 | 4/17/2014 | 4/16/2014 | 4/16/2014 | 4/16/2014 | 4/16/2014 |
| | | | Type | FD | N | N | FD | N | N | N | FD | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Fluorene | ug/l | 29 | | | | | | | | | | | | | | | | | |
| Hexachlorobenzene | ug/l | 1 | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/l | 0.14 | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/l | 50 | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/l | 0.33 | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | | | | | | | | | | | | | | | | | |
| Isophorone | ug/l | 78 | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/l | 0.17 | | | | | | | | | | | | | | | | | |
| Nitrobenzene | ug/l | 0.14 | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/l | 12 | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/l | 1 | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/l | 180 | | | | | | | | | | | | | | | | | |
| Phenol | ug/l | 580 | | | | | | | | | | | | | | | | | |
| Pyrene | ug/l | 12 | | | | | | | | | | | | | | | | | |
| BaP-TE | ug/l | 0.2 | | | | | | | | | | | | | | | | | |
| Total High-molecular-weight PAHs | ug/l | | | | | | | | | | | | | | | | | | |
| Total Low-molecular-weight PAHs | ug/l | | | | | | | | | | | | | | | | | | |
| Total PAHs (sum 16) | ug/l | | | | | | | | | | | | | | | | | | |

# Table 4-11
## Groundwater Results
## VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | DPB9 | DPC3 | DPC4 | DPC5 | DPC7 | DPC8 | DPC9 | DPOS-01 | DPOS-02 | DPOS-02 | DPOS-03 | SUSDP01 | SUSDP02 | SUSDP03 | SUSDP04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPWB925-30N | DPWC325-30N | DPWC425-30N | DPWC525-30N | DPWC730-35N | DPWC830-35N | DPWC930-35N | DPWOS0116-20N | DPWOS0216-20N | DPWOS0224-28N | DPWOS0312-16N | DPW0112-15N | DPW0212-17N | DPW0310-15N | DPW0415-20N |
| | | | Depth | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 30 - 35 ft | 30 - 35 ft | 30 - 35 ft | 16 - 20 ft | 16 - 20 ft | 24 - 28 ft | 12 - 16 ft | 12 - 15 ft | 12 - 17 ft | 10 - 15 ft | 15 - 20 ft |
| | | | Sample Date | 4/17/2014 | 4/16/2014 | 4/16/2014 | 4/16/2014 | 4/17/2014 | 4/17/2014 | 4/18/2014 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/21/2017 | 5/20/2013 | 5/20/2013 | 5/21/2013 | 5/20/2013 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | ug/l | 100 | | | | | | | | | | | | | < 480 U | < 480 U | < 480 U | < 480 U |
| Oil Range Organics (C20-C36) | ug/l | 6000 | | | | | | | | | | | | | < 480 U | < 480 U | < 480 U | < 480 U |
| Gasoline Range Organics (C6-C10) | ug/l | 3.3 | | | | | | | | | | | | | < 100 U | < 100 U | < 100 U | < 100 U |
| 1,1,1-Trichloroethane | ug/l | 200 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | | | | | | | | | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloroethane | ug/l | 5 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethane | ug/l | 2.8 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethene | ug/l | 7 | | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,4-Trichlorobenzene | ug/l | 70 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromoethane | ug/l | 0.05 | | | | | | | | | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichlorobenzene | ug/l | 600 | | | | | | | | | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloroethane | ug/l | 5 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloropropane | ug/l | 5 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,3-Dichlorobenzene | ug/l | 0.48 | | | | | | | | | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dichlorobenzene | ug/l | 75 | | | | | | | | | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dioxane | ug/l | 0.46 | | | | | | | | | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U |
| 2-Butanone | ug/l | 560 | | | | | | | | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 2-Hexanone | ug/l | 3.8 | | | | | | | | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 4-Methyl-2-pentanone | ug/l | 630 | | | | | | | | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Acetone | ug/l | 1400 | | | | | | | | | **5.0** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **4.1 J** | < 5.0 U | < 5.0 U |
| Benzene | ug/l | 5 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromochloromethane | ug/l | 8.3 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromodichloromethane | ug/l | 80 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.36 J** | < 1.0 U |
| Bromoform | ug/l | 80 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromomethane | ug/l | 0.75 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Butyl alcohol, tert- | ug/l | 14 | | | | | | | | | < 40 U | < 40 UJ | < 40 U | < 40 U | | | | |
| Carbon Disulfide | ug/l | 81 | | | | | | | | | **1.1** | < 1.0 U | **0.54 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Carbon Tetrachloride | ug/l | 5 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chlorobenzene | ug/l | 100 | | | | | | | | | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroethane | ug/l | 2100 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroform | ug/l | 80 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.30 J** | **1.4** | < 1.0 U |
| Chloromethane | ug/l | 19 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,2-Dichloroethylene | ug/l | 70 | | **20** | < 1 | **1.6** | **4.7** | **0.5** | < 1 | < 1 | < 1.0 U | **0.35 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.55 J** | < 1.0 U |
| cis-1,3-Dichloropropene | ug/l | 0.47 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cyclohexane | ug/l | 1300 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dibromochloromethane | ug/l | 80 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dichlorodifluoromethane | ug/l | 20 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Diisopropyl ether | ug/l | 150 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | |
| Ethylbenzene | ug/l | 700 | | | | | | | | | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Ethyl-Tert-Butyl-Ether | ug/l | | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | |
| Isopropylbenzene | ug/l | 45 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| m, p-Xylene | ug/l | 10000 | | | | | | | | | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Methyl Acetate | ug/l | 2000 | | | | | | | | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | | | | | | | | | < 1.0 U | **6.1 J+** | **28** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.71 J** |
| Methylcyclohexane | ug/l | 1300 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methylene Chloride | ug/l | 5 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.20 J** | **0.49 J** | < 1.0 U | < 1.0 U |
| o-Xylene | ug/l | 10000 | | | | | | | | | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Styrene | ug/l | 100 | | | | | | | | | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | | | | | | | | | < 1.0 U | < 1.0 U | **0.37 J** | < 1.0 U | | | | |
| Tetrachloroethylene | ug/l | 5 | | **190** | **0.99** | **53** | **69** | **88** | < 1 | **0.96** | < 1.0 U | < 1.0 U | < 1.0 U | **0.34 J** | **0.25 J** | < 1.0 U | **2.0** | < 1.0 U |
| Toluene | ug/l | 1000 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.23 J** | **0.32 J** | < 1.0 U | < 1.0 U |
| trans-1,2-Dichloroethene | ug/l | 100 | | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,3-Dichloropropene | ug/l | 0.47 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DPB9 | DPC3 | DPC4 | DPC5 | DPC7 | DPC8 | DPC9 | DPOS-01 | DPOS-02 | DPOS-02 | DPOS-03 | SUSDP01 | SUSDP02 | SUSDP03 | SUSDP04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPWB925-30N | DPWC325-30N | DPWC425-30N | DPWC525-30N | DPWC730-35N | DPWC830-35N | DPWC930-35N | DPWOS0116-20N | DPWOS0216-20N | DPWOS0224-28N | DPWOS0312-16N | DPW0112-15N | DPW0212-17N | DPW0310-15N | DPW0415-20N |
| | | | Depth | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 30 - 35 ft | 30 - 35 ft | 30 - 35 ft | 16 - 20 ft | 16 - 20 ft | 24 - 28 ft | 12 - 16 ft | 12 - 15 ft | 12 - 17 ft | 10 - 15 ft | 15 - 20 ft |
| | | | Sample Date | 4/17/2014 | 4/16/2014 | 4/16/2014 | 4/16/2014 | 4/17/2014 | 4/17/2014 | 4/18/2014 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/21/2017 | 5/20/2013 | 5/20/2013 | 5/21/2013 | 5/20/2013 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/l | 5 | | **14** | < 1 | **4.1** | **4.2** | **6.9** | < 1 | < 1 | < 1.0 U | < 1.0 U | **0.50 J** | < 1.0 U | < 1.0 U | < 1.0 U | **0.93 J** | < 1.0 U |
| Trichlorofluoromethane | ug/l | 520 | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Vinyl Chloride | ug/l | 2 | | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Xylenes (total) | ug/l | 10000 | | | | | | | | | < 1 U | < 1 U | < 1 U | < 1 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| 1,1'-Biphenyl | ug/l | 0.083 | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/l | 120 | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/l | 4.6 | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/l | 36 | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/l | 3.9 | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/l | 0.24 | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/l | 0.049 | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/l | 75 | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/l | 9.1 | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/l | 3.6 | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/l | 93 | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/l | 19 | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/l | 580 | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/l | 3.8 | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/l | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/l | 140 | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/l | 0.37 | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/l | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/l | 190 | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/l | 3.8 | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/l | 580 | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/l | 53 | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Acenaphthylene | ug/l | 53 | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Acetophenone | ug/l | 190 | | | | | | | | | | | | | | | | |
| Anthracene | ug/l | 180 | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Atrazine | ug/l | 3 | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/l | 19 | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/l | 0.03 | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Benzo(a)pyrene | ug/l | 0.2 | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Benzo(b)fluoranthene | ug/l | 0.25 | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Benzo(g,h,i)perylene | ug/l | 12 | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Benzo(k)fluoranthene | ug/l | 2.5 | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/l | 16 | | | | | | | | | | | | | | | | |
| Caprolactam | ug/l | 990 | | | | | | | | | | | | | | | | |
| Carbazole | ug/l | 29 | | | | | | | | | | | | | | | | |
| Chrysene | ug/l | 25 | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Dibenzofuran | ug/l | 0.79 | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/l | 1500 | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/l | 1500 | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/l | 90 | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/l | 20 | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/l | 80 | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DPB9 | DPC3 | DPC4 | DPC5 | DPC7 | DPC8 | DPC9 | DPOS-01 | DPOS-02 | DPOS-02 | DPOS-03 | SUSDP01 | SUSDP02 | SUSDP03 | SUSDP04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPWB925-30N | DPWC325-30N | DPWC425-30N | DPWC525-30N | DPWC730-35N | DPWC830-35N | DPWC930-35N | DPWOS0116-20N | DPWOS0216-20N | DPWOS0224-28N | DPWOS0312-16N | DPW0112-15N | DPW0212-17N | DPW0310-15N | DPW0415-20N |
| | | | Depth | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 25 - 30 ft | 30 - 35 ft | 30 - 35 ft | 30 - 35 ft | 16 - 20 ft | 16 - 20 ft | 24 - 28 ft | 12 - 16 ft | 12 - 15 ft | 12 - 17 ft | 10 - 15 ft | 15 - 20 ft |
| | | | Sample Date | 4/17/2014 | 4/16/2014 | 4/16/2014 | 4/16/2014 | 4/17/2014 | 4/17/2014 | 4/18/2014 | 8/24/2017 | 8/24/2017 | 8/24/2017 | 8/21/2017 | 5/20/2013 | 5/20/2013 | 5/21/2013 | 5/20/2013 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| Fluorene | ug/l | 29 | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Hexachlorobenzene | ug/l | 1 | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/l | 0.14 | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/l | 50 | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/l | 0.33 | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Isophorone | ug/l | 78 | | | | | | | | | | | | | | | | |
| Naphthalene | ug/l | 0.17 | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Nitrobenzene | ug/l | 0.14 | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/l | 12 | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/l | 1 | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/l | 180 | | | | | | | | | | | | | < 0.19 U | **0.051 J** | < 0.19 U | < 0.19 U |
| Phenol | ug/l | 580 | | | | | | | | | | | | | | | | |
| Pyrene | ug/l | 12 | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| BaP-TE | ug/l | 0.2 | | | | | | | | | | | | | < 0.190 U | < 0.190 U | < 0.190 U | < 0.190 U |
| Total High-molecular-weight PAHs | ug/l | | | | | | | | | | | | | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Total Low-molecular-weight PAHs | ug/l | | | | | | | | | | | | | | < 0.19 U | **0.051** | < 0.19 U | < 0.19 U |
| Total PAHs (sum 16) | ug/l | | | | | | | | | | | | | | < 0.19 U | **0.051** | < 0.19 U | < 0.19 U |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP05 | SUSDP05 | SUSDP06 | SUSDP07 | SUSDP08 | SUSDP09 | SUSDP10 | SUSDP11 | SUSDP12 | SUSDP13 | SUSDP14 | SUSDP15 | SUSDP16 | SUSDP16 | SUSDP17 | SUSDP18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW0514-19N | DPW0514-19R | DPW0614.5-19.5N | DPW0720-25N | DPW0815-25N | DPW0925-30N | DPW1015-20N | DPW1110-15N | DPW1215-20N | DPW1310-15N | DPW1423-28N | DPW1520-25N | DPW1615-20N | DPW1615-20R | DPW1713-18N | DPW1815-20N |
| | | | Depth | 14 - 19 ft | 14 - 19 ft | 14.5 - 19.5 ft | 20 - 25 ft | 15 - 25 ft | 25 - 30 ft | 15 - 20 ft | 10 - 15 ft | 15 - 20 ft | 10 - 15 ft | 23 - 28 ft | 20 - 25 ft | 15 - 20 ft | 15 - 20 ft | 13 - 18 ft | 15 - 20 ft |
| | | | Sample Date | 5/21/2013 | 5/21/2013 | 5/23/2013 | 5/22/2013 | 5/24/2013 | 6/11/2013 | 6/10/2013 | 5/28/2013 | 6/13/2013 | 5/29/2013 | 6/6/2013 | 6/6/2013 | 6/10/2013 | 6/10/2013 | 6/11/2013 | 6/4/2013 |
| | | | Type | N | FD | N | N | N | N | N | N | N | N | N | N | N | FD | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | ug/l | 100 | | < 480 U | < 480 U | | < 490 U | < 480 U | < 480 U | < 480 U | **320 J** | < 500 U | < 480 U | **440 J** | **460 J** | < 480 U | < 490 U | < 480 U | < 480 UJ |
| Oil Range Organics (C20-C36) | ug/l | 6000 | | < 480 U | < 480 U | | < 490 U | < 480 U | < 480 U | < 480 U | **430 J** | **560** | < 480 U | **1800** | < 480 U | < 480 U | < 490 U | < 480 U | < 480 UJ |
| Gasoline Range Organics (C6-C10) | ug/l | 3.3 | | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U |
| 1,1,1-Trichloroethane | ug/l | 200 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethane | ug/l | 2.8 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethene | ug/l | 7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,4-Trichlorobenzene | ug/l | 70 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromoethane | ug/l | 0.05 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichlorobenzene | ug/l | 600 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloropropane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,3-Dichlorobenzene | ug/l | 0.48 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dichlorobenzene | ug/l | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dioxane | ug/l | 0.46 | | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U |
| 2-Butanone | ug/l | 560 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **1.5 J** | < 5.0 U | **1.1 J** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 2-Hexanone | ug/l | 3.8 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 4-Methyl-2-pentanone | ug/l | 630 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Acetone | ug/l | 1400 | | < 5.0 U | < 5.0 U | **13** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **4.5 J** | **8.1** | < 5.0 U | **9.8** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Benzene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromochloromethane | ug/l | 8.3 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromodichloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromoform | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromomethane | ug/l | 0.75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Butyl alcohol, tert- | ug/l | 14 | | | | | | | | | | | | | | | | | |
| Carbon Disulfide | ug/l | 81 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **1.2** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Carbon Tetrachloride | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chlorobenzene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroethane | ug/l | 2100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroform | ug/l | 80 | | **2.1** | **2.0** | < 1.0 U | < 1.0 U | < 1.0 U | **0.32 J** | < 1.0 U | **0.28 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.26 J** | < 1.0 U |
| Chloromethane | ug/l | 19 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,2-Dichloroethylene | ug/l | 70 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **9.2** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dibromochloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dichlorodifluoromethane | ug/l | 20 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Diisopropyl ether | ug/l | 150 | | | | | | | | | | | | | | | | | |
| Ethylbenzene | ug/l | 700 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Ethyl-Tert-Butyl-Ether | ug/l | | | | | | | | | | | | | | | | | | |
| Isopropylbenzene | ug/l | 45 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| m, p-Xylene | ug/l | 10000 | | < 2.0 U | < 2.0 U | **0.56 J** | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Methyl Acetate | ug/l | 2000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **3.1** | **5.0** | **4.9** | < 1.0 U | **0.39 J** | < 1.0 U | **0.71 J** | **3.1** | **14** | **13** | < 1.0 U | **0.42 J** |
| Methylcyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methylene Chloride | ug/l | 5 | | **0.37 J** | **0.39 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.21 J** | < 1.0 U | < 1.0 U | < 1.0 U |
| o-Xylene | ug/l | 10000 | | < 1.0 U | < 1.0 U | **0.24 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.11 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Styrene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **160** | **0.21 J** | < 1.0 U | < 1.0 U | **0.44 J** | < 1.0 U | < 1.0 U | **0.56 J** | **0.47 J** | **0.30 J** | **0.35 J** |
| Toluene | ug/l | 1000 | | **0.46 J** | **0.54 J** | **2.1** | < 1.0 U | **0.39 J** | < 1.0 U | < 1.0 U | **0.15 J** | **0.85 J** | **0.26 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,2-Dichloroethene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP05 | SUSDP05 | SUSDP06 | SUSDP07 | SUSDP08 | SUSDP09 | SUSDP10 | SUSDP11 | SUSDP12 | SUSDP13 | SUSDP14 | SUSDP15 | SUSDP16 | SUSDP16 | SUSDP17 | SUSDP18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW0514-19N | DPW0514-19R | DPW0614.5-19.5N | DPW0720-25N | DPW0815-25N | DPW0925-30N | DPW1015-20N | DPW1110-15N | DPW1215-20N | DPW1310-15N | DPW1423-28N | DPW1520-25N | DPW1615-20N | DPW1615-20R | DPW1713-18N | DPW1815-20N |
| | | | Depth | 14 - 19 ft | 14 - 19 ft | 14.5 - 19.5 ft | 20 - 25 ft | 15 - 25 ft | 25 - 30 ft | 15 - 20 ft | 10 - 15 ft | 15 - 20 ft | 10 - 15 ft | 23 - 28 ft | 20 - 25 ft | 15 - 20 ft | 15 - 20 ft | 13 - 18 ft | 15 - 20 ft |
| | | | Sample Date | 5/21/2013 | 5/21/2013 | 5/23/2013 | 5/22/2013 | 5/24/2013 | 6/11/2013 | 6/10/2013 | 5/28/2013 | 6/13/2013 | 5/29/2013 | 6/6/2013 | 6/6/2013 | 6/10/2013 | 6/10/2013 | 6/11/2013 | 6/4/2013 |
| | | | Type | N | FD | N | N | N | N | N | N | N | N | N | N | N | FD | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **12** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.58 J** |
| Trichlorofluoromethane | ug/l | 520 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Vinyl Chloride | ug/l | 2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Xylenes (total) | ug/l | 10000 | | < 2.0 U | < 2.0 U | **0.80** | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | **0.11** | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| 1,1'-Biphenyl | ug/l | 0.083 | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/l | 120 | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/l | 4.6 | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/l | 36 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/l | 3.9 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/l | 0.24 | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/l | 0.049 | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/l | 75 | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/l | 9.1 | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/l | 3.6 | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/l | 93 | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/l | 19 | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/l | 580 | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/l | 3.8 | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/l | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/l | 140 | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/l | 0.37 | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/l | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/l | 190 | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/l | 3.8 | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/l | 580 | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/l | 53 | | < 0.19 U | < 0.20 U | | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | **0.050 J** | < 0.23 U | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | **0.017 J** |
| Acenaphthylene | ug/l | 53 | | < 0.19 U | < 0.20 U | | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | < 0.20 U | < 0.23 U | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U |
| Acetophenone | ug/l | 190 | | | | | | | | | | | | | | | | | |
| Anthracene | ug/l | 180 | | < 0.19 U | < 0.20 U | | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | **0.10 J** | **0.023 J** | **0.060 J** | **0.043 J** | **0.28** | < 0.20 U | < 0.19 U | **0.025 J** |
| Atrazine | ug/l | 3 | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/l | 19 | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/l | 0.03 | | < 0.19 U | < 0.20 U | | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | **0.13 J** | < 0.23 U | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | **0.091 J** |
| Benzo(a)pyrene | ug/l | 0.2 | | < 0.19 U | < 0.20 U | | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | **0.094 J** | < 0.23 U | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U |
| Benzo(b)fluoranthene | ug/l | 0.25 | | < 0.19 U | < 0.20 U | | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | **0.11 J** | < 0.23 U | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U |
| Benzo(g,h,i)perylene | ug/l | 12 | | < 0.19 U | < 0.20 U | | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | **0.071 J** | < 0.23 U | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U |
| Benzo(k)fluoranthene | ug/l | 2.5 | | < 0.19 U | < 0.20 U | | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | < 0.20 U | < 0.23 U | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/l | 16 | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/l | 990 | | | | | | | | | | | | | | | | | |
| Carbazole | ug/l | 29 | | | | | | | | | | | | | | | | | |
| Chrysene | ug/l | 25 | | < 0.19 U | < 0.20 U | | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | **0.13 J** | < 0.23 U | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | **0.060 J** |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | | < 0.19 U | < 0.20 U | | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | < 0.20 U | < 0.23 U | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U |
| Dibenzofuran | ug/l | 0.79 | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/l | 1500 | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/l | 1500 | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/l | 90 | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/l | 20 | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/l | 80 | | < 0.19 U | **0.044 J** | | **0.10 J** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | **0.33** | **0.098 J** | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | **0.061 J** |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP05 | SUSDP05 | SUSDP06 | SUSDP07 | SUSDP08 | SUSDP09 | SUSDP10 | SUSDP11 | SUSDP12 | SUSDP13 | SUSDP14 | SUSDP15 | SUSDP16 | SUSDP16 | SUSDP17 | SUSDP18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW0514-19N | DPW0514-19R | DPW0614.5-19.5N | DPW0720-25N | DPW0815-25N | DPW0925-30N | DPW1015-20N | DPW1110-15N | DPW1215-20N | DPW1310-15N | DPW1423-28N | DPW1520-25N | DPW1615-20N | DPW1615-20R | DPW1713-18N | DPW1815-20N |
| | | | Depth | 14 - 19 ft | 14 - 19 ft | 14.5 - 19.5 ft | 20 - 25 ft | 15 - 25 ft | 25 - 30 ft | 15 - 20 ft | 10 - 15 ft | 15 - 20 ft | 10 - 15 ft | 23 - 28 ft | 20 - 25 ft | 15 - 20 ft | 15 - 20 ft | 13 - 18 ft | 15 - 20 ft |
| | | | Sample Date | 5/21/2013 | 5/21/2013 | 5/23/2013 | 5/22/2013 | 5/24/2013 | 6/11/2013 | 6/10/2013 | 5/28/2013 | 6/13/2013 | 5/29/2013 | 6/6/2013 | 6/6/2013 | 6/10/2013 | 6/10/2013 | 6/11/2013 | 6/4/2013 |
| | | | Type | N | FD | N | N | N | N | N | N | N | N | N | N | N | FD | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Fluorene | ug/l | 29 | | < 0.19 U | < 0.20 U | | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | **0.051 J** | < 0.23 U | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | **0.022 J** |
| Hexachlorobenzene | ug/l | 1 | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/l | 0.14 | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/l | 50 | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/l | 0.33 | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | | < 0.19 U | < 0.20 U | | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | **0.063 J** | < 0.23 U | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U |
| Isophorone | ug/l | 78 | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/l | 0.17 | | < 0.19 U | < 0.20 U | | < 0.20 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | < 0.20 U | < 0.23 U | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U |
| Nitrobenzene | ug/l | 0.14 | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/l | 12 | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/l | 1 | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/l | 180 | | < 0.19 U | < 0.20 U | | **0.16 J** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | **0.29** | **0.068 J** | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | **0.042 J** |
| Phenol | ug/l | 580 | | | | | | | | | | | | | | | | | |
| Pyrene | ug/l | 12 | | < 0.19 U | < 0.20 U | | **0.085 J** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | **0.22** | **0.083 J** | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | **0.059 J** |
| BaP-TE | ug/l | 0.2 | | < 0.190 U | < 0.200 U | | < 0.200 U | < 0.190 U | < 0.190 U | < 0.190 U | < 0.220 U | **0.124** | < 0.230 U | < 0.210 U | < 0.190 U | < 0.190 U | < 0.200 U | < 0.190 U | **0.00916** |
| Total High-molecular-weight PAHs | ug/l | | | < 0.19 U | **0.044** | | **0.19** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | **1.1** | **0.18** | < 0.21 U | < 0.19 U | < 0.19 U | < 0.20 U | < 0.19 U | **0.27** |
| Total Low-molecular-weight PAHs | ug/l | | | < 0.19 U | < 0.20 U | | **0.16** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | **0.49** | **0.091** | **0.060** | **0.043** | **0.28** | < 0.20 U | < 0.19 U | **0.11** |
| Total PAHs (sum 16) | ug/l | | | < 0.19 U | **0.044** | | **0.35** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.22 U | **1.6** | **0.27** | **0.060** | **0.043** | **0.28** | < 0.20 U | < 0.19 U | **0.38** |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19 | SUSDP20 | SUSDP22 | SUSDP23 | SUSDP24 | SUSDP24 | SUSDP37 | SUSDP37 | SUSDP39 | SUSDP41 | SUSDP43 | SUSDP44 | SUSDP52 | TA19A1 | TA19A2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW1915-20N | DPW2015-20N | DPW2215-20N | DPW2323-28N | DPW2415-20N | DPW2415-20R | DPW3713-18N | DPW3725-30N | DPW3913-18N | DPW41 15-25N | DPW4315-20N | DPW4413-18N | DPW5215-20N | DPWTA19A115-20N | DPWTA19A215-20N |
| | | | Depth | 15 - 20 ft | 13 - 20 ft | 15 - 20 ft | 23 - 28 ft | 15 - 20 ft | 15 - 20 ft | 13 - 18 ft | 25 - 30 ft | 13 - 18 ft | 15 - 25 ft | 15 - 20 ft | 13 - 18 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft |
| | | | Sample Date | 6/5/2013 | 6/12/2013 | 6/12/2013 | 6/12/2013 | 6/4/2013 | 6/4/2013 | 5/23/2013 | 5/23/2013 | 5/22/2013 | 5/24/2013 | 6/6/2013 | 6/10/2013 | 2/3/2017 | 3/20/2017 | 3/20/2017 |
| | | | Type | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | ug/l | 100 | | **350 J** | < 480 U | < 520 U | < 480 U | < 480 UJ | < 480 UJ | < 480 U | < 500 U | < 490 U | < 480 U | **490** | < 480 U | | | |
| Oil Range Organics (C20-C36) | ug/l | 6000 | | **860** | < 480 U | < 520 U | < 480 U | < 480 UJ | < 480 UJ | < 480 U | < 500 U | < 490 U | < 480 U | **1900** | < 480 U | | | |
| Gasoline Range Organics (C6-C10) | ug/l | 3.3 | | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | | | |
| 1,1,1-Trichloroethane | ug/l | 200 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethane | ug/l | 2.8 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethene | ug/l | 7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,4-Trichlorobenzene | ug/l | 70 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromoethane | ug/l | 0.05 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichlorobenzene | ug/l | 600 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloropropane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,3-Dichlorobenzene | ug/l | 0.48 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dichlorobenzene | ug/l | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dioxane | ug/l | 0.46 | | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U |
| 2-Butanone | ug/l | 560 | | < 5.0 U | < 5.0 U | **0.74 J** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 2-Hexanone | ug/l | 3.8 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 4-Methyl-2-pentanone | ug/l | 630 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Acetone | ug/l | 1400 | | **3.3 J** | < 5.0 U | **3.7 J** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **4.2 J** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **4.5 J** | < 5.0 U | < 5.0 U |
| Benzene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | **0.21 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromochloromethane | ug/l | 8.3 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromodichloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromoform | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromomethane | ug/l | 0.75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Butyl alcohol, tert- | ug/l | 14 | | | | | | | | | | | | | | < 40 U | < 40 U | < 40 U |
| Carbon Disulfide | ug/l | 81 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **1.2** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.84 J** |
| Carbon Tetrachloride | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chlorobenzene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroethane | ug/l | 2100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroform | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **3.3** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.43 J** | < 1.0 U | < 1.0 U |
| Chloromethane | ug/l | 19 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,2-Dichloroethylene | ug/l | 70 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dibromochloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dichlorodifluoromethane | ug/l | 20 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Diisopropyl ether | ug/l | 150 | | | | | | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U |
| Ethylbenzene | ug/l | 700 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Ethyl-Tert-Butyl-Ether | ug/l | | | | | | | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U |
| Isopropylbenzene | ug/l | 45 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| m, p-Xylene | ug/l | 10000 | | < 2.0 U | **0.46 J** | < 2.0 U | **0.46 J** | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methyl Acetate | ug/l | 2000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | | **0.21 J** | **14 J** | < 1.0 U | **0.33 J** | < 1.0 U | < 1.0 U | < 1.0 U | **1.6** | < 1.0 U | **1.6** | **0.25 J** | **3.9** | **1.9** | **0.29 J** | **0.28 J** |
| Methylcyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methylene Chloride | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| o-Xylene | ug/l | 10000 | | < 1.0 U | < 1.0 U | **0.13 J** | **0.16 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Styrene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | | | | | | | | | | | | | | < 1.0 U | < 1.0 U | < 1.0 U |
| Tetrachloroethylene | ug/l | 5 | | < 1.0 U | **0.24 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Toluene | ug/l | 1000 | | **0.20 J** | **0.69 J** | **0.99 J** | **0.92 J** | < 1.0 U | **0.27 J** | < 1.0 U | **0.38 J** | < 1.0 U | **0.26 J** | < 1.0 U | < 1.0 U | **0.19 J** | **0.25 J** | **0.20 J** |
| trans-1,2-Dichloroethene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19 | SUSDP20 | SUSDP22 | SUSDP23 | SUSDP24 | SUSDP24 | SUSDP37 | SUSDP37 | SUSDP39 | SUSDP41 | SUSDP43 | SUSDP44 | SUSDP52 | TA19A1 | TA19A2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW1915-20N | DPW2015-20N | DPW2215-20N | DPW2323-28N | DPW2415-20N | DPW2415-20R | DPW3713-18N | DPW3725-30N | DPW3913-18N | DPW41 15-25N | DPW4315-20N | DPW4413-18N | DPW5215-20N | DPWTA19A115-20N | DPWTA19A215-20N |
| | | | Depth | 15 - 20 ft | 13 - 20 ft | 15 - 20 ft | 23 - 28 ft | 15 - 20 ft | 15 - 20 ft | 13 - 18 ft | 25 - 30 ft | 13 - 18 ft | 15 - 25 ft | 15 - 20 ft | 13 - 18 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft |
| | | | Sample Date | 6/5/2013 | 6/12/2013 | 6/12/2013 | 6/12/2013 | 6/4/2013 | 6/4/2013 | 5/23/2013 | 5/23/2013 | 5/22/2013 | 5/24/2013 | 6/6/2013 | 6/10/2013 | 2/3/2017 | 3/20/2017 | 3/20/2017 |
| | | | Type | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| Trichloroethene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Trichlorofluoromethane | ug/l | 520 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Vinyl Chloride | ug/l | 2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Xylenes (total) | ug/l | 10000 | | < 2.0 U | **0.46** | **0.13** | **0.62** | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 1 U | < 1 U | < 1 U |
| 1,1'-Biphenyl | ug/l | 0.083 | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/l | 120 | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/l | 4.6 | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/l | 36 | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/l | 3.9 | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/l | 0.24 | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/l | 0.049 | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/l | 75 | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/l | 9.1 | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/l | 3.6 | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/l | 93 | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/l | 19 | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/l | 580 | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/l | 3.8 | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/l | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/l | 140 | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/l | 0.37 | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/l | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/l | 190 | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/l | 3.8 | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/l | 580 | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/l | 53 | | < 0.19 U | **0.063 J** | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.21 U | **0.28** | < 0.19 U | < 0.20 U | < 0.19 U | | | |
| Acenaphthylene | ug/l | 53 | | < 0.19 U | **0.057 J** | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.21 U | < 0.20 U | < 0.19 U | < 0.20 U | < 0.19 U | | | |
| Acetophenone | ug/l | 190 | | | | | | | | | | | | | | | | |
| Anthracene | ug/l | 180 | | < 0.19 U | **0.066 J** | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | **0.51** | **0.21** | **0.35** | < 0.19 U | **0.029 J** | **0.28** | | | |
| Atrazine | ug/l | 3 | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/l | 19 | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/l | 0.03 | | < 0.19 U | **0.087 J** | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | **3.4** | **2.0** | **0.32** | < 0.19 U | **0.047 J** | < 0.19 U | | | |
| Benzo(a)pyrene | ug/l | 0.2 | | < 0.19 U | < 0.19 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | **2.9** | **1.8** | **0.23** | < 0.19 U | < 0.20 U | < 0.19 U | | | |
| Benzo(b)fluoranthene | ug/l | 0.25 | | < 0.19 U | **0.067 J** | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | **3.1** | **1.9** | **0.27** | < 0.19 U | < 0.20 U | < 0.19 U | | | |
| Benzo(g,h,i)perylene | ug/l | 12 | | < 0.19 U | < 0.19 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | **3.9** | **2.3** | < 0.20 U | < 0.19 U | < 0.20 U | < 0.19 U | | | |
| Benzo(k)fluoranthene | ug/l | 2.5 | | < 0.19 U | **0.063 J** | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | **4.0** | **2.4** | **0.087 J** | < 0.19 U | < 0.20 U | < 0.19 U | | | |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/l | 16 | | | | | | | | | | | | | | | | |
| Caprolactam | ug/l | 990 | | | | | | | | | | | | | | | | |
| Carbazole | ug/l | 29 | | | | | | | | | | | | | | | | |
| Chrysene | ug/l | 25 | | < 0.19 U | **0.074 J** | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | **3.8** | **2.2** | **0.30** | < 0.19 U | **0.057 J** | < 0.19 U | | | |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | | < 0.19 U | < 0.19 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | **3.8** | **2.3** | < 0.20 U | < 0.19 U | < 0.20 U | < 0.19 U | | | |
| Dibenzofuran | ug/l | 0.79 | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/l | 1500 | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/l | 1500 | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/l | 90 | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/l | 20 | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/l | 80 | | < 0.19 U | **0.065 J** | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | **0.56** | **0.24** | **1.6** | < 0.19 U | **0.036 J** | < 0.19 U | | | |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP19 | SUSDP20 | SUSDP22 | SUSDP23 | SUSDP24 | SUSDP24 | SUSDP37 | SUSDP37 | SUSDP39 | SUSDP41 | SUSDP43 | SUSDP44 | SUSDP52 | TA19A1 | TA19A2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW1915-20N | DPW2015-20N | DPW2215-20N | DPW2323-28N | DPW2415-20N | DPW2415-20R | DPW3713-18N | DPW3725-30N | DPW3913-18N | DPW41 15-25N | DPW4315-20N | DPW4413-18N | DPW5215-20N | DPWTA19A115-20N | DPWTA19A215-20N |
| | | | Depth | 15 - 20 ft | 13 - 20 ft | 15 - 20 ft | 23 - 28 ft | 15 - 20 ft | 15 - 20 ft | 13 - 18 ft | 25 - 30 ft | 13 - 18 ft | 15 - 25 ft | 15 - 20 ft | 13 - 18 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft |
| | | | Sample Date | 6/5/2013 | 6/12/2013 | 6/12/2013 | 6/12/2013 | 6/4/2013 | 6/4/2013 | 5/23/2013 | 5/23/2013 | 5/22/2013 | 5/24/2013 | 6/6/2013 | 6/10/2013 | 2/3/2017 | 3/20/2017 | 3/20/2017 |
| | | | Type | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | |
| Fluorene | ug/l | 29 | | < 0.19 U | **0.075 J** | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.21 U | **0.25** | < 0.19 U | < 0.20 U | < 0.19 U | | | |
| Hexachlorobenzene | ug/l | 1 | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/l | 0.14 | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/l | 50 | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/l | 0.33 | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | | < 0.19 U | < 0.19 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | **3.7** | **2.2** | < 0.20 U | < 0.19 U | < 0.20 U | < 0.19 U | | | |
| Isophorone | ug/l | 78 | | | | | | | | | | | | | | | | |
| Naphthalene | ug/l | 0.17 | | < 0.19 U | **0.078 J** | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | < 0.19 U | < 0.21 U | **0.094 J** | **0.044 J** | < 0.20 U | < 0.19 U | | | |
| Nitrobenzene | ug/l | 0.14 | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/l | 12 | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/l | 1 | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/l | 180 | | < 0.19 U | **0.087 J** | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | **0.16 J** | **0.095 J** | **1.5** | < 0.19 U | **0.049 J** | < 0.19 U | | | |
| Phenol | ug/l | 580 | | | | | | | | | | | | | | | | |
| Pyrene | ug/l | 12 | | < 0.19 U | **0.092 J** | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | **0.55** | **0.26** | **1.2** | < 0.19 U | **0.060 J** | < 0.19 U | | | |
| BaP-TE | ug/l | 0.2 | | < 0.190 U | **0.0161** | < 0.200 U | < 0.200 U | < 0.200 U | < 0.190 U | **7.76** | **4.74** | **0.290** | < 0.190 U | **0.00476** | < 0.190 U | | | |
| Total High-molecular-weight PAHs | ug/l | | | < 0.19 U | **0.45** | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | **30** | **18** | **4.0** | < 0.19 U | **0.20** | < 0.19 U | | | |
| Total Low-molecular-weight PAHs | ug/l | | | < 0.19 U | **0.43** | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | **0.67** | **0.31** | **2.5** | **0.044** | **0.078** | **0.28** | | | |
| Total PAHs (sum 16) | ug/l | | | < 0.19 U | **0.87** | < 0.20 U | < 0.20 U | < 0.20 U | < 0.19 U | **30** | **18** | **6.5** | **0.044** | **0.28** | **0.28** | | | |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | TA19A3 | TA19B3 | TA19C1 | TA19C2 | TA19C3 | TA19D1 | TA19D3 | TA19E1 | TA19E2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPWTA19A315-20N | DPWTA19B315-20N | DPWTA19C115-20N | DPWTA19C215-20N | DPWTA19C315-20N | DPWTA19D115-20N | DPWTA19D315-20N | DPWTA19E115-20N | DPWTA19E215-20N |
| | | | Depth | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft |
| | | | Sample Date | 3/20/2017 | 2/7/2017 | 2/8/2017 | 2/7/2017 | 2/7/2017 | 3/3/2017 | 3/8/2017 | 2/7/2017 | 2/7/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | ug/l | 100 | | | | | | | | | | |
| Oil Range Organics (C20-C36) | ug/l | 6000 | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/l | 3.3 | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/l | 200 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethane | ug/l | 2.8 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethene | ug/l | 7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,4-Trichlorobenzene | ug/l | 70 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromoethane | ug/l | 0.05 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichlorobenzene | ug/l | 600 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloropropane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,3-Dichlorobenzene | ug/l | 0.48 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dichlorobenzene | ug/l | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dioxane | ug/l | 0.46 | | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U |
| 2-Butanone | ug/l | 560 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 2-Hexanone | ug/l | 3.8 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 4-Methyl-2-pentanone | ug/l | 630 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Acetone | ug/l | 1400 | | < 5.0 U | **8.8** | **3.3 J** | **3.5 J** | **8.6** | **3.7 J** | < 5.0 U | **8.8** | **7.2** |
| Benzene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromochloromethane | ug/l | 8.3 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromodichloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromoform | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromomethane | ug/l | 0.75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Butyl alcohol, tert- | ug/l | 14 | | < 40 U | < 40 U | < 40 U | < 40 U | < 40 U | < 40 U | < 40 U | < 40 U | < 40 U |
| Carbon Disulfide | ug/l | 81 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Carbon Tetrachloride | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chlorobenzene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroethane | ug/l | 2100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroform | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloromethane | ug/l | 19 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,2-Dichloroethylene | ug/l | 70 | | < 1.0 U | < 1.0 U | **1.2** | **6.2** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dibromochloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dichlorodifluoromethane | ug/l | 20 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Diisopropyl ether | ug/l | 150 | | < 1.0 U | < 1.0 U | **0.63 J** | **0.33 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Ethylbenzene | ug/l | 700 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Ethyl-Tert-Butyl-Ether | ug/l | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Isopropylbenzene | ug/l | 45 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| m, p-Xylene | ug/l | 10000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methyl Acetate | ug/l | 2000 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | | **0.71 J** | < 1.0 U | **3.9** | **0.73 J** | < 1.0 U | **0.51 J** | < 1.0 U | **0.39 J** | < 1.0 U |
| Methylcyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methylene Chloride | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| o-Xylene | ug/l | 10000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Styrene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | | < 1.0 U | < 1.0 U | **0.20 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Tetrachloroethylene | ug/l | 5 | | **2.2** | **0.24 J** | **30** | **18** | **6.7** | < 1.0 U | < 1.0 U | < 1.0 U | **0.80 J** |
| Toluene | ug/l | 1000 | | < 1.0 U | **0.45 J** | < 1.0 U | < 1.0 U | **0.18 J** | < 1.0 U | < 1.0 U | **0.62 J** | **0.52 J** |
| trans-1,2-Dichloroethene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |

# Table 4-11
## Groundwater Results
## VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | TA19A3 | TA19B3 | TA19C1 | TA19C2 | TA19C3 | TA19D1 | TA19D3 | TA19E1 | TA19E2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPWTA19A315-20N | DPWTA19B315-20N | DPWTA19C115-20N | DPWTA19C215-20N | DPWTA19C315-20N | DPWTA19D115-20N | DPWTA19D315-20N | DPWTA19E115-20N | DPWTA19E215-20N |
| | | | Depth | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft |
| | | | Sample Date | 3/20/2017 | 2/7/2017 | 2/8/2017 | 2/7/2017 | 2/7/2017 | 3/3/2017 | 3/8/2017 | 2/7/2017 | 2/7/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| Trichloroethene | ug/l | 5 | | < 1.0 U | < 1.0 U | **3.2** | **5.9** | **0.23 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Trichlorofluoromethane | ug/l | 520 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Vinyl Chloride | ug/l | 2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Xylenes (total) | ug/l | 10000 | | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U |
| 1,1'-Biphenyl | ug/l | 0.083 | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/l | 120 | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/l | 4.6 | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/l | 36 | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/l | 3.9 | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/l | 0.24 | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/l | 0.049 | | | | | | | | | | |
| 2-Chloronaphthalene | ug/l | 75 | | | | | | | | | | |
| 2-Chlorophenol | ug/l | 9.1 | | | | | | | | | | |
| 2-Methylnaphthalene | ug/l | 3.6 | | | | | | | | | | |
| 2-Methylphenol | ug/l | 93 | | | | | | | | | | |
| 2-Nitroaniline | ug/l | 19 | | | | | | | | | | |
| 2-Nitrophenol | ug/l | 580 | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | | | | | | | | | | |
| 3-Nitroaniline | ug/l | 3.8 | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/l | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/l | 140 | | | | | | | | | | |
| 4-Chloroaniline | ug/l | 0.37 | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/l | | | | | | | | | | | |
| 4-Methylphenol | ug/l | 190 | | | | | | | | | | |
| 4-Nitroaniline | ug/l | 3.8 | | | | | | | | | | |
| 4-Nitrophenol | ug/l | 580 | | | | | | | | | | |
| Acenaphthene | ug/l | 53 | | | | | | | | | | |
| Acenaphthylene | ug/l | 53 | | | | | | | | | | |
| Acetophenone | ug/l | 190 | | | | | | | | | | |
| Anthracene | ug/l | 180 | | | | | | | | | | |
| Atrazine | ug/l | 3 | | | | | | | | | | |
| Benzaldehyde | ug/l | 19 | | | | | | | | | | |
| Benzo(a)anthracene | ug/l | 0.03 | | | | | | | | | | |
| Benzo(a)pyrene | ug/l | 0.2 | | | | | | | | | | |
| Benzo(b)fluoranthene | ug/l | 0.25 | | | | | | | | | | |
| Benzo(g,h,i)perylene | ug/l | 12 | | | | | | | | | | |
| Benzo(k)fluoranthene | ug/l | 2.5 | | | | | | | | | | |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | | | | | | | | | | |
| Butylbenzylphthalate | ug/l | 16 | | | | | | | | | | |
| Caprolactam | ug/l | 990 | | | | | | | | | | |
| Carbazole | ug/l | 29 | | | | | | | | | | |
| Chrysene | ug/l | 25 | | | | | | | | | | |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | | | | | | | | | | |
| Dibenzofuran | ug/l | 0.79 | | | | | | | | | | |
| Diethylphthalate | ug/l | 1500 | | | | | | | | | | |
| Dimethylphthalate | ug/l | 1500 | | | | | | | | | | |
| Di-n-butylphthalate | ug/l | 90 | | | | | | | | | | |
| Di-n-octylphthalate | ug/l | 20 | | | | | | | | | | |
| Fluoranthene | ug/l | 80 | | | | | | | | | | |

**Table 4-11**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | TA19A3 | TA19B3 | TA19C1 | TA19C2 | TA19C3 | TA19D1 | TA19D3 | TA19E1 | TA19E2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPWTA19A315-20N | DPWTA19B315-20N | DPWTA19C115-20N | DPWTA19C215-20N | DPWTA19C315-20N | DPWTA19D115-20N | DPWTA19D315-20N | DPWTA19E115-20N | DPWTA19E215-20N |
| | | | Depth | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft |
| | | | Sample Date | 3/20/2017 | 2/7/2017 | 2/8/2017 | 2/7/2017 | 2/7/2017 | 3/3/2017 | 3/8/2017 | 2/7/2017 | 2/7/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| Fluorene | ug/l | 29 | | | | | | | | | | |
| Hexachlorobenzene | ug/l | 1 | | | | | | | | | | |
| Hexachlorobutadiene | ug/l | 0.14 | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/l | 50 | | | | | | | | | | |
| Hexachloroethane | ug/l | 0.33 | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | | | | | | | | | | |
| Isophorone | ug/l | 78 | | | | | | | | | | |
| Naphthalene | ug/l | 0.17 | | | | | | | | | | |
| Nitrobenzene | ug/l | 0.14 | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/l | 12 | | | | | | | | | | |
| Pentachlorophenol | ug/l | 1 | | | | | | | | | | |
| Phenanthrene | ug/l | 180 | | | | | | | | | | |
| Phenol | ug/l | 580 | | | | | | | | | | |
| Pyrene | ug/l | 12 | | | | | | | | | | |
| BaP-TE | ug/l | 0.2 | | | | | | | | | | |
| Total High-molecular-weight PAHs | ug/l | | | | | | | | | | | |
| Total Low-molecular-weight PAHs | ug/l | | | | | | | | | | | |
| Total PAHs (sum 16) | ug/l | | | | | | | | | | | |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
D = Dissolved
T = Total
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable
Heirarchy: 1) Lower of DOEE/MCL (primary standards). 2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
ug/l = micrograms per liter

**Table 4-12**
**Groundwater Results**
**PCBs and Pesticides Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Location ID | DP26 | DP28 |
| | | | | | | | | | | | | | Sample ID | DPW26(25-30)N | DPW2821N |
| | | | | | | | | | | | | | Depth | 25 - 30 ft | 20 - 22 ft |
| | | | | | | | | | | | | | Sample Date | 3/29/2013 | 4/2/2013 |
| | | | | | | | | | | | | | Type | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| 4,4'-DDD | ug/l | 0.0063 | SW8081B LL | N | 72-54-8 | 0.0011 | 0.00068 | 0.00089 | 0.00089 | SUSDP11 | 2 | 11 | | | |
| 4,4'-DDE | ug/l | 0.046 | SW8081B LL | N | 72-55-9 | | | | | | | 11 | | | |
| 4,4'-DDT | ug/l | 0.23 | SW8081B LL | N | 50-29-3 | 0.0018 | 0.0011 | 0.0015 | 0.0015 | SUSDP11 | 2 | 11 | | | |
| Aldrin | ug/l | 0.00092 | SW8081B LL | N | 309-00-2 | | | | | | | 11 | | | |
| alpha-BHC | ug/l | 0.0072 | SW8081B LL | N | 319-84-6 | | | | | | | 11 | | | |
| beta-BHC | ug/l | 0.025 | SW8081B LL | N | 319-85-7 | 0.0021 | 0.002 | 0.0021 | 0.0021 | SUSDP17 | 2 | 11 | | | |
| cis-Chlordane | ug/l | 2 | SW8081B LL | N | 5103-71-9 | 0.00096 | 0.00096 | 0.00096 | 0.00096 | SUSDP09 | 1 | 11 | | | |
| delta-BHC | ug/l | 0.0072 | SW8081B LL | N | 319-86-8 | 0.00068 | 0.00056 | 0.00062 | 0.00063 | SUSDP11 | 3 | 11 | | | |
| Dieldrin | ug/l | 0.0018 | SW8081B LL | N | 60-57-1 | 0.0012 | 0.0012 | 0.0012 | 0.0012 | SUSDP09 | 1 | 11 | | | |
| Endosulfan I | ug/l | 10 | SW8081B LL | N | 959-98-8 | | | | | | | 11 | | | |
| Endosulfan II | ug/l | 10 | SW8081B LL | N | 33213-65-9 | | | | | | | 11 | | | |
| Endosulfan Sulfate | ug/l | 10 | SW8081B LL | N | 1031-07-8 | | | | | | | 11 | | | |
| Endrin | ug/l | 0.2 | SW8081B LL | N | 72-20-8 | | | | | | | 11 | | | |
| Endrin aldehyde | ug/l | 0.23 | SW8081B LL | N | 7421-93-4 | | | | | | | 11 | | | |
| Endrin ketone | ug/l | 0.23 | SW8081B LL | N | 53494-70-5 | | | | | | | 11 | | | |
| gamma-BHC (Lindane) | ug/l | 0.2 | SW8081B LL | N | 58-89-9 | | | | | | | 11 | | | |
| Heptachlor | ug/l | 0.4 | SW8081B LL | N | 76-44-8 | | | | | | | 11 | | | |
| Heptachlor Epoxide | ug/l | 0.2 | SW8081B LL | N | 1024-57-3 | 0.0037 | 0.0013 | 0.0025 | 0.0025 | SUSDP10 | 2 | 11 | | | |
| Methoxychlor | ug/l | 40 | SW8081B LL | N | 72-43-5 | | | | | | | 11 | | | |
| Toxaphene | ug/l | 3 | SW8081B LL | N | 8001-35-2 | | | | | | | 11 | | | |
| trans-Chlordane | ug/l | 2 | SW8081B LL | N | 5103-74-2 | 0.0017 | 0.0013 | 0.0015 | 0.0015 | SUSDP09 | 2 | 11 | | | |
| Aroclor-1016 | ug/l | | SW8082A LL | N | 12674-11-2 | | | | | | | 45 | | < 0.0097 U | < 0.0095 U |
| Aroclor-1221 | ug/l | | SW8082A LL | N | 11104-28-2 | | | | | | | 45 | | < 0.0097 U | < 0.0095 U |
| Aroclor-1232 | ug/l | | SW8082A LL | N | 11141-16-5 | | | | | | | 45 | | < 0.0097 U | < 0.0095 U |
| Aroclor-1242 | ug/l | | SW8082A LL | N | 53469-21-9 | | | | | | | 45 | | < 0.0097 U | < 0.0095 U |
| Aroclor-1248 | ug/l | | SW8082A LL | N | 12672-29-6 | 0.15 | 0.15 | 0.15 | 0.15 | SUSDP05 | 1 | 45 | | < 0.0097 U | < 0.0095 U |
| Aroclor-1254 | ug/l | | SW8082A LL | N | 11097-69-1 | 0.013 | 0.0077 | 0.01 | 0.01 | SUSDP37 | 2 | 45 | | < 0.0097 U | < 0.0095 U |
| Aroclor-1260 | ug/l | | SW8082A LL | N | 11096-82-5 | | | | | | | 45 | | < 0.0097 U | < 0.0095 U |
| Aroclor-1262 | ug/l | | SW8082A LL | N | 37324-23-5 | | | | | | | 45 | | < 0.0097 U | < 0.0095 U |
| Aroclor-1268 | ug/l | | SW8082A LL | N | 11100-14-4 | | | | | | | 45 | | < 0.0097 U | < 0.0095 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | SW8082A LL | N | TOT-PCB-ARO-C | 0.15 | 0.0077 | 0.057 | 0.013 | SUSDP05 | 3 | 45 | | < 0.0097 U | < 0.0095 U |

**Table 4-12**
**Groundwater Results**
**PCBs and Pesticides Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP28 | DP30 | DP31 | DP33 | DP35 | DP36 | DP38 | DP40 | DP42 | DP45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW2821R | DPW3028N | DPW3120N | DPW33(27-32)N | DPW3515N | DPW3612-17N | DPW3815-20N | DPW4015-20N | DPW4220-25N | DPW4515-20N |
| | | | Depth | 20 - 22 ft | 27 - 29 ft | 19.5 - 20.5 ft | 27 - 32 ft | 14 - 16 ft | 12 - 17 ft | 15 - 20 ft | 15 - 20 ft | 20 - 25 ft | 15 - 20 ft |
| | | | Sample Date | 4/2/2013 | 4/3/2013 | 4/1/2013 | 4/4/2013 | 3/28/2013 | 5/20/2013 | 5/23/2013 | 5/28/2013 | 5/29/2013 | 6/4/2013 |
| | | | Type | FD | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | |
| 4,4'-DDD | ug/l | 0.0063 | | | | | | | | | | | |
| 4,4'-DDE | ug/l | 0.046 | | | | | | | | | | | |
| 4,4'-DDT | ug/l | 0.23 | | | | | | | | | | | |
| Aldrin | ug/l | 0.00092 | | | | | | | | | | | |
| alpha-BHC | ug/l | 0.0072 | | | | | | | | | | | |
| beta-BHC | ug/l | 0.025 | | | | | | | | | | | |
| cis-Chlordane | ug/l | 2 | | | | | | | | | | | |
| delta-BHC | ug/l | 0.0072 | | | | | | | | | | | |
| Dieldrin | ug/l | 0.0018 | | | | | | | | | | | |
| Endosulfan I | ug/l | 10 | | | | | | | | | | | |
| Endosulfan II | ug/l | 10 | | | | | | | | | | | |
| Endosulfan Sulfate | ug/l | 10 | | | | | | | | | | | |
| Endrin | ug/l | 0.2 | | | | | | | | | | | |
| Endrin aldehyde | ug/l | 0.23 | | | | | | | | | | | |
| Endrin ketone | ug/l | 0.23 | | | | | | | | | | | |
| gamma-BHC (Lindane) | ug/l | 0.2 | | | | | | | | | | | |
| Heptachlor | ug/l | 0.4 | | | | | | | | | | | |
| Heptachlor Epoxide | ug/l | 0.2 | | | | | | | | | | | |
| Methoxychlor | ug/l | 40 | | | | | | | | | | | |
| Toxaphene | ug/l | 3 | | | | | | | | | | | |
| trans-Chlordane | ug/l | 2 | | | | | | | | | | | |
| Aroclor-1016 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0098 U | < 0.0096 U |
| Aroclor-1221 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0098 U | < 0.0096 U |
| Aroclor-1232 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0098 U | < 0.0096 U |
| Aroclor-1242 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0098 U | < 0.0096 U |
| Aroclor-1248 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0098 U | < 0.0096 U |
| Aroclor-1254 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | **0.0077 J** | < 0.0095 U | < 0.0098 U | < 0.0096 U |
| Aroclor-1260 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0098 U | < 0.0096 U |
| Aroclor-1262 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0098 U | < 0.0096 U |
| Aroclor-1268 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0098 U | < 0.0096 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | **0.0077** | < 0.0095 U | < 0.0098 U | < 0.0096 U |

**Table 4-12**
**Groundwater Results**
**PCBs and Pesticides  Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP46 | DP47 | SUSDP01 | SUSDP01 | SUSDP02 | SUSDP02 | SUSDP03 | SUSDP04 | SUSDP05 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW4615-20N | DPW4710-15N | DPW0112-15N | DPW0112-15N2 | DPW0212-17N | DPW0212-17N2 | DPW0310-15N | DPW0415-20N | DPW0514-19N |
| | | | Depth | 15 - 20 ft | 10 - 15 ft | 12 - 15 ft | 12 - 15 ft | 12 - 17 ft | 12 - 17 ft | 10 - 15 ft | 15 - 20 ft | 14 - 19 ft |
| | | | Sample Date | 6/5/2013 | 6/5/2013 | 5/20/2013 | 6/13/2013 | 5/20/2013 | 6/13/2013 | 5/21/2013 | 5/20/2013 | 5/21/2013 |
| | | | Type | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| 4,4'-DDD | ug/l | 0.0063 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| 4,4'-DDE | ug/l | 0.046 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| 4,4'-DDT | ug/l | 0.23 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| Aldrin | ug/l | 0.00092 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| alpha-BHC | ug/l | 0.0072 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| beta-BHC | ug/l | 0.025 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| cis-Chlordane | ug/l | 2 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| delta-BHC | ug/l | 0.0072 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| Dieldrin | ug/l | 0.0018 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| Endosulfan I | ug/l | 10 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| Endosulfan II | ug/l | 10 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| Endosulfan Sulfate | ug/l | 10 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| Endrin | ug/l | 0.2 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| Endrin aldehyde | ug/l | 0.23 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| Endrin ketone | ug/l | 0.23 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| gamma-BHC (Lindane) | ug/l | 0.2 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| Heptachlor | ug/l | 0.4 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| Heptachlor Epoxide | ug/l | 0.2 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| Methoxychlor | ug/l | 40 | | | | | < 0.0024 U | | < 0.0024 U | | | |
| Toxaphene | ug/l | 3 | | | | | < 0.094 U | | < 0.095 U | | | |
| trans-Chlordane | ug/l | 2 | | | | | < 0.0012 U | | < 0.0012 U | | | |
| Aroclor-1016 | ug/l | | | < 0.0095 U | < 0.0096 U | < 0.0095 U | | < 0.0095 U | | < 0.0096 U | < 0.0094 U | < 0.0098 U |
| Aroclor-1221 | ug/l | | | < 0.0095 U | < 0.0096 U | < 0.0095 U | | < 0.0095 U | | < 0.0096 U | < 0.0094 U | < 0.0098 U |
| Aroclor-1232 | ug/l | | | < 0.0095 U | < 0.0096 U | < 0.0095 U | | < 0.0095 U | | < 0.0096 U | < 0.0094 U | < 0.0098 U |
| Aroclor-1242 | ug/l | | | < 0.0095 U | < 0.0096 U | < 0.0095 U | | < 0.0095 U | | < 0.0096 U | < 0.0094 U | < 0.0098 U |
| Aroclor-1248 | ug/l | | | < 0.0095 U | < 0.0096 U | < 0.0095 U | | < 0.0095 U | | < 0.0096 U | < 0.0094 U | **0.15 J** |
| Aroclor-1254 | ug/l | | | < 0.0095 U | < 0.0096 U | < 0.0095 U | | < 0.0095 U | | < 0.0096 U | < 0.0094 U | < 0.0098 U |
| Aroclor-1260 | ug/l | | | < 0.0095 U | < 0.0096 U | < 0.0095 U | | < 0.0095 U | | < 0.0096 U | < 0.0094 U | < 0.0098 U |
| Aroclor-1262 | ug/l | | | < 0.0095 U | < 0.0096 U | < 0.0095 U | | < 0.0095 U | | < 0.0096 U | < 0.0094 U | < 0.0098 U |
| Aroclor-1268 | ug/l | | | < 0.0095 U | < 0.0096 U | < 0.0095 U | | < 0.0095 U | | < 0.0096 U | < 0.0094 U | < 0.0098 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | | < 0.0095 U | < 0.0096 U | < 0.0095 U | | < 0.0095 U | | < 0.0096 U | < 0.0094 U | **0.15** |

**Table 4-12**
**Groundwater Results**
**PCBs and Pesticides Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP05 | SUSDP07 | SUSDP08 | SUSDP09 | SUSDP10 | SUSDP11 | SUSDP12 | SUSDP13 | SUSDP14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW0514-19R | DPW0720-25N | DPW0815-25N | DPW0925-30N | DPW1015-20N | DPW1110-15N | DPW1215-20N | DPW1310-15N | DPW1423-28N |
| | | | Depth | 14 - 19 ft | 20 - 25 ft | 15 - 25 ft | 25 - 30 ft | 15 - 20 ft | 10 - 15 ft | 15 - 20 ft | 10 - 15 ft | 23 - 28 ft |
| | | | Sample Date | 5/21/2013 | 5/22/2013 | 5/24/2013 | 6/11/2013 | 6/10/2013 | 5/28/2013 | 6/13/2013 | 5/29/2013 | 6/6/2013 |
| | | | Type | FD | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| 4,4'-DDD | ug/l | 0.0063 | | | | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.0011 J** | | | |
| 4,4'-DDE | ug/l | 0.046 | | | | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | | | |
| 4,4'-DDT | ug/l | 0.23 | | | | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.0018** | | | |
| Aldrin | ug/l | 0.00092 | | | | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | | | |
| alpha-BHC | ug/l | 0.0072 | | | | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | | | |
| beta-BHC | ug/l | 0.025 | | | | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | | | |
| cis-Chlordane | ug/l | 2 | | | | < 0.0012 U | **0.00096 J** | < 0.0012 U | < 0.0013 U | | | |
| delta-BHC | ug/l | 0.0072 | | | | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.00068 J** | | | |
| Dieldrin | ug/l | 0.0018 | | | | < 0.0012 U | **0.0012** | < 0.0012 U | < 0.0013 U | | | |
| Endosulfan I | ug/l | 10 | | | | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | | | |
| Endosulfan II | ug/l | 10 | | | | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | | | |
| Endosulfan Sulfate | ug/l | 10 | | | | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | | | |
| Endrin | ug/l | 0.2 | | | | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | | | |
| Endrin aldehyde | ug/l | 0.23 | | | | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | | | |
| Endrin ketone | ug/l | 0.23 | | | | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | | | |
| gamma-BHC (Lindane) | ug/l | 0.2 | | | | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | | | |
| Heptachlor | ug/l | 0.4 | | | | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | | | |
| Heptachlor Epoxide | ug/l | 0.2 | | | | < 0.0012 U | **0.0013 J** | **0.0037** | < 0.0013 U | | | |
| Methoxychlor | ug/l | 40 | | | | < 0.0024 U | < 0.0024 U | < 0.0024 U | < 0.0025 U | | | |
| Toxaphene | ug/l | 3 | | | | < 0.095 U | < 0.095 U | < 0.094 U | < 0.10 U | | | |
| trans-Chlordane | ug/l | 2 | | | | < 0.0012 U | **0.0017 J** | < 0.0012 U | < 0.0013 U | | | |
| Aroclor-1016 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0095 U | < 0.0099 U |
| Aroclor-1221 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0095 U | < 0.0099 U |
| Aroclor-1232 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0095 U | < 0.0099 U |
| Aroclor-1242 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0095 U | < 0.0099 U |
| Aroclor-1248 | ug/l | | | < 0.0095 UJ | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0095 U | < 0.0099 U |
| Aroclor-1254 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0095 U | < 0.0099 U |
| Aroclor-1260 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0095 U | < 0.0099 U |
| Aroclor-1262 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0095 U | < 0.0099 U |
| Aroclor-1268 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0095 U | < 0.0099 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0095 U | < 0.0099 U |

**Table 4-12**
**Groundwater Results**
**PCBs and Pesticides Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SUSDP15 | SUSDP16 | SUSDP16 | SUSDP17 | SUSDP18 | SUSDP19 | SUSDP20 | SUSDP22 | SUSDP23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW1520-25N | DPW1615-20N | DPW1615-20R | DPW1713-18N | DPW1815-20N | DPW1915-20N | DPW2015-20N | DPW2215-20N | DPW2323-28N |
| | | | Depth | 20 - 25 ft | 15 - 20 ft | 15 - 20 ft | 13 - 18 ft | 15 - 20 ft | 15 - 20 ft | 13 - 20 ft | 15 - 20 ft | 23 - 28 ft |
| | | | Sample Date | 6/6/2013 | 6/10/2013 | 6/10/2013 | 6/11/2013 | 6/4/2013 | 6/5/2013 | 6/12/2013 | 6/12/2013 | 6/12/2013 |
| | | | Type | N | N | FD | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| 4,4'-DDD | ug/l | 0.0063 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| 4,4'-DDE | ug/l | 0.046 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| 4,4'-DDT | ug/l | 0.23 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| Aldrin | ug/l | 0.00092 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| alpha-BHC | ug/l | 0.0072 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| beta-BHC | ug/l | 0.025 | | | | | **0.0021** | < 0.0012 U | < 0.0012 UJ | | | |
| cis-Chlordane | ug/l | 2 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| delta-BHC | ug/l | 0.0072 | | | | | < 0.0012 U | **0.00063 J** | < 0.0012 UJ | | | |
| Dieldrin | ug/l | 0.0018 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| Endosulfan I | ug/l | 10 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| Endosulfan II | ug/l | 10 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| Endosulfan Sulfate | ug/l | 10 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| Endrin | ug/l | 0.2 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| Endrin aldehyde | ug/l | 0.23 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| Endrin ketone | ug/l | 0.23 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| gamma-BHC (Lindane) | ug/l | 0.2 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| Heptachlor | ug/l | 0.4 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| Heptachlor Epoxide | ug/l | 0.2 | | | | | < 0.0012 U | < 0.0012 U | < 0.0012 UJ | | | |
| Methoxychlor | ug/l | 40 | | | | | < 0.0024 U | < 0.0024 U | < 0.0024 UJ | | | |
| Toxaphene | ug/l | 3 | | | | | < 0.094 U | < 0.094 U | < 0.094 UJ | | | |
| trans-Chlordane | ug/l | 2 | | | | | **0.0013 J** | < 0.0012 U | < 0.0012 UJ | | | |
| Aroclor-1016 | ug/l | | | < 0.0096 U | < 0.0094 U | < 0.0098 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U | < 0.010 U | < 0.0096 U |
| Aroclor-1221 | ug/l | | | < 0.0096 U | < 0.0094 U | < 0.0098 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U | < 0.010 U | < 0.0096 U |
| Aroclor-1232 | ug/l | | | < 0.0096 U | < 0.0094 U | < 0.0098 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U | < 0.010 U | < 0.0096 U |
| Aroclor-1242 | ug/l | | | < 0.0096 U | < 0.0094 U | < 0.0098 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U | < 0.010 U | < 0.0096 U |
| Aroclor-1248 | ug/l | | | < 0.0096 U | < 0.0094 U | < 0.0098 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U | < 0.010 U | < 0.0096 U |
| Aroclor-1254 | ug/l | | | < 0.0096 U | < 0.0094 U | < 0.0098 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U | < 0.010 U | < 0.0096 U |
| Aroclor-1260 | ug/l | | | < 0.0096 U | < 0.0094 U | < 0.0098 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U | < 0.010 U | < 0.0096 U |
| Aroclor-1262 | ug/l | | | < 0.0096 U | < 0.0094 U | < 0.0098 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U | < 0.010 U | < 0.0096 U |
| Aroclor-1268 | ug/l | | | < 0.0096 U | < 0.0094 U | < 0.0098 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U | < 0.010 U | < 0.0096 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | | < 0.0096 U | < 0.0094 U | < 0.0098 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U | < 0.010 U | < 0.0096 U |

**Table 4-12**
**Groundwater Results**
**PCBs and Pesticides Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SUSDP24 | SUSDP24 | SUSDP37 | SUSDP37 | SUSDP39 | SUSDP41 | SUSDP43 | SUSDP44 |
| | | | Sample ID | DPW2415-20N | DPW2415-20R | DPW3713-18N | DPW3725-30N | DPW3913-18N | DPW41 15-25N | DPW4315-20N | DPW4413-18N |
| | | | Depth | 15 - 20 ft | 15 - 20 ft | 13 - 18 ft | 25 - 30 ft | 13 - 18 ft | 15 - 25 ft | 15 - 20 ft | 13 - 18 ft |
| | | | Sample Date | 6/4/2013 | 6/4/2013 | 5/23/2013 | 5/23/2013 | 5/22/2013 | 5/24/2013 | 6/6/2013 | 6/10/2013 |
| | | | Type | N | FD | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | |
| 4,4'-DDD | ug/l | 0.0063 | | **0.00068 J** | < 0.0012 U | | | | | | |
| 4,4'-DDE | ug/l | 0.046 | | < 0.0012 U | < 0.0012 U | | | | | | |
| 4,4'-DDT | ug/l | 0.23 | | **0.0011 J** | < 0.0012 U | | | | | | |
| Aldrin | ug/l | 0.00092 | | < 0.0012 U | < 0.0012 U | | | | | | |
| alpha-BHC | ug/l | 0.0072 | | < 0.0012 U | < 0.0012 U | | | | | | |
| beta-BHC | ug/l | 0.025 | | **0.0020** | < 0.0012 U | | | | | | |
| cis-Chlordane | ug/l | 2 | | < 0.0012 U | < 0.0012 U | | | | | | |
| delta-BHC | ug/l | 0.0072 | | **0.00056 J** | < 0.0012 U | | | | | | |
| Dieldrin | ug/l | 0.0018 | | < 0.0012 U | < 0.0012 U | | | | | | |
| Endosulfan I | ug/l | 10 | | < 0.0012 U | < 0.0012 U | | | | | | |
| Endosulfan II | ug/l | 10 | | < 0.0012 U | < 0.0012 U | | | | | | |
| Endosulfan Sulfate | ug/l | 10 | | < 0.0012 U | < 0.0012 U | | | | | | |
| Endrin | ug/l | 0.2 | | < 0.0012 U | < 0.0012 U | | | | | | |
| Endrin aldehyde | ug/l | 0.23 | | < 0.0012 U | < 0.0012 U | | | | | | |
| Endrin ketone | ug/l | 0.23 | | < 0.0012 U | < 0.0012 U | | | | | | |
| gamma-BHC (Lindane) | ug/l | 0.2 | | < 0.0012 U | < 0.0012 U | | | | | | |
| Heptachlor | ug/l | 0.4 | | < 0.0012 U | < 0.0012 U | | | | | | |
| Heptachlor Epoxide | ug/l | 0.2 | | < 0.0012 U | < 0.0012 U | | | | | | |
| Methoxychlor | ug/l | 40 | | < 0.0024 U | < 0.0024 U | | | | | | |
| Toxaphene | ug/l | 3 | | < 0.095 U | < 0.094 U | | | | | | |
| trans-Chlordane | ug/l | 2 | | < 0.0012 U | < 0.0012 U | | | | | | |
| Aroclor-1016 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1221 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1232 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1242 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1248 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1254 | ug/l | | | < 0.0095 U | < 0.0094 U | **0.013** | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1260 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1262 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1268 | ug/l | | | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | | < 0.0095 U | < 0.0094 U | **0.013** | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |

**Table 4-12**
**Groundwater Results**
**PCBs and Pesticides  Concentrations in UWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
D = Dissolved
T = Total
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable.
Heirarchy:  1)  Lower of DOEE/MCL (primary standards).  2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
ug/l = micrograms per liter

## Table 4-13
## Groundwater Results
## Dioxins and Furans Concentrations in UWZ Direct Push Groundwater Samples
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | Location ID | SUSDP01 | SUSDP02 | SUSDP08 | SUSDP09 | SUSDP10 | SUSDP11 | SUSDP17 | SUSDP18 | SUSDP19 | SUSDP24 | SUSDP24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Sample ID | DPW0112-15N2 | DPW0212-17N2 | DPW0815-25N | DPW0925-30N | DPW1015-20N | DPW1110-15N | DPW1713-18N | DPW1815-20N | DPW1915-20N | DPW2415-20N | DPW2415-20R |
| | | | | | | | | | | | | Depth | 12 - 15 ft | 12 - 17 ft | 15 - 25 ft | 25 - 30 ft | 15 - 20 ft | 10 - 15 ft | 13 - 18 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft | 15 - 20 ft |
| | | | | | | | | | | | | Sample Date | 6/13/2013 | 6/13/2013 | 5/24/2013 | 6/11/2013 | 6/10/2013 | 5/28/2013 | 6/11/2013 | 6/4/2013 | 6/5/2013 | 6/4/2013 | 6/4/2013 |
| | | | | | | | | | | | | Type | N | N | N | N | N | N | N | N | N | N | FD |
| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/l | | SW8290A | 67562-39-4 | 1.26 | 0.463 | 0.941 | 1.1 | SUSDP24 | 3 | | 11 | < 0.484 U | < 0.589 U | < 0.539 U | < 0.496 U | < 0.467 U | < 0.490 U | **1.10 JN** | < 0.477 U | < 0.427 U | **0.463 JN** | **1.26 JN** |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/l | | SW8290A | 35822-46-9 | 37.2 | 1.72 | 9.2 | 3.12 | SUSDP08 | 6 | | 11 | **1.72 JN** | < 0.652 U | **37.2 J** | **4.34 JN** | < 0.632 U | **1.79 JN** | **8.25 JN** | < 0.564 U | **1.90 JN** | < 0.327 U | < 0.321 U |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/l | | SW8290A | 55673-89-7 | | | | | | | | 11 | < 0.658 U | < 0.834 U | < 0.688 U | < 0.716 U | < 0.672 U | < 0.644 U | < 0.653 U | < 0.625 U | < 0.563 U | < 0.329 U | < 0.314 U |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/l | | SW8290A | 70648-26-9 | 0.352 | 0.352 | 0.352 | 0.352 | SUSDP24 | 1 | | 11 | < 0.401 U | < 0.458 U | < 0.438 U | < 0.375 U | < 0.286 U | < 0.492 U | < 0.335 U | < 0.272 U | < 0.240 U | < 0.158 U | **0.352 J** |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/l | | SW8290A | 39227-28-6 | | | | | | | | 11 | < 0.706 U | < 0.724 U | < 0.820 U | < 0.671 U | < 0.730 U | < 0.774 U | < 0.671 U | < 0.571 U | < 0.560 U | < 0.398 U | < 0.413 U |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/l | | SW8290A | 57117-44-9 | 1.68 | 1.68 | 1.68 | 1.68 | SUSDP17 | 1 | | 11 | < 0.388 U | < 0.433 U | < 0.454 U | < 0.381 U | < 0.378 U | < 0.523 U | **1.68 J** | < 0.326 U | < 0.287 U | < 0.196 U | < 0.208 U |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/l | | SW8290A | 57653-85-7 | | | | | | | | 11 | < 0.716 U | < 0.694 U | < 0.784 U | < 0.637 U | < 0.730 U | < 0.745 U | < 0.707 U | < 0.566 U | < 0.538 U | < 0.389 U | < 0.398 U |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/l | | SW8290A | 72918-21-9 | | | | | | | | 11 | < 0.451 U | < 0.511 U | < 0.503 U | < 0.433 U | < 0.445 U | < 0.568 U | < 0.408 U | < 0.386 U | < 0.346 U | < 0.244 U | < 0.237 U |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/l | | SW8290A | 19408-74-3 | 1 | 1 | 1 | 1 | SUSDP17 | 1 | | 11 | < 0.667 U | < 0.665 U | < 0.752 U | < 0.614 U | < 0.685 U | < 0.713 U | **1.00 JN** | < 0.534 U | < 0.515 U | < 0.370 U | < 0.380 U |
| 1,2,3,7,8-PeCDF | pg/l | | SW8290A | 57117-41-6 | | | | | | | | 11 | < 0.555 U | < 0.516 U | < 0.908 U | < 0.435 U | < 0.906 U | < 1.02 U | < 0.541 U | < 0.796 U | < 0.684 U | < 0.451 U | < 0.473 U |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/l | | SW8290A | 40321-76-4 | | | | | | | | 11 | < 0.724 U | < 0.810 U | < 1.29 U | < 0.614 U | < 1.18 U | < 1.39 U | < 0.737 U | < 1.05 U | < 0.842 U | < 0.546 U | < 0.590 U |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/l | | SW8290A | 60851-34-5 | | | | | | | | 11 | < 0.431 U | < 0.468 U | < 0.433 U | < 0.410 U | < 0.394 U | < 0.479 U | < 0.366 U | < 0.339 U | < 0.311 U | < 0.223 U | < 0.210 U |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/l | | SW8290A | 57117-31-4 | 0.742 | 0.742 | 0.742 | 0.742 | SUSDP02 | 1 | | 11 | < 0.532 U | **0.742 JN** | < 0.778 U | < 0.399 U | < 0.763 U | < 0.839 U | < 0.523 U | < 0.653 U | < 0.583 U | < 0.394 U | < 0.399 U |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/l | | SW8290A | 51207-31-9 | 0.502 | 0.502 | 0.502 | 0.502 | SUSDP09 | 1 | | 11 | < 0.858 U | < 0.996 U | < 1.11 U | **0.502 JN** | < 1.02 U | < 1.19 U | < 0.877 U | < 0.851 U | < 0.827 U | < 0.551 U | < 0.513 U |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/l | 30 | SW8290A | 1746-01-6 | | | | | | | | 11 | < 1.66 U | < 1.74 U | < 1.81 U | < 1.42 U | < 1.66 U | < 1.82 U | < 1.35 U | < 1.41 U | < 1.44 U | < 0.858 U | < 0.855 U |
| Octachlorochlorodibenzofuran | pg/l | | SW8290A | 39001-02-0 | 2.21 | 2.21 | 2.21 | 2.21 | SUSDP17 | 1 | | 11 | < 0.659 U | < 0.985 U | < 0.884 U | < 0.680 U | < 0.977 U | < 1.10 U | **2.21 J** | < 0.902 U | < 0.799 U | < 0.439 U | < 0.474 U |
| Octachlorochlorodibenzo-p-dioxin | pg/l | | SW8290A | 3268-87-9 | 904 | 2 | 113 | 31.6 | SUSDP08 | 11 | | 11 | **31.6 J** | **5.43 JN** | **904** | **63.8 J** | **5.95 JN** | **88.1 J** | **81.2 J** | **2.54 JN** | **50.2 J** | **2.00 JN** | **4.02 J** |
| Total HpCDD | pg/l | | SW8290A | 37871-00-4 | 75 | 0.411 | 12.4 | 5.53 | SUSDP08 | 10 | | 11 | **5.74 JN** | < 0.652 U | **75.0 J** | **11.4 JN** | **1.64 JN** | **6.24 JN** | **15.6 JN** | **0.819 JN** | **5.32 JN** | **0.411 JN** | **1.61 J** |
| Total HpCDF | pg/l | | SW8290A | 38998-75-3 | 3.01 | 0.463 | 1.79 | 1.9 | SUSDP17 | 3 | | 11 | < 0.561 U | < 0.695 U | < 0.607 U | < 0.590 U | < 0.555 U | < 0.559 U | **3.01 JN** | < 0.544 U | < 0.488 U | **0.463 JN** | **1.90 JN** |
| Total HxCDD | pg/l | | SW8290A | 34465-46-8 | 22.9 | 1.35 | 7.68 | 6.07 | SUSDP08 | 9 | | 11 | **1.35 JN** | < 0.693 U | **22.9 J** | **8.34 JN** | **2.09 JN** | **2.02 JN** | **16.5 JN** | < 0.556 U | **6.07 JN** | **2.37 JN** | **7.50 JN** |
| Total HxCDF | pg/l | | SW8290A | 55684-94-1 | 17.9 | 0.352 | 9.13 | 9.13 | SUSDP17 | 2 | | 11 | < 0.416 U | < 0.465 U | < 0.455 U | < 0.398 U | < 0.367 U | < 0.513 U | **17.9 JN** | < 0.326 U | < 0.292 U | < 0.200 U | **0.352 J** |
| Total PeCDD | pg/l | | SW8290A | 36088-22-9 | 8.96 | 0.969 | 3.29 | 1.78 | SUSDP17 | 6 | | 11 | **1.53 JN** | **0.969 JN** | **4.90 JN** | < 0.614 U | < 1.18 U | < 1.39 U | **8.96 JN** | < 1.05 U | **2.03 JN** | < 0.546 U | **1.34 JN** |
| Total PeCDF | pg/l | | SW8290A | 30402-15-4 | 61.5 | 0.271 | 15.8 | 0.741 | SUSDP17 | 4 | | 11 | < 0.542 U | **0.742 JN** | < 0.835 U | < 1.41 U | < 0.825 U | < 0.917 U | **61.5 JN** | **0.739 JN** | < 0.627 U | < 0.419 U | **0.271 JN** |
| Total TCDD | pg/l | | SW8290A | 41903-57-5 | 33 | 0.954 | 11.1 | 9.36 | SUSDP18 | 9 | | 11 | < 1.66 U | < 1.74 U | **12.4 JN** | **9.36 JN** | **3.96 JN** | **0.954 JN** | **12.9 JN** | **33.0** | **17.0 JN** | **3.38 JN** | **6.52 JN** |
| Total TCDF | pg/l | | SW8290A | 55722-27-5 | 118 | 0.502 | 39.9 | 1.29 | SUSDP17 | 3 | | 11 | **1.29 JN** | < 0.996 U | < 1.11 U | **0.502 JN** | < 1.02 U | < 1.19 U | **118 JN** | < 0.851 U | < 0.827 U | < 0.663 U | < 0.784 U |
| Total TEQ | pg/l | 30 | SW8290A | TTEQ | 0.643 | 0.0008 | 0.139 | 0.0443 | SUSDP08 | 11 | | 11 | **0.0267** | **0.224** | **0.643** | **0.113** | **0.00179** | **0.0443** | **0.387** | **0.000762** | **0.0341** | **0.00523** | **0.0490** |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
D = Dissolved
T = Total
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable
Heirarchy: 1) Lower of DOEE/MCL (primary standards). 2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
JN = The analyte was tentatively identified; the associated numerical value is the
approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the
sample and meet quality control criteria. The presence or absence of the analyte cannot be
verified.
pg/l = picograms per liter

**Table 4-14**
**Groundwater Results**
**Inorganic Concentrations in LWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | Location ID | DP27 | DP29 | DP30 | DP31 | DP32 | DP34 | DP40 | DP46 | SUSDP03 | SUSDP07 | SUSDP08 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample ID | DPW27(48-58)N | DPW29(45-50)N | DPW30(50-55)N | DPW31(37-42)N | DPW32(38-43)N | DPW3453N | DPW4050-55N | DPW4637-42N | DPW0347-52N | DPW0743-48N | DPW08 34-39N |
| | | | | | | | | | | | | | Depth | 48 - 58 ft | 45 - 50 ft | 50 - 55 ft | 37 - 42 ft | 38 - 43 ft | 52.5 - 54 ft | 50 - 55 ft | 37 - 42 ft | 47 - 52 ft | 43 - 48 ft | 34 - 39 ft |
| | | | | | | | | | | | | | Sample Date | 3/26/2013 | 4/2/2013 | 4/3/2013 | 4/1/2013 | 4/1/2013 | 3/29/2013 | 5/28/2013 | 6/5/2013 | 5/22/2013 | 5/22/2013 | 5/24/2013 |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | | | | | | | | | | |
| Aluminum | ug/l | 2000 | SW6020A | D | 7429-90-5 | 200 | 4.1 | 45 | 18 | SUSDP41 | 13 | 17 | | **5.1 J** | **12 J+** | **9.5 J+** | < 30 UJ | **60 J+** | < 30 U | **11 J** | **45** | **18 J** | **4.1 J** | **140** |
| Antimony | ug/l | 6 | SW6020A | D | 7440-36-0 | 0.54 | 0.063 | 0.22 | 0.2 | DP40 | 11 | 17 | | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | **0.22 J** | **0.54 J** | **0.17 J** | **0.20 J** | **0.21 J** | **0.27 J** |
| Arsenic | ug/l | 10 | SW6020A | D | 7440-38-2 | 2.3 | 0.42 | 1.2 | 0.97 | DP27 | 4 | 17 | | **2.3** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **1.1** | < 1.0 U | **0.84 J** | < 1.0 U | < 1.0 U | < 1.0 U |
| Barium | ug/l | 1000 | SW6020A | D | 7440-39-3 | 510 | 81 | 210 | 200 | SUSDP03 | 17 | 17 | | **200** | **380** | **270** | **81** | **190** | **240** | **180** | **140** | **510** | **250** | **110** |
| Beryllium | ug/l | 4 | SW6020A | D | 7440-41-7 | 1.3 | 0.038 | 0.46 | 0.33 | DP30 | 6 | 17 | | < 1.0 U | **0.073 J+** | **1.3 J+** | < 1.0 U | **0.55 J+** | **0.10 J+** | < 1.0 U | < 1.0 U | **0.70 J** | < 1.0 U | < 1.0 U |
| Cadmium | ug/l | 5 | SW6020A | D | 7440-43-9 | 2.4 | 0.11 | 0.83 | 0.36 | DP30 | 9 | 17 | | < 1.0 U | < 1.0 U | **2.4** | **0.15 J** | **0.85 J** | **1.6** | < 1.0 U | < 1.0 U | **0.35 J** | < 1.0 U | < 1.0 U |
| Calcium | ug/l | EN | SW6020A | D | 7440-70-2 | 54000 | 14000 | 28000 | 26000 | SUSDP09 | 17 | 17 | | **31000** | **30000** | **21000** | **18000** | **29000** | **20000** | **14000** | **48000** | **34000** | **19000** | **28000** |
| Chromium | ug/l | 100 | SW6020A | D | 7440-47-3 | 4.5 | 0.66 | 2.5 | 2 | SUSDP13 | 15 | 17 | | **0.84 J** | **1.9 J** | **1.9 J** | **1.9 J** | **1.9 J** | **2.0** | **0.66 J** | **4.4** | < 2.0 U | < 2.0 U | **2.4** |
| Cobalt | ug/l | 0.6 | SW6020A | D | 7440-48-4 | 80 | 2 | 21 | 12 | SUSDP09 | 17 | 17 | | **2.5** | **2.6** | **53** | **18** | **68** | **19** | **2.0** | **6.3** | **16** | **8.2** | **3.0** |
| Copper | ug/l | 1300 | SW6020A | D | 7440-50-8 | 28 | 0.33 | 4.9 | 1.5 | DP30 | 17 | 17 | | **1.9 J** | **9.3** | **28** | **8.6** | **22** | **1.5 J** | **0.51 J** | **1.6 J** | **1.8 J** | **1.0 J** | **1.2 J** |
| Iron | ug/l | 1400 | SW6020A | D | 7439-89-6 | 26000 | 170 | 5400 | 4100 | SUSDP03 | 16 | 17 | | **8500** | **6000** | **6300** | < 50 U | **170** | **4600** | **6000** | **310** | **26000** | **3600** | **1900** |
| Lead | ug/l | 15 | SW6020A | D | 7439-92-1 | 0.12 | 0.023 | 0.048 | 0.041 | DP32 | 8 | 17 | | **0.025 J** | **0.033 J** | **0.053 J** | **0.023 J** | **0.12 J** | < 1.0 U | < 1.0 U | < 1.0 U | **0.049 J** | **0.031 J** | < 1.0 U |
| Magnesium | ug/l | EN | SW6020A | D | 7439-95-4 | 30000 | 5200 | 11000 | 8400 | SUSDP09 | 17 | 17 | | **9600** | **17000 J+** | **11000 J+** | **5200 J+** | **19000 J+** | **7500 J+** | **5500** | **13000** | **21000** | **8100** | **5800** |
| Manganese | ug/l | 43 | SW6020A | D | 7439-96-5 | 3300 | 400 | 1000 | 880 | SUSDP09 | 17 | 17 | | **870** | **860** | **980** | **530** | **750** | **580** | **670** | **400** | **1500** | **880** | **880** |
| Nickel | ug/l | 39 | SW6020A | D | 7440-02-0 | 81 | 8.4 | 31 | 26 | DP32 | 17 | 17 | | **11** | **19** | **67** | **27** | **81** | **37** | **8.4** | **22** | **35** | **19** | **11** |
| Potassium | ug/l | EN | SW6020A | D | 7440-09-7 | 10000 | 2500 | 4200 | 3400 | SUSDP09 | 17 | 17 | | **3100** | **5000** | **4800** | **2600** | **5900** | **3000** | **2600** | **6700** | **4600** | **2500** | **2700** |
| Selenium | ug/l | 50 | SW6020A | D | 7782-49-2 | 0.94 | 0.44 | 0.62 | 0.55 | DP31 | 4 | 17 | | **0.47 J** | **0.63 J** | < 5.0 U | **0.94 J** | **0.44 J** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Silver | ug/l | 50 | SW6020A | D | 7440-22-4 | 0.067 | 0.067 | 0.067 | 0.067 | DP30 | 1 | 17 | | < 1.0 U | < 1.0 U | **0.067 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | EN | SW6020A | D | 7440-23-5 | 280000 | 7500 | 59000 | 18000 | SUSDP09 | 17 | 17 | | **24000** | **44000 J+** | **57000 J+** | **18000 J+** | **91000 J+** | **17000 J+** | **12000** | **170000** | **110000** | **8000** | **8300** |
| Thallium | ug/l | 2 | SW6020A | D | 7440-28-0 | 0.3 | 0.025 | 0.084 | 0.045 | DP32 | 10 | 17 | | **0.056 J** | **0.030 J** | **0.15 J** | **0.12 J** | **0.30 J** | < 1.0 U | **0.057 J** | < 1.0 U | **0.032 J** | **0.034 J** | **0.025 J** |
| Vanadium | ug/l | 8.6 | SW6020A | D | 7440-62-2 | 4.4 | 0.2 | 1.6 | 1.2 | SUSDP24 | 14 | 17 | | **0.43 J** | **0.30 J** | **0.20 J** | **1.2** | **0.50 J** | **0.43 J** | < 1.0 U | **1.7** | **0.47 J** | < 1.0 U | < 1.0 U |
| Zinc | ug/l | 600 | SW6020A | D | 7440-66-6 | 790 | 14 | 120 | 58 | DP30 | 17 | 17 | | **20** | **58 J-** | **790 J-** | **100 J-** | **190 J-** | **100 J-** | **63** | **14** | **270** | **58** | **17** |
| Aluminum | ug/l | 2000 | SW6020A | T | 7429-90-5 | 170000 | 980 | 48000 | 28000 | SUSDP13 | 17 | 17 | | **23000** | **980** | **24000** | **110000** | **21000** | **11000** | **3400 J** | **38000** | **25000 J** | **35000 J** | **55000 J** |
| Antimony | ug/l | 6 | SW6020A | T | 7440-36-0 | 3.2 | 0.19 | 1.2 | 0.79 | SUSDP13 | 15 | 17 | | **0.63 J** | **0.19 J** | **1.1 J** | **1.2 J** | **0.81 J** | **2.0 J** | **0.31 J** | < 2.0 U | **0.69 J** | **0.57 J** | **0.79 J** |
| Arsenic | ug/l | 10 | SW6020A | T | 7440-38-2 | 160 | 3.6 | 41 | 21 | SUSDP13 | 16 | 17 | | **18** | < 1.0 UJ | **19 J** | **34 J** | **23 J** | **25 J** | **3.6** | **17** | **13** | **19** | **16** |
| Barium | ug/l | 1000 | SW6020A | T | 7440-39-3 | 1200 | 220 | 540 | 460 | SUSDP13 | 17 | 17 | | **430** | **390** | **380** | **560** | **250** | **310** | **220** | **460** | **680** | **570** | **640** |
| Beryllium | ug/l | 4 | SW6020A | T | 7440-41-7 | 59 | 0.77 | 12 | 6.9 | SUSDP13 | 17 | 17 | | **6.9** | **0.77 J** | **8.1 J** | **14 J** | **2.3 J** | **2.4 J** | **1.0** | **7.0** | **6.8** | **8.6** | **7.6** |
| Cadmium | ug/l | 5 | SW6020A | T | 7440-43-9 | 7.6 | 0.17 | 2.6 | 2.1 | SUSDP13 | 16 | 17 | | **0.69 J** | < 1.0 UJ | **2.4 J** | **2.1 J** | **1.1 J** | **3.6 J** | **0.17 J** | **2.3** | **0.89 J** | **1.0** | **1.7** |
| Calcium | ug/l | EN | SW6020A | T | 7440-70-2 | 86000 | 12000 | 33000 | 30000 | DP46 | 17 | 17 | | **38000** | **30000 J** | **21000 J** | **28000 J** | **28000 J** | **17000 J** | **12000** | **86000** | **32000** | **20000** | **47000** |
| Chromium | ug/l | 100 | SW6020A | T | 7440-47-3 | 2000 | 15 | 620 | 340 | SUSDP13 | 17 | 17 | | **300** | **15 J** | **200 J** | **670 J** | **170 J** | **350 J** | **61** | **830** | **300** | **340** | **750** |
| Cobalt | ug/l | 0.6 | SW6020A | T | 7440-48-4 | 2200 | 3.3 | 340 | 89 | SUSDP13 | 17 | 17 | | **39** | **3.3 J** | **89 J** | **110 J** | **79 J** | **43 J** | **7.8** | **110** | **68** | **86** | **140** |
| Copper | ug/l | 1300 | SW6020A | T | 7440-50-8 | 1500 | 9.3 | 370 | 190 | SUSDP13 | 17 | 17 | | **170** | **9.3 J** | **120 J** | **380 J** | **84 J** | **130 J** | **61** | **490** | **170** | **190** | **340** |
| Iron | ug/l | 1400 | SW6020A | T | 7439-89-6 | 690000 | 47000 | 210000 | 150000 | SUSDP13 | 17 | 17 | | **170000** | **53000** | **120000** | **240000** | **63000** | **88000** | **47000 J** | **180000** | **150000 J** | **140000 J** | **260000 J** |
| Lead | ug/l | 15 | SW6020A | T | 7439-92-1 | 910 | 1.7 | 190 | 86 | SUSDP13 | 17 | 17 | | **68** | **1.7 J** | **37 J** | **120 J** | **25 J** | **19 J** | **11** | **220** | **86** | **79** | **200** |
| Magnesium | ug/l | EN | SW6020A | T | 7439-95-4 | 39000 | 5900 | 18000 | 17000 | DP46 | 17 | 17 | | **18000** | **17000** | **13000** | **17000** | **19000** | **8700** | **5900** | **39000** | **22000** | **11000** | **23000** |
| Manganese | ug/l | 43 | SW6020A | T | 7439-96-5 | 4800 | 590 | 1900 | 1700 | SUSDP13 | 17 | 17 | | **1800** | **890 J** | **1100 J** | **1700 J** | **790 J** | **610 J** | **590** | **1200** | **1700** | **1300** | **2400** |
| Nickel | ug/l | 39 | SW6020A | T | 7440-02-0 | 1800 | 20 | 340 | 120 | SUSDP13 | 17 | 17 | | **78** | **20 J** | **120 J** | **170 J** | **100 J** | **88 J** | **24** | **200** | **110** | **120** | **200** |
| Potassium | ug/l | EN | SW6020A | T | 7440-09-7 | 15000 | 2900 | 7600 | 6400 | SUSDP13 | 17 | 17 | | **5100** | **5100 J** | **6700 J** | **12000 J** | **7700 J** | **4000 J** | **2900** | **7300** | **6400** | **5700** | **6200** |
| Selenium | ug/l | 50 | SW6020A | T | 7782-49-2 | 12 | 1.6 | 5.2 | 3.5 | SUSDP13 | 8 | 17 | | **2.2 J** | < 5.0 U | **2.5 J** | **5.3** | **2.2 J** | **1.6 J** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Silver | ug/l | 50 | SW6020A | T | 7440-22-4 | 1.5 | 0.053 | 0.44 | 0.3 | DP46 | 15 | 17 | | **0.18 J** | < 1.0 U | **0.053 J** | **0.26 J** | **0.054 J** | **0.060 J** | **0.076 J** | **1.5** | **0.54 J** | **0.71 J** | **0.59 J** |
| Sodium | ug/l | EN | SW6020A | T | 7440-23-5 | 250000 | 6800 | 49000 | 17000 | SUSDP09 | 17 | 17 | | **19000** | **45000 J** | **57000 J** | **17000 J** | **82000 J** | **14000 J** | **11000** | **98000** | **100000** | **7200** | **7100** |
| Thallium | ug/l | 2 | SW6020A | T | 7440-28-0 | 2.6 | 0.093 | 0.93 | 0.65 | SUSDP13 | 11 | 17 | | < 1.0 U | < 1.0 U | < 1.0 U | **1.2 B** | < 1.0 U | **0.24 J** | **0.093 J** | **0.65 J** | **0.44 J** | **0.53 J** | **0.76 J** |
| Vanadium | ug/l | 8.6 | SW6020A | T | 7440-62-2 | 2900 | 8 | 560 | 330 | SUSDP13 | 17 | 17 | | **330** | **8.0 J** | **220 J** | **460 J** | **96 J** | **86 J** | **46** | **190** | **180** | **360** | **350** |
| Zinc | ug/l | 600 | SW6020A | T | 7440-66-6 | 3100 | 110 | 940 | 630 | SUSDP13 | 17 | 17 | | **300** | **110 J** | **660 J** | **1100 J** | **320 J** | **410 J** | **160** | **1200** | **630** | **410** | **790** |
| Mercury | ug/l | 2 | SW7470A | D | 7439-97-6 | 0.045 | 0.043 | 0.044 | 0.044 | SUSDP03 | 2 | 17 | | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | **0.045 J** | **0.043 J** | < 0.20 U |
| Mercury | ug/l | 2 | SW7470A | T | 7439-97-6 | 0.62 | 0.039 | 0.29 | 0.2 | SUSDP13 | 14 | 17 | | **0.087 J** | < 0.20 U | < 0.20 U | **0.25 J+** | < 0.20 U | **0.039 J+** | **0.062 J** | **0.42** | **0.12 J** | **0.15 J** | **0.60** |

# Table 4-14
## Groundwater Results
## Inorganic Concentrations in LWZ Direct Push Groundwater Samples
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP09 | SUSDP13 | SUSDP13 | SUSDP19 | SUSDP24 | SUSDP41 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW0945-50N | DPW1345-50N | DPW1345-50R | DPW191944.5-49.5N | DPW2448.5-53.5N | DPW41 39-44N |
| | | | Depth | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 44.5 - 49.5 ft | 48.5 - 53.5 ft | 39 - 44 ft |
| | | | Sample Date | 6/11/2013 | 5/29/2013 | 5/29/2013 | 6/5/2013 | 6/4/2013 | 5/24/2013 |
| | | | Type | N | N | FD | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | |
| Aluminum | ug/l | 2000 | | **16 J** | < 30 U | **31** | < 30 U | **31** | **200** |
| Antimony | ug/l | 6 | | < 2.0 U | **0.18 J** | **0.14 J** | **0.17 J** | **0.063 J** | **0.22 J** |
| Arsenic | ug/l | 10 | | < 1.9 U | < 1.0 U | **0.42 J** | < 1.0 U | < 1.0 U | < 1.0 U |
| Barium | ug/l | 1000 | | **90** | **200** | **200** | **280** | **150** | **170** |
| Beryllium | ug/l | 4 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.038 J** |
| Cadmium | ug/l | 5 | | **1.5** | **0.11 J** | < 1.0 U | **0.36 J** | **0.16 J** | < 1.0 U |
| Calcium | ug/l | EN | | **54000** | **23000** | **23000** | **39000** | **18000** | **26000** |
| Chromium | ug/l | 100 | | **0.96 J** | **3.9** | **4.5** | **3.8** | **3.7** | **2.9** |
| Cobalt | ug/l | 0.6 | | **80** | **38 J** | **5.7 J** | **20** | **12** | **4.3** |
| Copper | ug/l | 1300 | | **0.96 J** | **0.97 J** | **0.58 J** | **0.33 J** | **0.54 J** | **2.9** |
| Iron | ug/l | 1400 | | **980** | **350** | **460** | **3400** | **9400** | **8200** |
| Lead | ug/l | 15 | | **0.051 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Magnesium | ug/l | EN | | **30000** | **6100** | **6300** | **15000** | **8400** | **5900** |
| Manganese | ug/l | 43 | | **3300** | **900** | **920** | **1100** | **1300** | **1000** |
| Nickel | ug/l | 39 | | **32** | **39 J** | **19 J** | **22** | **59** | **26** |
| Potassium | ug/l | EN | | **10000** | **3400** | **3300** | **5400** | **3600** | **2600** |
| Selenium | ug/l | 50 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Silver | ug/l | 50 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | EN | | **280000** | **13000** | **13000** | **110000** | **16000** | **7500** |
| Thallium | ug/l | 2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.031 J** |
| Vanadium | ug/l | 8.6 | | **1.2** | **2.7** | **3.3** | **2.6** | **4.4** | **3.0** |
| Zinc | ug/l | 600 | | **40** | **41 J** | **16 J** | **66** | **170** | **39** |
| Aluminum | ug/l | 2000 | | **28000 J** | **170000** | **160000** | **13000** | **56000** | **37000 J** |
| Antimony | ug/l | 6 | | **0.42 J** | **3.1** | **3.2** | < 2.0 U | **2.2** | **0.50 J** |
| Arsenic | ug/l | 10 | | **41 J-** | **150** | **160** | **38** | **75** | **9.4** |
| Barium | ug/l | 1000 | | **260** | **1200** | **1200** | **360** | **630** | **580** |
| Beryllium | ug/l | 4 | | **4.4** | **59** | **59** | **3.2** | **8.0** | **5.9** |
| Cadmium | ug/l | 5 | | **2.1** | **7.6** | **7.6** | **5.1** | **3.0** | **1.0** |
| Calcium | ug/l | EN | | **49000** | **37000** | **37000** | **32000** | **23000** | **29000** |
| Chromium | ug/l | 100 | | **210** | **2000** | **2000** | **260** | **1600** | **450** |
| Cobalt | ug/l | 0.6 | | **110** | **2200** | **2200** | **240** | **170** | **83** |
| Copper | ug/l | 1300 | | **110** | **1500** | **1500** | **250** | **560** | **250** |
| Iron | ug/l | 1400 | | **71000** | **690000** | **690000** | **83000** | **340000** | **190000 J** |
| Lead | ug/l | 15 | | **47 J-** | **900** | **910** | **110** | **240** | **87** |
| Magnesium | ug/l | EN | | **29000** | **20000** | **20000** | **13000** | **15000** | **13000** |
| Manganese | ug/l | 43 | | **3200 J-** | **4800** | **4800** | **1000** | **2100** | **2100** |
| Nickel | ug/l | 39 | | **75** | **1800** | **1800** | **240** | **400** | **200** |
| Potassium | ug/l | EN | | **11000** | **15000** | **15000** | **5600** | **8000** | **5600** |
| Selenium | ug/l | 50 | | < 7.0 U | **11** | **12** | < 5.0 U | **4.5 J** | < 5.0 U |
| Silver | ug/l | 50 | | < 1.0 U | **0.82 J** | **0.86 J** | **0.13 J** | **0.52 J** | **0.30 J** |
| Sodium | ug/l | EN | | **250000** | **10000** | **10000** | **83000** | **15000** | **6800** |
| Thallium | ug/l | 2 | | < 1.0 U | **2.5** | **2.6** | **0.68 J** | < 1.0 U | **0.50 J** |
| Vanadium | ug/l | 8.6 | | **330** | **2900** | **2900** | **230** | **340** | **520** |
| Zinc | ug/l | 600 | | **190** | **3100** | **3100** | **680** | **2300** | **480** |
| Mercury | ug/l | 2 | | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U |
| Mercury | ug/l | 2 | | **0.14 J** | **0.61** | **0.62** | **0.54** | **0.36** | **0.096 J** |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
D = Dissolved
T = Total
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable.
Heirarchy: 1) Lower of DOEE/MCL (primary standards). 2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ug/l = micrograms per liter

**Table 4-15**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | Location ID | DP27 | DP29 | DP30 | DP31 | DP32 | DP34 | DP40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | Sample ID | DPW27(48-58)N | DPW29(45-50)N | DPW30(50-55)N | DPW31(37-42)N | DPW32(38-43)N | DPW3453N | DPW4050-55N |
| | | | | | | | | | | | | | | Depth | 48 - 58 ft | 45 - 50 ft | 50 - 55 ft | 37 - 42 ft | 38 - 43 ft | 52.5 - 54 ft | 50 - 55 ft |
| | | | | | | | | | | | | | | Sample Date | 3/26/2013 | 4/2/2013 | 4/3/2013 | 4/1/2013 | 4/1/2013 | 3/29/2013 | 5/28/2013 |
| | | | | | | | | | | | | | | Type | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | |
| Diesel Range Organics (C10-C20) | ug/l | 100 | SW8015C DRO | N | C10C20 | 380 | 260 | 320 | 320 | DP46 | 2 | | 17 | | < 480 U | < 480 UJ | < 480 U | < 480 U | < 480 U | < 480 U | < 480 U |
| Oil Range Organics (C20-C36) | ug/l | 6000 | SW8015C DRO | N | C20C36 | 580 | 350 | 470 | 470 | SUSDP09 | 4 | | 17 | | **490** | < 480 UJ | < 480 U | < 480 U | < 480 U | < 480 U | < 480 U |
| Gasoline Range Organics (C6-C10) | ug/l | 3.3 | SW8015C GRO | N | 8006-61-9 | 880 | 880 | 880 | 880 | DP32 | 1 | | 17 | | < 100 U | < 100 U | < 100 U | < 150 U | **880** | < 100 U | < 100 U |
| 1,1,1-Trichloroethane | ug/l | 200 | SW8260B/SW8260C | N | 71-55-6 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | SW8260B/SW8260C | N | 79-34-5 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | SW8260B/SW8260C | N | 76-13-1 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloroethane | ug/l | 5 | SW8260B/SW8260C | N | 79-00-5 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethane | ug/l | 2.8 | SW8260B/SW8260C | N | 75-34-3 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethene | ug/l | 7 | SW8260B/SW8260C | N | 75-35-4 | | | | | | | 4 | 46 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | SW8260B/SW8260C | N | 87-61-6 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| 1,2,4-Trichlorobenzene | ug/l | 70 | SW8260B/SW8260C | N | 120-82-1 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | SW8260B/SW8260C | N | 96-12-8 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromoethane | ug/l | 0.05 | SW8260B/SW8260C | N | 106-93-4 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| 1,2-Dichlorobenzene | ug/l | 600 | SW8260B/SW8260C | N | 95-50-1 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloroethane | ug/l | 5 | SW8260B/SW8260C | N | 107-06-2 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloropropane | ug/l | 5 | SW8260B/SW8260C | N | 78-87-5 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| 1,3-Dichlorobenzene | ug/l | 0.48 | SW8260B/SW8260C | N | 541-73-1 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| 1,4-Dichlorobenzene | ug/l | 75 | SW8260B/SW8260C | N | 106-46-7 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| 1,4-Dioxane | ug/l | 0.46 | SW8260B/SW8260C | N | 123-91-1 | | | | | | | 9 | 43 | | < 200 U | < 200 U | < 200 U | < 200 U | < 10000 U | < 200 U | < 200 U |
| 2-Butanone | ug/l | 560 | SW8260B/SW8260C | N | 78-93-3 | 3 | 0.68 | 1.8 | 1.7 | DP54 | 4 | 4 | 43 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 250 U | < 5.0 U | < 5.0 U |
| 2-Hexanone | ug/l | 3.8 | SW8260B/SW8260C | N | 591-78-6 | | | | | | | 4 | 43 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 250 U | < 5.0 U | < 5.0 U |
| 4-Methyl-2-pentanone | ug/l | 630 | SW8260B/SW8260C | N | 108-10-1 | | | | | | | 4 | 43 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 250 U | < 5.0 U | < 5.0 U |
| Acetone | ug/l | 1400 | SW8260B/SW8260C | N | 67-64-1 | 16 | 2.5 | 5.5 | 4.1 | DP54 | 25 | | 43 | | < 5.0 U | < 5.0 U | **3.4 J** | < 5.0 U | < 250 U | **2.5 J** | < 5.0 U |
| Benzene | ug/l | 5 | SW8260B/SW8260C | N | 71-43-2 | 0.21 | 0.11 | 0.16 | 0.16 | DP57 | 2 | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Bromochloromethane | ug/l | 8.3 | SW8260B/SW8260C | N | 74-97-5 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Bromodichloromethane | ug/l | 80 | SW8260B/SW8260C | N | 75-27-4 | 1.4 | 0.17 | 0.65 | 0.39 | DP34 | 3 | 4 | 43 | | **0.17 J** | < 1.0 U | < 1.0 U | **0.39 J** | < 50 U | **1.4** | < 1.0 U |
| Bromoform | ug/l | 80 | SW8260B/SW8260C | N | 75-25-2 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Bromomethane | ug/l | 0.75 | SW8260B/SW8260C | N | 74-83-9 | | | | | | | 9 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Butyl alcohol, tert- | ug/l | 14 | SW8260B/SW8260C | N | 75-65-0 | 62 | 4.4 | 24 | 5.6 | DP58 | 3 | 4 | 26 | | | | | | | | |
| Carbon Disulfide | ug/l | 81 | SW8260B/SW8260C | N | 75-15-0 | 1.8 | 0.31 | 0.8 | 0.64 | SUSDP08 | 14 | 3 | 43 | | **0.52 J** | < 1.0 U | **0.93 J** | **0.57 J** | < 50 U | **0.36 J** | **0.44 J** |
| Carbon Tetrachloride | ug/l | 5 | SW8260B/SW8260C | N | 56-23-5 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Chlorobenzene | ug/l | 100 | SW8260B/SW8260C | N | 108-90-7 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Chloroethane | ug/l | 2100 | SW8260B/SW8260C | N | 75-00-3 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Chloroform | ug/l | 80 | SW8260B/SW8260C | N | 67-66-3 | 8.3 | 0.3 | 2.8 | 2.6 | DP34 | 16 | 3 | 43 | | **2.2** | **1.3** | **4.6** | **2.8** | < 50 U | **8.3** | **1.6** |
| Chloromethane | ug/l | 19 | SW8260B/SW8260C | N | 74-87-3 | 0.72 | 0.72 | 0.72 | 0.72 | DP57 | 1 | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| cis-1,2-Dichloroethylene | ug/l | 70 | SW8260B/SW8260C | N | 156-59-2 | 8.6 | 0.35 | 2.8 | 1.8 | TA19A1 | 12 | 1 | 46 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| cis-1,3-Dichloropropene | ug/l | 0.47 | SW8260B/SW8260C | N | 10061-01-5 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Cyclohexane | ug/l | 1300 | SW8260B/SW8260C | N | 110-82-7 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Dibromochloromethane | ug/l | 80 | SW8260B/SW8260C | N | 124-48-1 | 0.25 | 0.25 | 0.25 | 0.25 | DP34 | 1 | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | **0.25 J** | < 1.0 U |
| Dichlorodifluoromethane | ug/l | 20 | SW8260B/SW8260C | N | 75-71-8 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Diisopropyl ether | ug/l | 150 | SW8260B/SW8260C | N | 108-20-3 | 5.6 | 0.18 | 1.8 | 1.2 | TA19A3 | 11 | 1 | 26 | | | | | | | | |
| Ethylbenzene | ug/l | 700 | SW8260B/SW8260C | N | 100-41-4 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Ethyl-Tert-Butyl-Ether | ug/l | | SW8260B/SW8260C | N | 637-92-3 | | | | | | | 4 | 26 | | | | | | | | |
| Isopropylbenzene | ug/l | 45 | SW8260B/SW8260C | N | 98-82-8 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| m, p-Xylene | ug/l | 10000 | SW8260B/SW8260C | N | XYLMP | 0.35 | 0.17 | 0.26 | 0.26 | TA19D3 | 2 | 4 | 43 | | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 100 U | < 2.0 U | < 2.0 U |
| Methyl Acetate | ug/l | 2000 | SW8260B/SW8260C | N | 79-20-9 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | SW8260B/SW8260C | N | 1634-04-4 | 1100 | 0.2 | 110 | 1.5 | DPOS-03 | 28 | 1 | 43 | | < 1.0 U | **19** | < 1.0 U | < 1.0 U | **740** | < 1.0 U | < 1.0 U |
| Methylcyclohexane | ug/l | 1300 | SW8260B/SW8260C | N | 108-87-2 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Methylene Chloride | ug/l | 5 | SW8260B/SW8260C | N | 75-09-2 | 0.42 | 0.22 | 0.29 | 0.27 | DP40 | 4 | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | **0.42 J** |
| o-Xylene | ug/l | 10000 | SW8260B/SW8260C | N | 95-47-6 | 0.14 | 0.14 | 0.14 | 0.14 | SUSDP24 | 1 | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Styrene | ug/l | 100 | SW8260B/SW8260C | N | 100-42-5 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | SW8260B/SW8260C | N | 994-05-8 | 26 | 0.32 | 10 | 11 | DPOS-03 | 6 | 4 | 26 | | | | | | | | |
| Tetrachloroethylene | ug/l | 5 | SW8260B/SW8260C | N | 127-18-4 | 68 | 0.25 | 16 | 7.1 | TA19A3 | 11 | 1 | 46 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Toluene | ug/l | 1000 | SW8260B/SW8260C | N | 108-88-3 | 0.88 | 0.17 | 0.32 | 0.3 | SUSDP24 | 21 | 1 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | **0.19 J** | **0.33 J** |
| trans-1,2-Dichloroethene | ug/l | 100 | SW8260B/SW8260C | N | 156-60-5 | 0.52 | 0.52 | 0.52 | 0.52 | TA19C3 | 1 | 4 | 46 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| trans-1,3-Dichloropropene | ug/l | 0.47 | SW8260B/SW8260C | N | 10061-02-6 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Trichloroethene | ug/l | 5 | SW8260B/SW8260C | N | 79-01-6 | 51 | 0.24 | 17 | 12 | TA19B3 | 10 | 1 | 46 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Trichlorofluoromethane | ug/l | 520 | SW8260B/SW8260C | N | 75-69-4 | | | | | | | 4 | 43 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |

**Table 4-15**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | Location ID | DP27 | DP29 | DP30 | DP31 | DP32 | DP34 | DP40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | Sample ID | DPW27(48-58)N | DPW29(45-50)N | DPW30(50-55)N | DPW31(37-42)N | DPW32(38-43)N | DPW3453N | DPW4050-55N |
| | | | | | | | | | | | | | | Depth | 48 - 58 ft | 45 - 50 ft | 50 - 55 ft | 37 - 42 ft | 38 - 43 ft | 52.5 - 54 ft | 50 - 55 ft |
| | | | | | | | | | | | | | | Sample Date | 3/26/2013 | 4/2/2013 | 4/3/2013 | 4/1/2013 | 4/1/2013 | 3/29/2013 | 5/28/2013 |
| | | | | | | | | | | | | | | Type | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | |
| Vinyl Chloride | ug/l | 2 | SW8260B/SW8260C | N | 75-01-4 | 0.68 | 0.24 | 0.46 | 0.46 | SUSDP19 | 2 | 3 | 46 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 50 U | < 1.0 U | < 1.0 U |
| Xylenes (total) | ug/l | 10000 | SW8260B/SW8260C | N | 1330-20-7 | 0.35 | 0.14 | 0.22 | 0.17 | TA19D3 | 3 | | 39 | | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 100 U | < 2.0 U | < 2.0 U |
| 1,1'-Biphenyl | ug/l | 0.083 | SW8270D LL | N | 92-52-4 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | SW8270D LL | N | 95-94-3 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | SW8270D LL | N | 108-60-1 | | | | | | | | 6 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | SW8270D LL | N | 58-90-2 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 2,4,5-Trichlorophenol | ug/l | 120 | SW8270D LL | N | 95-95-4 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | SW8270D LL | N | 88-06-2 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 2,4-Dichlorophenol | ug/l | 4.6 | SW8270D LL | N | 120-83-2 | | | | | | | | 6 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | |
| 2,4-Dimethylphenol | ug/l | 36 | SW8270D LL | N | 105-67-9 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 2,4-Dinitrophenol | ug/l | 3.9 | SW8270D LL | N | 51-28-5 | | | | | | | | 6 | | < 4.8 U | < 4.8 U | < 4.9 U | < 4.9 U | < 4.9 U | < 4.8 U | |
| 2,4-Dinitrotoluene | ug/l | 0.24 | SW8270D LL | N | 121-14-2 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 2,6-Dinitrotoluene | ug/l | 0.049 | SW8270D LL | N | 606-20-2 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 2-Chloronaphthalene | ug/l | 75 | SW8270D LL | N | 91-58-7 | | | | | | | | 6 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | |
| 2-Chlorophenol | ug/l | 9.1 | SW8270D LL | N | 95-57-8 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 2-Methylnaphthalene | ug/l | 3.6 | SW8270D LL | N | 91-57-6 | 0.094 | 0.02 | 0.046 | 0.025 | DP27 | 3 | | 6 | | **0.094 J** | < 0.19 U | < 0.19 U | **0.020 J** | < 0.19 U | **0.025 J** | |
| 2-Methylphenol | ug/l | 93 | SW8270D LL | N | 95-48-7 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 2-Nitroaniline | ug/l | 19 | SW8270D LL | N | 88-74-4 | | | | | | | | 6 | | < 4.8 U | < 4.8 U | < 4.9 U | < 4.9 U | < 4.9 U | < 4.8 U | |
| 2-Nitrophenol | ug/l | 580 | SW8270D LL | N | 88-75-5 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | SW8270D LL | N | 91-94-1 | | | | | | | 1 | 6 | | < 0.95 U | < 0.96 U | R | < 0.97 U | < 0.97 U | < 0.96 U | |
| 3-Nitroaniline | ug/l | 3.8 | SW8270D LL | N | 99-09-2 | | | | | | | | 6 | | < 4.8 U | < 4.8 U | < 4.9 U | < 4.9 U | < 4.9 U | < 4.8 U | |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | SW8270D LL | N | 534-52-1 | | | | | | | | 6 | | < 4.8 U | < 4.8 U | < 4.9 U | < 4.9 U | < 4.9 U | < 4.8 U | |
| 4-Bromophenyl-phenylether | ug/l | | SW8270D LL | N | 101-55-3 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 4-Chloro-3-methylphenol | ug/l | 140 | SW8270D LL | N | 59-50-7 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 4-Chloroaniline | ug/l | 0.37 | SW8270D LL | N | 106-47-8 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 4-Chlorophenyl-phenylether | ug/l | | SW8270D LL | N | 7005-72-3 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 4-Methylphenol | ug/l | 190 | SW8270D LL | N | 106-44-5 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| 4-Nitroaniline | ug/l | 3.8 | SW8270D LL | N | 100-01-6 | | | | | | | | 6 | | < 4.8 U | < 4.8 U | < 4.9 U | < 4.9 U | < 4.9 U | < 4.8 U | |
| 4-Nitrophenol | ug/l | 580 | SW8270D LL | N | 100-02-7 | | | | | | | | 6 | | < 4.8 U | < 4.8 U | < 4.9 U | < 4.9 U | < 4.9 U | < 4.8 U | |
| Acenaphthene | ug/l | 53 | SW8270D LL | N | 83-32-9 | 0.2 | 0.022 | 0.09 | 0.071 | DP27 | 5 | | 17 | | **0.20** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Acenaphthylene | ug/l | 53 | SW8270D LL | N | 208-96-8 | | | | | | | | 17 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Acetophenone | ug/l | 190 | SW8270D LL | N | 98-86-2 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| Anthracene | ug/l | 180 | SW8270D LL | N | 120-12-7 | 0.17 | 0.017 | 0.059 | 0.048 | DP27 | 9 | | 17 | | **0.17 J** | **0.027 J** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | **0.024 J** |
| Atrazine | ug/l | 3 | SW8270D LL | N | 1912-24-9 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| Benzaldehyde | ug/l | 19 | SW8270D LL | N | 100-52-7 | 0.93 | 0.78 | 0.86 | 0.86 | DP31 | 2 | | 6 | | < 0.95 U | < 0.96 U | **0.78 J** | **0.93 J** | < 0.97 U | < 0.96 U | |
| Benzo(a)anthracene | ug/l | 0.03 | SW8270D LL | N | 56-55-3 | 0.15 | 0.039 | 0.1 | 0.11 | DP40 | 7 | | 17 | | **0.14 J** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | **0.15 J** |
| Benzo(a)pyrene | ug/l | 0.2 | SW8270D LL | N | 50-32-8 | 0.072 | 0.064 | 0.068 | 0.068 | SUSDP19 | 2 | | 17 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | **0.064 J** |
| Benzo(b)fluoranthene | ug/l | 0.25 | SW8270D LL | N | 205-99-2 | 0.1 | 0.061 | 0.089 | 0.098 | DP40 | 4 | | 17 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | **0.10 J** |
| Benzo(g,h,i)perylene | ug/l | 12 | SW8270D LL | N | 191-24-2 | | | | | | | | 17 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Benzo(k)fluoranthene | ug/l | 2.5 | SW8270D LL | N | 207-08-9 | 0.066 | 0.058 | 0.062 | 0.062 | DP40 | 2 | | 17 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | **0.066 J** |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | SW8270D LL | N | 111-91-1 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | SW8270D LL | N | 111-44-4 | | | | | | | | 6 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | SW8270D LL | N | 117-81-7 | 1.5 | 1.3 | 1.4 | 1.4 | DP32 | 2 | | 6 | | < 1.9 U | < 1.9 U | < 1.9 U | **1.3 J** | **1.5 J** | < 1.9 U | |
| Butylbenzylphthalate | ug/l | 16 | SW8270D LL | N | 85-68-7 | 0.26 | 0.26 | 0.26 | 0.26 | DP29<br>DP32 | 2 | | 6 | | < 0.95 U | **0.26 J** | < 0.97 U | < 0.97 U | **0.26 J** | < 0.96 U | |
| Caprolactam | ug/l | 990 | SW8270D LL | N | 105-60-2 | | | | | | | | 6 | | < 4.8 U | < 4.8 U | < 4.9 U | < 4.9 U | < 4.9 U | < 4.8 U | |
| Carbazole | ug/l | 29 | SW8270D LL | N | 86-74-8 | 0.11 | 0.11 | 0.11 | 0.11 | DP27 | 1 | | 6 | | **0.11 J** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | |
| Chrysene | ug/l | 25 | SW8270D LL | N | 218-01-9 | 0.14 | 0.025 | 0.11 | 0.13 | DP40<br>SUSDP19 | 7 | | 17 | | **0.13 J** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | **0.14 J** |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | SW8270D LL | N | 53-70-3 | | | | | | | | 17 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Dibenzofuran | ug/l | 0.79 | SW8270D LL | N | 132-64-9 | 0.11 | 0.11 | 0.11 | 0.11 | DP27 | 1 | | 6 | | **0.11 J** | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| Diethylphthalate | ug/l | 1500 | SW8270D LL | N | 84-66-2 | 0.44 | 0.22 | 0.31 | 0.3 | DP31 | 4 | | 6 | | < 0.95 U | **0.22 J** | < 0.97 U | **0.44 J** | **0.25 J** | **0.34 J** | |
| Dimethylphthalate | ug/l | 1500 | SW8270D LL | N | 131-11-3 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| Di-n-butylphthalate | ug/l | 90 | SW8270D LL | N | 84-74-2 | 1.3 | 0.18 | 0.47 | 0.2 | DP31 | 4 | | 6 | | < 0.95 U | **0.20 J** | **0.20 J** | **1.3** | **0.18 J** | < 0.96 U | |
| Di-n-octylphthalate | ug/l | 20 | SW8270D LL | N | 117-84-0 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| Fluoranthene | ug/l | 80 | SW8270D LL | N | 206-44-0 | 0.63 | 0.02 | 0.21 | 0.16 | DP27 | 14 | | 17 | | **0.63** | **0.040 J** | **0.024 J** | < 0.19 U | **0.020 J** | < 0.19 U | **0.24** |
| Fluorene | ug/l | 29 | SW8270D LL | N | 86-73-7 | 0.15 | 0.022 | 0.077 | 0.06 | DP27 | 3 | | 17 | | **0.15 J** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Hexachlorobenzene | ug/l | 1 | SW8270D LL | N | 118-74-1 | | | | | | | | 6 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | |

# Table 4-15
## Groundwater Results
## VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Direct Push Groundwater Samples
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | Location ID | DP27 | DP29 | DP30 | DP31 | DP32 | DP34 | DP40 |
| | | | | | | | | | | | | | | Sample ID | DPW27(48-58)N | DPW29(45-50)N | DPW30(50-55)N | DPW31(37-42)N | DPW32(38-43)N | DPW3453N | DPW4050-55N |
| | | | | | | | | | | | | | | Depth | 48 - 58 ft | 45 - 50 ft | 50 - 55 ft | 37 - 42 ft | 38 - 43 ft | 52.5 - 54 ft | 50 - 55 ft |
| | | | | | | | | | | | | | | Sample Date | 3/26/2013 | 4/2/2013 | 4/3/2013 | 4/1/2013 | 4/1/2013 | 3/29/2013 | 5/28/2013 |
| | | | | | | | | | | | | | | Type | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | |
| Hexachlorobutadiene | ug/l | 0.14 | SW8270D LL | N | 87-68-3 | | | | | | | | 6 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | |
| Hexachlorocyclo-pentadiene | ug/l | 50 | SW8270D LL | N | 77-47-4 | | | | | | | 1 | 6 | | < 0.95 U | < 0.96 U | R | < 0.97 U | < 0.97 U | < 0.96 U | |
| Hexachloroethane | ug/l | 0.33 | SW8270D LL | N | 67-72-1 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | SW8270D LL | N | 193-39-5 | | | | | | | | 17 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Isophorone | ug/l | 78 | SW8270D LL | N | 78-59-1 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| Naphthalene | ug/l | 0.17 | SW8270D LL | N | 91-20-3 | 0.15 | 0.036 | 0.092 | 0.098 | DP34 | 8 | | 17 | | **0.11 J** | < 0.19 U | < 0.19 U | **0.036 J** | < 0.19 U | **0.15 J** | < 0.19 U |
| Nitrobenzene | ug/l | 0.14 | SW8270D LL | N | 98-95-3 | | | | | | | | 6 | | < 1.9 U | < 1.9 U | < 1.9 U | < 1.9 U | < 1.9 U | < 1.9 U | |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | SW8270D LL | N | 621-64-7 | | | | | | | | 6 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | |
| N-Nitrosodiphenylamine | ug/l | 12 | SW8270D LL | N | 86-30-6 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| Pentachlorophenol | ug/l | 1 | SW8270D LL | N | 87-86-5 | | | | | | | | 6 | | < 0.95 U | < 0.96 U | < 0.97 U | < 0.97 U | < 0.97 U | < 0.96 U | |
| Phenanthrene | ug/l | 180 | SW8270D LL | N | 85-01-8 | 0.69 | 0.049 | 0.25 | 0.2 | DP27 | 12 | | 17 | | **0.69** | **0.084 J** | < 0.19 U | < 0.19 U | **0.049 J** | < 0.19 U | **0.11 J** |
| Phenol | ug/l | 580 | SW8270D LL | N | 108-95-2 | | | | | | | | 6 | | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | |
| Pyrene | ug/l | 12 | SW8270D LL | N | 129-00-0 | 0.54 | 0.018 | 0.19 | 0.16 | DP27 | 12 | | 17 | | **0.54** | **0.044 J** | **0.018 J** | < 0.19 U | < 0.19 U | < 0.19 U | **0.15 J** |
| BaP-TE | ug/l | 0.2 | SW8270D LL | N | BAP | 0.0949 | 0.00393 | 0.0351 | 0.0172 | SUSDP19 | 7 | | 17 | | **0.0141** | < 0.190 U | < 0.190 U | < 0.190 U | < 0.190 U | < 0.190 U | **0.0898** |
| Total High-molecular-weight PAHs | ug/l | | SW8270D LL | N | TOT-PAH-HMW | 1.4 | 0.02 | 0.52 | 0.36 | DP27 | 14 | | 17 | | **1.4** | **0.084** | **0.042** | < 0.19 U | **0.020** | < 0.19 U | **0.91** |
| Total Low-molecular-weight PAHs | ug/l | | SW8270D LL | N | TOT-PAH-LMW | 1.3 | 0.036 | 0.35 | 0.22 | DP27 | 14 | | 17 | | **1.3** | **0.11** | < 0.19 U | **0.036** | **0.049** | **0.15** | **0.13** |
| Total PAHs (sum 16) | ug/l | | SW8270D LL | N | TOT-PAH | 2.8 | 0.036 | 0.77 | 0.34 | DP27 | 16 | | 17 | | **2.8** | **0.20** | **0.042** | **0.036** | **0.069** | **0.15** | **1.0** |

**Table 4-15**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP46 | DP54 | DP55 | DP56 | DP57 | DP58 | DP59 | DP60 | DP61 | DP62 | DP63 | DPA4 | DPB5 | DPB7 | DPOS-01 | DPOS-02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW4637-42N | DPW5438-42N | DPW5538-42N | DPW5630-35N | DPW5740-45N | DPW5845-50N | DPW5945-50N | DPW6045-50N | DPW6145-50N | DPW6245-50N | DPW6345-50N | DPWA445-50N | DPWB545-50N | DPWB750-55N | DPWOS0146-50N | DPWOS0246-50N |
| | | | Depth | 37 - 42 ft | 38 - 42 ft | 38 - 42 ft | 30 - 35 ft | 40 - 45 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 50 - 55 ft | 46 - 50 ft | 46 - 50 ft |
| | | | Sample Date | 6/5/2013 | 2/2/2017 | 2/2/2017 | 2/3/2017 | 2/3/2017 | 2/6/2017 | 2/3/2017 | 2/6/2017 | 2/6/2017 | 2/6/2017 | 2/6/2017 | 4/18/2014 | 4/18/2014 | 4/18/2014 | 8/24/2017 | 8/24/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | ug/l | 100 | | **380 J** | | | | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | ug/l | 6000 | | **350 J** | | | | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/l | 3.3 | | < 100 U | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/l | 200 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | | | | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethane | ug/l | 2.8 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethene | ug/l | 7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1 | < 1 | < 1 | < 1.0 U | < 1.0 U |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | | | | < 1.0 U | < 1.0 U |
| 1,2,4-Trichlorobenzene | ug/l | 70 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| 1,2-Dibromoethane | ug/l | 0.05 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| 1,2-Dichlorobenzene | ug/l | 600 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| 1,2-Dichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| 1,2-Dichloropropane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| 1,3-Dichlorobenzene | ug/l | 0.48 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| 1,4-Dichlorobenzene | ug/l | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| 1,4-Dioxane | ug/l | 0.46 | | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | R | < 200 U | R | R | R | R | | | | < 200 U | < 200 U |
| 2-Butanone | ug/l | 560 | | **0.68 J** | **3.0 J** | < 5.0 U | < 5.0 U | < 5.0 U | < 10 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | | | | < 5.0 U | < 5.0 U |
| 2-Hexanone | ug/l | 3.8 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 10 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | | | | < 5.0 U | < 5.0 U |
| 4-Methyl-2-pentanone | ug/l | 630 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 10 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | | | | < 5.0 U | < 5.0 U |
| Acetone | ug/l | 1400 | | **5.2** | **16** | **3.9 J** | **5.0** | **9.2 J+** | < 10 U | **3.5 J** | < 5.0 U | < 5.0 U | < 5.0 U | **4.5 J** | | | | **4.0 J** | < 5.0 U |
| Benzene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.21 J** | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Bromochloromethane | ug/l | 8.3 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Bromodichloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Bromoform | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Bromomethane | ug/l | 0.75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U | R | R | R | R | | | | < 1.0 U | < 1.0 U |
| Butyl alcohol, tert- | ug/l | 14 | | | < 40 U | < 40 U | < 40 U | **4.4 J** | **62 J** | < 40 U | < 40 U | **5.6 J** | < 40 U | < 40 U | | | | < 40 U | < 40 U |
| Carbon Disulfide | ug/l | 81 | | **0.31 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | **0.68 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | **1.0** | < 1.0 U |
| Carbon Tetrachloride | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Chlorobenzene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Chloroethane | ug/l | 2100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Chloroform | ug/l | 80 | | **2.9** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Chloromethane | ug/l | 19 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.72 J** | < 2.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| cis-1,2-Dichloroethylene | ug/l | 70 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **1.3** | **1.5 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1 | < 1 | < 1 | < 1.0 U | < 1.0 U |
| cis-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Cyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Dibromochloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Dichlorodifluoromethane | ug/l | 20 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Diisopropyl ether | ug/l | 150 | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.55 J** | < 1.0 U | **2.3 J** | **1.2 J** | < 1.0 UJ | < 1.0 UJ | | | | < 1.0 U | < 1.0 U |
| Ethylbenzene | ug/l | 700 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Ethyl-Tert-Butyl-Ether | ug/l | | | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Isopropylbenzene | ug/l | 45 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| m, p-Xylene | ug/l | 10000 | | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.17 J** | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Methyl Acetate | ug/l | 2000 | | < 1.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 10 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | | | | < 5.0 U | < 5.0 U |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | | < 1.0 U | **1.4** | < 1.0 U | **0.71 J** | **7.0** | **57** | **2.1** | **650** | **300** | **0.72 J** | **0.20 J** | | | | < 1.0 U | **0.24 J** |
| Methylcyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Methylene Chloride | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| o-Xylene | ug/l | 10000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Styrene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | | | < 1.0 U | < 1.0 U | < 1.0 U | **0.32 J** | **2.2 J** | < 1.0 U | **12 J** | **12** | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Tetrachloroethylene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.25 J** | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **1.5** | **8.1** | < 1 | < 1.0 U | < 1.0 U |
| Toluene | ug/l | 1000 | | **0.33 J** | **0.43 J** | **0.17 J** | < 1.0 U | **0.41 J** | < 2.0 U | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | **0.19 J** | | | | < 1.0 U | < 1.0 U |
| trans-1,2-Dichloroethene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1 | < 1 | < 1 | < 1.0 U | < 1.0 U |
| trans-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |
| Trichloroethene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.24 J** | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1 | **3.1** | < 1 | < 1.0 U | < 1.0 U |
| Trichlorofluoromethane | ug/l | 520 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | | | | < 1.0 U | < 1.0 U |

**Table 4-15**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP46 | DP54 | DP55 | DP56 | DP57 | DP58 | DP59 | DP60 | DP61 | DP62 | DP63 | DPA4 | DPB5 | DPB7 | DPOS-01 | DPOS-02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW4637-42N | DPW5438-42N | DPW5538-42N | DPW5630-35N | DPW5740-45N | DPW5845-50N | DPW5945-50N | DPW6045-50N | DPW6145-50N | DPW6245-50N | DPW6345-50N | DPWA445-50N | DPWB545-50N | DPWB750-55N | DPWOS0146-50N | DPWOS0246-50N |
| | | | Depth | 37 - 42 ft | 38 - 42 ft | 38 - 42 ft | 30 - 35 ft | 40 - 45 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 50 - 55 ft | 46 - 50 ft | 46 - 50 ft |
| | | | Sample Date | 6/5/2013 | 2/2/2017 | 2/2/2017 | 2/3/2017 | 2/3/2017 | 2/6/2017 | 2/3/2017 | 2/6/2017 | 2/6/2017 | 2/6/2017 | 2/6/2017 | 4/18/2014 | 4/18/2014 | 4/18/2014 | 8/24/2017 | 8/24/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/l | 2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1 | < 1 | < 1 | < 1.0 U | < 1.0 U |
| Xylenes (total) | ug/l | 10000 | | < 2.0 U | < 1 U | < 1 U | < 1 U | **0.17** | < 2 U | < 1 U | < 1 U | < 1 U | < 1 U | < 1 U | | | | < 1 U | < 1 U |
| 1,1'-Biphenyl | ug/l | 0.083 | | | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | | | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | | | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | | | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/l | 120 | | | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | | | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/l | 4.6 | | | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/l | 36 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/l | 3.9 | | | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/l | 0.24 | | | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/l | 0.049 | | | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/l | 75 | | | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/l | 9.1 | | | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/l | 3.6 | | | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/l | 93 | | | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/l | 19 | | | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/l | 580 | | | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | | | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/l | 3.8 | | | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | | | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/l | | | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/l | 140 | | | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/l | 0.37 | | | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/l | | | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/l | 190 | | | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/l | 3.8 | | | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/l | 580 | | | | | | | | | | | | | | | | | |
| Acenaphthene | ug/l | 53 | | < 0.19 U | | | | | | | | | | | | | | | |
| Acenaphthylene | ug/l | 53 | | < 0.19 U | | | | | | | | | | | | | | | |
| Acetophenone | ug/l | 190 | | | | | | | | | | | | | | | | | |
| Anthracene | ug/l | 180 | | **0.066 J** | | | | | | | | | | | | | | | |
| Atrazine | ug/l | 3 | | | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/l | 19 | | | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/l | 0.03 | | **0.11 J** | | | | | | | | | | | | | | | |
| Benzo(a)pyrene | ug/l | 0.2 | | < 0.19 U | | | | | | | | | | | | | | | |
| Benzo(b)fluoranthene | ug/l | 0.25 | | **0.061 J** | | | | | | | | | | | | | | | |
| Benzo(g,h,i)perylene | ug/l | 12 | | < 0.19 U | | | | | | | | | | | | | | | |
| Benzo(k)fluoranthene | ug/l | 2.5 | | < 0.19 U | | | | | | | | | | | | | | | |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | | | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | | | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | | | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/l | 16 | | | | | | | | | | | | | | | | | |
| Caprolactam | ug/l | 990 | | | | | | | | | | | | | | | | | |
| Carbazole | ug/l | 29 | | | | | | | | | | | | | | | | | |
| Chrysene | ug/l | 25 | | **0.13 J** | | | | | | | | | | | | | | | |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | | < 0.19 U | | | | | | | | | | | | | | | |
| Dibenzofuran | ug/l | 0.79 | | | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/l | 1500 | | | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/l | 1500 | | | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/l | 90 | | | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/l | 20 | | | | | | | | | | | | | | | | | |
| Fluoranthene | ug/l | 80 | | **0.23** | | | | | | | | | | | | | | | |
| Fluorene | ug/l | 29 | | < 0.19 U | | | | | | | | | | | | | | | |
| Hexachlorobenzene | ug/l | 1 | | | | | | | | | | | | | | | | | |

**Table 4-15**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP46 | DP54 | DP55 | DP56 | DP57 | DP58 | DP59 | DP60 | DP61 | DP62 | DP63 | DPA4 | DPB5 | DPB7 | DPOS-01 | DPOS-02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW4637-42N | DPW5438-42N | DPW5538-42N | DPW5630-35N | DPW5740-45N | DPW5845-50N | DPW5945-50N | DPW6045-50N | DPW6145-50N | DPW6245-50N | DPW6345-50N | DPWA445-50N | DPWB545-50N | DPWB750-55N | DPWOS0146-50N | DPWOS0246-50N |
| | | | Depth | 37 - 42 ft | 38 - 42 ft | 38 - 42 ft | 30 - 35 ft | 40 - 45 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 50 - 55 ft | 46 - 50 ft | 46 - 50 ft |
| | | | Sample Date | 6/5/2013 | 2/2/2017 | 2/2/2017 | 2/3/2017 | 2/3/2017 | 2/6/2017 | 2/3/2017 | 2/6/2017 | 2/6/2017 | 2/6/2017 | 2/6/2017 | 4/18/2014 | 4/18/2014 | 4/18/2014 | 8/24/2017 | 8/24/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/l | 0.14 | | | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/l | 50 | | | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/l | 0.33 | | | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | | < 0.19 U | | | | | | | | | | | | | | | |
| Isophorone | ug/l | 78 | | | | | | | | | | | | | | | | | |
| Naphthalene | ug/l | 0.17 | | **0.051 J** | | | | | | | | | | | | | | | |
| Nitrobenzene | ug/l | 0.14 | | | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | | | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/l | 12 | | | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/l | 1 | | | | | | | | | | | | | | | | | |
| Phenanthrene | ug/l | 180 | | **0.27** | | | | | | | | | | | | | | | |
| Phenol | ug/l | 580 | | | | | | | | | | | | | | | | | |
| Pyrene | ug/l | 12 | | **0.23** | | | | | | | | | | | | | | | |
| BaP-TE | ug/l | 0.2 | | **0.0172** | | | | | | | | | | | | | | | |
| Total High-molecular-weight PAHs | ug/l | | | **0.76** | | | | | | | | | | | | | | | |
| Total Low-molecular-weight PAHs | ug/l | | | **0.39** | | | | | | | | | | | | | | | |
| Total PAHs (sum 16) | ug/l | | | **1.1** | | | | | | | | | | | | | | | |

**Table 4-15**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Project Screening Criteria | Location ID | DPOS-02 | DPOS-03 | SUSDP03 | SUSDP07 | SUSDP08 | SUSDP09 | SUSDP13 | SUSDP13 | SUSDP19 | SUSDP24 | SUSDP41 | SUSDP52 | TA19A1 | TA19A2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPWOS0246-50R | DPWOS0346-50N | DPW0347-52N | DPW0743-48N | DPW08 34-39N | DPW0945-50N | DPW1345-50N | DPW1345-50R | DPW191944.5-49.5N | DPW2448.5-53.5N | DPW41 39-44N | DPW5245-50N | DPWTA19A144-49N | DPWTA19A245-50N |
| | | | Depth | 46 - 50 ft | 46 - 50 ft | 47 - 52 ft | 43 - 48 ft | 34 - 39 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 44.5 - 49.5 ft | 48.5 - 53.5 ft | 39 - 44 ft | 45 - 50 ft | 44 - 49 ft | 45 - 50 ft |
| | | | Sample Date | 8/24/2017 | 8/21/2017 | 5/22/2013 | 5/22/2013 | 5/24/2013 | 6/11/2013 | 5/29/2013 | 5/29/2013 | 6/5/2013 | 6/4/2013 | 5/24/2013 | 2/3/2017 | 3/20/2017 | 3/20/2017 |
| | | | Type | FD | N | N | N | N | N | N | FD | N | N | N | N | N | N |
| Diesel Range Organics (C10-C20) | ug/l | 100 | | | | < 480 U | < 480 U | < 500 U | < 480 U | < 510 U | < 500 U | **260 J** | < 480 UJ | < 480 U | | | |
| Oil Range Organics (C20-C36) | ug/l | 6000 | | | | < 480 U | < 480 U | < 500 U | **580** | < 510 U | < 500 U | **440 J** | < 480 UJ | < 480 U | | | |
| Gasoline Range Organics (C6-C10) | ug/l | 3.3 | | | | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | | | |
| 1,1,1-Trichloroethane | ug/l | 200 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| 1,1,2-Trichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| 1,1-Dichloroethane | ug/l | 2.8 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| 1,1-Dichloroethene | ug/l | 7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| 1,2,4-Trichlorobenzene | ug/l | 70 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| 1,2-Dibromoethane | ug/l | 0.05 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| 1,2-Dichlorobenzene | ug/l | 600 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| 1,2-Dichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| 1,2-Dichloropropane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| 1,3-Dichlorobenzene | ug/l | 0.48 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| 1,4-Dichlorobenzene | ug/l | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| 1,4-Dioxane | ug/l | 0.46 | | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | R | R |
| 2-Butanone | ug/l | 560 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **0.73 J** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | R | R |
| 2-Hexanone | ug/l | 3.8 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | R | R |
| 4-Methyl-2-pentanone | ug/l | 630 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | R | R |
| Acetone | ug/l | 1400 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **3.4 J** | **2.8 J** | **3.5 J** | **2.8 J** | **4.1 J** | **2.8 J** | **2.7 J** | **6.1** | < 5.0 UJ | **5.2 J** |
| Benzene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.11 J** | < 1.0 U | < 1.0 U | R | R |
| Bromochloromethane | ug/l | 8.3 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| Bromodichloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| Bromoform | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| Bromomethane | ug/l | 0.75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| Butyl alcohol, tert- | ug/l | 14 | | < 40 U | < 40 U | | | | | | | | | | < 40 U | R | R |
| Carbon Disulfide | ug/l | 81 | | **0.60 J** | < 1.0 U | < 1.0 U | < 1.0 U | **1.8** | < 1.0 U | **1.2** | **1.4** | < 1.0 U | **0.33 J** | < 1.0 U | < 1.0 U | R | **1.1 J** |
| Carbon Tetrachloride | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| Chlorobenzene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| Chloroethane | ug/l | 2100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| Chloroform | ug/l | 80 | | < 1.0 U | < 1.0 U | **1.7** | **1.4** | **2.3** | < 1.0 U | **3.5** | **3.4** | **3.8** | **1.9** | **3.5** | < 1.0 U | R | R |
| Chloromethane | ug/l | 19 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| cis-1,2-Dichloroethylene | ug/l | 70 | | < 1.0 U | **0.78 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **3.2** | < 1.0 U | < 1.0 U | **0.35 J** | **8.6 J** | **6.3 J** |
| cis-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| Cyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| Dibromochloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| Dichlorodifluoromethane | ug/l | 20 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| Diisopropyl ether | ug/l | 150 | | < 1.0 U | **1.3** | | | | | | | | | | **0.81 J** | **3.6 J** | **3.7 J** |
| Ethylbenzene | ug/l | 700 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| Ethyl-Tert-Butyl-Ether | ug/l | | | < 1.0 U | < 1.0 U | | | | | | | | | | < 1.0 U | R | R |
| Isopropylbenzene | ug/l | 45 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| m, p-Xylene | ug/l | 10000 | | < 1.0 U | < 1.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 1.0 U | R | R |
| Methyl Acetate | ug/l | 2000 | | < 5.0 U | < 5.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 5.0 U | R | R |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | | **0.21 J** | **1100** | < 1.0 U | < 1.0 U | < 1.0 U | **5.4** | < 1.0 U | < 1.0 U | **0.60 J** | **1.2** | < 1.0 U | **250** | **2.2 J** | **2.1 J** |
| Methylcyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| Methylene Chloride | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.26 J** | **0.22 J** | < 1.0 U | **0.27 J** | < 1.0 U | < 1.0 U | R | R |
| o-Xylene | ug/l | 10000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.14 J** | < 1.0 U | < 1.0 U | R | R |
| Styrene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | | < 1.0 U | **26** | | | | | | | | | | **10** | R | R |
| Tetrachloroethylene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.88 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.59 J** | **33 J** | **49 J** |
| Toluene | ug/l | 1000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.30 J** | < 1.0 U | **0.21 J** | **0.21 J** | **0.42 J** | **0.88 J** | **0.38 J** | **0.17 J** | **0.17 J** | **0.30 J** |
| trans-1,2-Dichloroethene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| trans-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |
| Trichloroethene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.27 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **42 J** | **20 J** |
| Trichlorofluoromethane | ug/l | 520 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | R |

**Table 4-15**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DPOS-02 | DPOS-03 | SUSDP03 | SUSDP07 | SUSDP08 | SUSDP09 | SUSDP13 | SUSDP13 | SUSDP19 | SUSDP24 | SUSDP41 | SUSDP52 | TA19A1 | TA19A2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPWOS0246-50R | DPWOS0346-50N | DPW0347-52N | DPW0743-48N | DPW08 34-39N | DPW0945-50N | DPW1345-50N | DPW1345-50R | DPW191944.5-49.5N | DPW2448.5-53.5N | DPW41 39-44N | DPW5245-50N | DPWTA19A144-49N | DPWTA19A245-50N |
| | | | Depth | 46 - 50 ft | 46 - 50 ft | 47 - 52 ft | 43 - 48 ft | 34 - 39 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 44.5 - 49.5 ft | 48.5 - 53.5 ft | 39 - 44 ft | 45 - 50 ft | 44 - 49 ft | 45 - 50 ft |
| | | | Sample Date | 8/24/2017 | 8/21/2017 | 5/22/2013 | 5/22/2013 | 5/24/2013 | 6/11/2013 | 5/29/2013 | 5/29/2013 | 6/5/2013 | 6/4/2013 | 5/24/2013 | 2/3/2017 | 3/20/2017 | 3/20/2017 |
| | | | Type | FD | N | N | N | N | N | N | FD | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| Vinyl Chloride | ug/l | 2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.68 J** | < 1.0 U | < 1.0 U | < 1.0 U | **0.24 J** | R |
| Xylenes (total) | ug/l | 10000 | | < 1 U | < 1 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | **0.14** | < 2.0 U | < 1 U | | |
| 1,1'-Biphenyl | ug/l | 0.083 | | | | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | | | | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | | | | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/l | 120 | | | | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | | | | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/l | 4.6 | | | | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/l | 36 | | | | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/l | 3.9 | | | | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/l | 0.24 | | | | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/l | 0.049 | | | | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/l | 75 | | | | | | | | | | | | | | | |
| 2-Chlorophenol | ug/l | 9.1 | | | | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/l | 3.6 | | | | | | | | | | | | | | | |
| 2-Methylphenol | ug/l | 93 | | | | | | | | | | | | | | | |
| 2-Nitroaniline | ug/l | 19 | | | | | | | | | | | | | | | |
| 2-Nitrophenol | ug/l | 580 | | | | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | | | | | | | | | | | | | | | |
| 3-Nitroaniline | ug/l | 3.8 | | | | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | | | | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/l | | | | | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/l | 140 | | | | | | | | | | | | | | | |
| 4-Chloroaniline | ug/l | 0.37 | | | | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/l | | | | | | | | | | | | | | | | |
| 4-Methylphenol | ug/l | 190 | | | | | | | | | | | | | | | |
| 4-Nitroaniline | ug/l | 3.8 | | | | | | | | | | | | | | | |
| 4-Nitrophenol | ug/l | 580 | | | | | | | | | | | | | | | |
| Acenaphthene | ug/l | 53 | | | | < 0.19 U | **0.055 J** | **0.10 J** | < 0.19 U | < 0.21 U | < 0.19 U | **0.071 J** | < 0.19 U | **0.022 J** | | | |
| Acenaphthylene | ug/l | 53 | | | | < 0.19 U | < 0.19 U | < 0.21 U | < 0.19 U | < 0.21 U | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | | | |
| Acetophenone | ug/l | 190 | | | | | | | | | | | | | | | |
| Anthracene | ug/l | 180 | | | | < 0.19 U | **0.048 J** | **0.079 J** | < 0.19 U | < 0.21 U | < 0.19 U | **0.077 J** | **0.020 J** | **0.017 J** | | | |
| Atrazine | ug/l | 3 | | | | | | | | | | | | | | | |
| Benzaldehyde | ug/l | 19 | | | | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/l | 0.03 | | | | < 0.19 U | < 0.19 U | **0.084 J** | < 0.19 U | **0.039 J** | < 0.19 U | **0.13 J** | **0.064 J** | < 0.19 U | | | |
| Benzo(a)pyrene | ug/l | 0.2 | | | | < 0.19 U | < 0.19 U | < 0.21 U | < 0.19 U | < 0.21 U | < 0.19 U | **0.072 J** | < 0.19 U | < 0.19 U | | | |
| Benzo(b)fluoranthene | ug/l | 0.25 | | | | < 0.19 U | < 0.19 U | **0.098 J** | < 0.19 U | < 0.21 U | < 0.19 U | **0.098 J** | < 0.19 U | < 0.19 U | | | |
| Benzo(g,h,i)perylene | ug/l | 12 | | | | < 0.19 U | < 0.19 U | < 0.21 U | < 0.19 U | < 0.21 U | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | | | |
| Benzo(k)fluoranthene | ug/l | 2.5 | | | | < 0.19 U | < 0.19 U | **0.058 J** | < 0.19 U | < 0.21 U | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | | | |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | | | | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | | | | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | | | | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/l | 16 | | | | | | | | | | | | | | | |
| Caprolactam | ug/l | 990 | | | | | | | | | | | | | | | |
| Carbazole | ug/l | 29 | | | | | | | | | | | | | | | |
| Chrysene | ug/l | 25 | | | | < 0.19 U | < 0.19 U | **0.10 J** | < 0.19 U | **0.025 J** | < 0.19 U | **0.14 J** | **0.12 J** | < 0.19 U | | | |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | | | | < 0.19 U | < 0.19 U | < 0.21 U | < 0.19 U | < 0.21 U | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | | | |
| Dibenzofuran | ug/l | 0.79 | | | | | | | | | | | | | | | |
| Diethylphthalate | ug/l | 1500 | | | | | | | | | | | | | | | |
| Dimethylphthalate | ug/l | 1500 | | | | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/l | 90 | | | | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/l | 20 | | | | | | | | | | | | | | | |
| Fluoranthene | ug/l | 80 | | | | **0.069 J** | **0.31** | **0.28** | < 0.19 U | **0.061 J** | **0.079 J** | **0.34** | **0.53** | **0.097 J** | | | |
| Fluorene | ug/l | 29 | | | | < 0.19 U | < 0.19 U | **0.060 J** | < 0.19 U | < 0.21 U | < 0.19 U | < 0.20 U | **0.022 J** | < 0.19 U | | | |
| Hexachlorobenzene | ug/l | 1 | | | | | | | | | | | | | | | |

**Table 4-15**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DPOS-02 | DPOS-03 | SUSDP03 | SUSDP07 | SUSDP08 | SUSDP09 | SUSDP13 | SUSDP13 | SUSDP19 | SUSDP24 | SUSDP41 | SUSDP52 | TA19A1 | TA19A2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPWOS0246-50R | DPWOS0346-50N | DPW0347-52N | DPW0743-48N | DPW08 34-39N | DPW0945-50N | DPW1345-50N | DPW1345-50R | DPW191944.5-49.5N | DPW2448.5-53.5N | DPW41 39-44N | DPW5245-50N | DPWTA19A144-49N | DPWTA19A245-50N |
| | | | Depth | 46 - 50 ft | 46 - 50 ft | 47 - 52 ft | 43 - 48 ft | 34 - 39 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 44.5 - 49.5 ft | 48.5 - 53.5 ft | 39 - 44 ft | 45 - 50 ft | 44 - 49 ft | 45 - 50 ft |
| | | | Sample Date | 8/24/2017 | 8/21/2017 | 5/22/2013 | 5/22/2013 | 5/24/2013 | 6/11/2013 | 5/29/2013 | 5/29/2013 | 6/5/2013 | 6/4/2013 | 5/24/2013 | 2/3/2017 | 3/20/2017 | 3/20/2017 |
| | | | Type | FD | N | N | N | N | N | N | FD | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/l | 0.14 | | | | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/l | 50 | | | | | | | | | | | | | | | |
| Hexachloroethane | ug/l | 0.33 | | | | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | | | | < 0.19 U | < 0.19 U | < 0.21 U | < 0.19 U | < 0.21 U | < 0.19 U | < 0.20 U | < 0.19 U | < 0.19 U | | | |
| Isophorone | ug/l | 78 | | | | | | | | | | | | | | | |
| Naphthalene | ug/l | 0.17 | | | | < 0.19 U | < 0.19 U | **0.14 J** | < 0.19 U | < 0.21 U | < 0.19 U | **0.055 J** | **0.086 J** | **0.11 J** | | | |
| Nitrobenzene | ug/l | 0.14 | | | | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | | | | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/l | 12 | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/l | 1 | | | | | | | | | | | | | | | |
| Phenanthrene | ug/l | 180 | | | | **0.11 J** | **0.43** | **0.34** | < 0.19 U | < 0.21 U | **0.086 J** | **0.34** | **0.40** | **0.13 J** | | | |
| Phenol | ug/l | 580 | | | | | | | | | | | | | | | |
| Pyrene | ug/l | 12 | | | | < 0.19 U | **0.23** | **0.17 J** | < 0.19 U | **0.045 J** | **0.058 J** | **0.35** | **0.39** | **0.071 J** | | | |
| BaP-TE | ug/l | 0.2 | | | | < 0.190 U | < 0.190 U | **0.0189** | < 0.190 U | **0.00393** | < 0.190 U | **0.0949** | **0.00652** | < 0.190 U | | | |
| Total High-molecular-weight PAHs | ug/l | | | | | **0.069** | **0.54** | **0.79** | < 0.19 U | **0.17** | **0.14** | **1.1** | **1.1** | **0.17** | | | |
| Total Low-molecular-weight PAHs | ug/l | | | | | **0.11** | **0.53** | **0.72** | < 0.19 U | < 0.21 U | **0.086** | **0.54** | **0.53** | **0.28** | | | |
| Total PAHs (sum 16) | ug/l | | | | | **0.18** | **1.1** | **1.5** | < 0.19 U | **0.17** | **0.22** | **1.7** | **1.6** | **0.45** | | | |

**Table 4-15**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | TA19A3 | TA19B3 | TA19C1 | TA19C2 | TA19C3 | TA19D1 | TA19D3 | TA19E1 | TA19E2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPWTA19A345-50N | DPWTA19B345-50N | DPWTA19C145-50N | DPWTA19C245-50N | DPWTA19C345-50N | DPWTA19D145-50N | DPWTA19D345-50N | DPWTA19E145-50N | DPWTA19E245-50N |
| | | | Depth | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft |
| | | | Sample Date | 3/20/2017 | 2/7/2017 | 2/8/2017 | 2/7/2017 | 2/7/2017 | 3/3/2017 | 3/8/2017 | 2/7/2017 | 2/7/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | ug/l | 100 | | | | | | | | | | |
| Oil Range Organics (C20-C36) | ug/l | 6000 | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/l | 3.3 | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/l | 200 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| 1,1,2-Trichloroethane | ug/l | 5 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| 1,1-Dichloroethane | ug/l | 2.8 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| 1,1-Dichloroethene | ug/l | 7 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| 1,2,4-Trichlorobenzene | ug/l | 70 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| 1,2-Dibromoethane | ug/l | 0.05 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| 1,2-Dichlorobenzene | ug/l | 600 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| 1,2-Dichloroethane | ug/l | 5 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| 1,2-Dichloropropane | ug/l | 5 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| 1,3-Dichlorobenzene | ug/l | 0.48 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| 1,4-Dichlorobenzene | ug/l | 75 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| 1,4-Dioxane | ug/l | 0.46 | | < 600 U | < 400 U | R | < 200 U | < 200 U | < 200 U | < 200 U | R | < 200 U |
| 2-Butanone | ug/l | 560 | | < 15 U | < 10 U | R | **2.7 J** | < 5.0 U | < 5.0 U | < 5.0 U | R | < 5.0 U |
| 2-Hexanone | ug/l | 3.8 | | < 15 U | < 10 U | R | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | R | < 5.0 U |
| 4-Methyl-2-pentanone | ug/l | 630 | | < 15 U | < 10 U | R | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | R | < 5.0 U |
| Acetone | ug/l | 1400 | | < 15 U | < 10 U | **11 J** | **15** | < 5.0 U | **5.3** | **5.6** | **6.5 J** | **3.3 J** |
| Benzene | ug/l | 5 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Bromochloromethane | ug/l | 8.3 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Bromodichloromethane | ug/l | 80 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Bromoform | ug/l | 80 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Bromomethane | ug/l | 0.75 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Butyl alcohol, tert- | ug/l | 14 | | < 120 U | < 80 U* | R | < 40 U | < 40 U | < 40 U | < 40 U | R | < 40 U |
| Carbon Disulfide | ug/l | 81 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Carbon Tetrachloride | ug/l | 5 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Chlorobenzene | ug/l | 100 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Chloroethane | ug/l | 2100 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Chloroform | ug/l | 80 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.30 J** | < 1.0 U |
| Chloromethane | ug/l | 19 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| cis-1,2-Dichloroethylene | ug/l | 70 | | **1.7 J** | **3.6** | **1.8 J** | **0.53 J** | **3.4** | < 1.0 U | < 1.0 U | R | < 1.0 U |
| cis-1,3-Dichloropropene | ug/l | 0.47 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Cyclohexane | ug/l | 1300 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Dibromochloromethane | ug/l | 80 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Dichlorodifluoromethane | ug/l | 20 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Diisopropyl ether | ug/l | 150 | | **5.6** | **0.46 J** | **0.36 J** | < 1.0 U | **0.18 J** | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Ethylbenzene | ug/l | 700 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Ethyl-Tert-Butyl-Ether | ug/l | | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Isopropylbenzene | ug/l | 45 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| m, p-Xylene | ug/l | 10000 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | **0.35 J** | R | < 1.0 U |
| Methyl Acetate | ug/l | 2000 | | < 15 U | < 10 U | R | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | R | < 5.0 U |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | | **1.5 J** | **1.9 J** | **1.3 J** | **0.44 J** | **1.5** | **0.74 J** | **0.40 J** | R | **0.83 J** |
| Methylcyclohexane | ug/l | 1300 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Methylene Chloride | ug/l | 5 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| o-Xylene | ug/l | 10000 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Styrene | ug/l | 100 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Tetrachloroethylene | ug/l | 5 | | **68** | **7.1** | **8.7 J** | **0.68 J** | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Toluene | ug/l | 1000 | | < 3.0 U | < 2.0 U | **0.26 J** | **0.23 J** | **0.25 J** | < 1.0 U | **0.46 J** | R | **0.37 J** |
| trans-1,2-Dichloroethene | ug/l | 100 | | < 3.0 U | < 2.0 U | R | < 1.0 U | **0.52 J** | < 1.0 U | < 1.0 U | R | < 1.0 U |
| trans-1,3-Dichloropropene | ug/l | 0.47 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Trichloroethene | ug/l | 5 | | **6.2** | **51** | **18 J** | **2.5** | **29** | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Trichlorofluoromethane | ug/l | 520 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |

# Table 4-15
## Groundwater Results
## VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Direct Push Groundwater Samples
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | TA19A3 | TA19B3 | TA19C1 | TA19C2 | TA19C3 | TA19D1 | TA19D3 | TA19E1 | TA19E2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPWTA19A345-50N | DPWTA19B345-50N | DPWTA19C145-50N | DPWTA19C245-50N | DPWTA19C345-50N | DPWTA19D145-50N | DPWTA19D345-50N | DPWTA19E145-50N | DPWTA19E245-50N |
| | | | Depth | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft |
| | | | Sample Date | 3/20/2017 | 2/7/2017 | 2/8/2017 | 2/7/2017 | 2/7/2017 | 3/3/2017 | 3/8/2017 | 2/7/2017 | 2/7/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| Vinyl Chloride | ug/l | 2 | | < 3.0 U | < 2.0 U | R | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | R | < 1.0 U |
| Xylenes (total) | ug/l | 10000 | | < 3 U | < 2 U | | < 1 U | < 1 U | < 1 U | **0.35** | | < 1 U |
| 1,1'-Biphenyl | ug/l | 0.083 | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/l | 120 | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/l | 4.6 | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/l | 36 | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/l | 3.9 | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/l | 0.24 | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/l | 0.049 | | | | | | | | | | |
| 2-Chloronaphthalene | ug/l | 75 | | | | | | | | | | |
| 2-Chlorophenol | ug/l | 9.1 | | | | | | | | | | |
| 2-Methylnaphthalene | ug/l | 3.6 | | | | | | | | | | |
| 2-Methylphenol | ug/l | 93 | | | | | | | | | | |
| 2-Nitroaniline | ug/l | 19 | | | | | | | | | | |
| 2-Nitrophenol | ug/l | 580 | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | | | | | | | | | | |
| 3-Nitroaniline | ug/l | 3.8 | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/l | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/l | 140 | | | | | | | | | | |
| 4-Chloroaniline | ug/l | 0.37 | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/l | | | | | | | | | | | |
| 4-Methylphenol | ug/l | 190 | | | | | | | | | | |
| 4-Nitroaniline | ug/l | 3.8 | | | | | | | | | | |
| 4-Nitrophenol | ug/l | 580 | | | | | | | | | | |
| Acenaphthene | ug/l | 53 | | | | | | | | | | |
| Acenaphthylene | ug/l | 53 | | | | | | | | | | |
| Acetophenone | ug/l | 190 | | | | | | | | | | |
| Anthracene | ug/l | 180 | | | | | | | | | | |
| Atrazine | ug/l | 3 | | | | | | | | | | |
| Benzaldehyde | ug/l | 19 | | | | | | | | | | |
| Benzo(a)anthracene | ug/l | 0.03 | | | | | | | | | | |
| Benzo(a)pyrene | ug/l | 0.2 | | | | | | | | | | |
| Benzo(b)fluoranthene | ug/l | 0.25 | | | | | | | | | | |
| Benzo(g,h,i)perylene | ug/l | 12 | | | | | | | | | | |
| Benzo(k)fluoranthene | ug/l | 2.5 | | | | | | | | | | |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | | | | | | | | | | |
| Butylbenzylphthalate | ug/l | 16 | | | | | | | | | | |
| Caprolactam | ug/l | 990 | | | | | | | | | | |
| Carbazole | ug/l | 29 | | | | | | | | | | |
| Chrysene | ug/l | 25 | | | | | | | | | | |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | | | | | | | | | | |
| Dibenzofuran | ug/l | 0.79 | | | | | | | | | | |
| Diethylphthalate | ug/l | 1500 | | | | | | | | | | |
| Dimethylphthalate | ug/l | 1500 | | | | | | | | | | |
| Di-n-butylphthalate | ug/l | 90 | | | | | | | | | | |
| Di-n-octylphthalate | ug/l | 20 | | | | | | | | | | |
| Fluoranthene | ug/l | 80 | | | | | | | | | | |
| Fluorene | ug/l | 29 | | | | | | | | | | |
| Hexachlorobenzene | ug/l | 1 | | | | | | | | | | |

**Table 4-15**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | TA19A3 | TA19B3 | TA19C1 | TA19C2 | TA19C3 | TA19D1 | TA19D3 | TA19E1 | TA19E2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPWTA19A345-50N | DPWTA19B345-50N | DPWTA19C145-50N | DPWTA19C245-50N | DPWTA19C345-50N | DPWTA19D145-50N | DPWTA19D345-50N | DPWTA19E145-50N | DPWTA19E245-50N |
| | | | Depth | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft |
| | | | Sample Date | 3/20/2017 | 2/7/2017 | 2/8/2017 | 2/7/2017 | 2/7/2017 | 3/3/2017 | 3/8/2017 | 2/7/2017 | 2/7/2017 |
| | | | Type | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| Hexachlorobutadiene | ug/l | 0.14 | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/l | 50 | | | | | | | | | | |
| Hexachloroethane | ug/l | 0.33 | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | | | | | | | | | | |
| Isophorone | ug/l | 78 | | | | | | | | | | |
| Naphthalene | ug/l | 0.17 | | | | | | | | | | |
| Nitrobenzene | ug/l | 0.14 | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/l | 12 | | | | | | | | | | |
| Pentachlorophenol | ug/l | 1 | | | | | | | | | | |
| Phenanthrene | ug/l | 180 | | | | | | | | | | |
| Phenol | ug/l | 580 | | | | | | | | | | |
| Pyrene | ug/l | 12 | | | | | | | | | | |
| BaP-TE | ug/l | 0.2 | | | | | | | | | | |
| Total High-molecular-weight PAHs | ug/l | | | | | | | | | | | |
| Total Low-molecular-weight PAHs | ug/l | | | | | | | | | | | |
| Total PAHs (sum 16) | ug/l | | | | | | | | | | | |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
D = Dissolved
T = Total
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable.
Heirarchy: 1) Lower of DOEE/MCL (primary standards). 2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
ug/l = micrograms per liter

**Table 4-16**
**Groundwater Results**
**PCBs  Concentrations in LWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Location ID | DP27 | DP29 |
| | | | | | | | | | | | | | Sample ID | DPW27(48-58)N | DPW29(45-50)N |
| | | | | | | | | | | | | | Depth | 48 - 58 ft | 45 - 50 ft |
| | | | | | | | | | | | | | Sample Date | 3/26/2013 | 4/2/2013 |
| | | | | | | | | | | | | | Type | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| Aroclor-1016 | ug/l | | SW8082A LL | N | 12674-11-2 | | | | | | | 17 | | < 0.0095 U | < 0.0095 U |
| Aroclor-1221 | ug/l | | SW8082A LL | N | 11104-28-2 | | | | | | | 17 | | < 0.0095 U | < 0.0095 U |
| Aroclor-1232 | ug/l | | SW8082A LL | N | 11141-16-5 | | | | | | | 17 | | < 0.0095 U | < 0.0095 U |
| Aroclor-1242 | ug/l | | SW8082A LL | N | 53469-21-9 | | | | | | | 17 | | < 0.0095 U | < 0.0095 U |
| Aroclor-1248 | ug/l | | SW8082A LL | N | 12672-29-6 | 0.011 | 0.011 | 0.011 | 0.011 | DP27 | 1 | 17 | | **0.011** | < 0.0095 U |
| Aroclor-1254 | ug/l | | SW8082A LL | N | 11097-69-1 | 0.039 | 0.011 | 0.027 | 0.029 | SUSDP41 | 4 | 17 | | < 0.0095 U | < 0.0095 U |
| Aroclor-1260 | ug/l | | SW8082A LL | N | 11096-82-5 | 0.012 | 0.012 | 0.012 | 0.012 | DP27 | 1 | 17 | | **0.012** | < 0.0095 U |
| Aroclor-1262 | ug/l | | SW8082A LL | N | 37324-23-5 | | | | | | | 17 | | < 0.0095 U | < 0.0095 U |
| Aroclor-1268 | ug/l | | SW8082A LL | N | 11100-14-4 | | | | | | | 17 | | < 0.0095 U | < 0.0095 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | SW8082A LL | N | TOT-PCB-ARO-C | 0.039 | 0.011 | 0.026 | 0.027 | SUSDP41 | 5 | 17 | | **0.023** | < 0.0095 U |

**Table 4-16**
**Groundwater Results**
**PCBs Concentrations in LWZ Direct Push Groundwater Samples**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | DP30 | DP31 | DP32 | DP34 | DP40 | DP46 | SUSDP03 | SUSDP07 | SUSDP08 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW30(50-55)N | DPW31(37-42)N | DPW32(38-43)N | DPW3453N | DPW4050-55N | DPW4637-42N | DPW0347-52N | DPW0743-48N | DPW08 34-39N |
| | | | Depth | 50 - 55 ft | 37 - 42 ft | 38 - 43 ft | 52.5 - 54 ft | 50 - 55 ft | 37 - 42 ft | 47 - 52 ft | 43 - 48 ft | 34 - 39 ft |
| | | | Sample Date | 4/3/2013 | 4/1/2013 | 4/1/2013 | 3/29/2013 | 5/28/2013 | 6/5/2013 | 5/22/2013 | 5/22/2013 | 5/24/2013 |
| | | | Type | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| Aroclor-1016 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1221 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1232 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1242 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1248 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1254 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | **0.011** | **0.030** | **0.027** |
| Aroclor-1260 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1262 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1268 | ug/l | | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | **0.011** | **0.030** | **0.027** |

## Table 4-16
## Groundwater Results
## PCBs Concentrations in LWZ Direct Push Groundwater Samples
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SUSDP09 | SUSDP13 | SUSDP13 | SUSDP19 | SUSDP24 | SUSDP41 |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPW0945-50N | DPW1345-50N | DPW1345-50R | DPW191944.5-49.5N | DPW2448.5-53.5N | DPW41 39-44N |
| | | | Depth | 45 - 50 ft | 45 - 50 ft | 45 - 50 ft | 44.5 - 49.5 ft | 48.5 - 53.5 ft | 39 - 44 ft |
| | | | Sample Date | 6/11/2013 | 5/29/2013 | 5/29/2013 | 6/5/2013 | 6/4/2013 | 5/24/2013 |
| | | | Type | N | N | FD | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | |
| Aroclor-1016 | ug/l | | | < 0.0094 U | < 0.0098 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0094 U |
| Aroclor-1221 | ug/l | | | < 0.0094 U | < 0.0098 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0094 U |
| Aroclor-1232 | ug/l | | | < 0.0094 U | < 0.0098 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0094 U |
| Aroclor-1242 | ug/l | | | < 0.0094 U | < 0.0098 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0094 U |
| Aroclor-1248 | ug/l | | | < 0.0094 U | < 0.0098 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0094 U |
| Aroclor-1254 | ug/l | | | < 0.0094 U | < 0.0098 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | **0.039** |
| Aroclor-1260 | ug/l | | | < 0.0094 U | < 0.0098 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0094 U |
| Aroclor-1262 | ug/l | | | < 0.0094 U | < 0.0098 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0094 U |
| Aroclor-1268 | ug/l | | | < 0.0094 U | < 0.0098 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0094 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | | < 0.0094 U | < 0.0098 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | **0.039** |

Notes:

Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.

D = Dissolved

T = Total

N = Normal

FD = Field Duplicate

EN = Essential nutrient

HHRA screening values provided for detected compounds or compound sums where applicable.

Heirarchy: 1) Lower of DOEE/MCL (primary standards). 2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.

J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte

J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.

JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.

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

R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ug/l = micrograms per liter

**Table 4-17**
**Groundwater Results**
**Inorganic Concentrations in UWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | MW01A | MW02A | MW03A | MW04A | MW05A | MW06A | MW06A | MW07A | MW08A | MW09A | MW10A | MW11A | MW12A | MW13A | MW14A | MW15A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Sample ID | MW01AN | MW02AN | MW03AN | MW04AN | MW05AN | MW06AN | MW06AR | MW07AN | MW08AN | MW09AN | MW10AN | MW11AN | MW12AN | MW13AN | MW14AN | MW15AN |
| | | | | | | | | | | | | Sample Date | 11/5/2014 | 11/5/2014 | 11/4/2014 | 11/4/2014 | 11/4/2014 | 11/4/2014 | 11/4/2014 | 11/5/2014 | 11/10/2014 | 11/3/2014 | 11/4/2014 | 11/4/2014 | 11/3/2014 | 11/3/2014 | 11/3/2014 | 11/3/2014 |
| | | | | | | | | | | | | Type | N | N | N | N | N | N | FD | N | N | N | N | N | N | N | N | N |
| Aluminum | ug/l | 2000 | SW6020A | D | 7429-90-5 | | | | | | | 16 | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U |
| Antimony | ug/l | 6 | SW6020A | D | 7440-36-0 | | | | | | | 16 | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Arsenic | ug/l | 10 | SW6020A | D | 7440-38-2 | 3 | 0.51 | 1.4 | 1.2 | MW07A | 9 | 16 | < 1.0 U | **2.3** | **1.2** | < 1.0 U | < 1.0 U | **0.89 J** | < 1.0 U | **3.0** | **1.2** | **0.85 J** | **1.3** | < 1.0 U | < 1.0 U | **0.51 J** | < 1.0 U | **1.5** |
| Barium | ug/l | 1000 | SW6020A | D | 7440-39-3 | 420 | 16 | 110 | 70 | MW12A | 16 | 16 | **180** | **16** | **92** | **86** | **34** | **75** | **72** | **32** | **58** | **340** | **90** | **38** | **420** | **53** | **43** | **68** |
| Beryllium | ug/l | 4 | SW6020A | D | 7440-41-7 | 0.043 | 0.043 | 0.043 | 0.043 | MW07A | 1 | 16 | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 UJ | < 1.0 UJ | **0.043 J-** | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cadmium | ug/l | 5 | SW6020A | D | 7440-43-9 | 0.11 | 0.11 | 0.11 | 0.11 | MW14A | 1 | 16 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.11 J** | < 1.0 U |
| Calcium | ug/l | EN | SW6020A | D | 7440-70-2 | 240000 | 17000 | 76000 | 59000 | MW12A | 16 | 16 | **72000** | **50000** | **37000** | **57000** | **51000** | **64000** | **61000** | **200000** | **38000** | **72000** | **120000** | **20000** | **240000** | **60000** | **57000** | **17000** |
| Chromium | ug/l | 100 | SW6020A | D | 7440-47-3 | | | | | | | 16 | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.4 U | < 2.3 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Cobalt | ug/l | 0.6 | SW6020A | D | 7440-48-4 | 30 | 0.2 | 8.2 | 5.3 | MW04A | 11 | 16 | **8.5** | < 0.50 U | **5.8** | **30** | **29** | **0.20 J+** | **0.25 J+** | **0.42 J+** | **5.3** | < 0.85 U | **0.27 J+** | **2.2** | < 1.1 U | < 0.50 U | < 1.5 U | **8.0** |
| Copper | ug/l | 1300 | SW6020A | D | 7440-50-8 | | | | | | | 16 | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Iron | ug/l | 1400 | SW6020A | D | 7439-89-6 | 550 | 540 | 550 | 550 | MW09A | 2 | 16 | < 50 U | < 50 U | < 50 U | < 50 U | < 77 U | < 50 U | < 50 U | < 50 U | < 50 U | **550** | < 50 U | < 50 U | < 50 U | < 50 U | < 67 U | **540** |
| Lead | ug/l | 15 | SW6020A | D | 7439-92-1 | | | | | | | 16 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Magnesium | ug/l | EN | SW6020A | D | 7439-95-4 | 23000 | 4100 | 13000 | 13000 | MW12A | 16 | 16 | **11000** | **5000** | **4300** | **15000** | **8300** | **21000** | **19000** | **10000** | **7300** | **18000** | **16000** | **4100** | **23000** | **14000** | **15000** | **9800** |
| Manganese | ug/l | 43 | SW6020A | D | 7439-96-5 | 5000 | 3.5 | 1500 | 700 | MW04A | 16 | 16 | **3800** | **200** | **3800** | **5000** | **4100** | **3.5 J+** | **3.5 J+** | **140** | **1300** | **2000** | **690** | **430** | **1100** | **580** | **110** | **700** |
| Nickel | ug/l | 39 | SW6020A | D | 7440-02-0 | 9.5 | 0.28 | 3.2 | 1.6 | MW14A | 12 | 16 | **0.28 J-** | **0.41 J** | **3.0** | **5.7** | **8.2** | **1.1 J-** | **0.85 J-** | **0.58 J-** | **2.0** | < 1.0 U | < 1.0 UJ | **1.1** | < 1.0 U | < 1.0 U | **9.5** | **5.3** |
| Potassium | ug/l | EN | SW6020A | D | 7440-09-7 | 23000 | 2600 | 8300 | 6500 | MW07A | 16 | 16 | **6200** | **7400** | **5900** | **6800** | **7000** | **6100** | **6000** | **23000** | **6000** | **12000** | **8800** | **4000** | **17000** | **8000** | **5500** | **2600** |
| Selenium | ug/l | 50 | SW6020A | D | 7782-49-2 | 1.2 | 1.2 | 1.2 | 1.2 | MW14A | 1 | 16 | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **1.2 J** | < 5.0 U |
| Silver | ug/l | 50 | SW6020A | D | 7440-22-4 | | | | | | | 16 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | EN | SW6020A | D | 7440-23-5 | 680000 | 14000 | 140000 | 98000 | MW12A | 16 | 16 | **100000** | **96000** | **42000** | **160000** | **54000** | **210000** | **200000** | **65000** | **26000** | **190000** | **99000** | **14000** | **680000** | **250000** | **52000** | **35000** |
| Thallium | ug/l | 2 | SW6020A | D | 7440-28-0 | 0.043 | 0.043 | 0.043 | 0.043 | MW08A | 1 | 16 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.043 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Vanadium | ug/l | 8.6 | SW6020A | D | 7440-62-2 | 6.6 | 1.8 | 4.6 | 4.6 | MW06A | 10 | 16 | **4.7 J+** | **6.5 J+** | **4.5 J+** | **2.6 J** | **6.3 J+** | **1.8 J** | **6.6 J** | **3.1 J** | **4.1 J+** | < 4.9 U | < 1.0 UJ | **5.8 J+** | < 5.0 U | < 3.0 U | < 3.4 U | < 1.0 U |
| Zinc | ug/l | 600 | SW6020A | D | 7440-66-6 | 13 | 13 | 13 | 13 | MW15A | 1 | 16 | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 7.2 U | < 5.0 U | < 5.1 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 11 U | **13** |
| Aluminum | ug/l | 2000 | SW6020A | T | 7429-90-5 | 11000 | 53 | 1200 | 470 | MW15A | 16 | 16 | **730 J+** | **160 J+** | **210 J+** | **500 J+** | **230 J+** | **61 J+** | **53 J+** | **960 J+** | **1600** | **470 J+** | **1000 J** | **320 J+** | **470 J+** | **660** | **330 J+** | **11000** |
| Antimony | ug/l | 6 | SW6020A | T | 7440-36-0 | | | | | | | 16 | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 UJ | < 2.0 UJ | < 2.0 UJ | < 2.0 UJ | < 2.0 U | < 20 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Arsenic | ug/l | 10 | SW6020A | T | 7440-38-2 | 14 | 2.3 | 5.9 | 6 | MW08A | 16 | 16 | **2.5 J+** | **3.7 J+** | **6.1 J+** | **8.0 J+** | **6.5 J+** | **8.3 J+** | **7.0 J+** | **7.1 J+** | **14 J+** | **4.6 J** | **5.8 J+** | **3.4 J+** | **3.1 J** | **7.4 J** | **2.3 J** | **5.2 J** |
| Barium | ug/l | 1000 | SW6020A | T | 7440-39-3 | 560 | 18 | 150 | 79 | MW12A | 15 | 16 | **270** | **18** | **98** | **110** | **38** | **79** | **76** | **44** | < 100 U | **400** | **190** | **42** | **560** | **63** | **47** | **230** |
| Beryllium | ug/l | 4 | SW6020A | T | 7440-41-7 | 2.6 | 0.041 | 0.32 | 0.064 | MW15A | 10 | 16 | **0.072 J+** | < 1.0 U | < 1.0 U | **0.041 J** | **0.055 J** | < 1.0 U | < 1.0 U | **0.056 J+** | < 10 U | **0.050 J** | **0.11 J+** | **0.048 J** | < 1.0 U | **0.11 J** | **0.092 J** | **2.6** |
| Cadmium | ug/l | 5 | SW6020A | T | 7440-43-9 | 6.1 | 6.1 | 6.1 | 6.1 | MW15A | 1 | 16 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 10 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **6.1** |
| Calcium | ug/l | EN | SW6020A | T | 7440-70-2 | 240000 | 17000 | 82000 | 64000 | MW12A | 16 | 16 | **80000** | **53000** | **39000** | **68000** | **54000** | **68000** | **65000** | **220000** | **46000** | **71000** | **140000** | **21000** | **240000** | **60000** | **63000** | **17000** |
| Chromium | ug/l | 100 | SW6020A | T | 7440-47-3 | 38 | 8.1 | 18 | 8.8 | MW15A | 3 | 16 | < 3.4 U | < 2.0 U | < 4.3 U | < 4.8 U | < 5.6 U | < 7.3 U | **8.8 J+** | < 2.2 U | < 20 U | < 2.1 U | < 2.9 U | **8.1** | < 2.0 U | < 3.5 U | < 2.0 U | **38** |
| Cobalt | ug/l | 0.6 | SW6020A | T | 7440-48-4 | 87 | 0.29 | 12 | 1.6 | MW15A | 16 | 16 | **13** | **0.74 J+** | **6.7** | **33** | **29** | **0.29 J+** | **0.29 J+** | **1.2 J+** | **7.9** | **1.3** | **1.2 J+** | **2.6** | **1.7** | **0.67** | **1.4** | **87** |
| Copper | ug/l | 1300 | SW6020A | T | 7440-50-8 | 28 | 28 | 28 | 28 | MW15A | 1 | 16 | < 2.0 U | < 2.0 U | < 3.1 U | < 2.4 U | < 3.5 U | < 2.4 U | < 2.0 U | < 2.3 U | < 20 U | < 2.1 U | < 2.9 U | < 3.2 U | < 2.0 U | < 2.0 U | < 2.0 U | **28** |
| Iron | ug/l | 1400 | SW6020A | T | 7439-89-6 | 44000 | 210 | 15000 | 8700 | MW01A MW12A | 16 | 16 | **44000** | **820** | **1900** | **12000** | **9400** | **240** | **210** | **6900** | **7900** | **27000 J** | **33000** | **1800** | **44000 J** | **17000 J** | **2600 J** | **28000 J** |
| Lead | ug/l | 15 | SW6020A | T | 7439-92-1 | 15 | 0.28 | 2.2 | 1 | MW15A | 13 | 16 | **1.4 J** | < 1.0 U | **0.48 J** | **0.73 J** | **0.61 J** | **0.28 J** | < 1.0 U | **1.8 J** | < 10 U | **0.59 J** | **3.0 J** | **1.0 J** | **2.6** | **1.1** | **0.59 J** | **15** |
| Magnesium | ug/l | EN | SW6020A | T | 7439-95-4 | 23000 | 3800 | 13000 | 13000 | MW12A | 16 | 16 | **12000** | **5100** | **3800** | **17000** | **7700** | **21000 J** | **20000** | **11000** | **8600** | **17000** | **18000** | **3800** | **23000** | **14000** | **15000** | **9700** |
| Manganese | ug/l | 43 | SW6020A | T | 7439-96-5 | 5700 | 3.6 | 1700 | 990 | MW04A | 16 | 16 | **4100** | **280** | **3900** | **5700** | **4200** | **3.9 J** | **3.6 J+** | **170** | **1500** | **2000** | **870** | **440** | **1100** | **610** | **81** | **1600** |
| Nickel | ug/l | 39 | SW6020A | T | 7440-02-0 | 49 | 0.52 | 6.4 | 2.3 | MW15A | 15 | 16 | **2.3** | **0.85 J-** | **4.0** | **7.9** | **10** | **2.0** | **1.8** | **2.3** | **4.1 J** | **0.52 J** | **1.6 J-** | **2.1** | < 1.0 U | **1.1** | **5.9** | **49** |
| Potassium | ug/l | EN | SW6020A | T | 7440-09-7 | 25000 | 3800 | 8900 | 7400 | MW07A | 16 | 16 | **7100** | **7900** | **6600** | **8200** | **7600** | **6900 J** | **6600** | **25000** | **7200** | **12000** | **10000** | **4600** | **16000** | **7900** | **5700** | **3800** |
| Selenium | ug/l | 50 | SW6020A | T | 7782-49-2 | | | | | | | 16 | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 50 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Silver | ug/l | 50 | SW6020A | T | 7440-22-4 | | | | | | | 16 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 10 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | EN | SW6020A | T | 7440-23-5 | 650000 | 16000 | 150000 | 110000 | MW12A | 16 | 16 | **110000 J** | **100000 J** | **47000 J** | **190000 J** | **59000 J** | **220000 J** | **210000 J** | **68000 J** | **30000** | **190000** | **110000 J** | **16000 J** | **650000** | **240000** | **56000** | **30000** |
| Thallium | ug/l | 2 | SW6020A | T | 7440-28-0 | 0.26 | 0.024 | 0.12 | 0.065 | MW15A | 3 | 16 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 10 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.024 J** | **0.065 J** | **0.26 J** |
| Vanadium | ug/l | 8.6 | SW6020A | T | 7440-62-2 | 83 | 3.1 | 18 | 6.6 | MW15A | 12 | 16 | **9.8 J+** | **3.1 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **5.3 J+** | **19 J+** | **52 J+** | **6.1 J+** | **13 J** | **3.6 J+** | **5.5 J+** | **7.1 J+** | **5.5 J+** | **83 J+** |
| Zinc | ug/l | 600 | SW6020A | T | 7440-66-6 | 63 | 11 | 37 | 37 | MW15A | 2 | 16 | < 6.1 U | < 5.0 U | < 5.0 U | < 5.0 U | **11 J+** | < 5.0 U | < 5.0 U | < 5.2 U | < 50 U | < 5.0 U | < 6.8 U | < 5.0 U | < 5.0 U | < 6.0 U | < 7.8 U | **63** |
| Mercury | ug/l | 2 | SW7470A | D | 7439-97-6 | | | | | | | 16 | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 UJ | < 0.20 U | < 0.20 U | < 0.20 UJ | < 0.20 UJ | < 0.20 UJ | < 0.20 UJ |
| Mercury | ug/l | 2 | SW7470A | T | 7439-97-6 | | | | | | | 16 | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
D = Dissolved
T = Total
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable.
Heirarchy: 1) Lower of DOEE/MCL (primary standards). 2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
ug/l = micrograms per liter

J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

**Table 4-18**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Location ID | MW01A | MW01A | MW01A | MW02A | MW02A | MW03A | MW04A | MW05A | MW05A |
| | | | | | | | | | | | | | Sample ID | MW01AN | MW01A122216N | MW01A122216R | MW02AN | MW02A122216N | MW03AN | MW04AN | MW05AN | MW05A122116N |
| | | | | | | | | | | | | | Sample Date | 11/5/2014 | 12/22/2016 | 12/22/2016 | 11/5/2014 | 12/22/2016 | 11/4/2014 | 11/4/2014 | 11/4/2014 | 12/21/2016 |
| | | | | | | | | | | | | | Type | N | N | FD | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/l | | M8015D | N | TPH | | | | | | | 1 | | | | | | < 0.034 U | | | | |
| 1,1,1-Trichloroethane | ug/l | 200 | SW8260B/SW8260C | N | 71-55-6 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | SW8260B/SW8260C | N | 79-34-5 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | SW8260B/SW8260C | N | 76-13-1 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloroethane | ug/l | 5 | SW8260B/SW8260C | N | 79-00-5 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethane | ug/l | 2.8 | SW8260B/SW8260C | N | 75-34-3 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethene | ug/l | 7 | SW8260B/SW8260C | N | 75-35-4 | 0.72 | 0.72 | 0.72 | 0.72 | MW09A | 1 | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | SW8260B/SW8260C | N | 87-61-6 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,4-Trichlorobenzene | ug/l | 70 | SW8260B/SW8260C | N | 120-82-1 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | SW8260B/SW8260C | N | 96-12-8 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromoethane | ug/l | 0.05 | SW8260B/SW8260C | N | 106-93-4 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichlorobenzene | ug/l | 600 | SW8260B/SW8260C | N | 95-50-1 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloroethane | ug/l | 5 | SW8260B/SW8260C | N | 107-06-2 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloropropane | ug/l | 5 | SW8260B/SW8260C | N | 78-87-5 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,3-Dichlorobenzene | ug/l | 0.48 | SW8260B/SW8260C | N | 541-73-1 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dichlorobenzene | ug/l | 75 | SW8260B/SW8260C | N | 106-46-7 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dioxane | ug/l | 0.46 | SW8260B/SW8260C | N | 123-91-1 | | | | | | | 25 | | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U |
| 2-Butanone | ug/l | 560 | SW8260B/SW8260C | N | 78-93-3 | 21 | 7.5 | 14 | 14 | MW09A | 2 | 25 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **7.5** | < 5.0 U | < 5.0 U | < 5.0 U |
| 2-Hexanone | ug/l | 3.8 | SW8260B/SW8260C | N | 591-78-6 | 0.47 | 0.47 | 0.47 | 0.47 | MW09A | 1 | 25 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 UJ | < 5.0 UJ | < 5.0 UJ | < 5.0 U |
| 4-Methyl-2-pentanone | ug/l | 630 | SW8260B/SW8260C | N | 108-10-1 | 0.64 | 0.64 | 0.64 | 0.64 | MW09A | 1 | 25 | | < 5.0 UJ | < 5.0 U | < 5.0 U | < 5.0 UJ | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Acetone | ug/l | 1400 | SW8260B/SW8260C | N | 67-64-1 | 25 | 2.9 | 8 | 5.3 | MW09A | 6 | 25 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **4.1 J** | < 5.0 U | **2.9 J** | < 5.0 U |
| Benzene | ug/l | 5 | SW8260B/SW8260C | N | 71-43-2 | 0.27 | 0.27 | 0.27 | 0.27 | MW09A | 1 | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromochloromethane | ug/l | 8.3 | SW8260B/SW8260C | N | 74-97-5 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromodichloromethane | ug/l | 80 | SW8260B/SW8260C | N | 75-27-4 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromoform | ug/l | 80 | SW8260B/SW8260C | N | 75-25-2 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromomethane | ug/l | 0.75 | SW8260B/SW8260C | N | 74-83-9 | | | | | | | 25 | | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 U |
| Butyl alcohol, tert- | ug/l | 14 | SW8260B/SW8260C | N | 75-65-0 | | | | | | | 9 | | | < 40 U | < 40 U | | < 40 U | | | | < 40 U |
| Carbon Disulfide | ug/l | 81 | SW8260B/SW8260C | N | 75-15-0 | 0.6 | 0.6 | 0.6 | 0.6 | MW09A | 1 | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Carbon Tetrachloride | ug/l | 5 | SW8260B/SW8260C | N | 56-23-5 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chlorobenzene | ug/l | 100 | SW8260B/SW8260C | N | 108-90-7 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroethane | ug/l | 2100 | SW8260B/SW8260C | N | 75-00-3 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 U | < 1.0 U |
| Chloroform | ug/l | 80 | SW8260B/SW8260C | N | 67-66-3 | 1.3 | 0.22 | 0.89 | 0.99 | MW09A | 6 | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **1.2** | **0.22 J** | **0.77 J** | < 1.0 U |
| Chloromethane | ug/l | 19 | SW8260B/SW8260C | N | 74-87-3 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,2-Dichloroethylene | ug/l | 70 | SW8260B/SW8260C | N | 156-59-2 | 18 | 0.34 | 4 | 0.88 | MW09A | 8 | 25 | | **0.92 J** | **0.83 J** | **0.77 J** | < 1.0 U | **0.34 J** | < 1.0 U | < 1.0 U | **0.38 J** | **3.6** |
| cis-1,3-Dichloropropene | ug/l | 0.47 | SW8260B/SW8260C | N | 10061-01-5 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cyclohexane | ug/l | 1300 | SW8260B/SW8260C | N | 110-82-7 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dibromochloromethane | ug/l | 80 | SW8260B/SW8260C | N | 124-48-1 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dichlorodifluoromethane | ug/l | 20 | SW8260B/SW8260C | N | 75-71-8 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 U | < 1.0 U |
| Diisopropyl ether | ug/l | 150 | SW8260B/SW8260C | N | 108-20-3 | 0.29 | 0.27 | 0.28 | 0.28 | MW01A | 2 | 9 | | | **0.29 J** | **0.27 J** | | < 1.0 U | | | | < 1.0 U |
| Ethylbenzene | ug/l | 700 | SW8260B/SW8260C | N | 100-41-4 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Ethyl-Tert-Butyl-Ether | ug/l | | SW8260B/SW8260C | N | 637-92-3 | | | | | | | 9 | | | < 1.0 U | < 1.0 U | | < 1.0 U | | | | < 1.0 U |
| Isopropylbenzene | ug/l | 45 | SW8260B/SW8260C | N | 98-82-8 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| m, p-Xylene | ug/l | 10000 | SW8260B/SW8260C | N | XYLMP | | | | | | | 25 | | < 2.0 U | < 1.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 1.0 U |
| Methyl Acetate | ug/l | 2000 | SW8260B/SW8260C | N | 79-20-9 | | | | | | | 25 | | < 1.0 U | < 5.0 U | < 5.0 U | < 1.0 U | < 5.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 5.0 U |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | SW8260B/SW8260C | N | 1634-04-4 | 8.3 | 0.26 | 1.9 | 0.78 | MW15A | 11 | 25 | | **1.6** | **1.7** | **1.7** | < 1.0 U | < 1.0 U | < 1.0 U | **0.29 J** | **0.73 J** | **0.78 J** |
| Methylcyclohexane | ug/l | 1300 | SW8260B/SW8260C | N | 108-87-2 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methylene Chloride | ug/l | 5 | SW8260B/SW8260C | N | 75-09-2 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| o-Xylene | ug/l | 10000 | SW8260B/SW8260C | N | 95-47-6 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Styrene | ug/l | 100 | SW8260B/SW8260C | N | 100-42-5 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | SW8260B/SW8260C | N | 994-05-8 | 0.31 | 0.31 | 0.31 | 0.31 | MW15A | 1 | 9 | | | < 1.0 U | < 1.0 U | | < 1.0 U | | | | < 1.0 U |
| Tetrachloroethylene | ug/l | 5 | SW8260B/SW8260C | N | 127-18-4 | 320 | 0.18 | 31 | 2 | MW09A | 16 | 25 | | **4.4** | **5.4 J-** | **5.5** | **2.3** | **1.8** | **0.32 J** | **0.25 J** | **2.2** | **15** |
| Toluene | ug/l | 1000 | SW8260B/SW8260C | N | 108-88-3 | 0.34 | 0.31 | 0.33 | 0.33 | MW03A | 2 | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.34 J** | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,2-Dichloroethene | ug/l | 100 | SW8260B/SW8260C | N | 156-60-5 | 0.22 | 0.22 | 0.22 | 0.22 | MW09A | 1 | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,3-Dichloropropene | ug/l | 0.47 | SW8260B/SW8260C | N | 10061-02-6 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U |
| Trichloroethene | ug/l | 5 | SW8260B/SW8260C | N | 79-01-6 | 41 | 0.22 | 7.7 | 1.2 | MW09A | 8 | 25 | | **0.43 J** | **1.2** | **1.1** | < 1.0 U | **0.22 J** | < 1.0 U | < 1.0 U | **0.23 J** | **2.3** |

**Table 4-18**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | Location ID | MW01A | MW01A | MW01A | MW02A | MW02A | MW03A | MW04A | MW05A | MW05A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample ID | MW01AN | MW01A122216N | MW01A122216R | MW02AN | MW02A122216N | MW03AN | MW04AN | MW05AN | MW05A122116N |
| | | | | | | | | | | | | | Sample Date | 11/5/2014 | 12/22/2016 | 12/22/2016 | 11/5/2014 | 12/22/2016 | 11/4/2014 | 11/4/2014 | 11/4/2014 | 12/21/2016 |
| | | | | | | | | | | | | | Type | N | N | FD | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | | | | | | | | |
| Trichlorofluoromethane | ug/l | 520 | SW8260B/SW8260C | N | 75-69-4 | | | | | | | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 U | < 1.0 U |
| Vinyl Chloride | ug/l | 2 | SW8260B/SW8260C | N | 75-01-4 | 5.3 | 5.3 | 5.3 | 5.3 | MW09A | 1 | 25 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Xylenes (total) | ug/l | 10000 | SW8260B/SW8260C | N | 1330-20-7 | | | | | | | 25 | | < 2.0 U | < 1 U | < 1 U | < 2.0 U | < 1 U | < 2.0 U | < 2.0 U | < 2.0 U | < 1 U |
| 1,1'-Biphenyl | ug/l | 0.083 | SW8270D LL | N | 92-52-4 | 0.27 | 0.27 | 0.27 | 0.27 | MW02A | 1 | 16 | | < 1.0 U | | | **0.27 J** | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | SW8270D LL | N | 95-94-3 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | SW8270D LL | N | 108-60-1 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | SW8270D LL | N | 58-90-2 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 2,4,5-Trichlorophenol | ug/l | 120 | SW8270D LL | N | 95-95-4 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | SW8270D LL | N | 88-06-2 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 2,4-Dichlorophenol | ug/l | 4.6 | SW8270D LL | N | 120-83-2 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 2,4-Dimethylphenol | ug/l | 36 | SW8270D LL | N | 105-67-9 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 2,4-Dinitrophenol | ug/l | 3.9 | SW8270D LL | N | 51-28-5 | | | | | | | 16 | | < 5.0 U | | | < 4.8 U | | < 5.2 U | < 5.4 U | < 5.7 U | |
| 2,4-Dinitrotoluene | ug/l | 0.24 | SW8270D LL | N | 121-14-2 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 2,6-Dinitrotoluene | ug/l | 0.049 | SW8270D LL | N | 606-20-2 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 2-Chloronaphthalene | ug/l | 75 | SW8270D LL | N | 91-58-7 | | | | | | | 16 | | < 0.20 U | | | < 0.19 U | | < 0.21 U | < 0.22 U | < 0.23 U | |
| 2-Chlorophenol | ug/l | 9.1 | SW8270D LL | N | 95-57-8 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 2-Methylnaphthalene | ug/l | 3.6 | SW8270D LL | N | 91-57-6 | 1.2 | 0.026 | 0.42 | 0.029 | MW02A | 3 | 16 | | **0.029 J** | | | **1.2** | | < 0.21 U | < 0.22 U | < 0.23 U | |
| 2-Methylphenol | ug/l | 93 | SW8270D LL | N | 95-48-7 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 2-Nitroaniline | ug/l | 19 | SW8270D LL | N | 88-74-4 | | | | | | | 16 | | < 5.0 U | | | < 4.8 U | | < 5.2 U | < 5.4 U | < 5.7 U | |
| 2-Nitrophenol | ug/l | 580 | SW8270D LL | N | 88-75-5 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | SW8270D LL | N | 91-94-1 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 3-Nitroaniline | ug/l | 3.8 | SW8270D LL | N | 99-09-2 | | | | | | | 16 | | < 5.0 U | | | < 4.8 U | | < 5.2 U | < 5.4 U | < 5.7 U | |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | SW8270D LL | N | 534-52-1 | | | | | | | 16 | | < 5.0 U | | | < 4.8 U | | < 5.2 U | < 5.4 U | < 5.7 U | |
| 4-Bromophenyl-phenylether | ug/l | | SW8270D LL | N | 101-55-3 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 4-Chloro-3-methylphenol | ug/l | 140 | SW8270D LL | N | 59-50-7 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 4-Chloroaniline | ug/l | 0.37 | SW8270D LL | N | 106-47-8 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 4-Chlorophenyl-phenylether | ug/l | | SW8270D LL | N | 7005-72-3 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 4-Methylphenol | ug/l | 190 | SW8270D LL | N | 106-44-5 | 0.53 | 0.29 | 0.38 | 0.33 | MW10A | 3 | 16 | | **0.33 J** | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| 4-Nitroaniline | ug/l | 3.8 | SW8270D LL | N | 100-01-6 | | | | | | | 16 | | < 5.0 U | | | < 4.8 U | | < 5.2 U | < 5.4 U | < 5.7 U | |
| 4-Nitrophenol | ug/l | 580 | SW8270D LL | N | 100-02-7 | | | | | | | 16 | | < 5.0 U | | | < 4.8 U | | < 5.2 U | < 5.4 U | < 5.7 U | |
| Acenaphthene | ug/l | 53 | SW8270D LL | N | 83-32-9 | 1.3 | 0.12 | 0.75 | 0.84 | MW02A | 3 | 19 | | < 0.20 U | < 0.18 U | < 0.20 U | **1.3** | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| Acenaphthylene | ug/l | 53 | SW8270D LL | N | 208-96-8 | 0.086 | 0.086 | 0.086 | 0.086 | MW02A | 1 | 19 | | < 0.20 U | < 0.18 U | < 0.20 U | **0.086 J** | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| Acetophenone | ug/l | 190 | SW8270D LL | N | 98-86-2 | | | | | | | 16 | | < 2.0 U | | | < 1.9 U | | < 2.1 U | < 2.2 U | < 2.3 U | |
| Anthracene | ug/l | 180 | SW8270D LL | N | 120-12-7 | 0.044 | 0.028 | 0.036 | 0.036 | MW02A | 2 | 19 | | < 0.20 U | < 0.18 U | < 0.20 U | **0.044 J** | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| Atrazine | ug/l | 3 | SW8270D LL | N | 1912-24-9 | | | | | | | 16 | | < 2.0 U | | | < 1.9 U | | < 2.1 U | < 2.2 U | < 2.3 U | |
| Benzaldehyde | ug/l | 19 | SW8270D LL | N | 100-52-7 | | | | | | | 16 | | < 2.0 U | | | < 1.9 U | | < 2.1 U | < 2.2 U | < 2.3 U | |
| Benzo(a)anthracene | ug/l | 0.03 | SW8270D LL | N | 56-55-3 | | | | | | | 19 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.19 U | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| Benzo(a)pyrene | ug/l | 0.2 | SW8270D LL | N | 50-32-8 | | | | | | | 19 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.19 U | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| Benzo(b)fluoranthene | ug/l | 0.25 | SW8270D LL | N | 205-99-2 | | | | | | | 19 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.19 U | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| Benzo(g,h,i)perylene | ug/l | 12 | SW8270D LL | N | 191-24-2 | | | | | | | 19 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.19 U | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| Benzo(k)fluoranthene | ug/l | 2.5 | SW8270D LL | N | 207-08-9 | | | | | | | 19 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.19 U | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | SW8270D LL | N | 111-91-1 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | SW8270D LL | N | 111-44-4 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | SW8270D LL | N | 117-81-7 | | | | | | | 16 | | < 2.0 U | | | < 1.9 U | | < 2.1 U | < 2.2 U | < 2.3 U | |
| Butylbenzylphthalate | ug/l | 16 | SW8270D LL | N | 85-68-7 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| Caprolactam | ug/l | 990 | SW8270D LL | N | 105-60-2 | 1.7 | 1.7 | 1.7 | 1.7 | MW09A | 1 | 16 | | < 5.0 U | | | < 4.8 U | | < 5.2 U | < 5.4 U | < 5.7 U | |
| Carbazole | ug/l | 29 | SW8270D LL | N | 86-74-8 | 0.27 | 0.27 | 0.27 | 0.27 | MW02A | 1 | 16 | | < 1.0 U | | | **0.27 J** | | < 1.0 U | < 1.1 U | < 1.1 U | |
| Chrysene | ug/l | 25 | SW8270D LL | N | 218-01-9 | | | | | | | 19 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.19 U | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | SW8270D LL | N | 53-70-3 | | | | | | | 19 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.19 U | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| Dibenzofuran | ug/l | 0.79 | SW8270D LL | N | 132-64-9 | 0.71 | 0.71 | 0.71 | 0.71 | MW02A | 1 | 16 | | < 1.0 U | | | **0.71 J** | | < 1.0 U | < 1.1 U | < 1.1 U | |
| Diethylphthalate | ug/l | 1500 | SW8270D LL | N | 84-66-2 | 0.37 | 0.37 | 0.37 | 0.37 | MW06A | 1 | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| Dimethylphthalate | ug/l | 1500 | SW8270D LL | N | 131-11-3 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| Di-n-butylphthalate | ug/l | 90 | SW8270D LL | N | 84-74-2 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| Di-n-octylphthalate | ug/l | 20 | SW8270D LL | N | 117-84-0 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| Fluoranthene | ug/l | 80 | SW8270D LL | N | 206-44-0 | 0.088 | 0.065 | 0.077 | 0.077 | MW02A | 2 | 19 | | < 0.20 U | < 0.18 U | < 0.20 U | **0.088 J** | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |

**Table 4-18**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | Location ID | MW01A | MW01A | MW01A | MW02A | MW02A | MW03A | MW04A | MW05A | MW05A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample ID | MW01AN | MW01A122216N | MW01A122216R | MW02AN | MW02A122216N | MW03AN | MW04AN | MW05AN | MW05A122116N |
| | | | | | | | | | | | | | Sample Date | 11/5/2014 | 12/22/2016 | 12/22/2016 | 11/5/2014 | 12/22/2016 | 11/4/2014 | 11/4/2014 | 11/4/2014 | 12/21/2016 |
| | | | | | | | | | | | | | Type | N | N | FD | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | | | | | | | | |
| Fluorene | ug/l | 29 | SW8270D LL | N | 86-73-7 | 0.64 | 0.056 | 0.35 | 0.35 | MW02A | 2 | 19 | | < 0.20 U | < 0.18 U | < 0.20 U | **0.64** | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| Hexachlorobenzene | ug/l | 1 | SW8270D LL | N | 118-74-1 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| Hexachlorobutadiene | ug/l | 0.14 | SW8270D LL | N | 87-68-3 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| Hexachlorocyclo-pentadiene | ug/l | 50 | SW8270D LL | N | 77-47-4 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| Hexachloroethane | ug/l | 0.33 | SW8270D LL | N | 67-72-1 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | SW8270D LL | N | 193-39-5 | | | | | | | 19 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.19 U | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| Isophorone | ug/l | 78 | SW8270D LL | N | 78-59-1 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| Naphthalene | ug/l | 0.17 | SW8270D LL | N | 91-20-3 | 13 | 0.046 | 3.3 | 0.12 | MW02A | 4 | 19 | | **0.20** | < 0.18 U | < 0.20 U | **13 J** | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| Nitrobenzene | ug/l | 0.14 | SW8270D LL | N | 98-95-3 | | | | | | | 16 | | < 2.0 U | | | < 1.9 U | | < 2.1 U | < 2.2 U | < 2.3 U | |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | SW8270D LL | N | 621-64-7 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| N-Nitrosodiphenylamine | ug/l | 12 | SW8270D LL | N | 86-30-6 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| Pentachlorophenol | ug/l | 1 | SW8270D LL | N | 87-86-5 | | | | | | | 16 | | < 1.0 U | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| Phenanthrene | ug/l | 180 | SW8270D LL | N | 85-01-8 | 0.67 | 0.16 | 0.42 | 0.42 | MW02A | 2 | 19 | | < 0.20 U | < 0.18 U | < 0.20 U | **0.67** | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| Phenol | ug/l | 580 | SW8270D LL | N | 108-95-2 | 0.57 | 0.57 | 0.57 | 0.57 | MW01A | 1 | 16 | | **0.57 J** | | | < 0.96 U | | < 1.0 U | < 1.1 U | < 1.1 U | |
| Pyrene | ug/l | 12 | SW8270D LL | N | 129-00-0 | 0.05 | 0.042 | 0.046 | 0.046 | MW12A | 2 | 19 | | < 0.20 U | < 0.18 U | < 0.20 U | **0.042 J** | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| BaP-TE | ug/l | 0.2 | SW8270D LL | N | BAP | | | | | | | 19 | | < 0.200 U | < 0.180 U | < 0.200 U | < 0.190 U | < 0.180 U | < 0.210 U | < 0.220 U | < 0.230 U | |
| Total High-molecular-weight PAHs | ug/l | | SW8270D LL | N | TOT-PAH-HMW | 0.13 | 0.12 | 0.13 | 0.13 | MW02A | 2 | 19 | | < 0.20 U | < 0.18 U | < 0.2 U | **0.13** | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| Total Low-molecular-weight PAHs | ug/l | | SW8270D LL | N | TOT-PAH-LMW | 16 | 0.046 | 3.5 | 0.41 | MW02A | 5 | 19 | | **0.20** | < 0.18 U | < 0.2 U | **16** | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |
| Total PAHs (sum 16) | ug/l | | SW8270D LL | N | TOT-PAH | 16 | 0.046 | 3.5 | 0.53 | MW02A | 5 | 19 | | **0.20** | < 0.18 U | < 0.2 U | **16** | < 0.18 U | < 0.21 U | < 0.22 U | < 0.23 U | |

# Table 4-18
## Groundwater Results
## VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Groundwater Monitoring Wells
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | MW06A | MW06A | MW07A | MW08A | MW09A | MW09A | MW10A | MW11A | MW11A | MW12A | MW13A | MW13A | MW14A | MW14A | MW15A | MW15A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | MW06AN | MW06AR | MW07AN | MW08AN | MW09AN | MW09A122116N | MW10AN | MW11AN | MW11A122216N | MW12AN | MW13AN | MW13A122016N | MW14AN | MW14A122016N | MW15AN | MW15A122116N |
| | | | Sample Date | 11/4/2014 | 11/4/2014 | 11/5/2014 | 11/10/2014 | 11/3/2014 | 12/21/2016 | 11/4/2014 | 11/4/2014 | 12/22/2016 | 11/3/2014 | 11/3/2014 | 12/20/2016 | 11/3/2014 | 12/20/2016 | 11/3/2014 | 12/21/2016 |
| | | | Type | N | FD | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/l | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/l | 200 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethane | ug/l | 2.8 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethene | ug/l | 7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.72 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,4-Trichlorobenzene | ug/l | 70 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromoethane | ug/l | 0.05 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichlorobenzene | ug/l | 600 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloropropane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,3-Dichlorobenzene | ug/l | 0.48 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dichlorobenzene | ug/l | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dioxane | ug/l | 0.46 | | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U |
| 2-Butanone | ug/l | 560 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **21** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 2-Hexanone | ug/l | 3.8 | | < 5.0 UJ | < 5.0 UJ | < 5.0 U | < 5.0 U | **0.47 J** | < 5.0 U | < 5.0 U | < 5.0 UJ | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 4-Methyl-2-pentanone | ug/l | 630 | | < 5.0 U | < 5.0 U | < 5.0 UJ | < 5.0 U | **0.64 J** | < 5.0 U | < 5.0 UJ | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Acetone | ug/l | 1400 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **25** | **6.4 J+** | < 5.0 U | < 5.0 U | < 5.0 U | **3.3 J** | **6.5** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Benzene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.27 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromochloromethane | ug/l | 8.3 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromodichloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromoform | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromomethane | ug/l | 0.75 | | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Butyl alcohol, tert- | ug/l | 14 | | | | | | | < 800 U | | | < 40 U | | | < 40 U | | < 40 U | | < 40 U |
| Carbon Disulfide | ug/l | 81 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.60 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Carbon Tetrachloride | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chlorobenzene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroethane | ug/l | 2100 | | < 1.0 UJ | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroform | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | **1.2** | < 1.0 U | **1.3** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.67 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloromethane | ug/l | 19 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,2-Dichloroethylene | ug/l | 70 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **7.2** | **18** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dibromochloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dichlorodifluoromethane | ug/l | 20 | | < 1.0 UJ | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Diisopropyl ether | ug/l | 150 | | | | | | | < 20 U | | | < 1.0 U | | | < 1.0 U | | < 1.0 U | | < 1.0 U |
| Ethylbenzene | ug/l | 700 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Ethyl-Tert-Butyl-Ether | ug/l | | | | | | | | < 20 U | | | < 1.0 U | | | < 1.0 U | | < 1.0 U | | < 1.0 U |
| Isopropylbenzene | ug/l | 45 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| m, p-Xylene | ug/l | 10000 | | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 1.0 U | < 2.0 U | < 2.0 U | < 1.0 U | < 2.0 U | < 2.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 2.0 U | < 1.0 U |
| Methyl Acetate | ug/l | 2000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 5.0 U | < 1.0 U | < 1.0 U | < 5.0 U | < 1.0 U | < 1.0 U | < 5.0 U | < 1.0 U | < 5.0 U | < 1.0 U | < 5.0 U |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.58 J** | **0.65 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.26 J** | < 1.0 U | < 1.0 U | < 1.0 U | **4.3** | **8.3** |
| Methylcyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methylene Chloride | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| o-Xylene | ug/l | 10000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Styrene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | | | | | | | < 20 U | | | < 1.0 U | | | < 1.0 U | | < 1.0 U | | **0.31 J** |
| Tetrachloroethylene | ug/l | 5 | | **0.25 J** | **0.26 J** | < 1.0 U | < 1.0 U | **130** | **320** | < 1.0 U | **0.18 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.96 J** | **0.73 J** | < 1.0 U | < 1.0 U |
| Toluene | ug/l | 1000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.31 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,2-Dichloroethene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.22 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Trichloroethene | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **15** | **41** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |

# Table 4-18
## Groundwater Results
## VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Groundwater Monitoring Wells
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | MW06A | MW06A | MW07A | MW08A | MW09A | MW09A | MW10A | MW11A | MW11A | MW12A | MW13A | MW13A | MW14A | MW14A | MW15A | MW15A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | MW06AN | MW06AR | MW07AN | MW08AN | MW09AN | MW09A122116N | MW10AN | MW11AN | MW11A122216N | MW12AN | MW13AN | MW13A122016N | MW14AN | MW14A122016N | MW15AN | MW15A122116N |
| | | | Sample Date | 11/4/2014 | 11/4/2014 | 11/5/2014 | 11/10/2014 | 11/3/2014 | 12/21/2016 | 11/4/2014 | 11/4/2014 | 12/22/2016 | 11/3/2014 | 11/3/2014 | 12/20/2016 | 11/3/2014 | 12/20/2016 | 11/3/2014 | 12/21/2016 |
| | | | Type | N | FD | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/l | 520 | | < 1.0 UJ | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Vinyl Chloride | ug/l | 2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **5.3** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Xylenes (total) | ug/l | 10000 | | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 1 U | < 2.0 U | < 2.0 U | < 1 U | < 2.0 U | < 2.0 U | < 1 U | < 2.0 U | < 1 U | < 2.0 U | < 1 U |
| 1,1'-Biphenyl | ug/l | 0.083 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 2,4,5-Trichlorophenol | ug/l | 120 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 2,4-Dichlorophenol | ug/l | 4.6 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 2,4-Dimethylphenol | ug/l | 36 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 2,4-Dinitrophenol | ug/l | 3.9 | | < 5.2 U | < 5.4 U | < 5.0 U | < 5.0 U | < 5.0 U | | < 4.6 U | < 5.0 U | | < 4.8 U | < 4.8 U | | < 4.8 U | | < 5.2 U | |
| 2,4-Dinitrotoluene | ug/l | 0.24 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 2,6-Dinitrotoluene | ug/l | 0.049 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 2-Chloronaphthalene | ug/l | 75 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | < 0.19 U | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| 2-Chlorophenol | ug/l | 9.1 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 2-Methylnaphthalene | ug/l | 3.6 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | **0.026 J** | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| 2-Methylphenol | ug/l | 93 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 2-Nitroaniline | ug/l | 19 | | < 5.2 U | < 5.4 U | < 5.0 U | < 5.0 U | < 5.0 U | | < 4.6 U | < 5.0 U | | < 4.8 U | < 4.8 U | | < 4.8 U | | < 5.2 U | |
| 2-Nitrophenol | ug/l | 580 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 3-Nitroaniline | ug/l | 3.8 | | < 5.2 U | < 5.4 U | < 5.0 U | < 5.0 U | < 5.0 U | | < 4.6 U | < 5.0 U | | < 4.8 U | < 4.8 U | | < 4.8 U | | < 5.2 U | |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | | < 5.2 U | < 5.4 U | < 5.0 U | < 5.0 U | < 5.0 U | | < 4.6 U | < 5.0 U | | < 4.8 U | < 4.8 U | | < 4.8 U | | < 5.2 U | |
| 4-Bromophenyl-phenylether | ug/l | | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 4-Chloro-3-methylphenol | ug/l | 140 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 4-Chloroaniline | ug/l | 0.37 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 4-Chlorophenyl-phenylether | ug/l | | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 4-Methylphenol | ug/l | 190 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | **0.29 J** | | **0.53 J** | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| 4-Nitroaniline | ug/l | 3.8 | | < 5.2 U | < 5.4 U | < 5.0 U | < 5.0 U | < 5.0 U | | < 4.6 U | < 5.0 U | | < 4.8 U | < 4.8 U | | < 4.8 U | | < 5.2 U | |
| 4-Nitrophenol | ug/l | 580 | | < 5.2 U | < 5.4 U | < 5.0 U | < 5.0 U | < 5.0 U | | < 4.6 U | < 5.0 U | | < 4.8 U | < 4.8 U | | < 4.8 U | | < 5.2 U | |
| Acenaphthene | ug/l | 53 | | < 0.21 U | < 0.22 U | **0.84** | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | **0.12 J** | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| Acenaphthylene | ug/l | 53 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | < 0.19 U | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| Acetophenone | ug/l | 190 | | < 2.1 U | < 2.2 U | < 2.0 U | < 2.0 U | < 2.0 U | | < 1.9 U | < 2.0 U | | < 1.9 U | < 1.9 U | | < 1.9 U | | < 2.1 U | |
| Anthracene | ug/l | 180 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | **0.028 J** | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| Atrazine | ug/l | 3 | | < 2.1 U | < 2.2 U | < 2.0 U | < 2.0 U | < 2.0 U | | < 1.9 U | < 2.0 U | | < 1.9 U | < 1.9 U | | < 1.9 U | | < 2.1 U | |
| Benzaldehyde | ug/l | 19 | | < 2.1 U | < 2.2 U | < 2.0 U | < 2.0 U | < 2.0 U | | < 1.9 U | < 2.0 U | | < 1.9 U | < 1.9 U | | < 1.9 U | | < 2.1 U | |
| Benzo(a)anthracene | ug/l | 0.03 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | < 0.19 U | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| Benzo(a)pyrene | ug/l | 0.2 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | < 0.19 U | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| Benzo(b)fluoranthene | ug/l | 0.25 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | < 0.19 U | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| Benzo(g,h,i)perylene | ug/l | 12 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | < 0.19 U | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| Benzo(k)fluoranthene | ug/l | 2.5 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | < 0.19 U | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | | < 2.1 U | < 2.2 U | < 2.0 U | < 2.0 U | < 2.0 U | | < 1.9 U | < 2.0 U | | < 2.3 U | < 1.9 U | | < 1.9 U | | < 2.1 U | |
| Butylbenzylphthalate | ug/l | 16 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| Caprolactam | ug/l | 990 | | < 5.2 U | < 5.4 U | < 5.0 U | < 5.0 U | **1.7 J** | | < 4.6 U | < 5.0 U | | < 4.8 U | < 4.8 U | | < 4.8 U | | < 5.2 U | |
| Carbazole | ug/l | 29 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| Chrysene | ug/l | 25 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | < 0.19 U | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | < 0.19 U | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| Dibenzofuran | ug/l | 0.79 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| Diethylphthalate | ug/l | 1500 | | **0.37 J** | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| Dimethylphthalate | ug/l | 1500 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| Di-n-butylphthalate | ug/l | 90 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| Di-n-octylphthalate | ug/l | 20 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| Fluoranthene | ug/l | 80 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | **0.065 J** | < 0.19 U | | < 0.19 U | | < 0.21 U | |

**Table 4-18**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in UWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | MW06A | MW06A | MW07A | MW08A | MW09A | MW09A | MW10A | MW11A | MW11A | MW12A | MW13A | MW13A | MW14A | MW14A | MW15A | MW15A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | MW06AN | MW06AR | MW07AN | MW08AN | MW09AN | MW09A122116N | MW10AN | MW11AN | MW11A122216N | MW12AN | MW13AN | MW13A122016N | MW14AN | MW14A122016N | MW15AN | MW15A122116N |
| | | | Sample Date | 11/4/2014 | 11/4/2014 | 11/5/2014 | 11/10/2014 | 11/3/2014 | 12/21/2016 | 11/4/2014 | 11/4/2014 | 12/22/2016 | 11/3/2014 | 11/3/2014 | 12/20/2016 | 11/3/2014 | 12/20/2016 | 11/3/2014 | 12/21/2016 |
| | | | Type | N | FD | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | | | |
| Fluorene | ug/l | 29 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | **0.056 J** | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| Hexachlorobenzene | ug/l | 1 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| Hexachlorobutadiene | ug/l | 0.14 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| Hexachlorocyclo-pentadiene | ug/l | 50 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| Hexachloroethane | ug/l | 0.33 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | < 0.19 U | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| Isophorone | ug/l | 78 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| Naphthalene | ug/l | 0.17 | | < 0.21 U | < 0.22 U | < 0.20 U | **0.046 J** | < 0.20 U | | < 0.19 U | < 0.20 U | | **0.046 J** | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| Nitrobenzene | ug/l | 0.14 | | < 2.1 U | < 2.2 U | < 2.0 U | < 2.0 U | < 2.0 U | | < 1.9 U | < 2.0 U | | < 1.9 U | < 1.9 U | | < 1.9 U | | < 2.1 U | |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| N-Nitrosodiphenylamine | ug/l | 12 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| Pentachlorophenol | ug/l | 1 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| Phenanthrene | ug/l | 180 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | **0.16 J** | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| Phenol | ug/l | 580 | | < 1.0 U | < 1.1 U | < 1.0 U | < 1.0 U | < 1.0 U | | < 0.93 U | < 1.0 U | | < 0.96 U | < 0.96 U | | < 0.96 U | | < 1.0 U | |
| Pyrene | ug/l | 12 | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | **0.050 J** | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| BaP-TE | ug/l | 0.2 | | < 0.210 U | < 0.220 U | < 0.200 U | < 0.200 U | < 0.200 U | | < 0.190 U | < 0.200 U | | < 0.190 U | < 0.190 U | | < 0.190 U | | < 0.210 U | |
| Total High-molecular-weight PAHs | ug/l | | | < 0.21 U | < 0.22 U | < 0.20 U | < 0.20 U | < 0.20 U | | < 0.19 U | < 0.20 U | | **0.12** | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| Total Low-molecular-weight PAHs | ug/l | | | < 0.21 U | < 0.22 U | **0.84** | **0.046** | < 0.20 U | | < 0.19 U | < 0.20 U | | **0.41** | < 0.19 U | | < 0.19 U | | < 0.21 U | |
| Total PAHs (sum 16) | ug/l | | | < 0.21 U | < 0.22 U | **0.84** | **0.046** | < 0.20 U | | < 0.19 U | < 0.20 U | | **0.53** | < 0.19 U | | < 0.19 U | | < 0.21 U | |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
D = Dissolved
T = Total
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable.
Heirarchy: 1) Lower of DOEE/MCL (primary standards). 2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
mg/l = milligrams per liter
ug/l = micrograms per liter

**Table 4-19**
**Groundwater Results**
**PCBs and Pesticides Concentrations in UWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | Location ID | MW01A | MW02A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample ID | MW01AN | MW02AN |
| | | | | | | | | | | | | | Sample Date | 11/5/2014 | 11/5/2014 |
| | | | | | | | | | | | | | Type | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| 4,4'-DDD | ug/l | 0.0063 | SW8081B LL | N | 72-54-8 | | | | | | | 20 | | < 0.0012 U | < 0.0013 U |
| 4,4'-DDE | ug/l | 0.046 | SW8081B LL | N | 72-55-9 | | | | | | | 20 | | < 0.0012 U | < 0.0013 U |
| 4,4'-DDT | ug/l | 0.23 | SW8081B LL | N | 50-29-3 | 0.00061 | 0.00046 | 0.00054 | 0.00054 | MW06A | 2 | 20 | | < 0.0012 U | < 0.0013 U |
| Aldrin | ug/l | 0.00092 | SW8081B LL | N | 309-00-2 | | | | | | | 20 | | < 0.0012 U | < 0.0013 U |
| alpha-BHC | ug/l | 0.0072 | SW8081B LL | N | 319-84-6 | | | | | | | 20 | | < 0.0012 U | < 0.0013 U |
| beta-BHC | ug/l | 0.025 | SW8081B LL | N | 319-85-7 | 0.00095 | 0.00095 | 0.00095 | 0.00095 | MW03A | 1 | 20 | | < 0.0012 U | < 0.0013 U |
| cis-Chlordane | ug/l | 2 | SW8081B LL | N | 5103-71-9 | | | | | | | 20 | | < 0.0012 U | < 0.0013 U |
| delta-BHC | ug/l | 0.0072 | SW8081B LL | N | 319-86-8 | 0.00097 | 0.0004 | 0.0007 | 0.00073 | MW10A | 3 | 20 | | < 0.0012 U | **0.00040 J** |
| Dieldrin | ug/l | 0.0018 | SW8081B LL | N | 60-57-1 | | | | | | | 20 | | < 0.0012 U | < 0.0013 U |
| Endosulfan I | ug/l | 10 | SW8081B LL | N | 959-98-8 | | | | | | | 20 | | < 0.0012 U | < 0.0013 U |
| Endosulfan II | ug/l | 10 | SW8081B LL | N | 33213-65-9 | | | | | | | 20 | | < 0.0012 U | < 0.0013 U |
| Endosulfan Sulfate | ug/l | 10 | SW8081B LL | N | 1031-07-8 | | | | | | | 20 | | < 0.0012 U | < 0.0013 U |
| Endrin | ug/l | 0.2 | SW8081B LL | N | 72-20-8 | | | | | | | 20 | | < 0.0012 U | < 0.0013 U |
| Endrin aldehyde | ug/l | 0.23 | SW8081B LL | N | 7421-93-4 | | | | | | | 20 | | < 0.0012 U | < 0.0013 U |
| Endrin ketone | ug/l | 0.23 | SW8081B LL | N | 53494-70-5 | | | | | | | 20 | | < 0.0012 U | < 0.0013 U |
| gamma-BHC (Lindane) | ug/l | 0.2 | SW8081B LL | N | 58-89-9 | 0.0015 | 0.0013 | 0.0014 | 0.0014 | MW05A | 2 | 20 | | < 0.0012 U | < 0.0013 U |
| Heptachlor | ug/l | 0.4 | SW8081B LL | N | 76-44-8 | | | | | | | 20 | | < 0.0012 U | < 0.0013 U |
| Heptachlor Epoxide | ug/l | 0.2 | SW8081B LL | N | 1024-57-3 | 0.017 | 0.00081 | 0.0089 | 0.0089 | MW06A | 2 | 20 | | < 0.0012 U | < 0.0013 U |
| Methoxychlor | ug/l | 40 | SW8081B LL | N | 72-43-5 | | | | | | | 20 | | < 0.0024 U | < 0.0024 U |
| Toxaphene | ug/l | 3 | SW8081B LL | N | 8001-35-2 | | | | | | | 20 | | < 0.095 U | < 0.096 U |
| trans-Chlordane | ug/l | 2 | SW8081B LL | N | 5103-74-2 | 0.0021 | 0.0012 | 0.0015 | 0.0014 | MW13A | 4 | 20 | | < 0.0012 U | < 0.0013 U |
| Aroclor-1016 | ug/l | | SW8082A LL | N | 12674-11-2 | | | | | | | 16 | | < 0.0095 U | < 0.0096 U |
| Aroclor-1221 | ug/l | | SW8082A LL | N | 11104-28-2 | | | | | | | 16 | | < 0.0095 U | < 0.0096 U |
| Aroclor-1232 | ug/l | | SW8082A LL | N | 11141-16-5 | | | | | | | 16 | | < 0.0095 U | < 0.0096 U |
| Aroclor-1242 | ug/l | | SW8082A LL | N | 53469-21-9 | 0.034 | 0.034 | 0.034 | 0.034 | MW07A | 1 | 16 | | < 0.0095 U | < 0.0096 U |
| Aroclor-1248 | ug/l | | SW8082A LL | N | 12672-29-6 | | | | | | | 16 | | < 0.0095 U | < 0.0096 U |
| Aroclor-1254 | ug/l | | SW8082A LL | N | 11097-69-1 | | | | | | | 16 | | < 0.0095 U | < 0.0096 U |
| Aroclor-1260 | ug/l | | SW8082A LL | N | 11096-82-5 | | | | | | | 16 | | < 0.0095 U | < 0.0096 U |
| Aroclor-1262 | ug/l | | SW8082A LL | N | 37324-23-5 | | | | | | | 16 | | < 0.0095 U | < 0.0096 U |
| Aroclor-1268 | ug/l | | SW8082A LL | N | 11100-14-4 | | | | | | | 16 | | < 0.0095 U | < 0.0096 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | SW8082A LL | N | TOT-PCB-ARO-C | 0.034 | 0.034 | 0.034 | 0.034 | MW07A | 1 | 16 | | < 0.0095 U | < 0.0096 U |

**Table 4-19**
**Groundwater Results**
**PCBs and Pesticides Concentrations in UWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | MW03A | MW04A | MW05A | MW06A | MW06A | MW06A | MW06A | MW07A | MW07A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | MW03AN | MW04AN | MW05ANB | MW06AN | MW06AR | MW06A122116N | MW06A122116R | MW07AN | MW07A122016N |
| | | | Sample Date | 11/4/2014 | 11/4/2014 | 11/5/2014 | 11/4/2014 | 11/4/2014 | 12/21/2016 | 12/21/2016 | 11/5/2014 | 12/20/2016 |
| | | | Type | N | N | FD | N | FD | N | FD | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| 4,4'-DDD | ug/l | 0.0063 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| 4,4'-DDE | ug/l | 0.046 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| 4,4'-DDT | ug/l | 0.23 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | **0.00046 J** | **0.00061 J** | < 0.0012 U | < 0.0012 U |
| Aldrin | ug/l | 0.00092 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| alpha-BHC | ug/l | 0.0072 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| beta-BHC | ug/l | 0.025 | | **0.00095 J** | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| cis-Chlordane | ug/l | 2 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| delta-BHC | ug/l | 0.0072 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | **0.00073 J** | < 0.0012 U |
| Dieldrin | ug/l | 0.0018 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| Endosulfan I | ug/l | 10 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| Endosulfan II | ug/l | 10 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| Endosulfan Sulfate | ug/l | 10 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| Endrin | ug/l | 0.2 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| Endrin aldehyde | ug/l | 0.23 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| Endrin ketone | ug/l | 0.23 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| gamma-BHC (Lindane) | ug/l | 0.2 | | < 0.0012 U | < 0.0013 U | **0.0015** | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| Heptachlor | ug/l | 0.4 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| Heptachlor Epoxide | ug/l | 0.2 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | **0.017 J** | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| Methoxychlor | ug/l | 40 | | < 0.0024 U | < 0.0025 U | < 0.0024 U | < 0.0024 U | < 0.0025 U | < 0.0012 U | < 0.0012 U | < 0.0024 U | < 0.0012 U |
| Toxaphene | ug/l | 3 | | < 0.095 U | < 0.098 U | < 0.097 U | < 0.096 U | < 0.098 U | < 0.095 U | < 0.095 U | < 0.095 U | < 0.095 U |
| trans-Chlordane | ug/l | 2 | | < 0.0012 U | < 0.0013 U | < 0.0013 U | **0.0015** | **0.0013** | < 0.0012 U | < 0.0012 U | **0.0012** | < 0.0012 U |
| Aroclor-1016 | ug/l | | | < 0.0095 UJ | < 0.0098 UJ | < 0.0097 U | < 0.0096 UJ | < 0.0098 UJ | | | < 0.0095 U | |
| Aroclor-1221 | ug/l | | | < 0.0095 UJ | < 0.0098 UJ | < 0.0097 U | < 0.0096 UJ | < 0.0098 UJ | | | < 0.0095 U | |
| Aroclor-1232 | ug/l | | | < 0.0095 UJ | < 0.0098 UJ | < 0.0097 U | < 0.0096 UJ | < 0.0098 UJ | | | < 0.0095 U | |
| Aroclor-1242 | ug/l | | | < 0.0095 UJ | < 0.0098 UJ | < 0.0097 U | < 0.0096 UJ | < 0.0098 UJ | | | **0.034 J** | |
| Aroclor-1248 | ug/l | | | < 0.0095 UJ | < 0.0098 UJ | < 0.0097 U | < 0.0096 UJ | < 0.0098 UJ | | | < 0.0095 U | |
| Aroclor-1254 | ug/l | | | < 0.0095 UJ | < 0.0098 UJ | < 0.0097 U | < 0.0096 UJ | < 0.0098 UJ | | | < 0.0095 U | |
| Aroclor-1260 | ug/l | | | < 0.0095 UJ | < 0.0098 UJ | < 0.0097 U | < 0.0096 UJ | < 0.0098 UJ | | | < 0.0095 U | |
| Aroclor-1262 | ug/l | | | < 0.0095 UJ | < 0.0098 UJ | < 0.0097 U | < 0.0096 UJ | < 0.0098 UJ | | | < 0.0095 U | |
| Aroclor-1268 | ug/l | | | < 0.0095 UJ | < 0.0098 UJ | < 0.0097 U | < 0.0096 UJ | < 0.0098 UJ | | | < 0.0095 U | |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | | < 0.0095 U | < 0.0098 U | < 0.0097 U | < 0.0096 U | < 0.0098 U | | | **0.034** | |

**Table 4-19**
**Groundwater Results**
**PCBs and Pesticides Concentrations in UWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | MW08A | MW09A | MW10A | MW11A | MW11A | MW12A | MW13A | MW14A | MW15A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | MW08AN | MW09AN | MW10AN | MW11AN | MW11A122216N | MW12AN | MW13AN | MW14AN | MW15AN |
| | | | Sample Date | 11/10/2014 | 11/3/2014 | 11/4/2014 | 11/4/2014 | 12/22/2016 | 11/3/2014 | 11/3/2014 | 11/3/2014 | 11/3/2014 |
| | | | Type | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| 4,4'-DDD | ug/l | 0.0063 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| 4,4'-DDE | ug/l | 0.046 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| 4,4'-DDT | ug/l | 0.23 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| Aldrin | ug/l | 0.00092 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| alpha-BHC | ug/l | 0.0072 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| beta-BHC | ug/l | 0.025 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| cis-Chlordane | ug/l | 2 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| delta-BHC | ug/l | 0.0072 | | < 0.0013 U | < 0.0012 U | **0.00097 J** | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| Dieldrin | ug/l | 0.0018 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| Endosulfan I | ug/l | 10 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| Endosulfan II | ug/l | 10 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| Endosulfan Sulfate | ug/l | 10 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| Endrin | ug/l | 0.2 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| Endrin aldehyde | ug/l | 0.23 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| Endrin ketone | ug/l | 0.23 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| gamma-BHC (Lindane) | ug/l | 0.2 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.0013** | < 0.0012 U | < 0.0012 U |
| Heptachlor | ug/l | 0.4 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| Heptachlor Epoxide | ug/l | 0.2 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | **0.00081 J** | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U |
| Methoxychlor | ug/l | 40 | | < 0.0024 U | < 0.0024 U | < 0.0025 U | < 0.0024 U | < 0.0012 U | < 0.0024 U | < 0.0024 U | < 0.0024 U | < 0.0024 U |
| Toxaphene | ug/l | 3 | | < 0.097 U | < 0.095 U | < 0.098 U | < 0.095 U | < 0.095 U | < 0.094 U | < 0.096 U | < 0.095 U | < 0.095 U |
| trans-Chlordane | ug/l | 2 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.0021 J** | < 0.0012 U | < 0.0012 U |
| Aroclor-1016 | ug/l | | | < 0.0097 U | < 0.0095 U | < 0.0098 U | < 0.0095 U | | < 0.0094 U | < 0.0096 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1221 | ug/l | | | < 0.0097 U | < 0.0095 U | < 0.0098 U | < 0.0095 U | | < 0.0094 U | < 0.0096 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1232 | ug/l | | | < 0.0097 U | < 0.0095 U | < 0.0098 U | < 0.0095 U | | < 0.0094 U | < 0.0096 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1242 | ug/l | | | < 0.0097 U | < 0.0095 U | < 0.0098 U | < 0.0095 U | | < 0.0094 U | < 0.0096 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1248 | ug/l | | | < 0.0097 U | < 0.0095 U | < 0.0098 U | < 0.0095 U | | < 0.0094 U | < 0.0096 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1254 | ug/l | | | < 0.0097 U | < 0.0095 U | < 0.0098 U | < 0.0095 U | | < 0.0094 U | < 0.0096 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1260 | ug/l | | | < 0.0097 U | < 0.0095 U | < 0.0098 U | < 0.0095 U | | < 0.0094 U | < 0.0096 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1262 | ug/l | | | < 0.0097 U | < 0.0095 U | < 0.0098 U | < 0.0095 U | | < 0.0094 U | < 0.0096 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1268 | ug/l | | | < 0.0097 U | < 0.0095 U | < 0.0098 U | < 0.0095 U | | < 0.0094 U | < 0.0096 U | < 0.0095 U | < 0.0095 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | | < 0.0097 U | < 0.0095 U | < 0.0098 U | < 0.0095 U | | < 0.0094 U | < 0.0096 U | < 0.0095 U | < 0.0095 U |

**Table 4-19**
**Groundwater Results**
**PCBs and Pesticides Concentrations in UWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
D = Dissolved
T = Total
N = Normal
FD = Field Duplicate
EN = Essential Nutrient
HHRA screening values provided for detected compounds or compound sums where applicable.
Heirarchy: 1) Lower of DOEE/MCL (primary standards). 2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
ug/l = micrograms per liter

**Table 4-20**
**Groundwater Results**
**Dioxins and Furans Concentrations in UWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Location ID | MW01A | MW01A |
| | | | | | | | | | | | | | Sample ID | MW01AN | MW01A122216N |
| | | | | | | | | | | | | | Sample Date | 11/5/2014 | 12/22/2016 |
| | | | | | | | | | | | | | Type | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/l | | SW8290A | N | 67562-39-4 | 16.3 | 2.06 | 7.71 | 4.77 | MW12A | 3 | 16 | | < 0.806 U | < 0.774 U |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/l | | SW8290A | N | 35822-46-9 | 555 | 1.25 | 70.4 | 5.7 | MW12A | 10 | 16 | | **12.8 JN** | < 1.07 U |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/l | | SW8290A | N | 55673-89-7 | | | | | | | 16 | | < 1.19 U | < 0.984 U |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/l | | SW8290A | N | 70648-26-9 | 2.91 | 2.91 | 2.91 | 2.91 | MW12A | 1 | 16 | | < 0.573 U | < 1.16 U |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/l | | SW8290A | N | 39227-28-6 | | | | | | | 16 | | < 1.11 U | < 1.46 U |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/l | | SW8290A | N | 57117-44-9 | 3.32 | 3.32 | 3.32 | 3.32 | MW12A | 1 | 16 | | < 0.582 U | < 1.02 U |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/l | | SW8290A | N | 57653-85-7 | 15.9 | 1.41 | 8.66 | 8.66 | MW12A | 2 | 16 | | < 1.27 U | < 1.5 U |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/l | | SW8290A | N | 72918-21-9 | | | | | | | 16 | | < 0.804 U | < 1.34 U |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/l | | SW8290A | N | 19408-74-3 | 28 | 3.76 | 11.4 | 6.85 | MW12A | 4 | 16 | | < 1.10 U | < 1.58 U |
| 1,2,3,7,8-PeCDF | pg/l | | SW8290A | N | 57117-41-6 | | | | | | | 16 | | < 1.43 U | < 0.793 U |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/l | | SW8290A | N | 40321-76-4 | | | | | | | 16 | | < 1.63 U | < 1.18 U |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/l | | SW8290A | N | 60851-34-5 | | | | | | | 16 | | < 0.543 U | < 1.12 U |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/l | | SW8290A | N | 57117-31-4 | | | | | | | 16 | | < 1.25 U | < 0.752 U |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/l | | SW8290A | N | 51207-31-9 | | | | | | | 16 | | < 1.96 U | < 0.948 U |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/l | 30 | SW8290A | N | 1746-01-6 | | | | | | | 16 | | < 2.70 U | < 0.885 U |
| Octachlorochlorodibenzofuran | pg/l | | SW8290A | N | 39001-02-0 | 29.2 | 29.2 | 29.2 | 29.2 | MW12A | 1 | 16 | | < 7.52 U | < 2.71 U |
| Octachlorochlorodibenzo-p-dioxin | pg/l | | SW8290A | N | 3268-87-9 | 11200 | 4.28 | 1410 | 63.5 | MW12A | 12 | 16 | | **148 JN** | **6.43 JN** |
| Total HpCDD | pg/l | | SW8290A | N | 37871-00-4 | 1290 | 1.48 | 121 | 5.31 | MW12A | 14 | 16 | | **24.3 JN** | **1.48** |
| Total HpCDF | pg/l | | SW8290A | N | 38998-75-3 | 23.7 | 2.06 | 10.2 | 4.77 | MW12A | 3 | 16 | | < 0.966 U | < 0.869 U |
| Total HxCDD | pg/l | | SW8290A | N | 34465-46-8 | 512 | 1.19 | 83 | 9.21 | MW12A | 8 | 16 | | < 1.90 U | < 1.51 U |
| Total HxCDF | pg/l | | SW8290A | N | 55684-94-1 | 27 | 27 | 27 | 27 | MW12A | 1 | 16 | | < 0.610 U | < 1.15 U |
| Total PeCDD | pg/l | | SW8290A | N | 36088-22-9 | 155 | 4.18 | 55.5 | 7.39 | MW12A | 3 | 16 | | **4.18 JN** | < 1.18 U |
| Total PeCDF | pg/l | | SW8290A | N | 30402-15-4 | 16 | 1.94 | 7.75 | 5.3 | MW12A | 3 | 16 | | < 1.33 U | < 0.772 U |
| Total TCDD | pg/l | | SW8290A | N | 41903-57-5 | 555 | 3.63 | 127 | 33.4 | MW12A | 5 | 16 | | < 2.70 U | < 0.885 U |
| Total TCDF | pg/l | | SW8290A | N | 55722-27-5 | 64.4 | 3.58 | 34 | 34 | MW12A | 2 | 16 | | < 1.96 U | < 0.948 U |
| TCDD TEQ HH | pg/l | 30 | SW8290A | N | DFTEQ-HH | 14.1 | 0.00128 | 1.48 | 0.0579 | MW12A | 13 | 16 | | **0.172** | **0.00193** |

**Table 4-20**
**Groundwater Results**
**Dioxins and Furans Concentrations in UWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | MW01A | MW03A | MW04A | MW04A | MW07A | MW07A | MW07A | MW09A |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | MW01A122216R | MW03AN | MW04AN | MW04A122116N | MW07AN | MW07AR | MW07A122016N | MW09AN |
| | | | Sample Date | 12/22/2016 | 11/4/2014 | 11/4/2014 | 12/21/2016 | 11/5/2014 | 11/5/2014 | 12/20/2016 | 11/3/2014 |
| | | | Type | FD | N | N | N | N | FD | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/l | | | < 0.902 U | < 0.684 U | < 0.796 U | < 0.668 U | **4.77 JN** | < 0.728 U | < 0.709 U | **2.06 JN** |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/l | | | < 0.836 U | **1.25 JN** | **3.12 JN** | < 0.956 U | **39.7 JN** | **8.27 JN** | < 0.852 U | **77.3** |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/l | | | < 1.09 U | < 0.816 U | < 0.936 U | < 0.885 U | < 3.07 U | < 0.851 U | < 0.915 U | < 0.722 U |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/l | | | < 1.03 U | < 0.511 U | < 0.586 U | < 1.04 U | < 1.07 U | < 0.497 U | < 0.795 U | < 0.305 U |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/l | | | < 1.38 U | < 0.804 U | < 1.42 U | < 1.48 U | < 2.33 U | < 1.26 U | < 1.15 U | < 0.682 U |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/l | | | < 0.973 U | < 0.471 U | < 0.569 U | < 0.967 U | < 0.996 U | < 0.464 U | < 0.767 U | < 0.305 U |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/l | | | < 1.34 U | < 0.847 U | < 1.41 U | < 1.54 U | < 2.23 U | < 1.27 U | < 1.24 U | **1.41 JN** |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/l | | | < 1.27 U | < 0.641 U | < 0.741 U | < 1.26 U | < 1.35 U | < 0.591 U | < 0.977 U | < 0.300 U |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/l | | | < 1.46 U | < 0.768 U | < 1.31 U | < 1.62 U | **7.96 JN** | < 1.18 U | < 1.22 U | **5.73 JN** |
| 1,2,3,7,8-PeCDF | pg/l | | | < 0.664 U | < 0.648 U | < 1.06 U | < 0.761 U | < 1.50 U | < 0.610 U | < 0.608 U | < 0.689 U |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/l | | | < 1.22 U | < 0.671 U | < 1.34 U | < 1.02 U | < 2.53 U | < 0.881 U | < 0.8 U | < 0.730 U |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/l | | | < 1.09 U | < 0.483 U | < 0.565 U | < 1.05 U | < 1.10 U | < 0.503 U | < 0.804 U | < 0.226 U |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/l | | | < 0.678 U | < 0.581 U | < 0.896 U | < 0.791 U | < 1.28 U | < 0.578 U | < 0.593 U | < 0.572 U |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/l | | | < 0.808 U | < 1.55 U | < 2.18 U | < 0.77 U | < 1.89 U | < 1.54 U | < 0.784 U | < 0.731 U |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/l | 30 | | < 1.26 U | < 2.33 U | < 3.59 U | < 1.12 U | < 2.57 U | < 2.50 U | < 1.01 U | < 1.18 U |
| Octachlorochlorodibenzofuran | pg/l | | | < 1.93 U | < 2.90 UJ | < 1.45 U | < 2.44 U | < 4.25 U | < 6.01 UJ | < 2.39 U | < 3.27 U |
| Octachlorochlorodibenzo-p-dioxin | pg/l | | | **9.22 J** | < 15.1 U | **89.0 J** | **4.28 JN** | **1400 J** | **155 J** | < 4.25 U | **3800 J** |
| Total HpCDD | pg/l | | | < 0.836 U | **1.90 JN** | **9.72 JN** | **3.5** | **117 JN** | **22.6 JN** | < 0.852 U | **206** |
| Total HpCDF | pg/l | | | < 0.988 U | < 0.745 U | < 0.862 U | < 0.766 U | **4.77 JN** | < 0.786 U | < 0.802 U | **2.06 JN** |
| Total HxCDD | pg/l | | | < 1.39 U | **7.27 JN** | **6.60 JN** | < 1.54 U | **52.0 JN** | < 1.76 U | < 1.19 U | **66.5 JN** |
| Total HxCDF | pg/l | | | < 1.08 U | < 0.518 U | < 0.607 U | < 1.07 U | < 1.11 U | < 0.509 U | < 0.829 U | < 0.279 U |
| Total PeCDD | pg/l | | | < 1.22 U | < 0.671 U | < 1.34 U | < 1.02 U | < 2.53 U | < 0.881 U | < 0.8 U | **7.39 JN** |
| Total PeCDF | pg/l | | | < 0.671 U | < 0.611 U | < 0.967 U | < 0.775 U | **5.30 JN** | **1.94 JN** | < 0.6 U | < 0.623 U |
| Total TCDD | pg/l | | | < 1.26 U | < 2.33 U | < 3.59 U | < 1.12 U | **34.0 JN** | < 2.50 U | < 1.01 U | **33.4 JN** |
| Total TCDF | pg/l | | | < 0.808 U | < 1.55 U | < 2.18 U | < 0.77 U | **3.58 JN** | < 1.54 U | < 0.784 U | < 0.731 U |
| TCDD TEQ HH | pg/l | 30 | | **0.00277** | **0.0125** | **0.0579** | **0.00128** | **1.66** | **0.129** | < 1.01 U | **2.65** |

**Table 4-20**
**Groundwater Results**
**Dioxins and Furans Concentrations in UWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | MW09A | MW11A | MW11A | MW12A | MW12A | MW13A |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | MW09A122116N | MW11AN | MW11A122216N | MW12AN | MW12A122016N | MW13AN |
| | | | Sample Date | 12/21/2016 | 11/4/2014 | 12/22/2016 | 11/3/2014 | 12/20/2016 | 11/3/2014 |
| | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/l | | | < 0.732 U | < 0.803 U | < 0.768 U | **16.3 JN** | < 0.606 U | < 0.866 U |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/l | | | **2.28 J** | **2.18 J** | < 0.869 U | **555** | **1.96 J** | < 1.11 U |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/l | | | < 0.984 U | < 0.897 U | < 0.962 U | < 1.84 U | < 0.789 U | < 1.28 U |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/l | | | < 0.957 U | < 0.527 U | < 1.06 U | **2.91 JN** | < 0.828 U | < 0.468 U |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/l | | | < 1.37 U | < 0.997 U | < 1.27 U | < 1.60 U | < 1.27 U | < 1.00 U |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/l | | | < 0.88 U | < 0.492 U | < 1.01 U | **3.32 J** | < 0.793 U | < 0.482 U |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/l | | | < 1.39 U | < 1.11 U | < 1.24 U | **15.9 J** | < 1.33 U | < 1.04 U |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/l | | | < 1.12 U | < 0.573 U | < 1.17 U | < 1.29 U | < 1.03 U | < 0.605 U |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/l | | | < 1.55 U | **3.76 JN** | < 1.32 U | **28.0 JN** | < 1.39 U | < 0.948 U |
| 1,2,3,7,8-PeCDF | pg/l | | | < 0.64 U | < 0.826 U | < 0.577 U | < 1.84 U | < 0.678 U | < 1.00 U |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/l | | | < 1.05 U | < 0.846 U | < 0.981 U | < 1.94 U | < 1.19 U | < 1.45 U |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/l | | | < 0.943 U | < 0.430 U | < 1.07 U | < 1.17 U | < 0.87 U | < 0.471 U |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/l | | | < 0.608 U | < 0.699 U | < 0.607 U | < 1.43 U | < 0.693 U | < 0.963 U |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/l | | | < 0.913 U | < 1.47 U | < 0.692 U | < 2.33 U | < 0.857 U | < 1.56 U |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/l | 30 | | < 1.18 U | < 2.26 U | < 0.847 U | < 2.90 U | < 1.13 U | < 2.63 U |
| Octachlorochlorodibenzofuran | pg/l | | | < 2.28 U | < 1.94 U | < 2.49 U | **29.2 J** | < 2.08 U | < 1.64 U |
| Octachlorochlorodibenzo-p-dioxin | pg/l | | | **37.9 J** | **25.2 J** | < 4.38 U | **11200** | **14.4 J** | < 18.4 U |
| Total HpCDD | pg/l | | | **5.81** | **2.18 J** | **1.56** | **1290** | **4.81** | **3.16 JN** |
| Total HpCDF | pg/l | | | < 0.846 U | < 0.848 U | < 0.857 U | **23.7 JN** | < 0.689 U | < 1.04 U |
| Total HxCDD | pg/l | | | < 1.43 U | **9.72 JN** | < 1.27 U | **512 JN** | **1.19** | **8.69 JN** |
| Total HxCDF | pg/l | | | < 0.969 U | < 0.499 U | < 1.07 U | **27.0 JN** | < 0.873 U | < 0.501 U |
| Total PeCDD | pg/l | | | < 1.05 U | < 0.846 U | < 0.981 U | **155 JN** | < 1.19 U | < 1.45 U |
| Total PeCDF | pg/l | | | < 0.623 U | < 0.755 U | < 0.591 U | **16.0 JN** | < 0.685 U | < 0.980 U |
| Total TCDD | pg/l | | | **8.14** | < 2.26 U | < 0.847 U | **555 JN** | **3.63** | < 2.63 U |
| Total TCDF | pg/l | | | < 0.913 U | < 1.47 U | < 0.692 U | **64.4 JN** | < 0.857 U | < 1.56 U |
| TCDD TEQ HH | pg/l | 30 | | **0.0342** | **0.405** | < 0.981 U | **14.1** | **0.0239** | < 2.63 U |

**Table 4-20**
**Groundwater Results**
**Dioxins and Furans Concentrations in UWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
D = Dissolved
T = Total
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable.
Heirarchy: 1) Lower of DOEE/MCL (primary standards). 2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
pg/l = picograms per liter

Table 4-21
Groundwater Results
Inorganic Concentrations in LWZ Groundwater Monitoring Wells
Benning Road Facility RI/FS Project
3400 Benning Road, NE
Washington, DC 20019

| | | | | | | | | | | | | Location ID | MW01B | MW02B | MW03B | MW04B | MW05B | MW06B | MW07B | MW08B | MW08B | MW09B | MW10B | MW11B | MW12B | MW13B | MW14B | MW15B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Sample ID | MW01BN | MW02BN | MW03BN | MW04BN | MW05BN | MW06BN | MW07BN | MW08BN | MW08BR | MW09BN | MW10BN | MW11BN | MW12BN | MW13BN | MW14BN | MW15BN |
| | | | | | | | | | | | | Sample Date | 11/5/2014 | 11/5/2014 | 11/4/2014 | 11/4/2014 | 11/4/2014 | 11/4/2014 | 11/4/2014 | 11/5/2014 | 11/5/2014 | 11/3/2014 | 11/4/2014 | 11/4/2014 | 11/3/2014 | 11/3/2014 | 11/3/2014 | 11/3/2014 |
| | | | | | | | | | | | | Type | N | N | N | N | N | N | N | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | | | | | | | | | | | | | | |
| Aluminum | ug/l | 2000 | SW6020A | D | 7429-90-5 | | | | | | | 16 | < 30 U | < 30 U | < 30 U | < 55 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U |
| Antimony | ug/l | 6 | SW6020A | D | 7440-36-0 | | | | | | | 16 | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Arsenic | ug/l | 10 | SW6020A | D | 7440-38-2 | 2.2 | 0.31 | 1 | 0.94 | MW11B | 10 | 16 | < 1.0 U | < 1.0 U | **0.48 J** | **0.91 J** | **1.4** | **1.3** | < 1.0 U | **0.31 J** | < 1.0 U | **0.52 J** | < 1.0 U | **2.2** | **1.4** | **0.55 J** | < 1.0 U | **0.96 J** |
| Barium | ug/l | 1000 | SW6020A | D | 7440-39-3 | 540 | 75 | 210 | 160 | MW05B | 16 | 16 | **190** | **75** | **150** | **100** | **540** | **160** | **230** | **140** | **130** | **440** | **220** | **120** | **360** | **110** | **230** | **150** |
| Beryllium | ug/l | 4 | SW6020A | D | 7440-41-7 | 0.64 | 0.041 | 0.36 | 0.4 | MW05B | 6 | 16 | < 1.0 UJ | **0.51 J** | < 1.0 U | < 1.0 U | **0.64 J** | **0.070 J** | **0.041 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.59 J** | **0.28 J** |
| Cadmium | ug/l | 5 | SW6020A | D | 7440-43-9 | 6.5 | 0.16 | 3.3 | 3.3 | MW15B | 2 | 16 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.16 J** | < 1.0 U | **6.5** |
| Calcium | ug/l | EN | SW6020A | D | 7440-70-2 | 120000 | 7900 | 31000 | 23000 | MW12B | 16 | 16 | **30000** | **12000** | **20000** | **25000** | **28000** | **8300** | **12000** | **17000** | **16000** | **49000** | **46000** | **29000** | **120000** | **66000** | **7900** | **15000** |
| Chromium | ug/l | 100 | SW6020A | D | 7440-47-3 | | | | | | | 16 | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Cobalt | ug/l | 0.6 | SW6020A | D | 7440-48-4 | 80 | 0.2 | 9.4 | 1.4 | MW15B | 14 | 16 | **8.2** | **26** | **1.9** | **1.9** | **0.63 J+** | **0.78** | **0.65** | **0.83** | **0.75** | < 0.50 U | **0.84** | **0.20 J** | < 0.86 U | **4.1** | **5.3** | **80** |
| Copper | ug/l | 1300 | SW6020A | D | 7440-50-8 | | | | | | | 16 | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 3.2 U |
| Iron | ug/l | 1400 | SW6020A | D | 7439-89-6 | 38000 | 190 | 9600 | 2300 | MW05B | 9 | 16 | **5800 J** | **30000 J** | **190 J** | **570 J** | **38000 J** | **8400 J** | **680 J** | < 50 U | < 50 U | < 50 U | **2300 J** | < 50 U | < 50 U | < 50 U | **630** | < 50 U |
| Lead | ug/l | 15 | SW6020A | D | 7439-92-1 | | | | | | | 16 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Magnesium | ug/l | EN | SW6020A | D | 7439-95-4 | 21000 | 3600 | 10000 | 7400 | MW09B MW13B | 16 | 16 | **13000** | **4800** | **6100** | **7900** | **18000** | **3600** | **5400** | **6400** | **5700** | **21000** | **12000** | **6800** | **15000** | **21000** | **6600** | **8600** |
| Manganese | ug/l | 43 | SW6020A | D | 7439-96-5 | 3400 | 250 | 1100 | 800 | MW01B | 16 | 16 | **3400** | **1600** | **530** | **950** | **1200** | **510** | **840** | **280** | **250** | **2700** | **640** | **360** | **760** | **1200** | **340** | **1500** |
| Nickel | ug/l | 39 | SW6020A | D | 7440-02-0 | 44 | 0.33 | 5 | 0.97 | MW15B | 15 | 16 | **4.3 J-** | **11** | **1.2** | **1.6** | **1.3 J-** | **0.73 J** | **0.62 J** | **0.87 J** | **0.67 J** | **0.91 J** | **0.65 J** | **0.33 J** | < 1.0 U | **5.9** | **0.97 J** | **44** |
| Potassium | ug/l | EN | SW6020A | D | 7440-09-7 | 9700 | 2100 | 4800 | 4300 | MW11B | 16 | 16 | **5000** | **2400** | **2700** | **3600** | **4700** | **2100** | **2200** | **3900** | **3500** | **7000** | **5300** | **9700** | **9200** | **7500** | **5400** | **2300** |
| Selenium | ug/l | 50 | SW6020A | D | 7782-49-2 | | | | | | | 16 | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Silver | ug/l | 50 | SW6020A | D | 7440-22-4 | | | | | | | 16 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | EN | SW6020A | D | 7440-23-5 | 330000 | 13000 | 71000 | 33000 | MW12B | 16 | 16 | **120000** | **36000** | **13000** | **18000** | **110000** | **18000** | **21000** | **19000** | **17000** | **73000** | **71000** | **46000** | **330000** | **200000** | **14000** | **30000** |
| Thallium | ug/l | 2 | SW6020A | D | 7440-28-0 | | | | | | | 16 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Vanadium | ug/l | 8.6 | SW6020A | D | 7440-62-2 | 8.3 | 1.4 | 3.7 | 3.5 | MW06B | 9 | 16 | **3.2 J** | **3.5 J+** | **2.5 J+** | **1.4 J+** | **2.0 J** | **8.3 J** | < 1.0 U | < 1.0 U | **4.2 J+** | < 4.3 U | **4.0 J+** | **3.8 J+** | < 1.3 U | < 4.3 U | < 5.9 U | < 2.6 U |
| Zinc | ug/l | 600 | SW6020A | D | 7440-66-6 | 56 | 39 | 48 | 48 | MW15B | 2 | 16 | < 5.4 U | **39** | < 7.5 U | < 5.0 U | < 8.3 U | < 10 U | < 10 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.7 U | < 5.9 U | **56** |
| Aluminum | ug/l | 2000 | SW6020A | T | 7429-90-5 | 1300 | 100 | 620 | 630 | MW11B | 16 | 16 | **260 J+** | **900 J+** | **690 J+** | **600 J+** | **650 J+** | **1100 J+** | **430 J+** | **910 J+** | **990 J+** | **460 J+** | **230 J+** | **1300 J+** | **250 J+** | **100 J+** | **320 J+** | **670** |
| Antimony | ug/l | 6 | SW6020A | T | 7440-36-0 | | | | | | | 16 | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Arsenic | ug/l | 10 | SW6020A | T | 7440-38-2 | 7.5 | 0.99 | 3.7 | 3.5 | MW10B | 14 | 16 | **2.0 J+** | < 1.0 U | **3.6 J+** | **5.2 J+** | **4.0 J+** | **4.2 J+** | < 1.0 U | **3.0 J+** | **3.3 J+** | **1.7 J** | **7.5 J+** | **5.4 J+** | **5.6 J** | **0.99 J** | **2.2 J** | **2.7 J** |
| Barium | ug/l | 1000 | SW6020A | T | 7440-39-3 | 610 | 68 | 240 | 180 | MW09B | 16 | 16 | **240** | **80** | **170** | **120** | **520** | **180** | **260** | **170** | **180** | **610** | **300** | **180** | **430** | **110** | **220** | **68** |
| Beryllium | ug/l | 4 | SW6020A | T | 7440-41-7 | 1.2 | 0.038 | 0.3 | 0.096 | MW05B | 15 | 16 | **0.059 J+** | **0.91 J** | **0.096 J** | **0.064 J** | **1.2** | **0.55 J** | **0.042 J** | **0.053 J** | **0.038 J** | **0.18 J** | **0.11 J** | **0.14 J** | **0.061 J** | < 1.0 U | **0.86 J** | **0.094 J** |
| Cadmium | ug/l | 5 | SW6020A | T | 7440-43-9 | 0.27 | 0.27 | 0.27 | 0.27 | MW13B | 1 | 16 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.27 J** | < 1.0 U | < 1.0 U |
| Calcium | ug/l | EN | SW6020A | T | 7440-70-2 | 120000 | 7700 | 33000 | 24000 | MW12B | 16 | 16 | **34000** | **12000** | **21000** | **27000** | **27000** | **8800** | **13000** | **19000** | **19000** | **51000** | **48000** | **34000** | **120000** | **71000** | **7700** | **16000** |
| Chromium | ug/l | 100 | SW6020A | T | 7440-47-3 | 9.5 | 7.8 | 8.7 | 8.7 | MW06B | 2 | 16 | < 2.0 U | < 3.0 U | < 6.5 U | < 6.1 U | < 5.7 U | **9.5** | < 2.0 U | < 2.1 U | < 2.2 U | < 2.8 U | < 5.9 U | **7.8** | < 2.3 U | < 2.0 U | < 3.0 U | < 3.8 U |
| Cobalt | ug/l | 0.6 | SW6020A | T | 7440-48-4 | 26 | 1.2 | 5.1 | 2.7 | MW02B | 16 | 16 | **8.0** | **26** | **2.8** | **2.8** | **2.4** | **7.8** | **1.2** | **2.1** | **2.0** | **1.8** | **1.4** | **2.5** | **1.5** | **5.6** | **5.2** | **7.7** |
| Copper | ug/l | 1300 | SW6020A | T | 7440-50-8 | 5.6 | 4.8 | 5.1 | 5 | MW06B | 3 | 16 | < 2.0 U | < 2.0 U | **4.8** | < 2.7 U | < 4.5 U | **5.6** | < 2.0 U | < 4.4 U | < 4.5 U | < 2.0 U | < 3.5 U | **5.0** | < 2.2 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Iron | ug/l | 1400 | SW6020A | T | 7439-89-6 | 61000 | 660 | 29000 | 30000 | MW05B | 16 | 16 | **37000** | **41000** | **24000** | **7600** | **61000** | **35000** | **46000** | **5500** | **5700** | **60000 J** | **40000** | **17000** | **44000 J** | **660 J** | **25000 J** | **11000 J** |
| Lead | ug/l | 15 | SW6020A | T | 7439-92-1 | 3.2 | 0.23 | 1.3 | 0.87 | MW08B | 16 | 16 | **0.48 J** | **1.2 J** | **1.5 J** | **0.75 J** | **1.6 J** | **2.1 J** | **0.70 J** | **3.2 J** | **3.0 J** | **0.81 J** | **0.67 J** | **2.2 J** | **0.90 J** | **0.23 J** | **0.58 J** | **0.83 J** |
| Magnesium | ug/l | EN | SW6020A | T | 7439-95-4 | 22000 | 3400 | 10000 | 7400 | MW13B | 16 | 16 | **15000** | **4700** | **5700** | **7700** | **16000** | **3400** | **5900** | **6600** | **6900** | **21000** | **11000** | **7000** | **15000** | **22000** | **6300** | **8800** |
| Manganese | ug/l | 43 | SW6020A | T | 7439-96-5 | 3700 | 320 | 1100 | 750 | MW01B | 16 | 16 | **3700** | **1600** | **550** | **1000** | **1100** | **510** | **870** | **320** | **330** | **2900** | **700** | **520** | **800** | **1200** | **330** | **660** |
| Nickel | ug/l | 39 | SW6020A | T | 7440-02-0 | 12 | 0.37 | 4 | 3.4 | MW02B | 16 | 16 | **4.7** | **12** | **3.9** | **3.5** | **3.2** | **6.6** | **1.3** | **2.8** | **2.9** | **2.3** | **2.1** | **3.9** | **0.37 J** | **7.4** | **1.3** | **5.2** |
| Potassium | ug/l | EN | SW6020A | T | 7440-09-7 | 12000 | 2400 | 5400 | 4700 | MW11B | 16 | 16 | **5800** | **2600** | **3000** | **4300** | **4800** | **2400** | **2500** | **4400** | **4500** | **7100** | **6100** | **12000** | **11000** | **7500** | **5300** | **2700** |
| Selenium | ug/l | 50 | SW6020A | T | 7782-49-2 | | | | | | | 16 | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Silver | ug/l | 50 | SW6020A | T | 7440-22-4 | | | | | | | 16 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | EN | SW6020A | T | 7440-23-5 | 330000 | 14000 | 73000 | 34000 | MW12B | 16 | 16 | **130000 J** | **35000 J** | **15000 J** | **21000 J** | **100000 J** | **21000 J** | **24000 J** | **20000 J** | **21000 J** | **75000** | **79000 J** | **56000 J** | **330000** | **190000** | **14000** | **32000** |
| Thallium | ug/l | 2 | SW6020A | T | 7440-28-0 | 0.13 | 0.025 | 0.063 | 0.035 | MW13B | 3 | 16 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.13 J** | **0.035 J** | **0.025 J** |
| Vanadium | ug/l | 8.6 | SW6020A | T | 7440-62-2 | 23 | 2.3 | 10 | 9.2 | MW08B | 15 | 16 | **20 J+** | **12 J+** | **3.0 J+** | < 1.0 U | **5.5 J+** | **13 J+** | **9.2 J+** | **20 J+** | **23 J+** | **4.4 J+** | **2.3 J+** | **4.8 J+** | **5.3 J+** | **10 J+** | **7.6 J+** | **15 J+** |
| Zinc | ug/l | 600 | SW6020A | T | 7440-66-6 | 37 | 8.5 | 15 | 9.9 | MW02B | 7 | 16 | < 6.4 U | **37** | **9.9** | < 6.7 U | **9.6** | **16** | **8.6** | < 6.2 U | < 7.5 U | < 5.3 U | < 5.0 U | **8.5** | < 5.0 U | < 7.0 U | < 6.6 U | **12** |
| Mercury | ug/l | 2 | SW7470A | D | 7439-97-6 | | | | | | | 16 | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 UJ | < 0.20 U | < 0.20 U | < 0.20 UJ | < 0.20 UJ | < 0.20 UJ | < 0.20 UJ |
| Mercury | ug/l | 2 | SW7470A | T | 7439-97-6 | | | | | | | 16 | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
D = Dissolved
T = Total
N = Normal
FD = Field Duplicate
EN = Essential Nutrient
HHRA screening values provided for detected compounds or compound sums where applicable.
Heirarchy: 1) Lower of DOEE/MCL (primary standards). 2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
ug/l = micrograms per liter

J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

**Table 4-22**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | Location ID | MW01B | MW01B | MW02B | MW02B | MW03B | MW04B | MW05B | MW05B | MW06B | MW07B | MW08B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample ID | MW01BN | MW01B122216N | MW02BN | MW02B122216N | MW03BN | MW04BN | MW05BN | MW05B042517N | MW06BN | MW07BN | MW08BN |
| | | | | | | | | | | | | | Sample Date | 11/5/2014 | 12/22/2016 | 11/5/2014 | 12/22/2016 | 11/4/2014 | 11/4/2014 | 11/4/2014 | 4/25/2017 | 11/4/2014 | 11/4/2014 | 11/5/2014 |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N | N | N | N | N |
| 1,1,1-Trichloroethane | ug/l | 200 | SW8260B/SW8260C | N | 71-55-6 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | SW8260B/SW8260C | N | 79-34-5 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | SW8260B/SW8260C | N | 76-13-1 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloroethane | ug/l | 5 | SW8260B/SW8260C | N | 79-00-5 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethane | ug/l | 2.8 | SW8260B/SW8260C | N | 75-34-3 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethene | ug/l | 7 | SW8260B/SW8260C | N | 75-35-4 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | SW8260B/SW8260C | N | 87-61-6 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,4-Trichlorobenzene | ug/l | 70 | SW8260B/SW8260C | N | 120-82-1 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | SW8260B/SW8260C | N | 96-12-8 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromoethane | ug/l | 0.05 | SW8260B/SW8260C | N | 106-93-4 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichlorobenzene | ug/l | 600 | SW8260B/SW8260C | N | 95-50-1 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloroethane | ug/l | 5 | SW8260B/SW8260C | N | 107-06-2 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloropropane | ug/l | 5 | SW8260B/SW8260C | N | 78-87-5 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,3-Dichlorobenzene | ug/l | 0.48 | SW8260B/SW8260C | N | 541-73-1 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dichlorobenzene | ug/l | 75 | SW8260B/SW8260C | N | 106-46-7 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dioxane | ug/l | 0.46 | SW8260B/SW8260C | N | 123-91-1 | | | | | | | 24 | | < 200 U | < 200 U | < 200 U | | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U |
| 2-Butanone | ug/l | 560 | SW8260B/SW8260C | N | 78-93-3 | 1.3 | 1.1 | 1.2 | 1.2 | MW12B | 2 | 24 | | < 5.0 U | < 5.0 U | < 5.0 U | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 2-Hexanone | ug/l | 3.8 | SW8260B/SW8260C | N | 591-78-6 | | | | | | | 24 | | < 5.0 U | < 5.0 U | < 5.0 U | | < 5.0 UJ | < 5.0 UJ | < 5.0 UJ | < 5.0 U | < 5.0 UJ | < 5.0 U | < 5.0 UJ |
| 4-Methyl-2-pentanone | ug/l | 630 | SW8260B/SW8260C | N | 108-10-1 | | | | | | | 24 | | < 5.0 UJ | < 5.0 U | < 5.0 UJ | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 UJ | < 5.0 U |
| Acetone | ug/l | 1400 | SW8260B/SW8260C | N | 67-64-1 | 7.7 | 2.8 | 5.2 | 5 | MW12B | 5 | 24 | | < 5.0 U | < 5.0 U | < 5.0 U | | < 5.0 U | **2.8 J** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Benzene | ug/l | 5 | SW8260B/SW8260C | N | 71-43-2 | 0.68 | 0.22 | 0.45 | 0.45 | MW08B | 2 | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.22 J** |
| Bromochloromethane | ug/l | 8.3 | SW8260B/SW8260C | N | 74-97-5 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromodichloromethane | ug/l | 80 | SW8260B/SW8260C | N | 75-27-4 | 1.9 | 0.23 | 0.74 | 0.63 | MW05B | 6 | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | **0.65 J** | < 1.0 U | **1.9** | < 1.0 U | < 1.0 U | < 1.0 U | **0.23 J** |
| Bromoform | ug/l | 80 | SW8260B/SW8260C | N | 75-25-2 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromomethane | ug/l | 0.75 | SW8260B/SW8260C | N | 74-83-9 | | | | | | | 24 | | < 1.0 UJ | < 1.0 U | < 1.0 UJ | | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ |
| Butyl alcohol, tert- | ug/l | 14 | SW8260B/SW8260C | N | 75-65-0 | 62 | 6.7 | 34 | 34 | MW09B | 2 | 8 | | | < 200 U | | | | | | < 40 U | | | |
| Carbon Disulfide | ug/l | 81 | SW8260B/SW8260C | N | 75-15-0 | 6.3 | 0.25 | 1.4 | 0.78 | MW09B | 9 | 24 | | **0.27 J** | < 1.0 U | < 1.0 U | | **1.8** | **1.1** | **0.93 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Carbon Tetrachloride | ug/l | 5 | SW8260B/SW8260C | N | 56-23-5 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chlorobenzene | ug/l | 100 | SW8260B/SW8260C | N | 108-90-7 | 1.2 | 1.2 | 1.2 | 1.2 | MW12B | 1 | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroethane | ug/l | 2100 | SW8260B/SW8260C | N | 75-00-3 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 UJ | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U |
| Chloroform | ug/l | 80 | SW8260B/SW8260C | N | 67-66-3 | 4.2 | 0.27 | 2 | 1.4 | MW09B | 11 | 24 | | **0.87 J** | < 1.0 U | < 1.0 U | | **3.2** | **1.4** | **3.6** | < 1.0 U | < 1.0 U | < 1.0 U | **3.2** |
| Chloromethane | ug/l | 19 | SW8260B/SW8260C | N | 74-87-3 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,2-Dichloroethylene | ug/l | 70 | SW8260B/SW8260C | N | 156-59-2 | 7 | 0.51 | 2.3 | 0.68 | MW01B | 5 | 24 | | **2.6** | **7.0** | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | **0.51 J** | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,3-Dichloropropene | ug/l | 0.47 | SW8260B/SW8260C | N | 10061-01-5 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cyclohexane | ug/l | 1300 | SW8260B/SW8260C | N | 110-82-7 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dibromochloromethane | ug/l | 80 | SW8260B/SW8260C | N | 124-48-1 | 0.66 | 0.24 | 0.36 | 0.27 | MW05B | 4 | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | **0.24 J** | < 1.0 U | **0.66 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dichlorodifluoromethane | ug/l | 20 | SW8260B/SW8260C | N | 75-71-8 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 UJ | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U |
| Diisopropyl ether | ug/l | 150 | SW8260B/SW8260C | N | 108-20-3 | 2.6 | 0.19 | 0.74 | 0.35 | MW01B | 5 | 8 | | | **2.6 J** | | | | | | **0.19 J** | | | |
| Ethylbenzene | ug/l | 700 | SW8260B/SW8260C | N | 100-41-4 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Ethyl-Tert-Butyl-Ether | ug/l | | SW8260B/SW8260C | N | 637-92-3 | | | | | | | 8 | | | < 5.0 U | | | | | | < 1.0 U | | | |
| Isopropylbenzene | ug/l | 45 | SW8260B/SW8260C | N | 98-82-8 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| m, p-Xylene | ug/l | 10000 | SW8260B/SW8260C | N | XYLMP | 0.15 | 0.15 | 0.15 | 0.15 | MW09B | 1 | 24 | | < 2.0 U | < 1.0 U | < 2.0 U | | < 2.0 U | < 2.0 U | < 2.0 U | < 1.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Methyl Acetate | ug/l | 2000 | SW8260B/SW8260C | N | 79-20-9 | | | | | | | 24 | | < 1.0 U | < 5.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 5.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | SW8260B/SW8260C | N | 1634-04-4 | 190 | 0.32 | 23 | 3.4 | MW13B | 15 | 24 | | **1.0** | **3.4** | **0.39 J** | | < 1.0 U | < 1.0 U | **0.32 J** | **0.86 J** | < 1.0 U | < 1.0 U | < 1.0 U |
| Methylcyclohexane | ug/l | 1300 | SW8260B/SW8260C | N | 108-87-2 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methylene Chloride | ug/l | 5 | SW8260B/SW8260C | N | 75-09-2 | 0.2 | 0.18 | 0.19 | 0.19 | MW08B | 2 | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| o-Xylene | ug/l | 10000 | SW8260B/SW8260C | N | 95-47-6 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Styrene | ug/l | 100 | SW8260B/SW8260C | N | 100-42-5 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | SW8260B/SW8260C | N | 994-05-8 | 2.4 | 2.4 | 2.4 | 2.4 | MW13B | 1 | 8 | | | < 5.0 U | | | | | | < 1.0 U | | | |
| Tetrachloroethylene | ug/l | 5 | SW8260B/SW8260C | N | 127-18-4 | 110 | 0.15 | 30 | 1.2 | MW01B | 7 | 24 | | **110** | **78** | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | **18** | < 1.0 U | < 1.0 U | < 1.0 U |
| Toluene | ug/l | 1000 | SW8260B/SW8260C | N | 108-88-3 | 12 | 0.18 | 2.2 | 0.28 | MW12B | 7 | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | **0.28 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.18 J** |
| trans-1,2-Dichloroethene | ug/l | 100 | SW8260B/SW8260C | N | 156-60-5 | 0.51 | 0.51 | 0.51 | 0.51 | MW01B | 1 | 24 | | < 1.0 U | **0.51 J** | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,3-Dichloropropene | ug/l | 0.47 | SW8260B/SW8260C | N | 10061-02-6 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Trichloroethene | ug/l | 5 | SW8260B/SW8260C | N | 79-01-6 | 48 | 0.43 | 18 | 13 | MW01B | 4 | 24 | | **25** | **48** | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | **0.53 J** | < 1.0 U | < 1.0 U | < 1.0 U |
| Trichlorofluoromethane | ug/l | 520 | SW8260B/SW8260C | N | 75-69-4 | | | | | | | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 UJ | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U |
| Vinyl Chloride | ug/l | 2 | SW8260B/SW8260C | N | 75-01-4 | 0.26 | 0.26 | 0.26 | 0.26 | MW09B | 1 | 24 | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Xylenes (total) | ug/l | 10000 | SW8260B/SW8260C | N | 1330-20-7 | 0.15 | 0.15 | 0.15 | 0.15 | MW09B | 1 | 24 | | < 2.0 U | < 1 U | < 2.0 U | | < 2.0 U | < 2.0 U | < 2.0 U | < 1 U | < 2.0 U | < 2.0 U | < 2.0 U |
| 1,1'-Biphenyl | ug/l | 0.083 | SW8270D LL | N | 92-52-4 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | SW8270D LL | N | 95-94-3 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | SW8270D LL | N | 108-60-1 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |

**Table 4-22**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Location ID | MW01B | MW01B | MW02B | MW02B | MW03B | MW04B | MW05B | MW05B | MW06B | MW07B | MW08B |
| | | | | | | | | | | | | | Sample ID | MW01BN | MW01B122216N | MW02BN | MW02B122216N | MW03BN | MW04BN | MW05BN | MW05B042517N | MW06BN | MW07BN | MW08BN |
| | | | | | | | | | | | | | Sample Date | 11/5/2014 | 12/22/2016 | 11/5/2014 | 12/22/2016 | 11/4/2014 | 11/4/2014 | 11/4/2014 | 4/25/2017 | 11/4/2014 | 11/4/2014 | 11/5/2014 |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | SW8270D LL | N | 58-90-2 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 2,4,5-Trichlorophenol | ug/l | 120 | SW8270D LL | N | 95-95-4 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | SW8270D LL | N | 88-06-2 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 2,4-Dichlorophenol | ug/l | 4.6 | SW8270D LL | N | 120-83-2 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 2,4-Dimethylphenol | ug/l | 36 | SW8270D LL | N | 105-67-9 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 2,4-Dinitrophenol | ug/l | 3.9 | SW8270D LL | N | 51-28-5 | | | | | | | 16 | | < 5.0 U | | < 5.0 U | | < 5.0 U | < 5.2 U | < 5.2 U | | < 5.4 U | < 5.0 U | < 5.2 U |
| 2,4-Dinitrotoluene | ug/l | 0.24 | SW8270D LL | N | 121-14-2 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 2,6-Dinitrotoluene | ug/l | 0.049 | SW8270D LL | N | 606-20-2 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 2-Chloronaphthalene | ug/l | 75 | SW8270D LL | N | 91-58-7 | | | | | | | 16 | | < 0.20 U | | < 0.20 U | | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| 2-Chlorophenol | ug/l | 9.1 | SW8270D LL | N | 95-57-8 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 2-Methylnaphthalene | ug/l | 3.6 | SW8270D LL | N | 91-57-6 | 0.02 | 0.02 | 0.02 | 0.02 | MW01B | 1 | 16 | | **0.020 J** | | < 0.20 U | | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| 2-Methylphenol | ug/l | 93 | SW8270D LL | N | 95-48-7 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 2-Nitroaniline | ug/l | 19 | SW8270D LL | N | 88-74-4 | | | | | | | 16 | | < 5.0 U | | < 5.0 U | | < 5.0 U | < 5.2 U | < 5.2 U | | < 5.4 U | < 5.0 U | < 5.2 U |
| 2-Nitrophenol | ug/l | 580 | SW8270D LL | N | 88-75-5 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | SW8270D LL | N | 91-94-1 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 3-Nitroaniline | ug/l | 3.8 | SW8270D LL | N | 99-09-2 | | | | | | | 16 | | < 5.0 U | | < 5.0 U | | < 5.0 U | < 5.2 U | < 5.2 U | | < 5.4 U | < 5.0 U | < 5.2 U |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | SW8270D LL | N | 534-52-1 | | | | | | | 16 | | < 5.0 U | | < 5.0 U | | < 5.0 U | < 5.2 U | < 5.2 U | | < 5.4 U | < 5.0 U | < 5.2 U |
| 4-Bromophenyl-phenylether | ug/l | | SW8270D LL | N | 101-55-3 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 4-Chloro-3-methylphenol | ug/l | 140 | SW8270D LL | N | 59-50-7 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 4-Chloroaniline | ug/l | 0.37 | SW8270D LL | N | 106-47-8 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 4-Chlorophenyl-phenylether | ug/l | | SW8270D LL | N | 7005-72-3 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 4-Methylphenol | ug/l | 190 | SW8270D LL | N | 106-44-5 | 0.49 | 0.49 | 0.49 | 0.49 | MW08B | 1 | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| 4-Nitroaniline | ug/l | 3.8 | SW8270D LL | N | 100-01-6 | | | | | | | 16 | | < 5.0 U | | < 5.0 U | | < 5.0 U | < 5.2 U | < 5.2 U | | < 5.4 U | < 5.0 U | < 5.2 U |
| 4-Nitrophenol | ug/l | 580 | SW8270D LL | N | 100-02-7 | | | | | | | 16 | | < 5.0 U | | < 5.0 U | | < 5.0 U | < 5.2 U | < 5.2 U | | < 5.4 U | < 5.0 U | < 5.2 U |
| Acenaphthene | ug/l | 53 | SW8270D LL | N | 83-32-9 | 0.039 | 0.039 | 0.039 | 0.039 | MW12B | 1 | 18 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Acenaphthylene | ug/l | 53 | SW8270D LL | N | 208-96-8 | | | | | | | 18 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Acetophenone | ug/l | 190 | SW8270D LL | N | 98-86-2 | | | | | | | 16 | | < 2.0 U | | < 2.0 U | | < 2.0 U | < 2.1 U | < 2.1 U | | < 2.2 U | < 2.0 U | < 2.1 U |
| Anthracene | ug/l | 180 | SW8270D LL | N | 120-12-7 | | | | | | | 18 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Atrazine | ug/l | 3 | SW8270D LL | N | 1912-24-9 | | | | | | | 16 | | < 2.0 U | | < 2.0 U | | < 2.0 U | < 2.1 U | < 2.1 U | | < 2.2 U | < 2.0 U | < 2.1 U |
| Benzaldehyde | ug/l | 19 | SW8270D LL | N | 100-52-7 | | | | | | | 16 | | < 2.0 U | | < 2.0 U | | < 2.0 U | < 2.1 U | < 2.1 U | | < 2.2 U | < 2.0 U | < 2.1 U |
| Benzo(a)anthracene | ug/l | 0.03 | SW8270D LL | N | 56-55-3 | | | | | | | 18 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Benzo(a)pyrene | ug/l | 0.2 | SW8270D LL | N | 50-32-8 | | | | | | | 18 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Benzo(b)fluoranthene | ug/l | 0.25 | SW8270D LL | N | 205-99-2 | | | | | | | 18 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Benzo(g,h,i)perylene | ug/l | 12 | SW8270D LL | N | 191-24-2 | | | | | | | 18 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Benzo(k)fluoranthene | ug/l | 2.5 | SW8270D LL | N | 207-08-9 | | | | | | | 18 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | SW8270D LL | N | 111-91-1 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | SW8270D LL | N | 111-44-4 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | SW8270D LL | N | 117-81-7 | | | | | | | 16 | | < 2.0 U | | < 2.0 U | | < 2.0 U | < 2.1 U | < 2.1 U | | < 2.2 U | < 2.0 U | < 2.1 U |
| Butylbenzylphthalate | ug/l | 16 | SW8270D LL | N | 85-68-7 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| Caprolactam | ug/l | 990 | SW8270D LL | N | 105-60-2 | | | | | | | 16 | | < 5.0 U | | < 5.0 U | | < 5.0 U | < 5.2 U | < 5.2 U | | < 5.4 U | < 5.0 U | < 5.2 U |
| Carbazole | ug/l | 29 | SW8270D LL | N | 86-74-8 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| Chrysene | ug/l | 25 | SW8270D LL | N | 218-01-9 | | | | | | | 18 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | SW8270D LL | N | 53-70-3 | | | | | | | 18 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Dibenzofuran | ug/l | 0.79 | SW8270D LL | N | 132-64-9 | 0.11 | 0.11 | 0.11 | 0.11 | MW02B | 1 | 16 | | < 1.0 U | | **0.11 J** | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| Diethylphthalate | ug/l | 1500 | SW8270D LL | N | 84-66-2 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| Dimethylphthalate | ug/l | 1500 | SW8270D LL | N | 131-11-3 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| Di-n-butylphthalate | ug/l | 90 | SW8270D LL | N | 84-74-2 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| Di-n-octylphthalate | ug/l | 20 | SW8270D LL | N | 117-84-0 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| Fluoranthene | ug/l | 80 | SW8270D LL | N | 206-44-0 | | | | | | | 18 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Fluorene | ug/l | 29 | SW8270D LL | N | 86-73-7 | | | | | | | 18 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Hexachlorobenzene | ug/l | 1 | SW8270D LL | N | 118-74-1 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| Hexachlorobutadiene | ug/l | 0.14 | SW8270D LL | N | 87-68-3 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| Hexachlorocyclo-pentadiene | ug/l | 50 | SW8270D LL | N | 77-47-4 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| Hexachloroethane | ug/l | 0.33 | SW8270D LL | N | 67-72-1 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | SW8270D LL | N | 193-39-5 | | | | | | | 18 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Isophorone | ug/l | 78 | SW8270D LL | N | 78-59-1 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| Naphthalene | ug/l | 0.17 | SW8270D LL | N | 91-20-3 | 2.6 | 0.27 | 1.4 | 1.4 | MW02B | 2 | 18 | | **0.27** | < 0.18 U | **2.6** | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Nitrobenzene | ug/l | 0.14 | SW8270D LL | N | 98-95-3 | | | | | | | 16 | | < 2.0 U | | < 2.0 U | | < 2.0 U | < 2.1 U | < 2.1 U | | < 2.2 U | < 2.0 U | < 2.1 U |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | SW8270D LL | N | 621-64-7 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| N-Nitrosodiphenylamine | ug/l | 12 | SW8270D LL | N | 86-30-6 | | | | | | | 16 | | < 1.0 U | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |

**Table 4-22**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Location ID | MW01B | MW01B | MW02B | MW02B | MW03B | MW04B | MW05B | MW05B | MW06B | MW07B | MW08B |
| | | | | | | | | | | | | | Sample ID | MW01BN | MW01B122216N | MW02BN | MW02B122216N | MW03BN | MW04BN | MW05BN | MW05B042517N | MW06BN | MW07BN | MW08BN |
| | | | | | | | | | | | | | Sample Date | 11/5/2014 | 12/22/2016 | 11/5/2014 | 12/22/2016 | 11/4/2014 | 11/4/2014 | 11/4/2014 | 4/25/2017 | 11/4/2014 | 11/4/2014 | 11/5/2014 |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | | | | | | | | | | |
| Pentachlorophenol | ug/l | 1 | SW8270D LL | N | 87-86-5 | 0.53 | 0.53 | 0.53 | 0.53 | MW01B | 1 | 16 | | **0.53 J** | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | < 1.0 U |
| Phenanthrene | ug/l | 180 | SW8270D LL | N | 85-01-8 | 0.068 | 0.068 | 0.068 | 0.068 | MW02B | 1 | 18 | | < 0.20 U | < 0.18 U | **0.068 J** | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Phenol | ug/l | 580 | SW8270D LL | N | 108-95-2 | 0.26 | 0.12 | 0.2 | 0.22 | MW01B | 3 | 16 | | **0.26 J** | | < 1.0 U | | < 1.0 U | < 1.0 U | < 1.0 U | | < 1.1 U | < 1.0 U | **0.12 J** |
| Pyrene | ug/l | 12 | SW8270D LL | N | 129-00-0 | | | | | | | 18 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| BaP-TE | ug/l | 0.2 | SW8270D LL | N | BAP | | | | | | | 18 | | < 0.200 U | < 0.180 U | < 0.200 U | < 0.180 U | < 0.200 U | < 0.210 U | < 0.210 U | | < 0.220 U | < 0.200 U | < 0.210 U |
| Total High-molecular-weight PAHs | ug/l | | SW8270D LL | N | TOT-PAH-HMW | | | | | | | 18 | | < 0.20 U | < 0.18 U | < 0.20 U | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Total Low-molecular-weight PAHs | ug/l | | SW8270D LL | N | TOT-PAH-LMW | 2.7 | 0.039 | 1 | 0.27 | MW02B | 3 | 18 | | **0.27** | < 0.18 U | **2.7** | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |
| Total PAHs (sum 16) | ug/l | | SW8270D LL | N | TOT-PAH | 2.7 | 0.039 | 1 | 0.27 | MW02B | 3 | 18 | | **0.27** | < 0.18 U | **2.7** | < 0.18 U | < 0.20 U | < 0.21 U | < 0.21 U | | < 0.22 U | < 0.20 U | < 0.21 U |

**Table 4-22**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | MW08B | MW09B | MW09B | MW10B | MW10B | MW11B | MW11B | MW12B | MW13B | MW13B | MW14B | MW14B | MW15B | MW15B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | MW08BR | MW09BN | MW09B122116N | MW10BN | MW10B122116N | MW11BN | MW11B122216N | MW12BN | MW13BN | MW13B122016N | MW14BN | MW14B122016N | MW15BN | MW15B122116N |
| | | | Sample Date | 11/5/2014 | 11/3/2014 | 12/21/2016 | 11/4/2014 | 12/21/2016 | 11/4/2014 | 12/22/2016 | 11/3/2014 | 11/3/2014 | 12/20/2016 | 11/3/2014 | 12/20/2016 | 11/3/2014 | 12/21/2016 |
| | | | Type | FD | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/l | 200 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethane | ug/l | 2.8 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethene | ug/l | 7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,4-Trichlorobenzene | ug/l | 70 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromoethane | ug/l | 0.05 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichlorobenzene | ug/l | 600 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloroethane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloropropane | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,3-Dichlorobenzene | ug/l | 0.48 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dichlorobenzene | ug/l | 75 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dioxane | ug/l | 0.46 | | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U |
| 2-Butanone | ug/l | 560 | | < 5.0 U | **1.1 J** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **1.3 J** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 2-Hexanone | ug/l | 3.8 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 UJ | < 5.0 U | < 5.0 UJ | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| 4-Methyl-2-pentanone | ug/l | 630 | | < 5.0 UJ | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Acetone | ug/l | 1400 | | < 5.0 U | **5.0** | < 5.0 U | < 5.0 U | **5.8 J+** | < 5.0 U | < 5.0 U | **7.7** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **4.5 J** | < 5.0 U |
| Benzene | ug/l | 5 | | **0.68 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromochloromethane | ug/l | 8.3 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromodichloromethane | ug/l | 80 | | < 1.0 U | **0.40 J** | < 1.0 U | **0.66 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.61 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromoform | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromomethane | ug/l | 0.75 | | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Butyl alcohol, tert- | ug/l | 14 | | | | **62** | | **6.7 J** | | < 40 U | | | < 200 U | | < 40 U | | < 40 U |
| Carbon Disulfide | ug/l | 81 | | < 1.0 U | **6.3** | < 1.0 U | **0.27 J** | < 1.0 U | **0.78 J** | < 1.0 U | **0.63 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.25 J** | < 1.0 U |
| Carbon Tetrachloride | ug/l | 5 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chlorobenzene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **1.2** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroethane | ug/l | 2100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroform | ug/l | 80 | | **2.0** | **4.2** | < 1.0 U | **1.4** | < 1.0 U | **0.29 J** | < 1.0 U | **0.27 J** | **1.1** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloromethane | ug/l | 19 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,2-Dichloroethylene | ug/l | 70 | | < 1.0 U | < 1.0 U | **0.56 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.68 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dibromochloromethane | ug/l | 80 | | < 1.0 U | < 1.0 U | < 1.0 U | **0.24 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.30 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dichlorodifluoromethane | ug/l | 20 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Diisopropyl ether | ug/l | 150 | | | | **0.37 J** | | **0.19 J** | | < 1.0 U | | | < 5.0 U | | < 1.0 U | | **0.35 J** |
| Ethylbenzene | ug/l | 700 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Ethyl-Tert-Butyl-Ether | ug/l | | | | | < 1.0 U | | < 1.0 U | | < 1.0 U | | | < 5.0 U | | < 1.0 U | | < 1.0 U |
| Isopropylbenzene | ug/l | 45 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| m, p-Xylene | ug/l | 10000 | | < 2.0 U | < 2.0 U | **0.15 J** | < 2.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 2.0 U | < 2.0 U | < 1.0 U | < 2.0 U | < 1.0 U | < 2.0 U | < 1.0 U |
| Methyl Acetate | ug/l | 2000 | | < 1.0 U | < 1.0 U | < 5.0 U | < 1.0 U | < 5.0 U | < 1.0 U | < 5.0 U | < 1.0 U | < 1.0 U | < 5.0 U | < 1.0 U | < 5.0 U | < 1.0 U | < 5.0 U |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | | < 1.0 U | **3.5** | **5.5** | **2.1** | **6.1** | < 1.0 U | < 1.0 U | < 1.0 U | **190** | **110** | **11** | **7.6** | **1.0** | **0.93 J** |
| Methylcyclohexane | ug/l | 1300 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methylene Chloride | ug/l | 5 | | **0.20 J** | **0.18 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| o-Xylene | ug/l | 10000 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Styrene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | | | | < 1.0 U | | < 1.0 U | | < 1.0 U | | | **2.4 J** | | < 1.0 U | | < 1.0 U |
| Tetrachloroethylene | ug/l | 5 | | < 1.0 U | **0.34 J** | **1.2** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.27 J** | **0.15 J** | < 1.0 U | < 1.0 U | < 1.0 U |
| Toluene | ug/l | 1000 | | **0.19 J** | **0.78 J** | < 1.0 U | < 1.0 U | **1.6** | **0.19 J** | < 1.0 U | **12** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,2-Dichloroethene | ug/l | 100 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,3-Dichloropropene | ug/l | 0.47 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 UJ | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Trichloroethene | ug/l | 5 | | < 1.0 U | < 1.0 U | **0.43 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Trichlorofluoromethane | ug/l | 520 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Vinyl Chloride | ug/l | 2 | | < 1.0 U | < 1.0 U | **0.26 J** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Xylenes (total) | ug/l | 10000 | | < 2.0 U | < 2.0 U | **0.15** | < 2.0 U | < 1 U | < 2.0 U | < 1 U | < 2.0 U | < 2.0 U | < 1 U | < 2.0 U | < 1 U | < 2.0 U | < 1 U |
| 1,1'-Biphenyl | ug/l | 0.083 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |

**Table 4-22**
**Groundwater Results**
**VOCs, SVOCs, and TPH Fractions Concentrations in LWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | MW08B | MW09B | MW09B | MW10B | MW10B | MW11B | MW11B | MW12B | MW13B | MW13B | MW14B | MW14B | MW15B | MW15B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | MW08BR | MW09BN | MW09B122116N | MW10BN | MW10B122116N | MW11BN | MW11B122216N | MW12BN | MW13BN | MW13B122016N | MW14BN | MW14B122016N | MW15BN | MW15B122116N |
| | | | Sample Date | 11/5/2014 | 11/3/2014 | 12/21/2016 | 11/4/2014 | 12/21/2016 | 11/4/2014 | 12/22/2016 | 11/3/2014 | 11/3/2014 | 12/20/2016 | 11/3/2014 | 12/20/2016 | 11/3/2014 | 12/21/2016 |
| | | | Type | FD | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 2,4,5-Trichlorophenol | ug/l | 120 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 2,4-Dichlorophenol | ug/l | 4.6 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 2,4-Dimethylphenol | ug/l | 36 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 2,4-Dinitrophenol | ug/l | 3.9 | | < 5.0 U | < 4.8 U | | < 5.0 U | | < 4.8 U | | < 5.0 U | < 4.8 U | | < 5.0 U | | < 5.2 U | |
| 2,4-Dinitrotoluene | ug/l | 0.24 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 2,6-Dinitrotoluene | ug/l | 0.049 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 2-Chloronaphthalene | ug/l | 75 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| 2-Chlorophenol | ug/l | 9.1 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 2-Methylnaphthalene | ug/l | 3.6 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| 2-Methylphenol | ug/l | 93 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 2-Nitroaniline | ug/l | 19 | | < 5.0 U | < 4.8 U | | < 5.0 U | | < 4.8 U | | < 5.0 U | < 4.8 U | | < 5.0 U | | < 5.2 U | |
| 2-Nitrophenol | ug/l | 580 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 3-Nitroaniline | ug/l | 3.8 | | < 5.0 U | < 4.8 U | | < 5.0 U | | < 4.8 U | | < 5.0 U | < 4.8 U | | < 5.0 U | | < 5.2 U | |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | | < 5.0 U | < 4.8 U | | < 5.0 U | | < 4.8 U | | < 5.0 U | < 4.8 U | | < 5.0 U | | < 5.2 U | |
| 4-Bromophenyl-phenylether | ug/l | | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 4-Chloro-3-methylphenol | ug/l | 140 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 4-Chloroaniline | ug/l | 0.37 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 4-Chlorophenyl-phenylether | ug/l | | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 4-Methylphenol | ug/l | 190 | | **0.49 J** | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| 4-Nitroaniline | ug/l | 3.8 | | < 5.0 U | < 4.8 U | | < 5.0 U | | < 4.8 U | | < 5.0 U | < 4.8 U | | < 5.0 U | | < 5.2 U | |
| 4-Nitrophenol | ug/l | 580 | | < 5.0 U | < 4.8 U | | < 5.0 U | | < 4.8 U | | < 5.0 U | < 4.8 U | | < 5.0 U | | < 5.2 U | |
| Acenaphthene | ug/l | 53 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | **0.039 J** | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Acenaphthylene | ug/l | 53 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Acetophenone | ug/l | 190 | | < 2.0 U | < 1.9 U | | < 2.0 U | | < 1.9 U | | < 2.0 U | < 1.9 U | | < 2.0 U | | < 2.1 U | |
| Anthracene | ug/l | 180 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Atrazine | ug/l | 3 | | < 2.0 U | < 1.9 U | | < 2.0 U | | < 1.9 U | | < 2.0 U | < 1.9 U | | < 2.0 U | | < 2.1 U | |
| Benzaldehyde | ug/l | 19 | | < 2.0 U | < 1.9 U | | < 2.0 U | | < 1.9 U | | < 2.0 U | < 1.9 U | | < 2.0 U | | < 2.1 U | |
| Benzo(a)anthracene | ug/l | 0.03 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Benzo(a)pyrene | ug/l | 0.2 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Benzo(b)fluoranthene | ug/l | 0.25 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Benzo(g,h,i)perylene | ug/l | 12 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Benzo(k)fluoranthene | ug/l | 2.5 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | | < 2.0 U | < 1.9 U | | < 2.0 U | | < 1.9 U | | < 2.0 U | < 1.9 U | | < 2.0 U | | < 2.1 U | |
| Butylbenzylphthalate | ug/l | 16 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| Caprolactam | ug/l | 990 | | < 5.0 U | < 4.8 U | | < 5.0 U | | < 4.8 U | | < 5.0 U | < 4.8 U | | < 5.0 U | | < 5.2 U | |
| Carbazole | ug/l | 29 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| Chrysene | ug/l | 25 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Dibenzofuran | ug/l | 0.79 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| Diethylphthalate | ug/l | 1500 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| Dimethylphthalate | ug/l | 1500 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| Di-n-butylphthalate | ug/l | 90 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| Di-n-octylphthalate | ug/l | 20 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| Fluoranthene | ug/l | 80 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Fluorene | ug/l | 29 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Hexachlorobenzene | ug/l | 1 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| Hexachlorobutadiene | ug/l | 0.14 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| Hexachlorocyclo-pentadiene | ug/l | 50 | | < 1.0 U | < 0.96 U | | < 1.0 UJ | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| Hexachloroethane | ug/l | 0.33 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Isophorone | ug/l | 78 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| Naphthalene | ug/l | 0.17 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Nitrobenzene | ug/l | 0.14 | | < 2.0 U | < 1.9 U | | < 2.0 U | | < 1.9 U | | < 2.0 U | < 1.9 U | | < 2.0 U | | < 2.1 U | |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| N-Nitrosodiphenylamine | ug/l | 12 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |

| | | | Location ID | MW08B | MW09B | MW09B | MW10B | MW10B | MW11B | MW11B | MW12B | MW13B | MW13B | MW14B | MW14B | MW15B | MW15B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | MW08BR | MW09BN | MW09B122116N | MW10BN | MW10B122116N | MW11BN | MW11B122216N | MW12BN | MW13BN | MW13B122016N | MW14BN | MW14B122016N | MW15BN | MW15B122116N |
| | | | Sample Date | 11/5/2014 | 11/3/2014 | 12/21/2016 | 11/4/2014 | 12/21/2016 | 11/4/2014 | 12/22/2016 | 11/3/2014 | 11/3/2014 | 12/20/2016 | 11/3/2014 | 12/20/2016 | 11/3/2014 | 12/21/2016 |
| | | | Type | FD | N | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | | | | | |
| Pentachlorophenol | ug/l | 1 | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| Phenanthrene | ug/l | 180 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Phenol | ug/l | 580 | | **0.22 J** | < 0.96 U | | < 1.0 U | | < 0.96 U | | < 1.0 U | < 0.96 U | | < 1.0 U | | < 1.0 U | |
| Pyrene | ug/l | 12 | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| BaP-TE | ug/l | 0.2 | | < 0.200 U | < 0.190 U | | < 0.200 U | | < 0.190 U | | < 0.200 U | < 0.190 U | | < 0.200 U | | < 0.210 U | |
| Total High-molecular-weight PAHs | ug/l | | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Total Low-molecular-weight PAHs | ug/l | | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | **0.039** | < 0.19 U | | < 0.20 U | | < 0.21 U | |
| Total PAHs (sum 16) | ug/l | | | < 0.20 U | < 0.19 U | | < 0.20 U | | < 0.19 U | | **0.039** | < 0.19 U | | < 0.20 U | | < 0.21 U | |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
D = Dissolved
T = Total
N = Normal
FD = Field Duplicate
EN = Essential Nutrient
HHRA screening values provided for detected compounds or compound sums where applicable.
Heirarchy: 1) Lower of DOEE/MCL (primary standards). 2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
ug/l = micrograms per liter

**Table 4-23**
**Groundwater Results**
**PCBs and Pesticides Concentrations in LWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Location ID | MW01B | MW02B |
| | | | | | | | | | | | | | Sample ID | MW01BN | MW02BN |
| | | | | | | | | | | | | | Sample Date | 11/5/2014 | 11/5/2014 |
| | | | | | | | | | | | | | Type | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| 4,4'-DDD | ug/l | 0.0063 | SW8081B LL | N | 72-54-8 | | | | | | | 21 | | < 0.0013 U | < 0.0012 U |
| 4,4'-DDE | ug/l | 0.046 | SW8081B LL | N | 72-55-9 | 0.001 | 0.001 | 0.001 | 0.001 | MW08B | 1 | 21 | | < 0.0013 U | < 0.0012 U |
| 4,4'-DDT | ug/l | 0.23 | SW8081B LL | N | 50-29-3 | 0.0042 | 0.0028 | 0.0036 | 0.0037 | MW08B | 3 | 21 | | < 0.0013 U | < 0.0012 U |
| Aldrin | ug/l | 0.00092 | SW8081B LL | N | 309-00-2 | | | | | | | 21 | | < 0.0013 U | < 0.0012 U |
| alpha-BHC | ug/l | 0.0072 | SW8081B LL | N | 319-84-6 | | | | | | | 21 | | < 0.0013 U | < 0.0012 U |
| beta-BHC | ug/l | 0.025 | SW8081B LL | N | 319-85-7 | 0.0011 | 0.0011 | 0.0011 | 0.0011 | MW02B | 1 | 21 | | < 0.0013 U | **0.0011 J** |
| cis-Chlordane | ug/l | 2 | SW8081B LL | N | 5103-71-9 | | | | | | | 21 | | < 0.0013 U | < 0.0012 U |
| delta-BHC | ug/l | 0.0072 | SW8081B LL | N | 319-86-8 | 0.00051 | 0.00051 | 0.00051 | 0.00051 | MW14B | 1 | 21 | | < 0.0013 U | < 0.0012 U |
| Dieldrin | ug/l | 0.0018 | SW8081B LL | N | 60-57-1 | 0.0022 | 0.0022 | 0.0022 | 0.0022 | MW08B | 1 | 21 | | < 0.0013 U | < 0.0012 U |
| Endosulfan I | ug/l | 10 | SW8081B LL | N | 959-98-8 | | | | | | | 21 | | < 0.0013 U | < 0.0012 U |
| Endosulfan II | ug/l | 10 | SW8081B LL | N | 33213-65-9 | | | | | | | 21 | | < 0.0013 U | < 0.0012 U |
| Endosulfan Sulfate | ug/l | 10 | SW8081B LL | N | 1031-07-8 | 0.00073 | 0.00073 | 0.00073 | 0.00073 | MW04B | 1 | 21 | | < 0.0013 U | < 0.0012 U |
| Endrin | ug/l | 0.2 | SW8081B LL | N | 72-20-8 | 0.002 | 0.0017 | 0.0019 | 0.0019 | MW08B | 2 | 21 | | < 0.0013 U | < 0.0012 U |
| Endrin aldehyde | ug/l | 0.23 | SW8081B LL | N | 7421-93-4 | | | | | | | 21 | | < 0.0013 U | < 0.0012 U |
| Endrin ketone | ug/l | 0.23 | SW8081B LL | N | 53494-70-5 | | | | | | | 21 | | < 0.0013 U | < 0.0012 U |
| gamma-BHC (Lindane) | ug/l | 0.2 | SW8081B LL | N | 58-89-9 | | | | | | | 21 | | < 0.0013 U | < 0.0012 U |
| Heptachlor | ug/l | 0.4 | SW8081B LL | N | 76-44-8 | | | | | | | 21 | | < 0.0013 U | < 0.0012 U |
| Heptachlor Epoxide | ug/l | 0.2 | SW8081B LL | N | 1024-57-3 | 0.0016 | 0.00077 | 0.0013 | 0.0014 | MW08B | 4 | 21 | | < 0.0013 U | < 0.0012 U |
| Methoxychlor | ug/l | 40 | SW8081B LL | N | 72-43-5 | | | | | | | 21 | | < 0.0024 U | < 0.0024 U |
| Toxaphene | ug/l | 3 | SW8081B LL | N | 8001-35-2 | | | | | | | 21 | | < 0.096 U | < 0.095 U |
| trans-Chlordane | ug/l | 2 | SW8081B LL | N | 5103-74-2 | 0.0026 | 0.00096 | 0.0014 | 0.0013 | MW08B | 5 | 21 | | < 0.0013 U | < 0.0012 U |
| Aroclor-1016 | ug/l | | SW8082A LL | N | 12674-11-2 | | | | | | | 16 | | < 0.0096 U | < 0.0095 U |
| Aroclor-1221 | ug/l | | SW8082A LL | N | 11104-28-2 | | | | | | | 16 | | < 0.0096 U | < 0.0095 U |
| Aroclor-1232 | ug/l | | SW8082A LL | N | 11141-16-5 | | | | | | | 16 | | < 0.0096 U | < 0.0095 U |
| Aroclor-1242 | ug/l | | SW8082A LL | N | 53469-21-9 | | | | | | | 16 | | < 0.0096 U | < 0.0095 U |
| Aroclor-1248 | ug/l | | SW8082A LL | N | 12672-29-6 | | | | | | | 16 | | < 0.0096 U | < 0.0095 U |
| Aroclor-1254 | ug/l | | SW8082A LL | N | 11097-69-1 | 0.071 | 0.049 | 0.06 | 0.06 | MW08B | 2 | 16 | | < 0.0096 U | < 0.0095 U |
| Aroclor-1260 | ug/l | | SW8082A LL | N | 11096-82-5 | 0.038 | 0.028 | 0.033 | 0.033 | MW08B | 2 | 16 | | < 0.0096 U | < 0.0095 U |
| Aroclor-1262 | ug/l | | SW8082A LL | N | 37324-23-5 | | | | | | | 16 | | < 0.0096 U | < 0.0095 U |
| Aroclor-1268 | ug/l | | SW8082A LL | N | 11100-14-4 | | | | | | | 16 | | < 0.0096 U | < 0.0095 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | SW8082A LL | N | TOT-PCB-ARO-C | 0.11 | 0.077 | 0.094 | 0.094 | MW08B | 2 | 16 | | < 0.0096 U | < 0.0095 U |

**Table 4-23**
**Groundwater Results**
**PCBs and Pesticides Concentrations in LWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | MW03B | MW04B | MW04B | MW05B | MW05B | MW06B | MW07B | MW08B | MW08B |
| | | | Sample ID | MW03BN | MW04BN | MW04B122116N | MW05BN | MW05B122116N | MW06BN | MW07BN | MW08BN | MW08BR |
| | | | Sample Date | 11/4/2014 | 11/4/2014 | 12/21/2016 | 11/4/2014 | 12/21/2016 | 11/4/2014 | 11/4/2014 | 11/5/2014 | 11/5/2014 |
| | | | Type | N | N | N | N | N | N | N | N | FD |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | |
| 4,4'-DDD | ug/l | 0.0063 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| 4,4'-DDE | ug/l | 0.046 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | **0.0010 J** |
| 4,4'-DDT | ug/l | 0.23 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | **0.0042** | **0.0037** |
| Aldrin | ug/l | 0.00092 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| alpha-BHC | ug/l | 0.0072 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| beta-BHC | ug/l | 0.025 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| cis-Chlordane | ug/l | 2 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| delta-BHC | ug/l | 0.0072 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Dieldrin | ug/l | 0.0018 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Endosulfan I | ug/l | 10 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Endosulfan II | ug/l | 10 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Endosulfan Sulfate | ug/l | 10 | | < 0.0013 U | **0.00073 J** | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Endrin | ug/l | 0.2 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | **0.0017** | **0.0020** |
| Endrin aldehyde | ug/l | 0.23 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Endrin ketone | ug/l | 0.23 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| gamma-BHC (Lindane) | ug/l | 0.2 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Heptachlor | ug/l | 0.4 | | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Heptachlor Epoxide | ug/l | 0.2 | | < 0.0013 U | **0.0014 J** | < 0.0013 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0013 U | **0.0016 J** | **0.0013 J** |
| Methoxychlor | ug/l | 40 | | < 0.0024 U | < 0.0024 U | < 0.0013 U | < 0.0024 U | < 0.0013 U | < 0.0025 U | < 0.0025 U | < 0.0025 U | < 0.0025 U |
| Toxaphene | ug/l | 3 | | < 0.097 U | < 0.094 U | < 0.097 U | < 0.095 U | < 0.096 U | < 0.098 U | < 0.098 U | < 0.099 U | < 0.099 U |
| trans-Chlordane | ug/l | 2 | | < 0.0013 U | **0.0014** | < 0.0013 U | **0.0013** | < 0.0013 U | < 0.0013 U | < 0.0013 U | **0.0026 J** | **0.00098 J** |
| Aroclor-1016 | ug/l | | | < 0.0097 UJ | < 0.0094 UJ | | < 0.0095 UJ | | < 0.0098 UJ | < 0.0098 U | < 0.0099 U | < 0.0099 U |
| Aroclor-1221 | ug/l | | | < 0.0097 UJ | < 0.0094 UJ | | < 0.0095 UJ | | < 0.0098 UJ | < 0.0098 U | < 0.0099 U | < 0.0099 U |
| Aroclor-1232 | ug/l | | | < 0.0097 UJ | < 0.0094 UJ | | < 0.0095 UJ | | < 0.0098 UJ | < 0.0098 U | < 0.0099 U | < 0.0099 U |
| Aroclor-1242 | ug/l | | | < 0.0097 UJ | < 0.0094 UJ | | < 0.0095 UJ | | < 0.0098 UJ | < 0.0098 U | < 0.0099 U | < 0.0099 U |
| Aroclor-1248 | ug/l | | | < 0.0097 UJ | < 0.0094 UJ | | < 0.0095 UJ | | < 0.0098 UJ | < 0.0098 U | < 0.0099 U | < 0.0099 U |
| Aroclor-1254 | ug/l | | | < 0.0097 UJ | < 0.0094 UJ | | < 0.0095 UJ | | < 0.0098 UJ | < 0.0098 U | **0.071 J** | **0.049 J** |
| Aroclor-1260 | ug/l | | | < 0.0097 UJ | < 0.0094 UJ | | < 0.0095 UJ | | < 0.0098 UJ | < 0.0098 U | **0.038 J** | **0.028 J** |
| Aroclor-1262 | ug/l | | | < 0.0097 UJ | < 0.0094 UJ | | < 0.0095 UJ | | < 0.0098 UJ | < 0.0098 U | < 0.0099 U | < 0.0099 U |
| Aroclor-1268 | ug/l | | | < 0.0097 UJ | < 0.0094 UJ | | < 0.0095 UJ | | < 0.0098 UJ | < 0.0098 U | < 0.0099 U | < 0.0099 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | | < 0.0097 U | < 0.0094 U | | < 0.0095 U | | < 0.0098 U | < 0.0098 U | **0.11** | **0.077** |

**Table 4-23**
**Groundwater Results**
**PCBs and Pesticides Concentrations in LWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | MW08B | MW09B | MW10B | MW11B | MW12B | MW13B | MW13B | MW14B | MW14B | MW15B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | MW08B122116N | MW09BN | MW10BN | MW11BN | MW12BN | MW13BN | MW13B122016N | MW14BN | MW14B122016N | MW15BN |
| | | | Sample Date | 12/21/2016 | 11/3/2014 | 11/4/2014 | 11/4/2014 | 11/3/2014 | 11/3/2014 | 12/20/2016 | 11/3/2014 | 12/20/2016 | 11/3/2014 |
| | | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | | | |
| 4,4'-DDD | ug/l | 0.0063 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| 4,4'-DDE | ug/l | 0.046 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| 4,4'-DDT | ug/l | 0.23 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | **0.0028** | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| Aldrin | ug/l | 0.00092 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| alpha-BHC | ug/l | 0.0072 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| beta-BHC | ug/l | 0.025 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| cis-Chlordane | ug/l | 2 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| delta-BHC | ug/l | 0.0072 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.00051 J** | < 0.0013 U | < 0.0012 U |
| Dieldrin | ug/l | 0.0018 | | **0.0022** | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| Endosulfan I | ug/l | 10 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| Endosulfan II | ug/l | 10 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| Endosulfan Sulfate | ug/l | 10 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| Endrin | ug/l | 0.2 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| Endrin aldehyde | ug/l | 0.23 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| Endrin ketone | ug/l | 0.23 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| gamma-BHC (Lindane) | ug/l | 0.2 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| Heptachlor | ug/l | 0.4 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| Heptachlor Epoxide | ug/l | 0.2 | | **0.00077 J** | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0012 U |
| Methoxychlor | ug/l | 40 | | < 0.0012 U | < 0.0024 U | < 0.0025 U | < 0.0024 U | < 0.0024 U | < 0.0024 U | < 0.0012 U | < 0.0024 U | < 0.0013 U | < 0.0024 U |
| Toxaphene | ug/l | 3 | | < 0.095 U | < 0.094 U | < 0.10 U | < 0.096 U | < 0.095 U | < 0.094 U | < 0.095 U | < 0.095 U | < 0.096 U | < 0.094 U |
| trans-Chlordane | ug/l | 2 | | < 0.0012 U | < 0.0012 U | < 0.0013 U | < 0.0013 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.00096 J** | < 0.0013 U | < 0.0012 U |
| Aroclor-1016 | ug/l | | | | < 0.0094 U | < 0.010 U | < 0.0096 U | < 0.0095 U | < 0.0094 U | | < 0.0095 U | | < 0.0094 U |
| Aroclor-1221 | ug/l | | | | < 0.0094 U | < 0.010 U | < 0.0096 U | < 0.0095 U | < 0.0094 U | | < 0.0095 U | | < 0.0094 U |
| Aroclor-1232 | ug/l | | | | < 0.0094 U | < 0.010 U | < 0.0096 U | < 0.0095 U | < 0.0094 U | | < 0.0095 U | | < 0.0094 U |
| Aroclor-1242 | ug/l | | | | < 0.0094 U | < 0.010 U | < 0.0096 U | < 0.0095 U | < 0.0094 U | | < 0.0095 U | | < 0.0094 U |
| Aroclor-1248 | ug/l | | | | < 0.0094 U | < 0.010 U | < 0.0096 U | < 0.0095 U | < 0.0094 U | | < 0.0095 U | | < 0.0094 U |
| Aroclor-1254 | ug/l | | | | < 0.0094 U | < 0.010 U | < 0.0096 U | < 0.0095 U | < 0.0094 U | | < 0.0095 U | | < 0.0094 U |
| Aroclor-1260 | ug/l | | | | < 0.0094 U | < 0.010 U | < 0.0096 U | < 0.0095 U | < 0.0094 U | | < 0.0095 U | | < 0.0094 U |
| Aroclor-1262 | ug/l | | | | < 0.0094 U | < 0.010 U | < 0.0096 U | < 0.0095 U | < 0.0094 U | | < 0.0095 U | | < 0.0094 U |
| Aroclor-1268 | ug/l | | | | < 0.0094 U | < 0.010 U | < 0.0096 U | < 0.0095 U | < 0.0094 U | | < 0.0095 U | | < 0.0094 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | | | < 0.0094 U | < 0.010 U | < 0.0096 U | < 0.0095 U | < 0.0094 U | | < 0.0095 U | | < 0.0094 U |

**Table 4-23**
**Groundwater Results**
**PCBs and Pesticides Concentrations in LWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
D = Dissolved
T = Total
N = Normal
FD = Field Duplicate
EN = Essential Nutrient
HHRA screening values provided for detected compounds or compound sums where applicable.
Heirarchy: 1) Lower of DOEE/MCL (primary standards). 2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
ug/l = micrograms per liter

**Table 4-24**
**Groundwater Results**
**Dioxins and Furans Concentrations in LWZ Groundwater Monitoring Wells**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | Location ID | MW01B | MW03B | MW04B | MW07B | MW07B | MW09B | MW09B | MW11B | MW11B | MW12B | MW12B | MW13B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Sample ID | MW01BN | MW03BN | MW04BN | MW07BN | MW07B122016N | MW09BN | MW09B122116N | MW11BN | MW11B122216N | MW12BN | MW12B122016N | MW13BN |
| | | | | | | | | | | | | Sample Date | 11/5/2014 | 11/4/2014 | 11/4/2014 | 11/4/2014 | 12/20/2016 | 11/3/2014 | 12/21/2016 | 11/4/2014 | 12/22/2016 | 11/3/2014 | 12/20/2016 | 11/3/2014 |
| | | | | | | | | | | | | Type | N | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | Method | Fraction | Unit | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | | | | | | | | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/l | SW8290A | N | pg/l | 67562-39-4 | 4.14 | 1.86 | 3 | 3 | MW07B | 2 | 12 | < 0.541 U | < 1.57 UJ | < 1.01 U | **4.14 JN** | < 1.12 U | < 1.30 U | **1.86 J** | < 0.659 U | < 0.8 U | < 4.14 U | < 0.625 U | < 1.52 U |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/l | SW8290A | N | pg/l | 35822-46-9 | 205 | 2.62 | 58.1 | 12.4 | MW12B | 4 | 12 | < 1.33 U | < 1.34 U | < 1.25 U | < 1.49 U | < 1.35 U | **9.31 JN** | **2.62 JN** | **15.5 JN** | < 1.12 U | **205 JN** | < 0.823 U | < 1.83 U |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/l | SW8290A | N | pg/l | 55673-89-7 | 1.41 | 1.41 | 1.41 | 1.41 | MW09B | 1 | 12 | < 0.829 U | < 1.85 UJ | < 1.21 U | < 0.943 U | < 1.54 U | < 1.52 U | **1.41 JN** | < 0.733 U | < 1.04 U | < 8.19 U | < 0.804 U | < 2.17 U |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/l | SW8290A | N | pg/l | 70648-26-9 | 2.2 | 2.2 | 2.2 | 2.2 | MW11B | 1 | 12 | < 0.420 U | < 0.806 U | < 0.639 U | < 0.566 U | < 1.17 U | < 0.350 U | < 1.02 U | **2.20 JN** | < 0.834 U | < 2.37 U | < 0.988 U | < 0.760 U |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/l | SW8290A | N | pg/l | 39227-28-6 | | | | | | | 12 | < 0.652 U | < 1.31 U | < 0.930 U | < 1.22 U | < 1.96 U | < 0.933 U | < 1.35 U | < 1.15 U | < 1.41 U | < 4.12 U | < 1.31 U | < 1.51 U |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/l | SW8290A | N | pg/l | 57117-44-9 | | | | | | | 12 | < 0.432 U | < 0.715 U | < 0.627 U | < 0.562 U | < 1.1 U | < 0.353 U | < 1.01 U | < 0.445 U | < 0.818 U | < 2.16 U | < 0.926 U | < 0.809 U |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/l | SW8290A | N | pg/l | 57653-85-7 | | | | | | | 12 | < 0.774 U | < 1.36 U | < 0.957 U | < 1.41 U | < 2.08 U | < 0.930 U | < 1.36 U | < 1.16 U | < 1.39 U | < 4.07 U | < 1.41 U | < 1.64 U |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/l | SW8290A | N | pg/l | 72918-21-9 | 1.51 | 1.51 | 1.51 | 1.51 | MW09B | 1 | 12 | < 0.592 U | < 0.920 U | < 0.806 U | < 0.681 U | < 1.43 U | < 0.396 U | **1.51 JN** | < 0.535 U | < 1.02 U | < 2.56 U | < 1.17 U | < 1.07 U |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/l | SW8290A | N | pg/l | 19408-74-3 | 0.978 | 0.978 | 0.978 | 0.978 | MW09B | 1 | 12 | < 0.659 U | < 1.24 U | < 0.877 U | < 1.22 U | < 2.16 U | < 0.866 U | **0.978 JN** | < 1.07 U | < 1.51 U | < 3.81 U | < 1.46 U | < 1.46 U |
| 1,2,3,7,8-PeCDF | pg/l | SW8290A | N | pg/l | 57117-41-6 | | | | | | | 12 | < 0.981 U | < 1.14 U | < 0.779 U | < 0.632 U | < 1.11 U | < 0.631 U | < 0.978 U | < 0.574 U | < 1.01 U | < 2.21 U | < 0.578 U | < 1.71 U |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/l | SW8290A | N | pg/l | 40321-76-4 | | | | | | | 12 | < 1.21 U | < 1.55 U | < 0.956 U | < 0.903 U | < 1.68 U | < 0.896 U | < 1.26 U | < 0.944 U | < 1.35 U | < 3.05 U | < 0.995 U | < 2.51 U |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/l | SW8290A | N | pg/l | 60851-34-5 | 1.74 | 1.74 | 1.74 | 1.74 | MW09B | 1 | 12 | < 0.397 U | < 0.795 U | < 0.687 U | < 0.581 U | < 1.2 U | < 0.357 U | **1.74 J** | < 0.457 U | < 0.887 U | < 2.28 U | < 1.01 U | < 0.739 U |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/l | SW8290A | N | pg/l | 57117-31-4 | | | | | | | 12 | < 0.864 U | < 1.15 U | < 0.690 U | < 0.570 U | < 1.17 U | < 0.554 U | < 1.03 U | < 0.532 U | < 0.97 U | < 1.91 U | < 0.541 U | < 1.78 U |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/l | SW8290A | N | pg/l | 51207-31-9 | | | | | | | 12 | < 1.29 U | < 2.27 U | < 1.81 U | < 1.49 U | < 1.15 U | < 1.10 U | < 0.93 U | < 1.25 U | < 1 U | < 2.30 U | < 0.83 U | < 2.46 U |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/l | SW8290A | N | pg/l | 1746-01-6 | | | | | | | 12 | < 1.82 U | < 2.69 U | < 2.53 U | < 1.71 U | < 1.15 U | < 1.96 U | < 1.34 U | < 2.06 U | < 1.35 U | < 3.10 U | < 0.981 U | < 3.65 U |
| Octachlorochlorodibenzofuran | pg/l | SW8290A | N | pg/l | 39001-02-0 | 18.9 | 4.13 | 11.5 | 11.5 | MW12B | 2 | 12 | < 3.79 U | < 2.75 UJ | < 2.08 U | < 3.31 UJ | < 4.51 U | < 1.84 UJ | **4.13 JN** | < 8.12 U | < 2.79 U | **18.9 JN** | < 2.49 U | < 8.04 U |
| Octachlorochlorodibenzo-p-dioxin | pg/l | SW8290A | N | pg/l | 3268-87-9 | 4290 | 5.67 | 590 | 32.1 | MW12B | 8 | 12 | **23.7 J** | **28.3 J** | < 13.5 U | **35.8 J** | < 7.95 U | **96.0 J** | **23.9 J** | **218** | < 4.84 U | **4290** | **5.67 J** | < 14.1 U |
| Total HpCDD | pg/l | SW8290A | N | pg/l | 37871-00-4 | 507 | 5.15 | 141 | 26.8 | MW12B | 4 | 12 | < 1.33 U | < 1.34 U | < 1.25 U | < 1.49 U | < 1.35 U | **19.4 JN** | **5.15** | **34.1 JN** | < 1.12 U | **507 JN** | < 0.823 U | < 1.83 U |
| Total HpCDF | pg/l | SW8290A | N | pg/l | 38998-75-3 | 4.14 | 3.27 | 3.71 | 3.71 | MW07B | 2 | 12 | < 0.658 U | < 1.70 UJ | < 1.10 U | **4.14 JN** | < 1.31 U | < 1.40 U | **3.27** | < 0.694 U | < 0.91 U | < 5.54 U | < 0.706 U | < 1.79 U |
| Total HxCDD | pg/l | SW8290A | N | pg/l | 34465-46-8 | 227 | 0.978 | 49.8 | 4.26 | MW12B | 5 | 12 | **3.97 JN** | < 1.30 U | **12.8 JN** | < 1.28 U | < 2.06 U | **4.26 JN** | **0.978** | < 1.13 U | < 1.43 U | **227 JN** | < 1.39 U | < 1.53 U |
| Total HxCDF | pg/l | SW8290A | N | pg/l | 55684-94-1 | 5.08 | 2.2 | 3.62 | 3.59 | MW09B | 3 | 12 | < 0.449 U | **3.59 JN** | < 0.683 U | < 0.593 U | < 1.21 U | < 0.363 U | **5.08** | **2.20 JN** | < 0.884 U | < 2.33 U | < 1.02 U | < 0.827 U |
| Total PeCDD | pg/l | SW8290A | N | pg/l | 36088-22-9 | 56.2 | 56.2 | 56.2 | 56.2 | MW12B | 1 | 12 | < 1.21 U | < 1.55 U | < 0.956 U | < 0.903 U | < 1.68 U | < 0.896 U | < 1.26 U | < 0.944 U | < 1.35 U | **56.2 JN** | < 0.995 U | < 2.51 U |
| Total PeCDF | pg/l | SW8290A | N | pg/l | 30402-15-4 | 3.52 | 1.24 | 2.38 | 2.38 | MW12B | 2 | 12 | < 0.917 U | < 1.15 U | < 0.730 U | < 0.598 U | < 1.14 U | < 0.589 U | < 1 U | < 0.551 U | < 0.988 U | **3.52 JN** | < 0.559 U | **1.24 JN** |
| Total TCDD | pg/l | SW8290A | N | pg/l | 41903-57-5 | 298 | 3.92 | 80.8 | 10.7 | MW12B | 4 | 12 | < 1.82 U | < 2.69 U | < 2.53 U | < 1.71 U | < 1.15 U | **13.9 JN** | **3.92** | **7.43 JN** | < 1.35 U | **298 JN** | < 0.981 U | < 3.65 U |
| Total TCDF | pg/l | SW8290A | N | pg/l | 55722-27-5 | 11.6 | 1.29 | 6.45 | 6.45 | MW12B | 2 | 12 | < 1.29 U | < 2.27 U | < 1.81 U | < 1.49 U | < 1.15 U | < 1.10 U | < 0.93 U | < 1.25 U | < 1 U | **11.6 JN** | < 0.83 U | **1.29 J** |
| TCDD TEQ HH | pg/l | SW8290A | N | pg/l | DFTEQ-HH | 3.34 | 0.0017 | 0.558 | 0.0871 | MW12B | 8 | 12 | **0.00711** | **0.00849** | < 2.53 U | **0.0521** | < 1.68 U | **0.122** | **0.490** | **0.440** | < 1.35 U | **3.34** | **0.00170** | < 3.65 U |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
D = Dissolved
T = Total
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable.
Heirarchy: 1) Lower of DOEE/MCL (primary standards). 2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
JN = The analyte was tentatively identified; the associated numerical value is the
approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the
sample and meet quality control criteria. The presence or absence of the analyte cannot be
verified.
pg/l = picograms per liter

**Table 4-25**
**Storm Drain Surface Water Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Location ID | SD013 | SDMH02 | SDPEPR1 | SDPEPR1 | SDPEPR2 | SDPEPR3 | SDPEPR4 | SDPEPR5 | SDW101 |
| | | | | | | | | | | | Sample ID | SDW013N | SDWMH02N | SDWPEPR1N | SDWPEPR1R | SDWPEPR2N | SDWPEPR3N | SDWPEPR4N | SDWPEPR5N | SDW101N |
| | | | | | | | | | | | Sample Date | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 |
| | | | | | | | | | | | Type | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Location Max Detect | Count Detects | Count Total | | | | | | | | | |
| Hardness (as CaCO3) | mg/l | A2340C | D | HARD | 32 | 8 | 16 | 12 | SDW101 | 9 | 9 | **28** | **8.0** | **20** | **12** | **8.0** | **16** | **10** | **12** | **32** |
| Hardness (as CaCO3) | mg/l | A2340C | T | HARD | 46 | 10 | 26 | 24 | SDPEPR1 | 9 | 9 | **42** | **12** | **40** | **46** | **14** | **10** | **20** | **24** | **24** |
| Aluminum | ug/l | SW6020A | D | 7429-90-5 | 410 | 4.8 | 56 | 11 | SDPEPR3 | 9 | 9 | **8.2 J** | **13 J** | **8.5 J** | **11 J** | **27 J** | **410 J** | **7.5 J** | **4.8 J** | **16 J** |
| Antimony | ug/l | SW6020A | D | 7440-36-0 | 16 | 0.5 | 2.7 | 1.1 | SDPEPR4 | 9 | 9 | **1.1 J** | **1.7 J** | **0.73 J** | **0.50 J** | **0.79 J** | **1.7 J** | **16** | **1.1 J** | **1.0 J** |
| Arsenic | ug/l | SW6020A | D | 7440-38-2 | 1.8 | 0.35 | 0.68 | 0.44 | SDMH02 | 6 | 9 | **0.63 J** | **1.8** | **0.35 J** | < 1.0 U | **0.44 J** | **0.44 J** | < 1.0 U | < 1.0 U | **0.43 J** |
| Barium | ug/l | SW6020A | D | 7440-39-3 | 19 | 4.6 | 9.9 | 9 | SDPEPR3 | 9 | 9 | **11** | **4.6 J** | **9.7 J** | **6.3 J** | **6.8 J** | **19** | **5.5 J** | **9.0 J** | **17** |
| Beryllium | ug/l | SW6020A | D | 7440-41-7 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cadmium | ug/l | SW6020A | D | 7440-43-9 | 0.64 | 0.43 | 0.54 | 0.54 | SDPEPR3 | 2 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.64 J** | < 1.0 U | **0.43 J** | < 1.0 U |
| Calcium | ug/l | SW6020A | D | 7440-70-2 | 11000 | 2100 | 5000 | 3500 | SDW101 | 9 | 9 | **8600** | **3100** | **6300 J** | **3400 J** | **2100** | **3700** | **3000** | **3500** | **11000** |
| Chromium | ug/l | SW6020A | D | 7440-47-3 | 4.2 | 1.9 | 2.8 | 2.5 | SDPEPR3 | 9 | 9 | **2.5** | **3.2** | **1.9 J** | **2.0** | **2.8** | **4.2** | **3.8** | **2.3** | **2.5** |
| Cobalt | ug/l | SW6020A | D | 7440-48-4 | 0.67 | 0.03 | 0.35 | 0.36 | SDPEPR3 | 3 | 9 | < 0.50 U | **0.030 J** | **0.36 J** | < 0.50 U | < 0.50 U | **0.67** | < 0.50 U | < 0.50 U | < 0.50 U |
| Copper | ug/l | SW6020A | D | 7440-50-8 | 39 | 5 | 12 | 9.4 | SDPEPR3 | 9 | 9 | **6.6** | **13** | **5.0** | **5.7** | **9.4** | **39** | **7.3** | **10** | **10** |
| Iron | ug/l | SW6020A | D | 7439-89-6 | 790 | 16 | 400 | 400 | SDPEPR3 | 2 | 9 | < 50 UJ | < 50 UJ | < 50 UJ | < 50 UJ | **16 J+** | **790 J+** | < 50 UJ | < 50 UJ | < 50 UJ |
| Lead | ug/l | SW6020A | D | 7439-92-1 | 46 | 1.1 | 24 | 24 | SDPEPR3 | 2 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **46 J** | **1.1 J** | < 1.0 U | < 1.0 U |
| Magnesium | ug/l | SW6020A | D | 7439-95-4 | 1400 | 270 | 700 | 630 | SD013 | 9 | 9 | **1400** | **270** | **790** | **700** | **470** | **1100** | **460** | **630** | **460** |
| Manganese | ug/l | SW6020A | D | 7439-96-5 | 39 | 6.2 | 20 | 18 | SDPEPR1 | 4 | 9 | < 5.0 U | < 5.0 U | **39 J** | **6.2 J** | < 5.0 U | **26** | < 5.0 U | < 5.0 U | **9.8** |
| Nickel | ug/l | SW6020A | D | 7440-02-0 | 3.4 | 0.85 | 1.5 | 1.4 | SDPEPR3 | 9 | 9 | **2.0** | **1.5** | **1.7** | **1.4** | **0.85 J** | **3.4** | **0.89 J** | **1.3** | **0.88 J** |
| Potassium | ug/l | SW6020A | D | 7440-09-7 | 1300 | 330 | 800 | 810 | SDPEPR1 | 9 | 9 | **960** | **570** | **1300** | **1000** | **330** | **1100** | **810** | **650** | **520** |
| Selenium | ug/l | SW6020A | D | 7782-49-2 | 0.8 | 0.44 | 0.58 | 0.55 | SDPEPR5 | 4 | 9 | **0.56 J** | **0.44 J** | < 5.0 U | < 5.0 U | **0.53 J** | < 5.0 U | < 5.0 U | **0.80 J** | < 5.0 U |
| Silver | ug/l | SW6020A | D | 7440-22-4 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | SW6020A | D | 7440-23-5 | 3800 | 750 | 1400 | 990 | SD013 | 9 | 9 | **3800** | **960** | **990** | **750** | **1500** | **1200** | **980** | **1400** | **960** |
| Thallium | ug/l | SW6020A | D | 7440-28-0 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Vanadium | ug/l | SW6020A | D | 7440-62-2 | 26 | 1.3 | 8.9 | 7.2 | SD013 | 9 | 9 | **26** | **13** | **10** | **7.2** | **3.3** | **4.6** | **1.6** | **1.3** | **13** |
| Zinc | ug/l | SW6020A | D | 7440-66-6 | 290 | 20 | 120 | 80 | SDPEPR1 | 9 | 9 | **41 J** | **35 J** | **230 J** | **290 J** | **35 J** | **220 J** | **80 J** | **89 J** | **20 J** |
| Aluminum | ug/l | SW6020A | T | 7429-90-5 | 3200 | 170 | 1200 | 1100 | SDW101 | 9 | 9 | **1400 J+** | **170 J+** | **1000 J+** | **1300 J+** | **1300 J+** | **510 J+** | **640 J+** | **1100 J+** | **3200 J+** |
| Antimony | ug/l | SW6020A | T | 7440-36-0 | 19 | 1 | 4 | 2.2 | SDPEPR4 | 9 | 9 | **2.2 J** | **1.7 J** | **1.0 J** | **1.3 J** | **3.4 J** | **2.6 J** | **19 J** | **3.2 J** | **1.6 J** |
| Arsenic | ug/l | SW6020A | T | 7440-38-2 | 1.6 | 0.45 | 0.9 | 0.86 | SD013 | 8 | 9 | **1.6** | **1.2** | **0.74 J** | **1.1** | < 1.0 U | **0.45 J** | **0.66 J** | **0.47 J** | **0.98 J** |
| Barium | ug/l | SW6020A | T | 7440-39-3 | 39 | 13 | 25 | 26 | SDW101 | 8 | 9 | **28 J** | < 10 U | **25 J** | **29 J** | **24 J** | **13 J** | **15 J** | **26 J** | **39 J** |
| Beryllium | ug/l | SW6020A | T | 7440-41-7 | 0.2 | 0.045 | 0.11 | 0.096 | SDW101 | 4 | 9 | **0.12 J** | < 1.0 U | < 1.0 U | **0.071 J** | **0.045 J** | < 1.0 U | < 1.0 U | < 1.0 U | **0.20 J** |
| Cadmium | ug/l | SW6020A | T | 7440-43-9 | 1.5 | 0.18 | 0.55 | 0.53 | SDPEPR5 | 9 | 9 | **0.40 J** | **0.18 J** | **0.55 J** | **0.54 J** | **0.24 J** | **0.37 J** | **0.53 J** | **1.5** | **0.63 J** |
| Calcium | ug/l | SW6020A | T | 7440-70-2 | 12000 | 3000 | 6200 | 5700 | SD013 | 9 | 9 | **12000** | **3200** | **8300** | **9200** | **3400** | **3000** | **4300** | **5700** | **6800** |
| Chromium | ug/l | SW6020A | T | 7440-47-3 | 12 | 3.2 | 8.6 | 10 | SDW101 | 9 | 9 | **11** | **3.2** | **8.1** | **11** | **7.2** | **4.6** | **10** | **10** | **12** |
| Cobalt | ug/l | SW6020A | T | 7440-48-4 | 3.4 | 0.31 | 1.5 | 1.3 | SDW101 | 9 | 9 | **2.3** | **0.31 J** | **1.6** | **2.0** | **1.1** | **0.65** | **0.82** | **1.3** | **3.4** |
| Copper | ug/l | SW6020A | T | 7440-50-8 | 59 | 20 | 37 | 35 | SDW101 | 9 | 9 | **35** | **20** | **29** | **35** | **45** | **24** | **33** | **49** | **59** |
| Iron | ug/l | SW6020A | T | 7439-89-6 | 5200 | 340 | 2500 | 2400 | SDW101 | 9 | 9 | **3000 J-** | **340 J-** | **2200 J-** | **2800 J-** | **2400 J-** | **1200 J-** | **2100 J-** | **3300 J-** | **5200 J-** |
| Lead | ug/l | SW6020A | T | 7439-92-1 | 61 | 7.1 | 31 | 31 | SDW101 | 9 | 9 | **31** | **7.1** | **30** | **32** | **24** | **17** | **47** | **33** | **61** |
| Magnesium | ug/l | SW6020A | T | 7439-95-4 | 5200 | 410 | 2500 | 2000 | SD013 | 9 | 9 | **5200** | **410** | **3900** | **4600** | **1300** | **950** | **1400** | **2000** | **2600** |
| Manganese | ug/l | SW6020A | T | 7439-96-5 | 89 | 8.3 | 49 | 48 | SD013<br>SDW101 | 9 | 9 | **89** | **8.3** | **54** | **67** | **35** | **18** | **30** | **48** | **89** |
| Nickel | ug/l | SW6020A | T | 7440-02-0 | 32 | 3.4 | 15 | 7.8 | SDPEPR1 | 9 | 9 | **27** | **3.5** | **24** | **32** | **6.2** | **3.4** | **4.3** | **7.8** | **25** |
| Potassium | ug/l | SW6020A | T | 7440-09-7 | 1500 | 590 | 1000 | 1000 | SDPEPR1 | 9 | 9 | **1300** | **590** | **1200** | **1500** | **750** | **830** | **1000** | **960** | **1100** |
| Selenium | ug/l | SW6020A | T | 7782-49-2 | 0.87 | 0.49 | 0.68 | 0.68 | SD013 | 2 | 9 | **0.87 J** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **0.49 J** | < 5.0 U |
| Silver | ug/l | SW6020A | T | 7440-22-4 | 1 | 0.044 | 0.25 | 0.14 | SDPEPR5 | 7 | 9 | **0.12 J** | < 1.0 U | **0.044 J** | **0.15 J** | < 1.0 U | **0.14 J** | **0.18 J** | **1.0** | **0.14 J** |
| Sodium | ug/l | SW6020A | T | 7440-23-5 | 3600 | 870 | 1400 | 1000 | SD013 | 9 | 9 | **3600** | **960** | **900** | **1000** | **1900** | **1000** | **1000** | **1300** | **870** |
| Thallium | ug/l | SW6020A | T | 7440-28-0 | 0.12 | 0.016 | 0.047 | 0.04 | SDPEPR1 | 9 | 9 | **0.043 J** | **0.016 J** | **0.12 J** | **0.040 J** | **0.052 J** | **0.024 J** | **0.025 J** | **0.020 J** | **0.080 J** |
| Vanadium | ug/l | SW6020A | T | 7440-62-2 | 73 | 4.3 | 32 | 16 | SD013 | 9 | 9 | **73** | **16** | **48 J** | **67 J** | **13** | **4.7** | **4.3** | **6.9** | **52** |
| Zinc | ug/l | SW6020A | T | 7440-66-6 | 760 | 48 | 300 | 210 | SDPEPR1 | 9 | 9 | **210 J** | **48 J** | **660 J** | **760 J** | **140 J** | **150 J** | **210 J** | **250 J** | **280 J** |
| Mercury | ug/l | SW7470A | D | 7439-97-6 | | | | | | 0 | 9 | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U |

**Table 4-25**
**Storm Drain Surface Water Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | Location ID | SD013 | SDMH02 | SDPEPR1 | SDPEPR1 | SDPEPR2 | SDPEPR3 | SDPEPR4 | SDPEPR5 | SDW101 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Sample ID | SDW013N | SDWMH02N | SDWPEPR1N | SDWPEPR1R | SDWPEPR2N | SDWPEPR3N | SDWPEPR4N | SDWPEPR5N | SDW101N |
| | | | | | | | | | | | Sample Date | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 |
| | | | | | | | | | | | Type | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Location Max Detect | Count Detects | Count Total | | | | | | | | | |
| Mercury | ug/l | SW7470A | T | 7439-97-6 | | | | | | 0 | 9 | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U |
| Diesel Range Organics (C10-C20) | ug/l | SW8015C DRO | N | C10C20 | 1200 | 320 | 780 | 810 | SDPEPR4 | 4 | 9 | < 480 U | < 480 U | **320 J** | **960 J** | < 480 U | < 480 U | **1200** | **650** | < 480 U |
| Oil Range Organics (C20-C36) | ug/l | SW8015C DRO | N | C20C36 | 3300 | 260 | 1000 | 660 | SDPEPR4 | 8 | 9 | **420 J** | < 480 U | **700** | **940** | **440 J** | **610** | **3300** | **1500** | **260 J** |
| Gasoline Range Organics (C6-C10) | ug/l | SW8015C GRO | N | 8006-61-9 | | | | | | 0 | 9 | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U | < 100 U |
| 4,4'-DDD | ug/l | SW8081B LL | N | 72-54-8 | 0.0019 | 0.00078 | 0.0013 | 0.0012 | SDPEPR5 | 3 | 9 | **0.0012 J** | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.00078 J** | < 0.0012 U | **0.0019 J** | < 0.0012 U |
| 4,4'-DDE | ug/l | SW8081B LL | N | 72-55-9 | 0.0018 | 0.0018 | 0.0018 | 0.0018 | SDPEPR5 | 1 | 9 | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.0018** | < 0.0012 U |
| 4,4'-DDT | ug/l | SW8081B LL | N | 50-29-3 | 0.02 | 0.0022 | 0.009 | 0.0077 | SDPEPR3 | 5 | 9 | **0.0077 J** | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.020** | **0.0040 J** | **0.011** | **0.0022 J** |
| Aldrin | ug/l | SW8081B LL | N | 309-00-2 | | | | | | 0 | 9 | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| alpha-BHC | ug/l | SW8081B LL | N | 319-84-6 | | | | | | 0 | 9 | < 0.0012 UJ | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| beta-BHC | ug/l | SW8081B LL | N | 319-85-7 | | | | | | 0 | 9 | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| cis-Chlordane | ug/l | SW8081B LL | N | 5103-71-9 | 0.0015 | 0.0013 | 0.0014 | 0.0014 | SDPEPR1 | 2 | 9 | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.0015** | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.0013 J** | < 0.0012 U |
| delta-BHC | ug/l | SW8081B LL | N | 319-86-8 | 0.0013 | 0.00041 | 0.00075 | 0.00053 | SDPEPR3 | 3 | 9 | **0.00053 J** | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.0013 J** | **0.00041 J** | < 0.0012 U | < 0.0012 U |
| Dieldrin | ug/l | SW8081B LL | N | 60-57-1 | 0.0036 | 0.001 | 0.0019 | 0.0011 | SDPEPR3 | 3 | 9 | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.0036** | **0.0011 J** | **0.0010 J** | < 0.0012 U |
| Endosulfan I | ug/l | SW8081B LL | N | 959-98-8 | | | | | | 0 | 9 | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| Endosulfan II | ug/l | SW8081B LL | N | 33213-65-9 | 0.0017 | 0.00093 | 0.0013 | 0.0013 | SDPEPR3 | 2 | 9 | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.00093 J** | < 0.0012 U | **0.0017 J** | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| Endosulfan Sulfate | ug/l | SW8081B LL | N | 1031-07-8 | 0.001 | 0.00086 | 0.00093 | 0.00094 | SDPEPR4 | 3 | 8 | R | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.00094 J** | **0.0010 J** | **0.00086 J** | < 0.0012 U |
| Endrin | ug/l | SW8081B LL | N | 72-20-8 | 0.0028 | 0.0013 | 0.0019 | 0.0018 | SDPEPR3 | 4 | 9 | **0.0014 J** | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.0028 J** | **0.0013 J** | **0.0022 J** | < 0.0012 U |
| Endrin aldehyde | ug/l | SW8081B LL | N | 7421-93-4 | 0.0013 | 0.0012 | 0.0013 | 0.0013 | SDPEPR4 | 2 | 8 | R | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.0013** | **0.0012 J** | < 0.0012 U |
| Endrin ketone | ug/l | SW8081B LL | N | 53494-70-5 | 0.0037 | 0.00095 | 0.0022 | 0.0023 | SDPEPR3 | 5 | 9 | **0.00095 J** | < 0.0012 U | **0.0013 J** | **0.0023** | < 0.0012 U | **0.0037 J** | < 0.0012 U | **0.0027 J** | < 0.0012 U |
| gamma-BHC (Lindane) | ug/l | SW8081B LL | N | 58-89-9 | 0.0015 | 0.001 | 0.0013 | 0.0013 | SDPEPR1 | 4 | 9 | **0.0013 J** | < 0.0012 U | **0.0010 J** | **0.0015** | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.0012 J** |
| Heptachlor | ug/l | SW8081B LL | N | 76-44-8 | | | | | | 0 | 9 | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| Heptachlor Epoxide | ug/l | SW8081B LL | N | 1024-57-3 | 0.0012 | 0.0012 | 0.0012 | 0.0012 | SDPEPR3 | 1 | 9 | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | < 0.0012 U | **0.0012 J** | < 0.0012 U | < 0.0012 U | < 0.0012 U |
| Methoxychlor | ug/l | SW8081B LL | N | 72-43-5 | 0.014 | 0.0012 | 0.005 | 0.0025 | SDPEPR4 | 7 | 9 | **0.0025 J** | < 0.0024 U | **0.0020 J** | **0.0079 J** | **0.0019 J** | < 0.0024 U | **0.014** | **0.0012 J** | **0.0054** |
| Toxaphene | ug/l | SW8081B LL | N | 8001-35-2 | | | | | | 0 | 9 | < 0.095 U | < 0.094 U | < 0.095 U | < 0.095 U | < 0.095 U | < 0.094 U | < 0.094 U | < 0.094 U | < 0.095 U |
| trans-Chlordane | ug/l | SW8081B LL | N | 5103-74-2 | 0.0021 | 0.0011 | 0.0016 | 0.0017 | SDPEPR1 | 4 | 9 | < 0.0012 U | < 0.0012 U | **0.0021** | **0.0018** | < 0.0012 U | **0.0015 J** | < 0.0012 U | **0.0011 J** | < 0.0012 U |
| Aroclor-1016 | ug/l | SW8082A LL | N | 12674-11-2 | | | | | | 0 | 9 | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1221 | ug/l | SW8082A LL | N | 11104-28-2 | | | | | | 0 | 9 | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1232 | ug/l | SW8082A LL | N | 11141-16-5 | | | | | | 0 | 9 | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1242 | ug/l | SW8082A LL | N | 53469-21-9 | | | | | | 0 | 9 | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1248 | ug/l | SW8082A LL | N | 12672-29-6 | 0.26 | 0.26 | 0.26 | 0.26 | SDPEPR3 | 1 | 9 | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | **0.26** | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1254 | ug/l | SW8082A LL | N | 11097-69-1 | | | | | | 0 | 9 | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1260 | ug/l | SW8082A LL | N | 11096-82-5 | 0.19 | 0.19 | 0.19 | 0.19 | SDPEPR3 | 1 | 9 | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | **0.19** | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1262 | ug/l | SW8082A LL | N | 37324-23-5 | | | | | | 0 | 9 | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| Aroclor-1268 | ug/l | SW8082A LL | N | 11100-14-4 | | | | | | 0 | 9 | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| PCB, Total Aroclors | ug/l | SW8082A LL | N | TOT-PCB-ARO-C | 0.45 | 0.45 | 0.45 | 0.45 | SDPEPR3 | 1 | 9 | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0095 U | **0.45** | < 0.0094 U | < 0.0094 U | < 0.0095 U |
| 1,1,1-Trichloroethane | ug/l | SW8260B | N | 71-55-6 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2,2-Tetrachloroethane | ug/l | SW8260B | N | 79-34-5 | | | | | | 0 | 9 | < 1.0 UJ | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | SW8260B | N | 76-13-1 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloroethane | ug/l | SW8260B | N | 79-00-5 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethane | ug/l | SW8260B | N | 75-34-3 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethene | ug/l | SW8260B | N | 75-35-4 | 1.1 | 1.1 | 1.1 | 1.1 | SD013 | 1 | 9 | **1.1** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,3-Trichlorobenzene | ug/l | SW8260B | N | 87-61-6 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,4-Trichlorobenzene | ug/l | SW8260B | N | 120-82-1 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromo-3-chloropropane | ug/l | SW8260B | N | 96-12-8 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromoethane | ug/l | SW8260B | N | 106-93-4 | | | | | | 0 | 9 | < 1.0 UJ | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ |
| 1,2-Dichlorobenzene | ug/l | SW8260B | N | 95-50-1 | 2.5 | 2.5 | 2.5 | 2.5 | SD013 | 1 | 9 | **2.5** | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloroethane | ug/l | SW8260B | N | 107-06-2 | | | | | | 0 | 9 | < 1.0 UJ | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ |
| 1,2-Dichloropropane | ug/l | SW8260B | N | 78-87-5 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |

**Table 4-25**
**Storm Drain Surface Water Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | Location ID | SD013 | SDMH02 | SDPEPR1 | SDPEPR1 | SDPEPR2 | SDPEPR3 | SDPEPR4 | SDPEPR5 | SDW101 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Sample ID | SDW013N | SDWMH02N | SDWPEPR1N | SDWPEPR1R | SDWPEPR2N | SDWPEPR3N | SDWPEPR4N | SDWPEPR5N | SDW101N |
| | | | | | | | | | | | Sample Date | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 |
| | | | | | | | | | | | Type | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Location Max Detect | Count Detects | Count Total | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/l | SW8260B | N | 541-73-1 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dichlorobenzene | ug/l | SW8260B | N | 106-46-7 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dioxane | ug/l | SW8260B | N | 123-91-1 | | | | | | 0 | 9 | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U | < 200 U |
| 2-Butanone | ug/l | SW8260B | N | 78-93-3 | 1.5 | 1.2 | 1.4 | 1.4 | SD013 | 2 | 9 | **1.5 J** | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | **1.2 J** | < 5.0 U |
| 2-Hexanone | ug/l | SW8260B | N | 591-78-6 | | | | | | 0 | 9 | < 5.0 UJ | < 5.0 UJ | < 5.0 UJ | < 5.0 UJ | < 5.0 UJ | < 5.0 UJ | < 5.0 UJ | < 5.0 UJ | < 5.0 UJ |
| 4-Methyl-2-pentanone | ug/l | SW8260B | N | 108-10-1 | 1.1 | 0.53 | 0.78 | 0.7 | SDPEPR1 | 3 | 9 | **0.70 J** | < 5.0 U | **1.1 J** | < 5.0 UJ | < 5.0 UJ | < 5.0 UJ | < 5.0 UJ | **0.53 J** | < 5.0 UJ |
| Acetone | ug/l | SW8260B | N | 67-64-1 | | | | | | 0 | 9 | < 17 UJ | < 5.0 U | < 19 UJ | < 6.0 UJ | < 8.8 UJ | < 5.5 UJ | < 6.4 UJ | < 7.6 UJ | < 5.9 UJ |
| Benzene | ug/l | SW8260B | N | 71-43-2 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromochloromethane | ug/l | SW8260B | N | 74-97-5 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromodichloromethane | ug/l | SW8260B | N | 75-27-4 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromoform | ug/l | SW8260B | N | 75-25-2 | | | | | | 0 | 9 | < 1.0 UJ | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ |
| Bromomethane | ug/l | SW8260B | N | 74-83-9 | | | | | | 0 | 9 | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ |
| Carbon Disulfide | ug/l | SW8260B | N | 75-15-0 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Carbon Tetrachloride | ug/l | SW8260B | N | 56-23-5 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chlorobenzene | ug/l | SW8260B | N | 108-90-7 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroethane | ug/l | SW8260B | N | 75-00-3 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroform | ug/l | SW8260B | N | 67-66-3 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloromethane | ug/l | SW8260B | N | 74-87-3 | 0.46 | 0.29 | 0.38 | 0.4 | SDPEPR4 | 3 | 9 | < 1.0 U | < 1.0 U | **0.29 J** | < 1.0 U | < 1.0 U | < 1.0 U | **0.46 J** | < 1.0 U | **0.40 J** |
| cis-1,2-Dichloroethylene | ug/l | SW8260B | N | 156-59-2 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,3-Dichloropropene | ug/l | SW8260B | N | 10061-01-5 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cyclohexane | ug/l | SW8260B | N | 110-82-7 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Dibromochloromethane | ug/l | SW8260B | N | 124-48-1 | | | | | | 0 | 9 | < 1.0 UJ | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ |
| Dichlorodifluoromethane | ug/l | SW8260B | N | 75-71-8 | | | | | | 0 | 9 | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ |
| Ethylbenzene | ug/l | SW8260B | N | 100-41-4 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Isopropylbenzene | ug/l | SW8260B | N | 98-82-8 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| m, p-Xylene | ug/l | SW8260B | N | XYLMP | | | | | | 0 | 9 | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Methyl Acetate | ug/l | SW8260B | N | 79-20-9 | | | | | | 0 | 9 | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ |
| Methyl tert-Butyl Ether (MTBE) | ug/l | SW8260B | N | 1634-04-4 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methylcyclohexane | ug/l | SW8260B | N | 108-87-2 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Methylene Chloride | ug/l | SW8260B | N | 75-09-2 | | | | | | 0 | 9 | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ |
| o-Xylene | ug/l | SW8260B | N | 95-47-6 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Styrene | ug/l | SW8260B | N | 100-42-5 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Tetrachloroethylene | ug/l | SW8260B | N | 127-18-4 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Toluene | ug/l | SW8260B | N | 108-88-3 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,2-Dichloroethene | ug/l | SW8260B | N | 156-60-5 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,3-Dichloropropene | ug/l | SW8260B | N | 10061-02-6 | | | | | | 0 | 9 | < 1.0 UJ | < 1.0 U | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ | < 1.0 UJ |
| Trichloroethene | ug/l | SW8260B | N | 79-01-6 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Trichlorofluoromethane | ug/l | SW8260B | N | 75-69-4 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Vinyl Chloride | ug/l | SW8260B | N | 75-01-4 | | | | | | 0 | 9 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Xylenes (total) | ug/l | SW8260B | N | 1330-20-7 | | | | | | 0 | 9 | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Acenaphthene | ug/l | SW8270D LL | N | 83-32-9 | | | | | | 0 | 9 | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Acenaphthylene | ug/l | SW8270D LL | N | 208-96-8 | 0.037 | 0.037 | 0.037 | 0.037 | SDPEPR1 | 1 | 9 | < 0.19 U | < 0.19 U | < 0.19 U | **0.037 J** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U |
| Anthracene | ug/l | SW8270D LL | N | 120-12-7 | 0.071 | 0.035 | 0.05 | 0.049 | SDPEPR4 | 6 | 9 | **0.044 J** | **0.060 J** | < 0.19 U | **0.054 J** | < 0.19 U | **0.038 J** | **0.071 J** | < 0.19 U | **0.035 J** |
| Benzo(a)anthracene | ug/l | SW8270D LL | N | 56-55-3 | 0.33 | 0.039 | 0.14 | 0.085 | SDMH02 | 9 | 9 | **0.22** | **0.33** | **0.039 J** | **0.063 J** | **0.049 J** | **0.19** | **0.23** | **0.066 J** | **0.085 J** |
| Benzo(a)pyrene | ug/l | SW8270D LL | N | 50-32-8 | 0.24 | 0.031 | 0.13 | 0.1 | SD013 | 9 | 9 | **0.24** | **0.22** | **0.031 J** | **0.079 J** | **0.049 J** | **0.20** | **0.23** | **0.059 J** | **0.10 J** |
| Benzo(b)fluoranthene | ug/l | SW8270D LL | N | 205-99-2 | 0.47 | 0.045 | 0.24 | 0.26 | SDPEPR4 | 9 | 9 | **0.34** | **0.38** | **0.045 J** | **0.26 J** | **0.053 J** | **0.28** | **0.47** | **0.11 J** | **0.19** |
| Benzo(g,h,i)perylene | ug/l | SW8270D LL | N | 191-24-2 | 0.46 | 0.026 | 0.19 | 0.14 | SDMH02 | 9 | 9 | **0.29** | **0.46** | **0.026 J** | **0.14 J** | **0.086 J** | **0.21** | **0.35** | **0.095 J** | **0.097 J** |
| Benzo(k)fluoranthene | ug/l | SW8270D LL | N | 207-08-9 | 0.39 | 0.055 | 0.17 | 0.14 | SDMH02 | 7 | 9 | **0.24** | **0.39** | < 0.19 U | **0.075 J** | **0.055 J** | **0.14 J** | **0.23** | < 0.19 U | **0.073 J** |

## Table 4-25
## Storm Drain Surface Water Results
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Location ID | SD013 | SDMH02 | SDPEPR1 | SDPEPR1 | SDPEPR2 | SDPEPR3 | SDPEPR4 | SDPEPR5 | SDW101 |
| | | | | | | | | | | | Sample ID | SDW013N | SDWMH02N | SDWPEPR1N | SDWPEPR1R | SDWPEPR2N | SDWPEPR3N | SDWPEPR4N | SDWPEPR5N | SDW101N |
| | | | | | | | | | | | Sample Date | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 | 10/7/2013 |
| | | | | | | | | | | | Type | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Location Max Detect | Count Detects | Count Total | | | | | | | | | |
| Chrysene | ug/l | SW8270D LL | N | 218-01-9 | 0.47 | 0.066 | 0.26 | 0.28 | SDPEPR4 | 9 | 9 | **0.35** | **0.41** | **0.066 J** | **0.35 J** | **0.072 J** | **0.28** | **0.47** | **0.13 J** | **0.21** |
| Dibenzo(a,h)anthracene | ug/l | SW8270D LL | N | 53-70-3 | 0.45 | 0.035 | 0.16 | 0.08 | SDMH02 | 5 | 9 | **0.18 J** | **0.45** | < 0.19 U | **0.035 J** | < 0.19 U | **0.075 J** | **0.080 J** | < 0.19 U | < 0.19 U |
| Fluoranthene | ug/l | SW8270D LL | N | 206-44-0 | 0.84 | 0.1 | 0.34 | 0.29 | SDPEPR4 | 9 | 9 | **0.44** | **0.12 J** | **0.11 J** | **0.49 J** | **0.10 J** | **0.46** | **0.84** | **0.18 J** | **0.29** |
| Fluorene | ug/l | SW8270D LL | N | 86-73-7 | 0.044 | 0.023 | 0.031 | 0.025 | SDPEPR4 | 3 | 9 | < 0.19 U | **0.025 J** | < 0.19 U | < 0.19 U | < 0.19 U | **0.023 J** | **0.044 J** | < 0.19 U | < 0.19 U |
| Indeno(1,2,3-cd)pyrene | ug/l | SW8270D LL | N | 193-39-5 | 0.43 | 0.04 | 0.18 | 0.13 | SDMH02 | 8 | 9 | **0.24** | **0.43** | < 0.19 U | **0.097 J** | **0.040 J** | **0.17 J** | **0.28** | **0.071 J** | **0.079 J** |
| Naphthalene | ug/l | SW8270D LL | N | 91-20-3 | 1.4 | 0.023 | 0.31 | 0.04 | SDPEPR1 | 5 | 9 | **0.063 J** | < 0.19 U | < 0.19 UJ | **1.4 J** | < 0.19 U | **0.040 J** | **0.026 J** | **0.023 J** | < 0.19 U |
| Phenanthrene | ug/l | SW8270D LL | N | 85-01-8 | 0.56 | 0.076 | 0.21 | 0.16 | SDPEPR4 | 9 | 9 | **0.24** | **0.076 J** | **0.083 J** | **0.27 J** | **0.10 J** | **0.28** | **0.56** | **0.16 J** | **0.16 J** |
| Pyrene | ug/l | SW8270D LL | N | 129-00-0 | 0.57 | 0.065 | 0.24 | 0.24 | SDPEPR4 | 9 | 9 | **0.34** | **0.095 J** | **0.065 J** | **0.25 J** | **0.097 J** | **0.35** | **0.57** | **0.13 J** | **0.24** |
| Total High-molecular-weight PAHs | ug/l | SW8270D LL | N | TOT-PAH-HMW | 3.8 | 0.38 | 1.9 | 1.8 | SDPEPR4 | 9 | 9 | **2.9** | **3.3** | **0.38** | **1.8** | **0.60** | **2.4** | **3.8** | **0.84** | **1.4** |
| Total Low-molecular-weight PAHs | ug/l | SW8270D LL | N | TOT-PAH-LMW | 1.8 | 0.083 | 0.44 | 0.2 | SDPEPR1 | 9 | 9 | **0.35** | **0.16** | **0.083** | **1.8** | **0.10** | **0.38** | **0.70** | **0.18** | **0.20** |
| Total PAHs (sum 16) | ug/l | SW8270D LL | N | TOT-PAH | 4.5 | 0.47 | 2.4 | 2.7 | SDPEPR4 | 9 | 9 | **3.2** | **3.4** | **0.47** | **3.6** | **0.70** | **2.7** | **4.5** | **1.0** | **1.6** |

Notes:

Bold values indicate detects.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample and the numerical value has a high bias.

J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample and the numerical value has a low bias.

UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate and may or may not represent the actual limit of quantitation in the sample.

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

D = Dissolved T = Total

N = Normal

mg/l = milligrams per liter

ug/l = micrograms per liter

# Table 4-26
## Storm Drain Residue Results
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | Location ID | SD013 | SDPEPR4 | SDPEPR5 | SDPEPR5 | SDR101 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Sample ID | SDR013N | SDRPEPR4N | SDRPEPR5N | SDRPEPR5R | SDR101N |
| | | | | | | | | | | Sample Date | 10/8/2013 | 10/8/2013 | 10/8/2013 | 10/8/2013 | 10/8/2013 |
| | | | | | | | | | | Type | N | N | N | FD | N |
| Analyte | Unit | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | | | |
| Aluminum | mg/kg | SW6020A | 7429-90-5 | 7800 | 2200 | 4000 | 3500 | SDPEPR4 | 5 | 5 | 2700 | 7800 | 3500 | 3600 | 2200 |
| Antimony | mg/kg | SW6020A | 7440-36-0 | 4 | 0.6 | 2.2 | 2.1 | SDPEPR4 | 5 | 5 | 0.60 | 4.0 | 2.1 | 1.2 | 3.2 |
| Arsenic | mg/kg | SW6020A | 7440-38-2 | 4.7 | 1.6 | 2.4 | 2 | SDPEPR4 | 5 | 5 | 1.6 | 4.7 | 2.2 | 1.6 | 2.0 |
| Barium | mg/kg | SW6020A | 7440-39-3 | 120 | 36 | 66 | 58 | SDPEPR4 | 5 | 5 | 36 | 120 | 73 | 58 | 43 |
| Beryllium | mg/kg | SW6020A | 7440-41-7 | 0.49 | 0.15 | 0.26 | 0.23 | SDPEPR4 | 5 | 5 | 0.17 | 0.49 | 0.24 | 0.23 | 0.15 |
| Cadmium | mg/kg | SW6020A | 7440-43-9 | 5.4 | 0.42 | 2.1 | 1.3 | SDPEPR4 | 5 | 5 | 0.42 J+ | 5.4 J+ | 2.3 J+ | 1.3 J+ | 1.2 J+ |
| Calcium | mg/kg | SW6020A | 7440-70-2 | 41000 | 11000 | 21000 | 17000 | SD013 | 5 | 5 | 41000 J- | 21000 J- | 17000 J- | 14000 J- | 11000 J- |
| Chromium | mg/kg | SW6020A | 7440-47-3 | 100 | 19 | 53 | 43 | SDPEPR4 | 5 | 5 | 19 J- | 100 J- | 62 J- | 41 J- | 43 J- |
| Cobalt | mg/kg | SW6020A | 7440-48-4 | 13 | 3.8 | 6.7 | 5.8 | SDPEPR4 | 5 | 5 | 3.8 | 13 | 5.8 | 4.3 | 6.5 |
| Copper | mg/kg | SW6020A | 7440-50-8 | 610 | 41 | 180 | 89 | SDPEPR4 | 5 | 5 | 41 J | 610 J | 89 J | 52 J | 91 J |
| Iron | mg/kg | SW6020A | 7439-89-6 | 85000 | 16000 | 33000 | 23000 | SDPEPR4 | 5 | 5 | 17000 | 85000 | 23000 | 16000 | 23000 |
| Lead | mg/kg | SW6020A | 7439-92-1 | 3200 | 43 | 750 | 150 | SDR101 | 5 | 5 | 43 J | 290 J | 150 J | 86 J | 3200 J |
| Magnesium | mg/kg | SW6020A | 7439-95-4 | 20000 | 7600 | 12000 | 9600 | SD013 | 5 | 5 | 20000 J- | 13000 J- | 9600 J- | 7600 J- | 8700 J- |
| Manganese | mg/kg | SW6020A | 7439-96-5 | 480 | 100 | 240 | 220 | SDPEPR4 | 5 | 5 | 250 J | 480 J | 170 J | 100 J | 220 J |
| Nickel | mg/kg | SW6020A | 7440-02-0 | 90 | 25 | 54 | 41 | SDPEPR4 | 5 | 5 | 25 | 90 | 41 | 28 | 84 |
| Potassium | mg/kg | SW6020A | 7440-09-7 | 1100 | 340 | 590 | 570 | SDPEPR4 | 5 | 5 | 340 | 1100 | 610 | 570 | 340 |
| Selenium | mg/kg | SW6020A | 7782-49-2 | 0.92 | 0.27 | 0.42 | 0.29 | SDPEPR4 | 5 | 5 | 0.27 J | 0.92 J | 0.29 J | 0.35 J | 0.27 J |
| Silver | mg/kg | SW6020A | 7440-22-4 | 2.2 | 0.071 | 0.64 | 0.32 | SDPEPR4 | 5 | 5 | 0.071 J+ | 2.2 J+ | 0.39 J+ | 0.32 J+ | 0.21 J+ |
| Sodium | mg/kg | SW6020A | 7440-23-5 | 680 | 170 | 410 | 380 | SDPEPR5 | 5 | 5 | 170 | 380 | 600 | 680 | 230 |
| Thallium | mg/kg | SW6020A | 7440-28-0 | 0.088 | 0.015 | 0.051 | 0.059 | SDR101 | 5 | 5 | 0.015 J | 0.071 J | 0.059 J | 0.021 J | 0.088 J |
| Vanadium | mg/kg | SW6020A | 7440-62-2 | 100 | 22 | 44 | 35 | SDR101 | 5 | 5 | 22 | 38 | 35 | 23 | 100 |
| Zinc | mg/kg | SW6020A | 7440-66-6 | 3200 | 310 | 980 | 460 | SDPEPR4 | 5 | 5 | 310 | 3200 | 490 | 460 | 450 |
| Mercury | mg/kg | SW7471B | 7439-97-6 | 0.071 | 0.015 | 0.034 | 0.021 | SDPEPR4 | 5 | 5 | 0.015 J | 0.071 | 0.016 J | 0.021 J | 0.047 |
| Diesel Range Organics (C10-C20) | mg/kg | SW8015C DRO | C10C20 | 3300 | 61 | 1400 | 1100 | SDPEPR4 | 5 | 5 | 61 J | 3300 | 1100 | 1100 | 1400 |
| Oil Range Organics (C20-C36) | mg/kg | SW8015C DRO | C20C36 | 5800 | 430 | 2700 | 2400 | SDPEPR4 | 5 | 5 | 430 | 5800 | 2700 | 2400 | 2400 |
| Gasoline Range Organics (C6-C10) | ug/kg | SW8015C GRO | 8006-61-9 | 1600 | 260 | 720 | 290 | SDR101 | 3 | 5 | < 100 UJ | < 170 UJ | 290 J | 260 J | 1600 J |
| 4,4'-DDD | ug/kg | SW8081B LL | 72-54-8 | 6.6 | 1.1 | 3 | 1.4 | SDPEPR4 | 3 | 5 | 1.1 J | 6.6 J | 1.4 J | < 27 U | < 5.2 U |
| 4,4'-DDE | ug/kg | SW8081B LL | 72-55-9 | 54 | 1.6 | 28 | 28 | SDPEPR5 | 2 | 5 | < 5.1 U | 1.6 J | < 5.5 U | 54 J | < 5.2 U |
| 4,4'-DDT | ug/kg | SW8081B LL | 50-29-3 | 52 | 1.4 | 21 | 15 | SD013 | 4 | 5 | 52 | 5.4 J | < 5.5 U | 24 J | 1.4 J |
| Aldrin | ug/kg | SW8081B LL | 309-00-2 | 120 | 5.9 | 63 | 63 | SDPEPR5 | 2 | 5 | 5.9 | < 8.3 U | < 5.5 U | 120 | < 5.2 U |
| alpha-BHC | ug/kg | SW8081B LL | 319-84-6 | | | | | | 0 | 5 | < 5.1 U | < 8.3 U | < 5.5 U | < 27 U | < 5.2 U |
| beta-BHC | ug/kg | SW8081B LL | 319-85-7 | 21 | 3.6 | 12 | 12 | SDPEPR5 | 2 | 5 | < 5.1 U | 3.6 J | < 5.5 U | 21 J | < 5.2 U |
| cis-Chlordane | ug/kg | SW8081B LL | 5103-71-9 | 9.8 | 1.4 | 4.4 | 1.9 | SDPEPR5 | 3 | 5 | < 5.1 U | 1.9 J | 1.4 J | 9.8 J | < 5.2 U |
| delta-BHC | ug/kg | SW8081B LL | 319-86-8 | 15 | 0.93 | 5 | 2 | SDPEPR5 | 4 | 5 | 2.2 J | 1.7 J | 0.93 J | 15 J | < 5.2 U |
| Dieldrin | ug/kg | SW8081B LL | 60-57-1 | 60 | 5.5 | 23 | 13 | SDPEPR5 | 4 | 5 | 12 | 13 J | 5.5 | 60 J | < 5.2 U |
| Endosulfan I | ug/kg | SW8081B LL | 959-98-8 | 99 | 99 | 99 | 99 | SDPEPR5 | 1 | 5 | < 5.1 U | < 8.3 U | < 5.5 U | 99 J | < 5.2 U |
| Endosulfan II | ug/kg | SW8081B LL | 33213-65-9 | 9.4 | 1.6 | 5.8 | 6.3 | SDPEPR4 | 3 | 5 | 6.3 | 9.4 | 1.6 J | < 27 U | < 5.2 U |
| Endosulfan Sulfate | ug/kg | SW8081B LL | 1031-07-8 | 26 | 2.1 | 10 | 6 | SDPEPR5 | 4 | 5 | 3.5 J | 8.5 J | 2.1 J | 26 J | < 5.2 U |
| Endrin | ug/kg | SW8081B LL | 72-20-8 | 11 | 3.3 | 6.9 | 6.3 | SDPEPR4 | 3 | 5 | 6.3 J | 11 J | 3.3 J | < 27 U | < 5.2 U |
| Endrin aldehyde | ug/kg | SW8081B LL | 7421-93-4 | 5.5 | 3.4 | 4.5 | 4.5 | SDPEPR5 | 2 | 5 | < 5.1 U | < 8.3 U | 3.4 J | 5.5 J | < 5.2 U |
| Endrin ketone | ug/kg | SW8081B LL | 53494-70-5 | 21 | 4.8 | 13 | 13 | SDPEPR4 | 4 | 5 | 9.7 J | 21 J | 4.8 J | 17 J | < 5.2 U |
| gamma-BHC (Lindane) | ug/kg | SW8081B LL | 58-89-9 | 17 | 2.2 | 7.3 | 2.8 | SDPEPR4 | 3 | 5 | 2.8 J | 17 | 2.2 J | < 27 U | < 5.2 U |
| Heptachlor | ug/kg | SW8081B LL | 76-44-8 | 4.7 | 2.1 | 3.4 | 3.4 | SDPEPR4 | 2 | 5 | < 5.1 U | 4.7 J | 2.1 J | < 27 U | < 5.2 U |
| Heptachlor Epoxide | ug/kg | SW8081B LL | 1024-57-3 | 37 | 3.5 | 20 | 20 | SDPEPR5 | 2 | 5 | 3.5 J | < 8.3 U | < 5.5 U | 37 J | < 5.2 U |
| Methoxychlor | ug/kg | SW8081B LL | 72-43-5 | 11000 | 2 | 2200 | 46 | SDPEPR5 | 5 | 5 | 46 J | 87 J | 17 J | 11000 JX | 2.0 J |
| Toxaphene | ug/kg | SW8081B LL | 8001-35-2 | | | | | | 0 | 5 | < 200 U | < 330 U | < 220 U | < 1100 U | < 210 U |
| trans-Chlordane | ug/kg | SW8081B LL | 5103-74-2 | 4.6 | 1.9 | 3 | 2.4 | SD013 | 3 | 5 | 4.6 J | 2.4 J | 1.9 J | < 27 U | < 5.2 U |
| Aroclor-1016 | ug/kg | SW8082A LL | 12674-11-2 | | | | | | 0 | 5 | < 5.1 U | < 8.3 U | < 5.5 U | < 5.4 U | < 5.2 U |
| Aroclor-1221 | ug/kg | SW8082A LL | 11104-28-2 | | | | | | 0 | 5 | < 5.1 U | < 8.3 U | < 5.5 U | < 5.4 U | < 5.2 U |
| Aroclor-1232 | ug/kg | SW8082A LL | 11141-16-5 | | | | | | 0 | 5 | < 5.1 U | < 8.3 U | < 5.5 U | < 5.4 U | < 5.2 U |
| Aroclor-1242 | ug/kg | SW8082A LL | 53469-21-9 | | | | | | 0 | 5 | < 5.1 U | < 8.3 U | < 5.5 U | < 5.4 U | < 5.2 U |
| Aroclor-1248 | ug/kg | SW8082A LL | 12672-29-6 | 460 | 460 | 460 | 460 | SD013 | 1 | 5 | 460 | < 8.3 U | < 5.5 U | < 5.4 U | < 5.2 U |
| Aroclor-1254 | ug/kg | SW8082A LL | 11097-69-1 | 220 | 10 | 95 | 54 | SDPEPR4 | 3 | 5 | < 5.1 U | 220 J | 54 J | < 5.4 UJ | 10 J |
| Aroclor-1260 | ug/kg | SW8082A LL | 11096-82-5 | 560 | 13 | 310 | 320 | SDPEPR4 | 5 | 5 | 500 | 560 J | 160 J | 320 J | 13 J |
| Aroclor-1262 | ug/kg | SW8082A LL | 37324-23-5 | | | | | | 0 | 5 | < 5.1 U | < 8.3 U | < 5.5 U | < 5.4 U | < 5.2 U |
| Aroclor-1268 | ug/kg | SW8082A LL | 11100-14-4 | | | | | | 0 | 5 | < 5.1 U | < 8.3 U | < 5.5 U | < 5.4 U | < 5.2 U |

# Table 4-26
## Storm Drain Residue Results
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | Location ID | SD013 | SDPEPR4 | SDPEPR5 | SDPEPR5 | SDR101 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Sample ID | SDR013N | SDRPEPR4N | SDRPEPR5N | SDRPEPR5R | SDR101N |
| | | | | | | | | | | Sample Date | 10/8/2013 | 10/8/2013 | 10/8/2013 | 10/8/2013 | 10/8/2013 |
| | | | | | | | | | | Type | N | N | N | FD | N |
| Analyte | Unit | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | | | |
| PCB, Total Aroclors | ug/kg | SW8082A LL | TOT-PCB-ARO-C | 960 | 23 | 460 | 320 | SD013 | 5 | 5 | **960** | **780** | **210** | **320** | **23** |
| 1,1,1-Trichloroethane | ug/kg | SW8260B | 71-55-6 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 1,1,2,2-Tetrachloroethane | ug/kg | SW8260B | 79-34-5 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | SW8260B | 76-13-1 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 1,1,2-Trichloroethane | ug/kg | SW8260B | 79-00-5 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 1,1-Dichloroethane | ug/kg | SW8260B | 75-34-3 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 1,1-Dichloroethene | ug/kg | SW8260B | 75-35-4 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 1,2,3-Trichlorobenzene | ug/kg | SW8260B | 87-61-6 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 1,2,4-Trichlorobenzene | ug/kg | SW8260B | 120-82-1 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 1,2-Dibromo-3-chloropropane | ug/kg | SW8260B | 96-12-8 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 1,2-Dibromoethane | ug/kg | SW8260B | 106-93-4 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 1,2-Dichlorobenzene | ug/kg | SW8260B | 95-50-1 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 1,2-Dichloroethane | ug/kg | SW8260B | 107-06-2 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 1,2-Dichloropropane | ug/kg | SW8260B | 78-87-5 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 1,3-Dichlorobenzene | ug/kg | SW8260B | 541-73-1 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 1,4-Dichlorobenzene | ug/kg | SW8260B | 106-46-7 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 1,4-Dioxane | ug/kg | SW8260B | 123-91-1 | | | | | | 0 | 5 | < 1100 U | < 1700 U | < 1000 U | < 990 U | < 1100 U |
| 2-Butanone | ug/kg | SW8260B | 78-93-3 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 2-Hexanone | ug/kg | SW8260B | 591-78-6 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| 4-Methyl-2-pentanone | ug/kg | SW8260B | 108-10-1 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Acetone | ug/kg | SW8260B | 67-64-1 | | | | | | 0 | 5 | < 22 U | < 35 U | < 21 U | < 20 U | < 23 U |
| Benzene | ug/kg | SW8260B | 71-43-2 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Bromochloromethane | ug/kg | SW8260B | 74-97-5 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Bromodichloromethane | ug/kg | SW8260B | 75-27-4 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Bromoform | ug/kg | SW8260B | 75-25-2 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Bromomethane | ug/kg | SW8260B | 74-83-9 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Carbon Disulfide | ug/kg | SW8260B | 75-15-0 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Carbon Tetrachloride | ug/kg | SW8260B | 56-23-5 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Chlorobenzene | ug/kg | SW8260B | 108-90-7 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Chloroethane | ug/kg | SW8260B | 75-00-3 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Chloroform | ug/kg | SW8260B | 67-66-3 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Chloromethane | ug/kg | SW8260B | 74-87-3 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| cis-1,2-Dichloroethylene | ug/kg | SW8260B | 156-59-2 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| cis-1,3-Dichloropropene | ug/kg | SW8260B | 10061-01-5 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Cyclohexane | ug/kg | SW8260B | 110-82-7 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Dibromochloromethane | ug/kg | SW8260B | 124-48-1 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Dichlorodifluoromethane | ug/kg | SW8260B | 75-71-8 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Ethylbenzene | ug/kg | SW8260B | 100-41-4 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Isopropylbenzene | ug/kg | SW8260B | 98-82-8 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| m, p-Xylene | ug/kg | SW8260B | XYLMP | | | | | | 0 | 5 | < 11 U | < 17 U | < 10 U | < 9.9 U | < 11 U |
| Methyl Acetate | ug/kg | SW8260B | 79-20-9 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | SW8260B | 1634-04-4 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Methylcyclohexane | ug/kg | SW8260B | 108-87-2 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Methylene Chloride | ug/kg | SW8260B | 75-09-2 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| o-Xylene | ug/kg | SW8260B | 95-47-6 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Styrene | ug/kg | SW8260B | 100-42-5 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Tetrachloroethylene | ug/kg | SW8260B | 127-18-4 | 1.8 | 1.8 | 1.8 | 1.8 | SDR101 | 1 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | **1.8 J** |
| Toluene | ug/kg | SW8260B | 108-88-3 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| trans-1,2-Dichloroethene | ug/kg | SW8260B | 156-60-5 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| trans-1,3-Dichloropropene | ug/kg | SW8260B | 10061-02-6 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Trichloroethene | ug/kg | SW8260B | 79-01-6 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Trichlorofluoromethane | ug/kg | SW8260B | 75-69-4 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Vinyl Chloride | ug/kg | SW8260B | 75-01-4 | | | | | | 0 | 5 | < 5.5 U | < 8.6 U | < 5.2 U | < 5.0 U | < 5.7 U |
| Xylenes (total) | ug/kg | SW8260B | 1330-20-7 | | | | | | 0 | 5 | < 11 U | < 17 U | < 10 U | < 9.9 U | < 11 U |
| Acenaphthene | ug/kg | SW8270D LL | 83-32-9 | 640 | 63 | 210 | 81 | SDR101 | 5 | 5 | **76 J** | **170 J** | **81 J** | **63 J** | **640** |
| Acenaphthylene | ug/kg | SW8270D LL | 208-96-8 | 390 | 34 | 130 | 69 | SDPEPR4 | 5 | 5 | **34 J** | **390** | **69 J** | **110 J** | **59 J** |

**Table 4-26**
**Storm Drain Residue Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Location ID | SD013 | SDPEPR4 | SDPEPR5 | SDPEPR5 | SDR101 |
| | | | | | | | | | | Sample ID | SDR013N | SDRPEPR4N | SDRPEPR5N | SDRPEPR5R | SDR101N |
| | | | | | | | | | | Sample Date | 10/8/2013 | 10/8/2013 | 10/8/2013 | 10/8/2013 | 10/8/2013 |
| | | | | | | | | | | Type | N | N | N | FD | N |
| Analyte | Unit | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | | | |
| Anthracene | ug/kg | SW8270D LL | 120-12-7 | 990 | 170 | 470 | 200 | SDR101 | 5 | 5 | **190** | **820** | **170 J** | **200 J** | **990** |
| Benzo(a)anthracene | ug/kg | SW8270D LL | 56-55-3 | 3100 | 530 | 1700 | 1500 | SDR101 | 5 | 5 | **1500** | **2700 J** | **670** | **530** | **3100** |
| Benzo(a)pyrene | ug/kg | SW8270D LL | 50-32-8 | 2800 | 450 | 1600 | 1600 | SDPEPR4 | 5 | 5 | **1600** | **2800 J** | **580** | **450** | **2700** |
| Benzo(b)fluoranthene | ug/kg | SW8270D LL | 205-99-2 | 4300 | 690 | 2400 | 2200 | SDPEPR4 | 5 | 5 | **2200** | **4300 J** | **960** | **690** | **3600** |
| Benzo(g,h,i)perylene | ug/kg | SW8270D LL | 191-24-2 | 3500 | 650 | 1800 | 1800 | SDPEPR4 | 5 | 5 | **1800** | **3500** | **700** | **650** | **2400** |
| Benzo(k)fluoranthene | ug/kg | SW8270D LL | 207-08-9 | 1500 | 260 | 870 | 860 | SDPEPR4 | 5 | 5 | **860** | **1500** | **260** | **420** | **1300** |
| Chrysene | ug/kg | SW8270D LL | 218-01-9 | 3900 | 810 | 2300 | 2100 | SDPEPR4 | 5 | 5 | **2100** | **3900** | **1000** | **810** | **3600** |
| Dibenzo(a,h)anthracene | ug/kg | SW8270D LL | 53-70-3 | 820 | 150 | 410 | 330 | SDPEPR4 | 5 | 5 | **330** | **820** | **160 J** | **150 J** | **580** |
| Fluoranthene | ug/kg | SW8270D LL | 206-44-0 | 7600 | 1400 | 4400 | 4300 | SDR101 | 5 | 5 | **4300** | **6300** | **2400 J** | **1400 J** | **7600** |
| Fluorene | ug/kg | SW8270D LL | 86-73-7 | 420 | 91 | 200 | 150 | SDR101 | 5 | 5 | **91 J** | **190 J** | **140 J** | **150 J** | **420** |
| Indeno(1,2,3-cd)pyrene | ug/kg | SW8270D LL | 193-39-5 | 2800 | 530 | 1500 | 1400 | SDPEPR4 | 5 | 5 | **1400** | **2800** | **560** | **530** | **2100** |
| Naphthalene | ug/kg | SW8270D LL | 91-20-3 | 200 | 34 | 87 | 57 | SDR101 | 4 | 5 | < 160 U | **66 J** | **34 J** | **47 J** | **200** |
| Phenanthrene | ug/kg | SW8270D LL | 85-01-8 | 5400 | 900 | 2600 | 1800 | SDR101 | 5 | 5 | **1800** | **2900 J** | **1800 J** | **900 J** | **5400** |
| Pyrene | ug/kg | SW8270D LL | 129-00-0 | 5400 | 910 | 3100 | 3100 | SDR101 | 5 | 5 | **3100** | **4600 J** | **1500** | **910** | **5400** |
| Total High-molecular-weight PAHs | ug/kg | SW8270D LL | TOT-PAH-HMW | 33000 | 6500 | 20000 | 19000 | SDPEPR4 | 5 | 5 | **19000** | **33000** | **8800** | **6500** | **32000** |
| Total Low-molecular-weight PAHs | ug/kg | SW8270D LL | TOT-PAH-LMW | 7700 | 1500 | 3600 | 2300 | SDR101 | 5 | 5 | **2200** | **4500** | **2300** | **1500** | **7700** |
| Total PAHs (sum 16) | ug/kg | SW8270D LL | TOT-PAH | 40000 | 8000 | 24000 | 21000 | SDR101 | 5 | 5 | **21000** | **38000** | **11000** | **8000** | **40000** |

Notes:
Bold values indicate detects.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample and the numerical value has a high bias.

J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample and the numerical value has a low bias.

JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

JX = The analyte was identified by GC/ECD but not confirmed by GC/MS; the result value represents a probable false postitive result.

UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate and may or may not represent the actual limit of quantitation in the sample.

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

mg/kg = milligrams per kilogram

ug/kg = micrograms per kilogram

**Table 4-27**
**Anacostia Park Incremental Sampling Methodology Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Location ID | KMY-DU01 | KMY-DU02 | KMY-DU03 | KMY-DU03 | KMY-DU03 | KMY-DU03 | KMY-DU03 | KMY-DU03 |
| | | | | | | | | | | | | Sample ID | SUSNPSMI0100N | SUSNPSMI0200N | SUSNPSMI0300N | SUSNPSMI0300N1 | SUSNPSMI0300N2 | SUSNPSMI0300N3 | SUSNPSMI0300R1 | SUSNPSMI0300R2 |
| | | | | | | | | | | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | | | | | | | | | | Sample Date | 4/12/2017 | 4/12/2017 | 4/13/2017 | 4/13/2017 | 4/13/2017 | 4/13/2017 | 4/13/2017 | 4/13/2017 |
| | | | | | | | | | | | | Type | N | N | N | N | N | N | FD | FD |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | M8015D | TPH | 183 | 136 | 156 | 148 | KMY-DU02 | 3 | | 3 | **148** | **183** | **136** | | | | | |
| Arsenic | mg/kg | 3 | SW6020A | 7440-38-2 | 7 | 3.2 | 4.8 | 4.5 | KMY-DU01 | 8 | | 8 | **7.0** | **6.0** | **4.6** | **3.2 J-** | **4.2 J-** | **4.5 J-** | **4.2** | **4.5** |
| Barium | mg/kg | 22000 | SW6020A | 7440-39-3 | 110 | 71 | 80 | 76 | KMY-DU01 | 8 | | 8 | **110** | **74** | **74** | **71 J-** | **83 J-** | **76 J-** | **75** | **76** |
| Cadmium | mg/kg | 98 | SW6020A | 7440-43-9 | 0.62 | 0.41 | 0.49 | 0.47 | KMY-DU02 | 8 | | 8 | **0.41** | **0.62** | **0.49** | **0.45 J-** | **0.45 J-** | **0.53 J-** | **0.54** | **0.45** |
| Chromium | mg/kg | 180000 | SW6020A | 7440-47-3 | 58 | 32 | 50 | 56 | KMY-DU03 | 8 | | 8 | **32** | **37** | **57** | **43 J-** | **58 J-** | **58 J-** | **57** | **55** |
| Lead | mg/kg | 800 | SW6020A | 7439-92-1 | 97 | 50 | 66 | 56 | KMY-DU03 | 8 | | 8 | **76** | **91** | **50** | **51 J-** | **97 J-** | **51 J-** | **51** | **60** |
| Selenium | mg/kg | 580 | SW6020A | 7782-49-2 | 1.9 | 1.3 | 1.6 | 1.5 | KMY-DU01 | 8 | | 8 | **1.9** | **1.7** | **1.5** | **1.3 J-** | **1.7 J-** | **1.5 J-** | **1.4** | **1.5** |
| Silver | mg/kg | 580 | SW6020A | 7440-22-4 | 0.89 | 0.4 | 0.79 | 0.84 | KMY-DU03 | 8 | | 8 | **0.40** | **0.79** | **0.84** | **0.84 J-** | **0.83 J-** | **0.83 J-** | **0.89** | **0.86** |
| Mercury | mg/kg | 35 | SW7471B | 7439-97-6 | 0.18 | 0.12 | 0.14 | 0.13 | KMY-DU02 | 8 | | 8 | **0.16 J-** | **0.18 J-** | **0.12** | **0.14 J-** | **0.13 J-** | **0.13 J-** | **0.12** | **0.13 J-** |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | SW8015C DRO | C10C20 | 15 | 8.2 | 10 | 9.1 | KMY-DU02 | 5 | | 5 | **9.6 J** | **15 J** | **9.1 J** | | | | **8.2 J** | **8.9 J** |
| Diesel Range Organics (C10-C28) | mg/kg | 440 | SW8015C DRO | DIESELCOMP | 59 | 36 | 45 | 43 | KMY-DU02 | 5 | | 5 | **36** | **59** | **45** | | | | **40** | **43** |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | SW8015C DRO | C20C36 | 110 | 72 | 85 | 81 | KMY-DU02 | 5 | | 5 | **72** | **110** | **84** | | | | **80** | **81** |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | SW8015C GRO | 8006-61-9 | 1900 | 1900 | 1900 | 1900 | KMY-DU03 | 1 | | 5 | < 5200 UJ | < 5000 UJ | **1900 J** | | | | < 4600 UJ | < 4600 UJ |
| 4,4'-DDD | ug/kg | 2500 | SW8081B LL | 72-54-8 | 4.7 | 2.2 | 2.9 | 2.3 | KMY-DU02 | 5 | | 5 | **2.2 J** | **4.7 J** | **2.2 J** | | | | **2.3 J** | **3.2 J** |
| 4,4'-DDE | ug/kg | 9300 | SW8081B LL | 72-55-9 | 5.6 | 2.7 | 4.1 | 3.9 | KMY-DU02 | 5 | | 5 | **5.3 J** | **5.6 J** | **2.9 J** | | | | **2.7 J** | **3.9 J** |
| 4,4'-DDT | ug/kg | 8500 | SW8081B LL | 50-29-3 | 7 | 2.9 | 4.9 | 4.8 | KMY-DU02 | 4 | | 5 | **4.8 J** | **7.0 J** | **2.9 J** | | | | < 0.42 UJ | **4.8 J** |
| Aldrin | ug/kg | 180 | SW8081B LL | 309-00-2 | | | | | | | | 5 | < 0.42 UJ | < 0.42 UJ | < 0.42 U | | | | < 0.42 U | < 0.42 U |
| alpha-BHC | ug/kg | 360 | SW8081B LL | 319-84-6 | | | | | | | | 5 | < 0.42 UJ | < 0.42 UJ | < 0.42 U | | | | < 0.42 U | < 0.42 U |
| beta-BHC | ug/kg | 1300 | SW8081B LL | 319-85-7 | | | | | | | | 5 | < 0.42 UJ | < 0.42 UJ | < 0.42 U | | | | < 0.42 U | < 0.42 U |
| cis-Chlordane | ug/kg | 7700 | SW8081B LL | 5103-71-9 | 12 | 1.7 | 7.9 | 8.9 | KMY-DU03 | 5 | | 5 | **1.7 J** | **5.9 J** | **11 J** | | | | **8.9 J** | **12 J** |
| delta-BHC | ug/kg | 360 | SW8081B LL | 319-86-8 | | | | | | | | 5 | < 0.42 UJ | < 0.42 UJ | < 0.42 U | | | | < 0.42 U | < 0.42 U |
| Dieldrin | ug/kg | 140 | SW8081B LL | 60-57-1 | 3.6 | 1.8 | 2.7 | 2.7 | KMY-DU02 | 2 | | 5 | **1.8 J** | **3.6 J** | < 0.42 U | | | | < 0.42 U | < 0.42 U |
| Endosulfan I | ug/kg | 700000 | SW8081B LL | 959-98-8 | | | | | | | | 5 | < 0.42 UJ | < 0.42 UJ | < 0.42 U | | | | < 0.42 U | < 0.42 U |
| Endosulfan II | ug/kg | 700000 | SW8081B LL | 33213-65-9 | | | | | | | | 5 | < 0.42 UJ | < 0.42 UJ | < 0.42 U | | | | < 0.42 U | < 0.42 U |
| Endosulfan Sulfate | ug/kg | 700000 | SW8081B LL | 1031-07-8 | | | | | | | | 5 | < 0.42 UJ | < 0.42 UJ | < 0.42 U | | | | < 0.42 U | < 0.42 U |
| Endrin | ug/kg | 25000 | SW8081B LL | 72-20-8 | | | | | | | | 5 | < 0.42 UJ | < 0.42 UJ | < 0.42 U | | | | < 0.42 U | < 0.42 U |
| Endrin aldehyde | ug/kg | 25000 | SW8081B LL | 7421-93-4 | | | | | | | | 5 | < 0.42 UJ | < 0.42 UJ | < 0.42 U | | | | < 0.42 U | < 0.42 U |
| Endrin ketone | ug/kg | 25000 | SW8081B LL | 53494-70-5 | | | | | | | | 5 | < 0.42 UJ | < 0.42 UJ | < 0.42 U | | | | < 0.42 U | < 0.42 U |
| gamma-BHC (Lindane) | ug/kg | 2500 | SW8081B LL | 58-89-9 | | | | | | | | 5 | < 0.42 UJ | < 0.42 UJ | < 0.42 U | | | | < 0.42 U | < 0.42 U |
| Heptachlor | ug/kg | 630 | SW8081B LL | 76-44-8 | 0.29 | 0.15 | 0.2 | 0.17 | KMY-DU03 | 3 | | 5 | < 0.42 UJ | < 0.42 UJ | **0.17 J** | | | | **0.15 J** | **0.29 J** |
| Heptachlor Epoxide | ug/kg | 330 | SW8081B LL | 1024-57-3 | 0.57 | 0.084 | 0.35 | 0.44 | KMY-DU03 | 5 | | 5 | **0.084 J** | **0.18 J** | **0.57 J** | | | | **0.44 J** | **0.46 J** |
| Methoxychlor | ug/kg | 410000 | SW8081B LL | 72-43-5 | | | | | | | | 5 | < 0.42 UJ | < 0.42 UJ | < 0.42 U | | | | < 0.42 U | < 0.42 U |
| Toxaphene | ug/kg | 2100 | SW8081B LL | 8001-35-2 | | | | | | | | 5 | < 17 UJ | < 17 UJ | < 17 U | | | | < 17 U | < 17 U |
| trans-Chlordane | ug/kg | 7700 | SW8081B LL | 5103-74-2 | 16 | 7.8 | 12 | 13 | KMY-DU03 | 4 | | 5 | < 0.42 UJ | **7.8 J** | **14 J** | | | | **11 J** | **16 J** |
| Aroclor-1016 | ug/kg | | SW8082A LL | 12674-11-2 | | | | | | | | 8 | < 0.84 U | < 0.84 U | < 0.85 U | < 4.1 U | < 4.1 U | < 8.2 U | < 0.83 U | < 0.84 U |
| Aroclor-1221 | ug/kg | | SW8082A LL | 11104-28-2 | | | | | | | | 8 | < 0.84 U | < 0.84 U | < 0.85 U | < 4.1 U | < 4.1 U | < 8.2 U | < 0.83 U | < 0.84 U |
| Aroclor-1232 | ug/kg | | SW8082A LL | 11141-16-5 | | | | | | | | 8 | < 0.84 U | < 0.84 U | < 0.85 U | < 4.1 U | < 4.1 U | < 8.2 U | < 0.83 U | < 0.84 U |
| Aroclor-1242 | ug/kg | | SW8082A LL | 53469-21-9 | | | | | | | | 8 | < 0.84 U | < 0.84 U | < 0.85 U | < 4.1 U | < 4.1 U | < 8.2 U | < 0.83 U | < 0.84 U |
| Aroclor-1248 | ug/kg | | SW8082A LL | 12672-29-6 | | | | | | | | 8 | < 0.84 U | < 0.84 U | < 0.85 U | < 4.1 U | < 4.1 U | < 8.2 U | < 0.83 U | < 0.84 U |
| Aroclor-1254 | ug/kg | | SW8082A LL | 11097-69-1 | | | | | | | | 8 | < 0.84 U | < 0.84 U | < 0.85 U | < 4.1 U | < 4.1 U | < 8.2 U | < 0.83 U | < 0.84 U |
| Aroclor-1260 | ug/kg | | SW8082A LL | 11096-82-5 | 83 | 31 | 53 | 49 | KMY-DU02 | 8 | | 8 | **31** | **83** | **54** | **44** | **37** | **65** | **39** | **69** |
| Aroclor-1262 | ug/kg | | SW8082A LL | 37324-23-5 | | | | | | | | 8 | < 0.84 U | < 0.84 U | < 0.85 U | < 4.1 U | < 4.1 U | < 8.2 U | < 0.83 U | < 0.84 U |
| Aroclor-1268 | ug/kg | | SW8082A LL | 11100-14-4 | | | | | | | | 8 | < 0.84 U | < 0.84 U | < 0.85 U | < 4.1 U | < 4.1 U | < 8.2 U | < 0.83 U | < 0.84 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | SW8082A LL | TOT-PCB-ARO-C | 83 | 31 | 53 | 49 | KMY-DU02 | 8 | | 8 | **31** | **83** | **54** | **44** | **37** | **65** | **39** | **69** |
| 1,1'-Biphenyl | ug/kg | 20000 | SW8270D LL | 92-52-4 | 11 | 3.5 | 7.3 | 7.3 | KMY-DU02 | 4 | 1 | 8 | < 33 UJ | **11 J-** | < 67 U | **7.3 J-** | **7.2 J-** | R | < 33 U | **3.5 J** |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 35000 | SW8270D LL | 95-94-3 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 4.7e+006 | SW8270D LL | 108-60-1 | | | | | | | 3 | 8 | < 6.8 UJ | < 14 UJ | < 14 U | R | R | R | < 6.8 U | < 6.8 U |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 2.5e+006 | SW8270D LL | 58-90-2 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| 2,4,5-Trichlorophenol | ug/kg | 8.2e+006 | SW8270D LL | 95-95-4 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| 2,4,6-Trichlorophenol | ug/kg | 82000 | SW8270D LL | 88-06-2 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| 2,4-Dichlorophenol | ug/kg | 250000 | SW8270D LL | 120-83-2 | | | | | | | 3 | 8 | < 6.8 UJ | < 14 UJ | < 14 U | R | R | R | < 6.8 U | < 6.8 U |
| 2,4-Dimethylphenol | ug/kg | 1.6e+006 | SW8270D LL | 105-67-9 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |

Table 4-27
Anacostia Park Incremental Sampling Methodology Results
Benning Road Facility RI/FS Project
3400 Benning Road, NE
Washington, DC 20019

| | | | | | | | | | | | | Location ID | KMY-DU01 | KMY-DU02 | KMY-DU03 | KMY-DU03 | KMY-DU03 | KMY-DU03 | KMY-DU03 | KMY-DU03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Sample ID | SUSNPSMI0100N | SUSNPSMI0200N | SUSNPSMI0300N | SUSNPSMI0300N1 | SUSNPSMI0300N2 | SUSNPSMI0300N3 | SUSNPSMI0300R1 | SUSNPSMI0300R2 |
| | | | | | | | | | | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | | | | | | | | | | Sample Date | 4/12/2017 | 4/12/2017 | 4/13/2017 | 4/13/2017 | 4/13/2017 | 4/13/2017 | 4/13/2017 | 4/13/2017 |
| | | | | | | | | | | | | Type | N | N | N | N | N | N | FD | FD |
| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 160000 | SW8270D LL | 51-28-5 | | | | | | | 3 | 8 | < 170 UJ | < 350 UJ | < 350 U | R | R | R | < 170 U | < 170 U |
| 2,4-Dinitrotoluene | ug/kg | 7400 | SW8270D LL | 121-14-2 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| 2,6-Dinitrotoluene | ug/kg | 1500 | SW8270D LL | 606-20-2 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| 2-Chloronaphthalene | ug/kg | 6e+006 | SW8270D LL | 91-58-7 | | | | | | | 3 | 8 | < 6.8 UJ | < 14 UJ | < 14 U | R | R | R | < 6.8 U | < 6.8 U |
| 2-Chlorophenol | ug/kg | 580000 | SW8270D LL | 95-57-8 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| 2-Methylnaphthalene | ug/kg | 300000 | SW8270D LL | 91-57-6 | 45 | 5.5 | 17 | 15 | KMY-DU02 | 8 | | 8 | 5.5 J- | 45 J- | 14 | 18 J- | 21 J- | 16 J- | 9.1 | 11 |
| 2-Methylphenol | ug/kg | 4.1e+006 | SW8270D LL | 95-48-7 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| 2-Nitroaniline | ug/kg | 800000 | SW8270D LL | 88-74-4 | | | | | | | 3 | 8 | < 170 UJ | < 350 UJ | < 350 U | R | R | R | < 170 U | < 170 U |
| 2-Nitrophenol | ug/kg | 2.5e+007 | SW8270D LL | 88-75-5 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| 3,3'-Dichlorobenzidine | ug/kg | 5100 | SW8270D LL | 91-94-1 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| 3-Nitroaniline | ug/kg | 110000 | SW8270D LL | 99-09-2 | | | | | | | 3 | 8 | < 170 UJ | < 350 UJ | < 350 U | R | R | R | < 170 U | < 170 U |
| 4,6-Dinitro-2-methylphenol | ug/kg | 6600 | SW8270D LL | 534-52-1 | | | | | | | 3 | 8 | < 170 UJ | < 350 UJ | < 350 U | R | R | R | < 170 U | < 170 U |
| 4-Bromophenyl-phenylether | ug/kg | | SW8270D LL | 101-55-3 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| 4-Chloro-3-methylphenol | ug/kg | 8.2e+006 | SW8270D LL | 59-50-7 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| 4-Chloroaniline | ug/kg | 11000 | SW8270D LL | 106-47-8 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| 4-Chlorophenyl-phenylether | ug/kg | | SW8270D LL | 7005-72-3 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| 4-Methylphenol | ug/kg | 8.2e+006 | SW8270D LL | 106-44-5 | 13 | 4 | 7.6 | 6.8 | KMY-DU03 | 5 | 1 | 8 | < 33 UJ | 6.8 J- | < 67 U | 6.8 J- | 7.4 J- | R | 4.0 J | 13 J |
| 4-Nitroaniline | ug/kg | 110000 | SW8270D LL | 100-01-6 | | | | | | | 3 | 8 | < 170 UJ | < 350 UJ | < 350 U | R | R | R | < 170 U | < 170 U |
| 4-Nitrophenol | ug/kg | 2.5e+007 | SW8270D LL | 100-02-7 | | | | | | | 3 | 8 | < 170 UJ | < 350 UJ | < 350 U | R | R | R | < 170 U | < 170 U |
| Acenaphthene | ug/kg | 4.5e+006 | SW8270D LL | 83-32-9 | 44 | 1.9 | 13 | 10 | KMY-DU02 | 8 | | 8 | 1.9 J- | 44 J- | 7.6 J | 11 J- | 11 J- | 9.7 J- | 3.9 J | 12 |
| Acenaphthylene | ug/kg | 4.5e+006 | SW8270D LL | 208-96-8 | 38 | 3.6 | 18 | 19 | KMY-DU03 | 8 | | 8 | 3.6 J- | 28 J- | 38 J | 19 J- | 24 J- | 18 J- | 7.1 J | 8.2 J |
| Acetophenone | ug/kg | 1.2e+007 | SW8270D LL | 98-86-2 | 21 | 6.4 | 13 | 13 | KMY-DU02 | 8 | | 8 | 6.4 J- | 21 J- | 11 J | 16 J- | 18 J- | 15 J- | 7.4 J | 8.3 J |
| Anthracene | ug/kg | 2.3e+007 | SW8270D LL | 120-12-7 | 120 | 5.6 | 38 | 32 | KMY-DU02 | 8 | | 8 | 5.6 J- | 120 J- | 42 J | 35 J- | 37 J- | 29 J- | 13 J | 23 |
| Atrazine | ug/kg | 10000 | SW8270D LL | 1912-24-9 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| Benzaldehyde | ug/kg | 820000 | SW8270D LL | 100-52-7 | 35 | 8.9 | 21 | 21 | KMY-DU02 | 8 | | 8 | 11 J- | 35 J- | 18 J | 27 J- | 31 J- | 24 J- | 8.9 J | 12 J |
| Benzo(a)anthracene | ug/kg | 21000 | SW8270D LL | 56-55-3 | 290 | 26 | 130 | 120 | KMY-DU02 | 8 | | 8 | 26 J- | 290 J- | 200 J | 140 J- | 130 J- | 110 J- | 47 J | 69 J |
| Benzo(a)pyrene | ug/kg | 2100 | SW8270D LL | 50-32-8 | 270 | 24 | 120 | 120 | KMY-DU02 | 8 | | 8 | 24 J- | 270 J- | 170 J | 120 J- | 140 J- | 110 J- | 50 J | 66 J |
| Benzo(b)fluoranthene | ug/kg | 21000 | SW8270D LL | 205-99-2 | 330 | 34 | 160 | 170 | KMY-DU02 | 8 | | 8 | 34 J- | 330 J- | 220 J | 180 J- | 200 J- | 150 J- | 65 J | 93 J |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | SW8270D LL | 191-24-2 | 220 | 22 | 110 | 120 | KMY-DU02 | 8 | | 8 | 22 J- | 220 J- | 140 J | 120 J- | 140 J- | 110 J- | 55 J | 66 J |
| Benzo(k)fluoranthene | ug/kg | 210000 | SW8270D LL | 207-08-9 | 120 | 14 | 56 | 57 | KMY-DU02 | 8 | | 8 | 14 J- | 120 J- | 76 J | 53 J- | 60 J- | 64 J- | 29 J | 30 J |
| bis-(2-chloroethoxy)methane | ug/kg | 250000 | SW8270D LL | 111-91-1 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| bis-(2-Chloroethyl)ether | ug/kg | 1000 | SW8270D LL | 111-44-4 | | | | | | | 3 | 8 | < 6.8 UJ | < 14 UJ | < 14 U | R | R | R | < 6.8 U | < 6.8 U |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 160000 | SW8270D LL | 117-81-7 | 100 | 11 | 48 | 41 | KMY-DU02 | 8 | | 8 | 11 J- | 100 J- | 44 J | 63 J- | 87 J- | 37 J- | 13 J | 25 J |
| Butylbenzylphthalate | ug/kg | 1.2e+006 | SW8270D LL | 85-68-7 | 36 | 12 | 22 | 18 | KMY-DU03 | 5 | | 8 | < 33 UJ | 18 J- | 15 J | 36 J- | 29 J- | 12 J- | < 33 U | < 34 U |
| Caprolactam | ug/kg | 4e+007 | SW8270D LL | 105-60-2 | | | | | | | 3 | 8 | < 170 UJ | < 350 UJ | < 350 U | R | R | R | < 170 U | < 170 U |
| Carbazole | ug/kg | 3e+006 | SW8270D LL | 86-74-8 | 51 | 2.1 | 14 | 11 | KMY-DU02 | 8 | | 8 | 2.1 J- | 51 J- | 9.1 J | 12 J- | 14 J- | 11 J- | 4.4 J | 10 |
| Chrysene | ug/kg | 2.1e+006 | SW8270D LL | 218-01-9 | 310 | 32 | 140 | 130 | KMY-DU02 | 8 | | 8 | 32 J- | 310 J- | 210 J | 130 J- | 150 J- | 130 J- | 54 J | 72 J |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | SW8270D LL | 53-70-3 | 62 | 5.2 | 27 | 24 | KMY-DU02 | 8 | | 8 | 5.2 J- | 62 J- | 35 | 27 J- | 36 J- | 21 J- | 12 | 16 |
| Dibenzofuran | ug/kg | 100000 | SW8270D LL | 132-64-9 | 35 | 4.2 | 12 | 8.5 | KMY-DU02 | 7 | | 8 | < 33 UJ | 35 J- | 7.2 J | 8.5 J- | 10 J- | 9.0 J- | 4.2 J | 7.9 J |
| Diethylphthalate | ug/kg | 6.6e+007 | SW8270D LL | 84-66-2 | 9.3 | 4.6 | 6.4 | 5.2 | KMY-DU03 | 3 | 2 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | 9.3 J- | 4.6 J | 5.2 J |
| Dimethylphthalate | ug/kg | 6.6e+007 | SW8270D LL | 131-11-3 | 4.1 | 4.1 | 4.1 | 4.1 | KMY-DU03 | 1 | 2 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | 4.1 J- | R | < 33 U | < 34 U |
| Di-n-butylphthalate | ug/kg | 8.2e+006 | SW8270D LL | 84-74-2 | 8.9 | 6.3 | 7.7 | 7.9 | KMY-DU02 | 4 | | 8 | < 33 UJ | 8.9 J- | < 67 U | 6.3 J- | 8.1 J- | 7.6 J- | < 33 U | < 34 U |
| Di-n-octylphthalate | ug/kg | 820000 | SW8270D LL | 117-84-0 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| Fluoranthene | ug/kg | 3e+006 | SW8270D LL | 206-44-0 | 570 | 46 | 220 | 200 | KMY-DU02 | 8 | | 8 | 46 J- | 570 J- | 350 J | 210 J- | 210 J- | 190 J- | 89 J | 130 J |
| Fluorene | ug/kg | 3e+006 | SW8270D LL | 86-73-7 | 42 | 1.9 | 12 | 9.6 | KMY-DU02 | 8 | | 8 | 1.9 J- | 42 J- | 8.4 J | 10 J- | 12 J- | 10 J- | 4.1 J | 9.2 |
| Hexachlorobenzene | ug/kg | 960 | SW8270D LL | 118-74-1 | | | | | | | 3 | 8 | < 6.8 UJ | < 14 UJ | < 14 U | R | R | R | < 6.8 U | < 6.8 U |
| Hexachlorobutadiene | ug/kg | 5300 | SW8270D LL | 87-68-3 | | | | | | | 3 | 8 | < 6.8 UJ | < 14 UJ | < 14 U | R | R | R | < 6.8 U | < 6.8 U |
| Hexachlorocyclo-pentadiene | ug/kg | 750 | SW8270D LL | 77-47-4 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| Hexachloroethane | ug/kg | 8000 | SW8270D LL | 67-72-1 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | SW8270D LL | 193-39-5 | 180 | 18 | 91 | 96 | KMY-DU02 | 8 | | 8 | 18 J- | 180 J- | 120 J | 100 J- | 120 J- | 91 J- | 44 J | 54 J |
| Isophorone | ug/kg | 2.4e+006 | SW8270D LL | 78-59-1 | 11 | 3.4 | 7 | 6.1 | KMY-DU02 KMY-DU03 | 7 | 1 | 8 | 3.4 J- | 11 J- | 6.1 J | 9.3 J- | 11 J- | R | 4.0 J | 4.3 J |

**Table 4-27**
**Anacostia Park Incremental Sampling Methodology Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | KMY-DU01 | KMY-DU02 | KMY-DU03 | KMY-DU03 | KMY-DU03 | KMY-DU03 | KMY-DU03 | KMY-DU03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Sample ID | SUSNPSMI0100N | SUSNPSMI0200N | SUSNPSMI0300N | SUSNPSMI0300N1 | SUSNPSMI0300N2 | SUSNPSMI0300N3 | SUSNPSMI0300R1 | SUSNPSMI0300R2 |
| | | | | | | | | | | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | | | | | | | | | | Sample Date | 4/12/2017 | 4/12/2017 | 4/13/2017 | 4/13/2017 | 4/13/2017 | 4/13/2017 | 4/13/2017 | 4/13/2017 |
| | | | | | | | | | | | | Type | N | N | N | N | N | N | FD | FD |
| Naphthalene | ug/kg | 17000 | SW8270D LL | 91-20-3 | 48 | 6.5 | 19 | 17 | KMY-DU02 | 8 | | 8 | **6.5 J-** | **48 J-** | **14** | **22 J-** | **24 J-** | **19 J-** | **8.8** | **10** |
| Nitrobenzene | ug/kg | 22000 | SW8270D LL | 98-95-3 | | | | | | | 3 | 8 | < 68 UJ | < 140 UJ | < 140 U | R | R | R | < 68 U | < 68 U |
| N-Nitroso-di-n-propylamine | ug/kg | 330 | SW8270D LL | 621-64-7 | | | | | | | 3 | 8 | < 6.8 UJ | < 14 UJ | < 14 U | R | R | R | < 6.8 U | < 6.8 U |
| N-Nitrosodiphenylamine | ug/kg | 470000 | SW8270D LL | 86-30-6 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| Pentachlorophenol | ug/kg | 4000 | SW8270D LL | 87-86-5 | | | | | | | 3 | 8 | < 33 UJ | < 67 UJ | < 67 U | R | R | R | < 33 U | < 34 U |
| Phenanthrene | ug/kg | 2.3e+007 | SW8270D LL | 85-01-8 | 420 | 25 | 130 | 110 | KMY-DU02 | 8 | | 8 | **25 J-** | **420 J-** | **120 J** | **120 J-** | **120 J-** | **99 J-** | **47 J** | **92** |
| Phenol | ug/kg | 2.5e+007 | SW8270D LL | 108-95-2 | 21 | 5.9 | 9.8 | 7.4 | KMY-DU02 | 7 | | 8 | **6.4 J-** | **21 J-** | **9.1 J** | **5.9 J-** | **6.6 J-** | **7.4 J-** | < 33 U | **12 J** |
| Pyrene | ug/kg | 2.3e+006 | SW8270D LL | 129-00-0 | 460 | 44 | 190 | 180 | KMY-DU02 | 8 | | 8 | **44 J-** | **460 J-** | **300 J** | **200 J-** | **200 J-** | **160 J-** | **68 J** | **100 J** |
| BaP-TE | ug/kg | 2100 | SW8270D LL | BAP | 414 | 37.2 | 184 | 179 | KMY-DU02 | 8 | | 8 | **37.2** | **414** | **260** | **190** | **222** | **167** | **77.9** | **104** |
| Total High-molecular-weight PAHs | ug/kg | | SW8270D LL | TOT-PAH-HMW | 2800 | 270 | 1200 | 1200 | KMY-DU02 | 8 | | 8 | **270** | **2800** | **1800** | **1300** | **1400** | **1100** | **510** | **700** |
| Total Low-molecular-weight PAHs | ug/kg | | SW8270D LL | TOT-PAH-LMW | 700 | 45 | 230 | 200 | KMY-DU02 | 8 | | 8 | **45** | **700** | **230** | **220** | **230** | **180** | **84** | **150** |
| Total PAHs (sum 16) | ug/kg | | SW8270D LL | TOT-PAH | 3500 | 310 | 1500 | 1400 | KMY-DU02 | 8 | | 8 | **310** | **3500** | **2100** | **1500** | **1600** | **1300** | **600** | **850** |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/g | | SW8290A | 67562-39-4 | 38.3 | 21.8 | 26.5 | 25.2 | KMY-DU02 | 8 | | 8 | **28.5** | **38.3** | **23.8** | **25.5** | **25.5** | **24.9** | **23.4** | **21.8** |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/g | | SW8290A | 35822-46-9 | 252 | 159 | 195 | 187 | KMY-DU01 | 8 | | 8 | **252** | **232** | **171** | **205** | **169** | **159** | **181** | **193** |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/g | | SW8290A | 55673-89-7 | 3.91 | 2.09 | 2.57 | 2.38 | KMY-DU01 | 8 | | 8 | **3.91** | **2.99** | **2.09 J** | **2.35 JN** | **2.42 J** | **2.17 J** | **2.4 JN** | **2.25 J** |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/g | | SW8290A | 70648-26-9 | 8.43 | 3.76 | 4.91 | 4.11 | KMY-DU02 | 8 | | 8 | **6.78** | **8.43** | **3.84** | **4.24** | **3.76** | **4.37** | **3.98** | **3.85** |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | SW8290A | 39227-28-6 | 5.8 | 3.6 | 4.14 | 3.87 | KMY-DU01 | 8 | | 8 | **5.8 JN** | **4.39** | **4.12** | **3.86** | **3.6** | **3.63 JN** | **3.88** | **3.83 JN** |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/g | | SW8290A | 57117-44-9 | 6.43 | 3.18 | 4.27 | 3.82 | KMY-DU02 | 8 | | 8 | **5.43** | **6.43** | **3.18** | **4.2** | **3.91** | **3.72** | **3.64** | **3.64** |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | SW8290A | 57653-85-7 | 11.5 | 7.91 | 9.13 | 8.53 | KMY-DU02 | 8 | | 8 | **11.1** | **11.5** | **7.91** | **9.26** | **8.69** | **8.36** | **7.93** | **8.26** |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/g | | SW8290A | 72918-21-9 | 0.681 | 0.417 | 0.55 | 0.551 | KMY-DU02 | 3 | | 8 | < 0.869 U | **0.681 J** | < 0.802 U | < 0.327 U | < 0.414 U | < 0.401 U | **0.551 JN** | **0.417 JN** |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/g | | SW8290A | 19408-74-3 | 11.5 | 7.7 | 9.16 | 8.73 | KMY-DU01 | 8 | | 8 | **11.5** | **9.24** | **8.46** | **8.68** | **7.7** | **8.77** | **8.46** | **10.5** |
| 1,2,3,7,8-PeCDF | pg/g | | SW8290A | 57117-41-6 | 6.37 | 1.67 | 2.81 | 2.32 | KMY-DU02 | 8 | | 8 | **3.76** | **6.37** | **1.9 J** | **2.38** | **2.36 J** | **2.28 J** | **1.67 J** | **1.75 J** |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/g | | SW8290A | 40321-76-4 | 4.61 | 2.68 | 3.48 | 3.25 | KMY-DU01 | 8 | | 8 | **4.61** | **4.21** | **3.15** | **3.31** | **3.63** | **3.1** | **2.68 JN** | **3.18** |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/g | | SW8290A | 60851-34-5 | 8.96 | 4.95 | 6.2 | 5.78 | KMY-DU01 | 8 | | 8 | **8.96** | **7.86** | **4.95** | **5.78** | **5.77** | **5.93** | **5.01** | **5.32** |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/g | | SW8290A | 57117-31-4 | 13.6 | 5.57 | 7.49 | 6.45 | KMY-DU02 | 8 | | 8 | **9.56** | **13.6** | **5.93** | **6.53** | **6.37** | **5.81** | **5.57** | **6.52** |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/g | | SW8290A | 51207-31-9 | 8.49 | 1.54 | 3.08 | 2 | KMY-DU02 | 8 | | 8 | **4.49** | **8.49** | **1.63** | **2.18 J** | **2.77 J** | **1.72 J** | **1.81 JN** | **1.54 JN** |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/g | 22 | SW8290A | 1746-01-6 | 1.17 | 0.53 | 0.852 | 0.803 | KMY-DU02 | 7 | | 8 | **1.02 JN** | **1.17 JN** | **0.53 JN** | **0.803** | **0.8** | **0.968** | < 0.281 U | **0.674** |
| Octachlorochlorodibenzofuran | pg/g | | SW8290A | 39001-02-0 | 63.9 | 32.4 | 46 | 44.5 | KMY-DU02 | 8 | | 8 | **32.4** | **63.9** | **43.2** | **50.7** | **45.8** | **47.8** | **42.7** | **41.7** |
| Octachlorochlorodibenzo-p-dioxin | pg/g | | SW8290A | 3268-87-9 | 7760 | 5140 | 6090 | 5940 | KMY-DU01 | 8 | | 8 | **7760** | **6470** | **5410** | **6500** | **6110** | **5760** | **5140** | **5600** |
| Total HpCDD | pg/g | | SW8290A | 37871-00-4 | 566 | 324 | 405 | 379 | KMY-DU01 | 8 | | 8 | **566** | **489** | **339** | **424** | **343** | **324** | **359** | **399** |
| Total HpCDF | pg/g | | SW8290A | 38998-75-3 | 86 | 55.2 | 63.6 | 61.8 | KMY-DU02 | 8 | | 8 | **62** | **86** | **58.2** | **65.9** | **63.7** | **61.6** | **56.3** | **55.2** |
| Total HxCDD | pg/g | | SW8290A | 34465-46-8 | 152 | 86.8 | 107 | 96.6 | KMY-DU01 | 8 | | 8 | **152** | **133** | **86.8** | **104** | **93.2** | **92.7** | **93** | **99.9** |
| Total HxCDF | pg/g | | SW8290A | 55684-94-1 | 97.2 | 50.4 | 65.4 | 61.9 | KMY-DU02 | 8 | | 8 | **78.1** | **97.2** | **50.4** | **64.8** | **62.1** | **61.6** | **52.4** | **56.8** |
| Total PeCDD | pg/g | | SW8290A | 36088-22-9 | 67.7 | 43.6 | 50.7 | 45.9 | KMY-DU01 | 8 | | 8 | **67.7** | **64.4** | **43.6** | **46.3** | **48.7** | **45.5** | **44.2** | **44.9** |
| Total PeCDF | pg/g | | SW8290A | 30402-15-4 | 132 | 58 | 75.9 | 64.7 | KMY-DU02 | 8 | | 8 | **101** | **132** | **59.1** | **67.9** | **64.5** | **58** | **60.2** | **64.8** |
| Total TCDD | pg/g | | SW8290A | 41903-57-5 | 36.9 | 18 | 23.6 | 20.4 | KMY-DU01 | 8 | | 8 | **36.9** | **32.4** | **18.4** | **23.9** | **19** | **18.6** | **18** | **21.8** |
| Total TCDF | pg/g | | SW8290A | 55722-27-5 | 133 | 41.3 | 63.6 | 49.7 | KMY-DU02 | 8 | | 8 | **92.4** | **133** | **41.3** | **51.2** | **55** | **43** | **44.4** | **48.2** |
| TCDD TEQ HH | pg/g | 22 | SW8290A | DFTEQ-HH | 20 | 11.6 | 14.8 | 13.7 | KMY-DU02 | 8 | | 8 | **19.2** | **20.0** | **12.5** | **14.3** | **13.8** | **13.1** | **11.6** | **13.5** |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
N = Normal
FD = Field Duplicate
HHRA screening values provided for detected compounds or compound sums where applicable.
RSL Table, May 2018 Industrial Soil [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
mg/kg = milligrams per kilogram
pg/g = picograms per gram
ug/kg = micrograms per kilogram

JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

**Table 4-28**
**Anacostia Park Surface and Subsurface Soil Discrete Sample Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Location ID | KMY02 | KMY03 |
| | | | | | | | | | | | | Sample ID | SUSKMY0200N | SUSKMY0300N |
| | | | | | | | | | | | | Depth | 0 - 1 ft | 0 - 1 ft |
| | | | | | | | | | | | | Sample Date | 5/15/2018 | 5/15/2018 |
| | | | | | | | | | | | | Type | N | N |
| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| Aluminum | mg/kg | 110000 | SW6020A | 7429-90-5 | 15000 | 1600 | 5400 | 4200 | KMY-DU01 | 9 | 9 | | | |
| Antimony | mg/kg | 47 | SW6020A | 7440-36-0 | 0.77 | 0.078 | 0.19 | 0.1 | KMY-DU03 | 9 | 9 | | | |
| Arsenic | mg/kg | 3 | SW6020A | 7440-38-2 | 15 | 1.7 | 5.1 | 4.7 | KMY02 | 22 | 22 | | **15** | **5.8** |
| Barium | mg/kg | 22000 | SW6020A | 7440-39-3 | 120 | 13 | 52 | 40 | KMY-DU01 | 9 | 9 | | | |
| Beryllium | mg/kg | 230 | SW6020A | 7440-41-7 | 1.2 | 0.26 | 0.52 | 0.42 | KMY-DU01 | 9 | 9 | | | |
| Cadmium | mg/kg | 98 | SW6020A | 7440-43-9 | 0.18 | 0.049 | 0.099 | 0.085 | KMY-DU02 | 9 | 9 | | | |
| Calcium | mg/kg | EN | SW6020A | 7440-70-2 | 3300 | 260 | 1000 | 610 | KMY-DU03 | 9 | 9 | | | |
| Chromium | mg/kg | 180000 | SW6020A | 7440-47-3 | 51 | 8.1 | 26 | 30 | KMY04 | 22 | 22 | | **32 J** | **28 J** |
| Cobalt | mg/kg | 35 | SW6020A | 7440-48-4 | 16 | 4.7 | 8.9 | 7.2 | KMY-DU01 | 9 | 9 | | | |
| Copper | mg/kg | 4700 | SW6020A | 7440-50-8 | 33 | 6.8 | 17 | 14 | KMY-DU03 | 9 | 9 | | | |
| Iron | mg/kg | 82000 | SW6020A | 7439-89-6 | 27000 | 6700 | 14000 | 13000 | KMY-DU01 | 9 | 9 | | | |
| Lead | mg/kg | 800 | SW6020A | 7439-92-1 | 75 | 2.8 | 22 | 13 | KMY-DU03 | 9 | 9 | | | |
| Magnesium | mg/kg | EN | SW6020A | 7439-95-4 | 2100 | 180 | 850 | 800 | KMY-DU01 | 9 | 9 | | | |
| Manganese | mg/kg | 2600 | SW6020A | 7439-96-5 | 570 | 67 | 280 | 240 | KMY-DU03 | 9 | 9 | | | |
| Nickel | mg/kg | 2200 | SW6020A | 7440-02-0 | 20 | 4.7 | 9.3 | 7.1 | KMY-DU01 | 9 | 9 | | | |
| Potassium | mg/kg | EN | SW6020A | 7440-09-7 | 1200 | 210 | 610 | 570 | KMY-DU01 | 9 | 9 | | | |
| Selenium | mg/kg | 580 | SW6020A | 7782-49-2 | 2.2 | 0.36 | 0.94 | 0.78 | KMY-DU01 | 9 | 9 | | | |
| Silver | mg/kg | 580 | SW6020A | 7440-22-4 | 0.13 | 0.029 | 0.064 | 0.049 | KMY-DU03 | 4 | 9 | | | |
| Sodium | mg/kg | EN | SW6020A | 7440-23-5 | 32 | 32 | 32 | 32 | KMY-DU01 | 1 | 9 | | | |
| Thallium | mg/kg | 1.2 | SW6020A | 7440-28-0 | 0.11 | 0.0077 | 0.042 | 0.0084 | KMY-DU01 | 3 | 9 | | | |
| Vanadium | mg/kg | 580 | SW6020A | 7440-62-2 | 38 | 11 | 22 | 20 | KMY-DU01 | 9 | 9 | | | |
| Zinc | mg/kg | 35000 | SW6020A | 7440-66-6 | 69 | 20 | 39 | 40 | KMY-DU01 | 9 | 9 | | | |
| Chromium, hexavalent | mg/kg | 6.3 | SW7199 | 18540-29-9 | 0.98 | 0.34 | 0.65 | 0.62 | KMY08 | 3 | 6 | | | |
| Mercury | mg/kg | 35 | SW7471B | 7439-97-6 | 0.29 | 0.03 | 0.1 | 0.061 | KMY-DU01 | 8 | 9 | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | SW8015C DRO | C10C20 | 210 | 11 | 80 | 18 | KMY-DU03 | 3 | 9 | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | SW8015C DRO | C20C36 | 640 | 7.7 | 110 | 39 | KMY-DU03 | 8 | 9 | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | SW8015D GRO | 8006-61-9 | 35 | 35 | 35 | 35 | KMY-DU03 | 1 | 9 | | | |
| Aroclor-1016 | ug/kg | | SW8082A LL | 12674-11-2 | | | | | | | 9 | | | |
| Aroclor-1221 | ug/kg | | SW8082A LL | 11104-28-2 | | | | | | | 9 | | | |
| Aroclor-1232 | ug/kg | | SW8082A LL | 11141-16-5 | | | | | | | 9 | | | |
| Aroclor-1242 | ug/kg | | SW8082A LL | 53469-21-9 | | | | | | | 9 | | | |
| Aroclor-1248 | ug/kg | | SW8082A LL | 12672-29-6 | | | | | | | 9 | | | |
| Aroclor-1254 | ug/kg | | SW8082A LL | 11097-69-1 | | | | | | | 9 | | | |
| Aroclor-1260 | ug/kg | | SW8082A LL | 11096-82-5 | 9.8 | 3 | 6.4 | 6.4 | KMY-DU02 | 2 | 9 | | | |
| Aroclor-1262 | ug/kg | | SW8082A LL | 37324-23-5 | | | | | | | 9 | | | |
| Aroclor-1268 | ug/kg | | SW8082A LL | 11100-14-4 | | | | | | | 9 | | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Location ID | KMY02 | KMY03 |
| | | | | | | | | | | | | Sample ID | SUSKMY0200N | SUSKMY0300N |
| | | | | | | | | | | | | Depth | 0 - 1 ft | 0 - 1 ft |
| | | | | | | | | | | | | Sample Date | 5/15/2018 | 5/15/2018 |
| | | | | | | | | | | | | Type | N | N |
| Analyte | Unit | Project Screening Criteria | Method | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | SW8082A LL | TOT-PCB-ARO-C | 9.8 | 3 | 6.4 | 6.4 | KMY-DU02 | 2 | 9 | | | |
| Acenaphthene | ug/kg | 4.5e+006 | SW8270D LL | 83-32-9 | 710 | 0.81 | 110 | 2.3 | KMY-DU03 | 7 | 9 | | | |
| Acenaphthylene | ug/kg | 4.5e+006 | SW8270D LL | 208-96-8 | 68 | 0.94 | 20 | 12 | KMY-DU03 | 5 | 9 | | | |
| Anthracene | ug/kg | 2.3e+007 | SW8270D LL | 120-12-7 | 1100 | 0.97 | 130 | 5 | KMY-DU03 | 9 | 9 | | | |
| Benzo(a)anthracene | ug/kg | 21000 | SW8270D LL | 56-55-3 | 2000 | 2.4 | 260 | 19 | KMY-DU03 | 9 | 9 | | | |
| Benzo(a)pyrene | ug/kg | 2100 | SW8270D LL | 50-32-8 | 1500 | 9.1 | 230 | 37 | KMY-DU03 | 8 | 9 | | | |
| Benzo(b)fluoranthene | ug/kg | 21000 | SW8270D LL | 205-99-2 | 1800 | 10 | 280 | 45 | KMY-DU03 | 8 | 9 | | | |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | SW8270D LL | 191-24-2 | 1200 | 4.7 | 180 | 28 | KMY-DU03 | 8 | 9 | | | |
| Benzo(k)fluoranthene | ug/kg | 210000 | SW8270D LL | 207-08-9 | 840 | 4.8 | 120 | 17 | KMY-DU03 | 8 | 9 | | | |
| Chrysene | ug/kg | 2.1e+006 | SW8270D LL | 218-01-9 | 1800 | 2.4 | 240 | 22 | KMY-DU03 | 9 | 9 | | | |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | SW8270D LL | 53-70-3 | 370 | 1.7 | 56 | 7.7 | KMY-DU03 | 8 | 9 | | | |
| Fluoranthene | ug/kg | 3e+006 | SW8270D LL | 206-44-0 | 3400 | 4.1 | 440 | 32 | KMY-DU03 | 9 | 9 | | | |
| Fluorene | ug/kg | 3e+006 | SW8270D LL | 86-73-7 | 800 | 1.2 | 120 | 3.7 | KMY-DU03 | 7 | 9 | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | SW8270D LL | 193-39-5 | 1100 | 4.5 | 160 | 24 | KMY-DU03 | 8 | 9 | | | |
| Naphthalene | ug/kg | 17000 | SW8270D LL | 91-20-3 | 660 | 1.7 | 100 | 4.3 | KMY-DU03 | 7 | 9 | | | |
| Phenanthrene | ug/kg | 2.3e+007 | SW8270D LL | 85-01-8 | 6200 | 5.6 | 750 | 24 | KMY-DU03 | 9 | 9 | | | |
| Pyrene | ug/kg | 2.3e+006 | SW8270D LL | 129-00-0 | 4100 | 4.3 | 530 | 37 | KMY-DU03 | 9 | 9 | | | |
| BaP-TE | ug/kg | 2100 | SW8270D LL | BAP | 2370 | 0.242 | 320 | 29 | KMY-DU03 | 9 | 9 | | | |
| Total High-molecular-weight PAHs | ug/kg | | SW8270D LL | TOT-PAH-HMW | 18000 | 13 | 2400 | 190 | KMY-DU03 | 9 | 9 | | | |
| Total Low-molecular-weight PAHs | ug/kg | | SW8270D LL | TOT-PAH-LMW | 9500 | 6.6 | 1100 | 36 | KMY-DU03 | 9 | 9 | | | |
| Total PAHs (sum 16) | ug/kg | | SW8270D LL | TOT-PAH | 28000 | 20 | 3600 | 220 | KMY-DU03 | 9 | 9 | | | |

**Table 4-28**
**Anacostia Park Surface and Subsurface Soil Discrete Sample Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | KMY03 | KMY04 | KMY05 | KMY07 | KMY08 | KMY09 | KMY10 | KMY12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUSKMY0300R | SUSKMY0400N | SUSKMY0500N | SUSKMY0700N | SUSKMY0800N | SUSKMY0900N | SUSKMY1000N | SUSKMY1200N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 5/15/2018 | 5/15/2018 | 5/15/2018 | 5/15/2018 | 5/15/2018 | 5/15/2018 | 5/15/2018 | 5/15/2018 |
| | | | Type | FD | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | | | | | | | | |
| Antimony | mg/kg | 47 | | | | | | | | | |
| Arsenic | mg/kg | 3 | | **5.5** | **5.9** | **5.8** | **5.9** | **7.8** | **4.1** | **8.6** | **5.0** |
| Barium | mg/kg | 22000 | | | | | | | | | |
| Beryllium | mg/kg | 230 | | | | | | | | | |
| Cadmium | mg/kg | 98 | | | | | | | | | |
| Calcium | mg/kg | EN | | | | | | | | | |
| Chromium | mg/kg | 180000 | | **29 J** | **51 J** | **41 J** | **36 J** | **44 J** | **26 J** | **30 J** | **40 J** |
| Cobalt | mg/kg | 35 | | | | | | | | | |
| Copper | mg/kg | 4700 | | | | | | | | | |
| Iron | mg/kg | 82000 | | | | | | | | | |
| Lead | mg/kg | 800 | | | | | | | | | |
| Magnesium | mg/kg | EN | | | | | | | | | |
| Manganese | mg/kg | 2600 | | | | | | | | | |
| Nickel | mg/kg | 2200 | | | | | | | | | |
| Potassium | mg/kg | EN | | | | | | | | | |
| Selenium | mg/kg | 580 | | | | | | | | | |
| Silver | mg/kg | 580 | | | | | | | | | |
| Sodium | mg/kg | EN | | | | | | | | | |
| Thallium | mg/kg | 1.2 | | | | | | | | | |
| Vanadium | mg/kg | 580 | | | | | | | | | |
| Zinc | mg/kg | 35000 | | | | | | | | | |
| Chromium, hexavalent | mg/kg | 6.3 | | | **0.34 J** | < 1.2 U | < 0.40 U | **0.98** | | | **0.62** |
| Mercury | mg/kg | 35 | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | | | | | |
| Aroclor-1016 | ug/kg | | | | | | | | | | |
| Aroclor-1221 | ug/kg | | | | | | | | | | |
| Aroclor-1232 | ug/kg | | | | | | | | | | |
| Aroclor-1242 | ug/kg | | | | | | | | | | |
| Aroclor-1248 | ug/kg | | | | | | | | | | |
| Aroclor-1254 | ug/kg | | | | | | | | | | |
| Aroclor-1260 | ug/kg | | | | | | | | | | |
| Aroclor-1262 | ug/kg | | | | | | | | | | |
| Aroclor-1268 | ug/kg | | | | | | | | | | |

**Table 4-28**
**Anacostia Park Surface and Subsurface Soil Discrete Sample Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | KMY03 | KMY04 | KMY05 | KMY07 | KMY08 | KMY09 | KMY10 | KMY12 |
| | | | Sample ID | SUSKMY0300R | SUSKMY0400N | SUSKMY0500N | SUSKMY0700N | SUSKMY0800N | SUSKMY0900N | SUSKMY1000N | SUSKMY1200N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | Sample Date | 5/15/2018 | 5/15/2018 | 5/15/2018 | 5/15/2018 | 5/15/2018 | 5/15/2018 | 5/15/2018 | 5/15/2018 |
| | | | Type | FD | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | | | | | | | | |
| Acenaphthene | ug/kg | 4.5e+006 | | | | | | | | | |
| Acenaphthylene | ug/kg | 4.5e+006 | | | | | | | | | |
| Anthracene | ug/kg | 2.3e+007 | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | 21000 | | | | | | | | | |
| Benzo(a)pyrene | ug/kg | 2100 | | | | | | | | | |
| Benzo(b)fluoranthene | ug/kg | 21000 | | | | | | | | | |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | | | | | | | | |
| Benzo(k)fluoranthene | ug/kg | 210000 | | | | | | | | | |
| Chrysene | ug/kg | 2.1e+006 | | | | | | | | | |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | | | | | | | | |
| Fluoranthene | ug/kg | 3e+006 | | | | | | | | | |
| Fluorene | ug/kg | 3e+006 | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | | | | | | | | |
| Naphthalene | ug/kg | 17000 | | | | | | | | | |
| Phenanthrene | ug/kg | 2.3e+007 | | | | | | | | | |
| Pyrene | ug/kg | 2.3e+006 | | | | | | | | | |
| BaP-TE | ug/kg | 2100 | | | | | | | | | |
| Total High-molecular-weight PAHs | ug/kg | | | | | | | | | | |
| Total Low-molecular-weight PAHs | ug/kg | | | | | | | | | | |
| Total PAHs (sum 16) | ug/kg | | | | | | | | | | |

**Table 4-28**
**Anacostia Park Surface and Subsurface Soil Discrete Sample Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | KMY13 | KMY14 | KMY15 | KMY-DU01 | KMY-DU01 | KMY-DU01 | KMY-DU02 | KMY-DU02 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUSKMY1300N | SUSKMY1400N | SUSKMY1500N | DPSNPS0105N | DPSNPS0110N | DPSNPS0115N | DPSNPS0205N | DPSNPS0210N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 5 - 6 ft | 10 - 11 ft | 15 - 16 ft | 5 - 6 ft | 10 - 11 ft |
| | | | Sample Date | 5/15/2018 | 5/15/2018 | 5/15/2018 | 4/20/2017 | 4/20/2017 | 4/20/2017 | 4/21/2017 | 4/21/2017 |
| | | | Type | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | |
| Aluminum | mg/kg | 110000 | | | | | **7000** | **7100** | **15000** | **4900** | **3300** |
| Antimony | mg/kg | 47 | | | | | **0.10 J** | **0.078 J** | **0.19 J** | **0.19 J** | **0.095 J** |
| Arsenic | mg/kg | 3 | | **4.5** | **5.2** | **2.3** | **2.7** | **2.8** | **4.8** | **4.6** | **2.9** |
| Barium | mg/kg | 22000 | | | | | **62** | **59** | **120** | **34** | **27** |
| Beryllium | mg/kg | 230 | | | | | **0.62** | **0.64** | **1.2** | **0.42** | **0.34** |
| Cadmium | mg/kg | 98 | | | | | **0.085 J** | **0.094 J** | **0.15** | **0.18** | **0.078 J** |
| Calcium | mg/kg | EN | | | | | **490** | **610** | **870** | **890** | **590** |
| Chromium | mg/kg | 180000 | | **30 J** | **35 J** | **31 J** | **14** | **13** | **33** | **13** | **9.0** |
| Cobalt | mg/kg | 35 | | | | | **9.2** | **11** | **16** | **7.2** | **6.6** |
| Copper | mg/kg | 4700 | | | | | **11** | **11** | **27** | **19** | **14** |
| Iron | mg/kg | 82000 | | | | | **15000** | **13000** | **27000** | **12000** | **9100** |
| Lead | mg/kg | 800 | | | | | **29** | **9.0** | **29** | **23** | **13** |
| Magnesium | mg/kg | EN | | | | | **1100** | **1100** | **2100** | **800** | **580** |
| Manganese | mg/kg | 2600 | | | | | **370** | **240** | **480** | **140** | **110** |
| Nickel | mg/kg | 2200 | | | | | **13** | **12** | **20** | **9.4** | **6.9** |
| Potassium | mg/kg | EN | | | | | **630** | **780** | **1200** | **720** | **430** |
| Selenium | mg/kg | 580 | | | | | **1.4 J** | **1.4 J** | **2.2 J** | **0.78 J** | **0.84 J** |
| Silver | mg/kg | 580 | | | | | < 0.12 U | < 0.13 U | **0.065 J** | **0.033 J** | **0.029 J** |
| Sodium | mg/kg | EN | | | | | < 60 U | < 65 U | **32 J** | < 70 U | < 62 U |
| Thallium | mg/kg | 1.2 | | | | | **0.0084 J** | **0.0077 J** | **0.11 J** | < 0.14 U | < 0.12 U |
| Vanadium | mg/kg | 580 | | | | | **35 J** | **20 J** | **38 J** | **29 J** | **14 J** |
| Zinc | mg/kg | 35000 | | | | | **43** | **40** | **69** | **49** | **40** |
| Chromium, hexavalent | mg/kg | 6.3 | | | < 0.35 U | | | | | | |
| Mercury | mg/kg | 35 | | | | | **0.041** | **0.081** | **0.29** | **0.12** | **0.18** |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | | | | < 22 U | < 21 U | < 24 U | **18 J** | **11 J** |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | | | | **21 J** | **23** | **43** | **86** | **56** |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | | | | < 130 U | < 130 U | < 150 U | < 150 U | < 130 U |
| Aroclor-1016 | ug/kg | | | | | | < 1.1 U | < 1.1 U | < 1.2 U | < 1.2 U | < 1.1 U |
| Aroclor-1221 | ug/kg | | | | | | < 1.1 U | < 1.1 U | < 1.2 U | < 1.2 U | < 1.1 U |
| Aroclor-1232 | ug/kg | | | | | | < 1.1 U | < 1.1 U | < 1.2 U | < 1.2 U | < 1.1 U |
| Aroclor-1242 | ug/kg | | | | | | < 1.1 U | < 1.1 U | < 1.2 U | < 1.2 U | < 1.1 U |
| Aroclor-1248 | ug/kg | | | | | | < 1.1 U | < 1.1 U | < 1.2 U | < 1.2 U | < 1.1 U |
| Aroclor-1254 | ug/kg | | | | | | < 1.1 U | < 1.1 U | < 1.2 U | < 1.2 U | < 1.1 U |
| Aroclor-1260 | ug/kg | | | | | | < 1.1 U | < 1.1 U | < 1.2 U | **9.8** | < 1.1 U |
| Aroclor-1262 | ug/kg | | | | | | < 1.1 U | < 1.1 U | < 1.2 U | < 1.2 U | < 1.1 U |
| Aroclor-1268 | ug/kg | | | | | | < 1.1 U | < 1.1 U | < 1.2 U | < 1.2 U | < 1.1 U |

**Table 4-28**
**Anacostia Park Surface and Subsurface Soil Discrete Sample Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | KMY13 | KMY14 | KMY15 | KMY-DU01 | KMY-DU01 | KMY-DU01 | KMY-DU02 | KMY-DU02 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample ID | SUSKMY1300N | SUSKMY1400N | SUSKMY1500N | DPSNPS0105N | DPSNPS0110N | DPSNPS0115N | DPSNPS0205N | DPSNPS0210N |
| | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft | 5 - 6 ft | 10 - 11 ft | 15 - 16 ft | 5 - 6 ft | 10 - 11 ft |
| | | | Sample Date | 5/15/2018 | 5/15/2018 | 5/15/2018 | 4/20/2017 | 4/20/2017 | 4/20/2017 | 4/21/2017 | 4/21/2017 |
| | | | Type | N | N | N | N | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | | | | | |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | | | | < 1.1 U | < 1.1 U | < 1.2 U | **9.8** | < 1.1 U |
| Acenaphthene | ug/kg | 4.5e+006 | | | | | < 8.5 U | **0.81 J** | **1.5 J** | **32** | **4.5 J** |
| Acenaphthylene | ug/kg | 4.5e+006 | | | | | < 8.5 U | < 8.5 U | < 9.8 U | **13 J** | **12** |
| Anthracene | ug/kg | 2.3e+007 | | | | | **3.3 J** | **2.3 J** | **4.9 J** | **59** | **17** |
| Benzo(a)anthracene | ug/kg | 21000 | | | | | **12** | **8.8** | **19** | **180** | **67** |
| Benzo(a)pyrene | ug/kg | 2100 | | | | | **9.1** | **9.2** | **19** | **160** | **68** |
| Benzo(b)fluoranthene | ug/kg | 21000 | | | | | **10** | **11** | **24** | **220** | **91** |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | | | | **4.7 J** | **6.1 J** | **13** | **120** | **57** |
| Benzo(k)fluoranthene | ug/kg | 210000 | | | | | **5.6 J** | **4.8 J** | **10** | **76** | **31** |
| Chrysene | ug/kg | 2.1e+006 | | | | | **11** | **11** | **22** | **190** | **70** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | | | | **1.7 J** | **2.0 J** | **4.4 J** | **35** | **17** |
| Fluoranthene | ug/kg | 3e+006 | | | | | **18** | **14** | **32** | **330** | **86** |
| Fluorene | ug/kg | 3e+006 | | | | | < 8.5 U | **1.2 J** | **2.2 J** | **39** | **6.3 J** |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | | | | **4.5 J** | **5.4 J** | **12** | **100** | **50** |
| Naphthalene | ug/kg | 17000 | | | | | < 8.5 U | **2.4 J** | **3.0 J** | **34** | **5.7 J** |
| Phenanthrene | ug/kg | 2.3e+007 | | | | | **10** | **8.1 J** | **17** | **350** | **60** |
| Pyrene | ug/kg | 2.3e+006 | | | | | **18** | **17** | **37** | **340** | **120** |
| BaP-TE | ug/kg | 2100 | | | | | **13.5** | **13.8** | **29.0** | **246** | **106** |
| Total High-molecular-weight PAHs | ug/kg | | | | | | **95** | **89** | **190** | **1800** | **660** |
| Total Low-molecular-weight PAHs | ug/kg | | | | | | **13** | **15** | **29** | **530** | **110** |
| Total PAHs (sum 16) | ug/kg | | | | | | **110** | **100** | **220** | **2300** | **760** |

# Table 4-28
## Anacostia Park Surface and Subsurface Soil Discrete Sample Results
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | KMY-DU02 | KMY-DU03 | KMY-DU03 | KMY-DU03 |
|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPSNPS0215N | DPSNPS0305N | DPSNPS0310N | DPSNPS0315N |
| | | | Depth | 15 - 16 ft | 5 - 6 ft | 10 - 11 ft | 15 - 16 ft |
| | | | Sample Date | 4/21/2017 | 4/21/2017 | 4/21/2017 | 4/21/2017 |
| | | | Type | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | |
| Aluminum | mg/kg | 110000 | | **1900** | **4200** | **3600** | **1600** |
| Antimony | mg/kg | 47 | | **0.079 J** | **0.77 J** | **0.085 J** | **0.10 J** |
| Arsenic | mg/kg | 3 | | **1.7** | **4.3** | **2.6** | **4.2** |
| Barium | mg/kg | 22000 | | **17** | **40** | **96** | **13** |
| Beryllium | mg/kg | 230 | | **0.26** | **0.38** | **0.36** | **0.42** |
| Cadmium | mg/kg | 98 | | **0.074 J** | **0.12 J** | **0.049 J** | **0.061 J** |
| Calcium | mg/kg | EN | | **380** | **3300** | **1900** | **260** |
| Chromium | mg/kg | 180000 | | **8.1** | **14** | **8.2** | **11** |
| Cobalt | mg/kg | 35 | | **4.7** | **7.0** | **5.6** | **13** |
| Copper | mg/kg | 4700 | | **6.8** | **16** | **33** | **12** |
| Iron | mg/kg | 82000 | | **6700** | **16000** | **11000** | **20000** |
| Lead | mg/kg | 800 | | **9.8** | **75** | **9.1** | **2.8** |
| Magnesium | mg/kg | EN | | **430** | **920** | **410** | **180** |
| Manganese | mg/kg | 2600 | | **67** | **220** | **570** | **320** |
| Nickel | mg/kg | 2200 | | **5.2** | **7.1** | **4.7** | **5.7** |
| Potassium | mg/kg | EN | | **550** | **570** | **360** | **210** |
| Selenium | mg/kg | 580 | | **0.41 J** | **0.52 J** | **0.54 J** | **0.36 J** |
| Silver | mg/kg | 580 | | < 0.11 U | **0.13** | < 0.11 U | < 0.10 U |
| Sodium | mg/kg | EN | | < 56 U | < 66 U | < 53 U | < 50 U |
| Thallium | mg/kg | 1.2 | | < 0.11 U | < 0.13 U | < 0.11 U | < 0.10 U |
| Vanadium | mg/kg | 580 | | **11 J** | **23 J** | **13 J** | **15 J** |
| Zinc | mg/kg | 35000 | | **32** | **34** | **22** | **20** |
| Chromium, hexavalent | mg/kg | 6.3 | | | | | |
| Mercury | mg/kg | 35 | | **0.039** | **0.033 J** | **0.030 J** | < 0.034 U |
| Diesel Range Organics (C10-C20) | mg/kg | 440 | | < 21 U | **210 J+** | < 20 U | < 18 U |
| Oil Range Organics (C20-C36) | mg/kg | 350000 | | **34** | **640 J+** | **7.7 J** | < 18 U |
| Gasoline Range Organics (C6-C10) | ug/kg | 42000 | | < 130 U | **35 J** | < 120 U | < 110 U |
| Aroclor-1016 | ug/kg | | | < 1.1 U | < 1.1 U | < 0.98 U | < 0.91 U |
| Aroclor-1221 | ug/kg | | | < 1.1 U | < 1.1 U | < 0.98 U | < 0.91 U |
| Aroclor-1232 | ug/kg | | | < 1.1 U | < 1.1 U | < 0.98 U | < 0.91 U |
| Aroclor-1242 | ug/kg | | | < 1.1 U | < 1.1 U | < 0.98 U | < 0.91 U |
| Aroclor-1248 | ug/kg | | | < 1.1 U | < 1.1 U | < 0.98 U | < 0.91 U |
| Aroclor-1254 | ug/kg | | | < 1.1 U | < 1.1 U | < 0.98 U | < 0.91 U |
| Aroclor-1260 | ug/kg | | | < 1.1 U | **3.0** | < 0.98 U | < 0.91 U |
| Aroclor-1262 | ug/kg | | | < 1.1 U | < 1.1 U | < 0.98 U | < 0.91 U |
| Aroclor-1268 | ug/kg | | | < 1.1 U | < 1.1 U | < 0.98 U | < 0.91 U |

**Table 4-28**
**Anacostia Park Surface and Subsurface Soil Discrete Sample Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | KMY-DU02 | KMY-DU03 | KMY-DU03 | KMY-DU03 |
|---|---|---|---|---|---|---|---|
| | | | Sample ID | DPSNPS0215N | DPSNPS0305N | DPSNPS0310N | DPSNPS0315N |
| | | | Depth | 15 - 16 ft | 5 - 6 ft | 10 - 11 ft | 15 - 16 ft |
| | | | Sample Date | 4/21/2017 | 4/21/2017 | 4/21/2017 | 4/21/2017 |
| | | | Type | N | N | N | N |
| Analyte | Unit | Project Screening Criteria | | | | | |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 970 | | < 1.1 U | **3.0** | < 0.98 U | < 0.91 U |
| Acenaphthene | ug/kg | 4.5e+006 | | **1.9 J** | **710** | **2.3 J** | < 7.3 U |
| Acenaphthylene | ug/kg | 4.5e+006 | | **5.8 J** | **68** | **0.94 J** | < 7.3 U |
| Anthracene | ug/kg | 2.3e+007 | | **12** | **1100** | **5.0 J** | **0.97 J** |
| Benzo(a)anthracene | ug/kg | 21000 | | **54** | **2000** | **12** | **2.4 J** |
| Benzo(a)pyrene | ug/kg | 2100 | | **55** | **1500** | **12** | < 7.3 U |
| Benzo(b)fluoranthene | ug/kg | 21000 | | **66** | **1800** | **15** | < 7.3 U |
| Benzo(g,h,i)perylene | ug/kg | 2.3e+006 | | **42** | **1200** | **11** | < 7.3 U |
| Benzo(k)fluoranthene | ug/kg | 210000 | | **23** | **840** | **5.1 J** | < 7.3 U |
| Chrysene | ug/kg | 2.1e+006 | | **49** | **1800** | **12** | **2.4 J** |
| Dibenzo(a,h)anthracene | ug/kg | 2100 | | **11** | **370** | **3.1 J** | < 7.3 U |
| Fluoranthene | ug/kg | 3e+006 | | **56** | **3400** | **20** | **4.1 J** |
| Fluorene | ug/kg | 3e+006 | | **3.7 J** | **800** | **2.4 J** | < 7.3 U |
| Indeno(1,2,3-cd)pyrene | ug/kg | 21000 | | **35** | **1100** | **8.5** | < 7.3 U |
| Naphthalene | ug/kg | 17000 | | **4.3 J** | **660** | **1.7 J** | < 7.3 U |
| Phenanthrene | ug/kg | 2.3e+007 | | **35** | **6200** | **24** | **5.6 J** |
| Pyrene | ug/kg | 2.3e+006 | | **85** | **4100** | **24** | **4.3 J** |
| BaP-TE | ug/kg | 2100 | | **81.8** | **2370** | **18.7** | **0.242** |
| Total High-molecular-weight PAHs | ug/kg | | | **480** | **18000** | **120** | **13** |
| Total Low-molecular-weight PAHs | ug/kg | | | **63** | **9500** | **36** | **6.6** |
| Total PAHs (sum 16) | ug/kg | | | **540** | **28000** | **160** | **20** |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
N = Normal
FD = Field Duplicate
EN = Essential Nutrient
HHRA screening values provided for detected compounds or compound sums where applicable.
RSL Table, May 2018 Industrial Soil [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria.
The presence or absence of the analyte cannot be verified.
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram

**Table 4-29**
**Anacostia Park Direct Push Groundwater Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Location ID | KMY-DU01 | KMY-DU02 | KMY-DU03 |
| | | | | | | | | | | | | Sample ID | DPWNPS0108-12N | DPWNPS0210-14N | DPWNPS0315-19N |
| | | | | | | | | | | | | Sample Date | 4/20/2017 | 4/21/2017 | 4/21/2017 |
| | | | | | | | | | | | | Type | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/l | | M8015D | N | TPH | 0.453 | 0.211 | 0.336 | 0.343 | KMY-DU01 | 3 | 3 | **0.453 J** | **0.343 J** | **0.211 J** |
| Aluminum | ug/l | 2000 | SW6020A | D | 7429-90-5 | 78 | 78 | 78 | 78 | KMY-DU03 | 1 | 3 | < 30 U | < 30 U | **78** |
| Antimony | ug/l | 6 | SW6020A | D | 7440-36-0 | | | | | | | 3 | < 2.0 U | < 2.0 U | < 2.0 U |
| Arsenic | ug/l | 10 | SW6020A | D | 7440-38-2 | 0.76 | 0.23 | 0.57 | 0.73 | KMY-DU02 | 3 | 3 | **0.73 J** | **0.76 J** | **0.23 J** |
| Barium | ug/l | 1000 | SW6020A | D | 7440-39-3 | 93 | 71 | 84 | 87 | KMY-DU01 | 3 | 3 | **93** | **71** | **87** |
| Beryllium | ug/l | 4 | SW6020A | D | 7440-41-7 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Cadmium | ug/l | 5 | SW6020A | D | 7440-43-9 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Calcium | ug/l | EN | SW6020A | D | 7440-70-2 | 180000 | 69000 | 120000 | 97000 | KMY-DU02 | 3 | 3 | **69000** | **180000** | **97000** |
| Chromium | ug/l | 100 | SW6020A | D | 7440-47-3 | 0.63 | 0.63 | 0.63 | 0.63 | KMY-DU01 | 1 | 3 | **0.63 J** | < 2.0 U | < 2.0 U |
| Cobalt | ug/l | 0.6 | SW6020A | D | 7440-48-4 | 16 | 0.59 | 9.5 | 12 | KMY-DU03 | 3 | 3 | **12** | **0.59** | **16** |
| Copper | ug/l | 1300 | SW6020A | D | 7440-50-8 | 4 | 4 | 4 | 4 | KMY-DU01 | 1 | 3 | **4.0** | < 2.0 U | < 2.0 U |
| Iron | ug/l | 1400 | SW6020A | D | 7439-89-6 | 160 | 38 | 99 | 99 | KMY-DU03 | 2 | 3 | **38 J** | < 50 U | **160** |
| Lead | ug/l | 15 | SW6020A | D | 7439-92-1 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Magnesium | ug/l | EN | SW6020A | D | 7439-95-4 | 29000 | 11000 | 20000 | 21000 | KMY-DU02 | 3 | 3 | **21000** | **29000** | **11000** |
| Manganese | ug/l | 43 | SW6020A | D | 7439-96-5 | 3400 | 970 | 2400 | 2900 | KMY-DU02 | 3 | 3 | **2900** | **3400** | **970** |
| Nickel | ug/l | 39 | SW6020A | D | 7440-02-0 | 10 | 0.93 | 5.2 | 4.8 | KMY-DU01 | 3 | 3 | **10** | **0.93 J** | **4.8** |
| Potassium | ug/l | EN | SW6020A | D | 7440-09-7 | 13000 | 6400 | 9100 | 8000 | KMY-DU02 | 3 | 3 | **8000** | **13000** | **6400** |
| Selenium | ug/l | 50 | SW6020A | D | 7782-49-2 | 1.5 | 1.5 | 1.5 | 1.5 | KMY-DU03 | 1 | 3 | < 5.0 U | < 5.0 U | **1.5 J** |
| Silver | ug/l | 50 | SW6020A | D | 7440-22-4 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | EN | SW6020A | D | 7440-23-5 | 130000 | 20000 | 59000 | 28000 | KMY-DU03 | 3 | 3 | **20000** | **28000** | **130000** |
| Thallium | ug/l | 2 | SW6020A | D | 7440-28-0 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Vanadium | ug/l | 8.6 | SW6020A | D | 7440-62-2 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Zinc | ug/l | 600 | SW6020A | D | 7440-66-6 | 5.7 | 3.3 | 4.5 | 4.5 | KMY-DU03 | 2 | 3 | **3.3 J** | < 5.0 U | **5.7** |
| Aluminum | ug/l | 2000 | SW6020A | T | 7429-90-5 | 33000 | 52 | 13000 | 7100 | KMY-DU01 | 3 | 3 | **33000** | **52** | **7100** |
| Antimony | ug/l | 6 | SW6020A | T | 7440-36-0 | 0.52 | 0.52 | 0.52 | 0.52 | KMY-DU01 | 1 | 3 | **0.52 J** | < 2.0 U | < 2.0 U |
| Arsenic | ug/l | 10 | SW6020A | T | 7440-38-2 | 16 | 8.8 | 11 | 8.8 | KMY-DU01 | 3 | 3 | **16** | **8.8** | **8.8** |
| Barium | ug/l | 1000 | SW6020A | T | 7440-39-3 | 460 | 120 | 260 | 200 | KMY-DU01 | 3 | 3 | **460** | **200** | **120** |
| Beryllium | ug/l | 4 | SW6020A | T | 7440-41-7 | 2.9 | 0.62 | 1.8 | 1.8 | KMY-DU01 | 2 | 3 | **2.9** | < 1.0 U | **0.62 J** |
| Cadmium | ug/l | 5 | SW6020A | T | 7440-43-9 | 0.45 | 0.18 | 0.32 | 0.32 | KMY-DU01 | 2 | 3 | **0.45 J** | < 1.0 U | **0.18 J** |
| Calcium | ug/l | EN | SW6020A | T | 7440-70-2 | 190000 | 75000 | 120000 | 96000 | KMY-DU02 | 3 | 3 | **75000** | **190000** | **96000** |
| Chromium | ug/l | 100 | SW6020A | T | 7440-47-3 | 78 | 1.2 | 34 | 23 | KMY-DU01 | 3 | 3 | **78** | **1.2 J** | **23** |
| Cobalt | ug/l | 0.6 | SW6020A | T | 7440-48-4 | 52 | 0.96 | 29 | 35 | KMY-DU01 | 3 | 3 | **52** | **0.96** | **35** |
| Copper | ug/l | 1300 | SW6020A | T | 7440-50-8 | 63 | 1.4 | 27 | 17 | KMY-DU01 | 3 | 3 | **63** | **1.4 J** | **17** |
| Iron | ug/l | 1400 | SW6020A | T | 7439-89-6 | 150000 | 25000 | 73000 | 45000 | KMY-DU01 | 3 | 3 | **150000** | **45000** | **25000** |
| Lead | ug/l | 15 | SW6020A | T | 7439-92-1 | 72 | 12 | 42 | 42 | KMY-DU01 | 2 | 3 | **72** | < 1.0 U | **12** |
| Magnesium | ug/l | EN | SW6020A | T | 7439-95-4 | 29000 | 12000 | 22000 | 26000 | KMY-DU02 | 3 | 3 | **26000** | **29000** | **12000** |
| Manganese | ug/l | 43 | SW6020A | T | 7439-96-5 | 4800 | 1400 | 3300 | 3800 | KMY-DU01 | 3 | 3 | **4800** | **3800** | **1400** |
| Nickel | ug/l | 39 | SW6020A | T | 7440-02-0 | 61 | 1.5 | 26 | 14 | KMY-DU01 | 3 | 3 | **61** | **1.5** | **14** |
| Potassium | ug/l | EN | SW6020A | T | 7440-09-7 | 13000 | 7300 | 10000 | 11000 | KMY-DU02 | 3 | 3 | **11000** | **13000** | **7300** |
| Selenium | ug/l | 50 | SW6020A | T | 7782-49-2 | 3.6 | 2.1 | 2.9 | 2.9 | KMY-DU01 | 2 | 3 | **3.6 J** | < 5.0 U | **2.1 J** |
| Silver | ug/l | 50 | SW6020A | T | 7440-22-4 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | EN | SW6020A | T | 7440-23-5 | 130000 | 19000 | 59000 | 28000 | KMY-DU03 | 3 | 3 | **19000** | **28000** | **130000** |
| Thallium | ug/l | 2 | SW6020A | T | 7440-28-0 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |

**Table 4-29**
**Anacostia Park Direct Push Groundwater Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Location ID | KMY-DU01 | KMY-DU02 | KMY-DU03 |
| | | | | | | | | | | | | Sample ID | DPWNPS0108-12N | DPWNPS0210-14N | DPWNPS0315-19N |
| | | | | | | | | | | | | Sample Date | 4/20/2017 | 4/21/2017 | 4/21/2017 |
| | | | | | | | | | | | | Type | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| Vanadium | ug/l | 8.6 | SW6020A | T | 7440-62-2 | 80 | 1.1 | 37 | 29 | KMY-DU01 | 3 | 3 | **80** | **1.1** | **29** |
| Zinc | ug/l | 600 | SW6020A | T | 7440-66-6 | 170 | 45 | 87 | 46 | KMY-DU01 | 3 | 3 | **170** | **46** | **45** |
| Mercury | ug/l | 2 | SW7470A | D | 7439-97-6 | | | | | | | 3 | < 0.20 U | < 0.20 U | < 0.20 U |
| Mercury | ug/l | 2 | SW7470A | T | 7439-97-6 | | | | | | | 3 | < 0.20 U | < 0.20 U | < 0.20 U |
| Diesel Range Organics (C10-C20) | ug/l | 100 | SW8015C DRO | N | C10C20 | 270 | 270 | 270 | 270 | KMY-DU01 | 1 | 3 | **270 J** | < 510 U | < 480 U |
| Oil Range Organics (C20-C36) | ug/l | 6000 | SW8015C DRO | N | C20C36 | 850 | 560 | 710 | 710 | KMY-DU01 | 2 | 3 | **850** | **560** | < 480 U |
| Gasoline Range Organics (C6-C10) | ug/l | 3.3 | SW8015C GRO | N | 8006-61-9 | | | | | | | 3 | < 100 U | < 100 U | < 100 U |
| 4,4'-DDD | ug/l | 0.0063 | SW8081B LL | N | 72-54-8 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| 4,4'-DDE | ug/l | 0.046 | SW8081B LL | N | 72-55-9 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| 4,4'-DDT | ug/l | 0.23 | SW8081B LL | N | 50-29-3 | 0.00043 | 0.00043 | 0.00043 | 0.00043 | KMY-DU02 | 1 | 3 | < 0.0013 U | **0.00043 J** | < 0.0013 U |
| Aldrin | ug/l | 0.00092 | SW8081B LL | N | 309-00-2 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| alpha-BHC | ug/l | 0.0072 | SW8081B LL | N | 319-84-6 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| beta-BHC | ug/l | 0.025 | SW8081B LL | N | 319-85-7 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| cis-Chlordane | ug/l | 2 | SW8081B LL | N | 5103-71-9 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| delta-BHC | ug/l | 0.0072 | SW8081B LL | N | 319-86-8 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Dieldrin | ug/l | 0.0018 | SW8081B LL | N | 60-57-1 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Endosulfan I | ug/l | 10 | SW8081B LL | N | 959-98-8 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Endosulfan II | ug/l | 10 | SW8081B LL | N | 33213-65-9 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Endosulfan Sulfate | ug/l | 10 | SW8081B LL | N | 1031-07-8 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Endrin | ug/l | 0.2 | SW8081B LL | N | 72-20-8 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Endrin aldehyde | ug/l | 0.23 | SW8081B LL | N | 7421-93-4 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Endrin ketone | ug/l | 0.23 | SW8081B LL | N | 53494-70-5 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| gamma-BHC (Lindane) | ug/l | 0.2 | SW8081B LL | N | 58-89-9 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Heptachlor | ug/l | 0.4 | SW8081B LL | N | 76-44-8 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Heptachlor Epoxide | ug/l | 0.2 | SW8081B LL | N | 1024-57-3 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Methoxychlor | ug/l | 40 | SW8081B LL | N | 72-43-5 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Toxaphene | ug/l | 3 | SW8081B LL | N | 8001-35-2 | | | | | | | 3 | < 0.097 U | < 0.097 U | < 0.097 U |
| trans-Chlordane | ug/l | 2 | SW8081B LL | N | 5103-74-2 | | | | | | | 3 | < 0.0013 U | < 0.0013 U | < 0.0013 U |
| Aroclor-1016 | ug/l | | SW8082A LL | N | 12674-11-2 | | | | | | | 3 | < 0.0097 U | < 0.0097 U | < 0.0097 U |
| Aroclor-1221 | ug/l | | SW8082A LL | N | 11104-28-2 | | | | | | | 3 | < 0.0097 U | < 0.0097 U | < 0.0097 U |
| Aroclor-1232 | ug/l | | SW8082A LL | N | 11141-16-5 | | | | | | | 3 | < 0.0097 U | < 0.0097 U | < 0.0097 U |
| Aroclor-1242 | ug/l | | SW8082A LL | N | 53469-21-9 | | | | | | | 3 | < 0.0097 U | < 0.0097 U | < 0.0097 U |
| Aroclor-1248 | ug/l | | SW8082A LL | N | 12672-29-6 | | | | | | | 3 | < 0.0097 U | < 0.0097 U | < 0.0097 U |
| Aroclor-1254 | ug/l | | SW8082A LL | N | 11097-69-1 | | | | | | | 3 | < 0.0097 U | < 0.0097 U | < 0.0097 U |
| Aroclor-1260 | ug/l | | SW8082A LL | N | 11096-82-5 | | | | | | | 3 | < 0.0097 U | < 0.0097 U | < 0.0097 U |
| Aroclor-1262 | ug/l | | SW8082A LL | N | 37324-23-5 | | | | | | | 3 | < 0.0097 U | < 0.0097 U | < 0.0097 U |
| Aroclor-1268 | ug/l | | SW8082A LL | N | 11100-14-4 | | | | | | | 3 | < 0.0097 U | < 0.0097 U | < 0.0097 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 0.5 | SW8082A LL | N | TOT-PCB-ARO-C | | | | | | | 3 | < 0.0097 U | < 0.0097 U | < 0.0097 U |
| 1,1,1-Trichloroethane | ug/l | 200 | SW8260C | N | 71-55-6 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2,2-Tetrachloroethane | ug/l | 0.076 | SW8260C | N | 79-34-5 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | SW8260C | N | 76-13-1 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1,2-Trichloroethane | ug/l | 5 | SW8260C | N | 79-00-5 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,1-Dichloroethane | ug/l | 2.8 | SW8260C | N | 75-34-3 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |

**Table 4-29**
**Anacostia Park Direct Push Groundwater Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | Location ID | KMY-DU01 | KMY-DU02 | KMY-DU03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Sample ID | DPWNPS0108-12N | DPWNPS0210-14N | DPWNPS0315-19N |
| | | | | | | | | | | | | Sample Date | 4/20/2017 | 4/21/2017 | 4/21/2017 |
| | | | | | | | | | | | | Type | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| 1,1-Dichloroethene | ug/l | 7 | SW8260C | N | 75-35-4 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | SW8260C | N | 87-61-6 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2,4-Trichlorobenzene | ug/l | 70 | SW8260C | N | 120-82-1 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.2 | SW8260C | N | 96-12-8 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dibromoethane | ug/l | 0.05 | SW8260C | N | 106-93-4 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichlorobenzene | ug/l | 600 | SW8260C | N | 95-50-1 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloroethane | ug/l | 5 | SW8260C | N | 107-06-2 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,2-Dichloropropane | ug/l | 5 | SW8260C | N | 78-87-5 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,3-Dichlorobenzene | ug/l | 0.48 | SW8260C | N | 541-73-1 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dichlorobenzene | ug/l | 75 | SW8260C | N | 106-46-7 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| 1,4-Dioxane | ug/l | 0.46 | SW8260C | N | 123-91-1 | | | | | | | 3 | < 200 U | < 200 U | < 200 U |
| 2-Butanone | ug/l | 560 | SW8260C | N | 78-93-3 | | | | | | | 3 | < 5.0 U | < 5.0 U | < 5.0 U |
| 2-Hexanone | ug/l | 3.8 | SW8260C | N | 591-78-6 | | | | | | | 3 | < 5.0 U | < 5.0 U | < 5.0 U |
| 4-Methyl-2-pentanone | ug/l | 630 | SW8260C | N | 108-10-1 | | | | | | | 3 | < 5.0 U | < 5.0 U | < 5.0 U |
| Acetone | ug/l | 1400 | SW8260C | N | 67-64-1 | 6.1 | 5.8 | 6 | 6 | KMY-DU01 | 2 | 3 | **6.1 J+** | **5.8 J+** | < 5.0 U |
| Benzene | ug/l | 5 | SW8260C | N | 71-43-2 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromochloromethane | ug/l | 8.3 | SW8260C | N | 74-97-5 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromodichloromethane | ug/l | 80 | SW8260C | N | 75-27-4 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromoform | ug/l | 80 | SW8260C | N | 75-25-2 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Bromomethane | ug/l | 0.75 | SW8260C | N | 74-83-9 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Butyl alcohol, tert- | ug/l | 14 | SW8260C | N | 75-65-0 | | | | | | | 3 | < 40 U | < 40 U | < 40 U |
| Carbon Disulfide | ug/l | 81 | SW8260C | N | 75-15-0 | 1 | 0.69 | 0.85 | 0.85 | KMY-DU03 | 2 | 3 | < 1.0 U | **0.69 J** | **1.0** |
| Carbon Tetrachloride | ug/l | 5 | SW8260C | N | 56-23-5 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Chlorobenzene | ug/l | 100 | SW8260C | N | 108-90-7 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroethane | ug/l | 2100 | SW8260C | N | 75-00-3 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloroform | ug/l | 80 | SW8260C | N | 67-66-3 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Chloromethane | ug/l | 19 | SW8260C | N | 74-87-3 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,2-Dichloroethylene | ug/l | 70 | SW8260C | N | 156-59-2 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| cis-1,3-Dichloropropene | ug/l | 0.47 | SW8260C | N | 10061-01-5 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Cyclohexane | ug/l | 1300 | SW8260C | N | 110-82-7 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Dibromochloromethane | ug/l | 80 | SW8260C | N | 124-48-1 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Dichlorodifluoromethane | ug/l | 20 | SW8260C | N | 75-71-8 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Diisopropyl ether | ug/l | 150 | SW8260C | N | 108-20-3 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Ethylbenzene | ug/l | 700 | SW8260C | N | 100-41-4 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Ethyl-Tert-Butyl-Ether | ug/l | | SW8260C | N | 637-92-3 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Isopropylbenzene | ug/l | 45 | SW8260C | N | 98-82-8 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| m, p-Xylene | ug/l | 10000 | SW8260C | N | XYLMP | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Methyl Acetate | ug/l | 2000 | SW8260C | N | 79-20-9 | | | | | | | 3 | < 5.0 U | < 5.0 U | < 5.0 U |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | SW8260C | N | 1634-04-4 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Methylcyclohexane | ug/l | 1300 | SW8260C | N | 108-87-2 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Methylene Chloride | ug/l | 5 | SW8260C | N | 75-09-2 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| o-Xylene | ug/l | 10000 | SW8260C | N | 95-47-6 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Styrene | ug/l | 100 | SW8260C | N | 100-42-5 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |

**Table 4-29**
**Anacostia Park Direct Push Groundwater Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | KMY-DU01 | KMY-DU02 | KMY-DU03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Location ID | KMY-DU01 | KMY-DU02 | KMY-DU03 |
| | | | | | | | | | | | | Sample ID | DPWNPS0108-12N | DPWNPS0210-14N | DPWNPS0315-19N |
| | | | | | | | | | | | | Sample Date | 4/20/2017 | 4/21/2017 | 4/21/2017 |
| | | | | | | | | | | | | Type | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| Tertiary-Amyl Methyl Ether | ug/l | 41 | SW8260C | N | 994-05-8 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Tetrachloroethylene | ug/l | 5 | SW8260C | N | 127-18-4 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Toluene | ug/l | 1000 | SW8260C | N | 108-88-3 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,2-Dichloroethene | ug/l | 100 | SW8260C | N | 156-60-5 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| trans-1,3-Dichloropropene | ug/l | 0.47 | SW8260C | N | 10061-02-6 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Trichloroethene | ug/l | 5 | SW8260C | N | 79-01-6 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Trichlorofluoromethane | ug/l | 520 | SW8260C | N | 75-69-4 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Vinyl Chloride | ug/l | 2 | SW8260C | N | 75-01-4 | | | | | | | 3 | < 1.0 U | < 1.0 U | < 1.0 U |
| Xylenes (total) | ug/l | 10000 | SW8260C | N | 1330-20-7 | | | | | | | 3 | < 1 U | < 1 U | < 1 U |
| 1,1'-Biphenyl | ug/l | 0.083 | SW8270D LL | N | 92-52-4 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 0.17 | SW8270D LL | N | 95-94-3 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 71 | SW8270D LL | N | 108-60-1 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | SW8270D LL | N | 58-90-2 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 2,4,5-Trichlorophenol | ug/l | 120 | SW8270D LL | N | 95-95-4 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 2,4,6-Trichlorophenol | ug/l | 1.2 | SW8270D LL | N | 88-06-2 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 2,4-Dichlorophenol | ug/l | 4.6 | SW8270D LL | N | 120-83-2 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| 2,4-Dimethylphenol | ug/l | 36 | SW8270D LL | N | 105-67-9 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 2,4-Dinitrophenol | ug/l | 3.9 | SW8270D LL | N | 51-28-5 | | | | | | | 3 | < 5.0 U | < 5.3 U | < 4.8 U |
| 2,4-Dinitrotoluene | ug/l | 0.24 | SW8270D LL | N | 121-14-2 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 2,6-Dinitrotoluene | ug/l | 0.049 | SW8270D LL | N | 606-20-2 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 2-Chloronaphthalene | ug/l | 75 | SW8270D LL | N | 91-58-7 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| 2-Chlorophenol | ug/l | 9.1 | SW8270D LL | N | 95-57-8 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 2-Methylnaphthalene | ug/l | 3.6 | SW8270D LL | N | 91-57-6 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| 2-Methylphenol | ug/l | 93 | SW8270D LL | N | 95-48-7 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 2-Nitroaniline | ug/l | 19 | SW8270D LL | N | 88-74-4 | | | | | | | 3 | < 5.0 U | < 5.3 U | < 4.8 U |
| 2-Nitrophenol | ug/l | 580 | SW8270D LL | N | 88-75-5 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 3,3'-Dichlorobenzidine | ug/l | 0.13 | SW8270D LL | N | 91-94-1 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 3-Nitroaniline | ug/l | 3.8 | SW8270D LL | N | 99-09-2 | | | | | | | 3 | < 5.0 U | < 5.3 U | < 4.8 U |
| 4,6-Dinitro-2-methylphenol | ug/l | 0.15 | SW8270D LL | N | 534-52-1 | | | | | | | 3 | < 5.0 U | < 5.3 U | < 4.8 U |
| 4-Bromophenyl-phenylether | ug/l | | SW8270D LL | N | 101-55-3 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 4-Chloro-3-methylphenol | ug/l | 140 | SW8270D LL | N | 59-50-7 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 4-Chloroaniline | ug/l | 0.37 | SW8270D LL | N | 106-47-8 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 4-Chlorophenyl-phenylether | ug/l | | SW8270D LL | N | 7005-72-3 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 4-Methylphenol | ug/l | 190 | SW8270D LL | N | 106-44-5 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| 4-Nitroaniline | ug/l | 3.8 | SW8270D LL | N | 100-01-6 | | | | | | | 3 | < 5.0 U | < 5.3 U | < 4.8 U |
| 4-Nitrophenol | ug/l | 580 | SW8270D LL | N | 100-02-7 | | | | | | | 3 | < 5.0 U | < 5.3 U | < 4.8 U |
| Acenaphthene | ug/l | 53 | SW8270D LL | N | 83-32-9 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| Acenaphthylene | ug/l | 53 | SW8270D LL | N | 208-96-8 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| Acetophenone | ug/l | 190 | SW8270D LL | N | 98-86-2 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| Anthracene | ug/l | 180 | SW8270D LL | N | 120-12-7 | 0.029 | 0.029 | 0.029 | 0.029 | KMY-DU03 | 1 | 3 | < 0.19 U | < 0.20 U | **0.029 J** |
| Atrazine | ug/l | 3 | SW8270D LL | N | 1912-24-9 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| Benzaldehyde | ug/l | 19 | SW8270D LL | N | 100-52-7 | 0.24 | 0.24 | 0.24 | 0.24 | KMY-DU01 | 1 | 3 | **0.24 J** | < 1.1 U | < 0.95 U |
| Benzo(a)anthracene | ug/l | 0.03 | SW8270D LL | N | 56-55-3 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |

**Table 4-29**
**Anacostia Park Direct Push Groundwater Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | KMY-DU01 | KMY-DU02 | KMY-DU03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Location ID | KMY-DU01 | KMY-DU02 | KMY-DU03 |
| | | | | | | | | | | | | Sample ID | DPWNPS0108-12N | DPWNPS0210-14N | DPWNPS0315-19N |
| | | | | | | | | | | | | Sample Date | 4/20/2017 | 4/21/2017 | 4/21/2017 |
| | | | | | | | | | | | | Type | N | N | N |
| Benzo(a)pyrene | ug/l | 0.2 | SW8270D LL | N | 50-32-8 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| Benzo(b)fluoranthene | ug/l | 0.25 | SW8270D LL | N | 205-99-2 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| Benzo(g,h,i)perylene | ug/l | 12 | SW8270D LL | N | 191-24-2 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| Benzo(k)fluoranthene | ug/l | 2.5 | SW8270D LL | N | 207-08-9 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | SW8270D LL | N | 111-91-1 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| bis-(2-Chloroethyl)ether | ug/l | 0.014 | SW8270D LL | N | 111-44-4 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| bis-(2-Ethylhexyl)phthalate | ug/l | 6 | SW8270D LL | N | 117-81-7 | 4.9 | 4.9 | 4.9 | 4.9 | KMY-DU01 | 1 | 3 | **4.9** | < 2.1 U | < 1.9 U |
| Butylbenzylphthalate | ug/l | 16 | SW8270D LL | N | 85-68-7 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| Caprolactam | ug/l | 990 | SW8270D LL | N | 105-60-2 | | | | | | | 3 | < 5.0 U | < 5.3 U | < 4.8 U |
| Carbazole | ug/l | 29 | SW8270D LL | N | 86-74-8 | 0.032 | 0.032 | 0.032 | 0.032 | KMY-DU03 | 1 | 3 | < 0.19 U | < 0.20 U | **0.032 J** |
| Chrysene | ug/l | 25 | SW8270D LL | N | 218-01-9 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| Dibenzo(a,h)anthracene | ug/l | 0.025 | SW8270D LL | N | 53-70-3 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| Dibenzofuran | ug/l | 0.79 | SW8270D LL | N | 132-64-9 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| Diethylphthalate | ug/l | 1500 | SW8270D LL | N | 84-66-2 | 0.4 | 0.17 | 0.27 | 0.24 | KMY-DU02 | 3 | 3 | **0.24 J** | **0.40 J** | **0.17 J** |
| Dimethylphthalate | ug/l | 1500 | SW8270D LL | N | 131-11-3 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| Di-n-butylphthalate | ug/l | 90 | SW8270D LL | N | 84-74-2 | 0.78 | 0.12 | 0.35 | 0.15 | KMY-DU01 | 3 | 3 | **0.78 J** | **0.15 J** | **0.12 J** |
| Di-n-octylphthalate | ug/l | 20 | SW8270D LL | N | 117-84-0 | 0.64 | 0.64 | 0.64 | 0.64 | KMY-DU01 | 1 | 3 | **0.64 J** | < 1.1 U | < 0.95 U |
| Fluoranthene | ug/l | 80 | SW8270D LL | N | 206-44-0 | 0.098 | 0.098 | 0.098 | 0.098 | KMY-DU03 | 1 | 3 | < 0.19 U | < 0.20 U | **0.098 J** |
| Fluorene | ug/l | 29 | SW8270D LL | N | 86-73-7 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| Hexachlorobenzene | ug/l | 1 | SW8270D LL | N | 118-74-1 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| Hexachlorobutadiene | ug/l | 0.14 | SW8270D LL | N | 87-68-3 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| Hexachlorocyclo-pentadiene | ug/l | 50 | SW8270D LL | N | 77-47-4 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| Hexachloroethane | ug/l | 0.33 | SW8270D LL | N | 67-72-1 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.25 | SW8270D LL | N | 193-39-5 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| Isophorone | ug/l | 78 | SW8270D LL | N | 78-59-1 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| Naphthalene | ug/l | 0.17 | SW8270D LL | N | 91-20-3 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| Nitrobenzene | ug/l | 0.14 | SW8270D LL | N | 98-95-3 | | | | | | | 3 | < 2.0 U | < 2.1 U | < 1.9 U |
| N-Nitroso-di-n-propylamine | ug/l | 0.011 | SW8270D LL | N | 621-64-7 | | | | | | | 3 | < 0.19 U | < 0.20 U | < 0.18 U |
| N-Nitrosodiphenylamine | ug/l | 12 | SW8270D LL | N | 86-30-6 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| Pentachlorophenol | ug/l | 1 | SW8270D LL | N | 87-86-5 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| Phenanthrene | ug/l | 180 | SW8270D LL | N | 85-01-8 | 0.15 | 0.15 | 0.15 | 0.15 | KMY-DU03 | 1 | 3 | < 0.19 U | < 0.20 U | **0.15 J** |
| Phenol | ug/l | 580 | SW8270D LL | N | 108-95-2 | | | | | | | 3 | < 0.99 U | < 1.1 U | < 0.95 U |
| Pyrene | ug/l | 12 | SW8270D LL | N | 129-00-0 | 0.086 | 0.086 | 0.086 | 0.086 | KMY-DU03 | 1 | 3 | < 0.19 U | < 0.20 U | **0.086 J** |
| BaP-TE | ug/l | 0.2 | SW8270D LL | N | BAP | | | | | | | 3 | < 0.190 U | < 0.200 U | < 0.180 U |
| Total High-molecular-weight PAHs | ug/l | | SW8270D LL | N | TOT-PAH-HMW | 0.18 | 0.18 | 0.18 | 0.18 | KMY-DU03 | 1 | 3 | < 0.19 U | < 0.2 U | **0.18** |
| Total Low-molecular-weight PAHs | ug/l | | SW8270D LL | N | TOT-PAH-LMW | 0.18 | 0.18 | 0.18 | 0.18 | KMY-DU03 | 1 | 3 | < 0.19 U | < 0.2 U | **0.18** |
| Total PAHs (sum 16) | ug/l | | SW8270D LL | N | TOT-PAH | 0.36 | 0.36 | 0.36 | 0.36 | KMY-DU03 | 1 | 3 | < 0.19 U | < 0.2 U | **0.36** |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/l | | SW8290A | T | 67562-39-4 | | | | | | | 3 | < 0.505 U | < 1.05 U | < 0.665 U |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/l | | SW8290A | T | 35822-46-9 | 54.6 | 54.6 | 54.6 | 54.6 | KMY-DU01 | 1 | 3 | **54.6** | < 2.52 U | < 1.95 U |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/l | | SW8290A | T | 55673-89-7 | | | | | | | 3 | < 0.74 U | < 1.56 U | < 0.954 U |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/l | | SW8290A | T | 70648-26-9 | | | | | | | 3 | < 1.55 U | < 1.51 U | < 1.61 U |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/l | | SW8290A | T | 39227-28-6 | | | | | | | 3 | < 2.49 U | < 2.01 U | < 1.99 U |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/l | | SW8290A | T | 57117-44-9 | | | | | | | 3 | < 1.61 U | < 1.55 U | < 1.48 U |

**Table 4-29**
**Anacostia Park Direct Push Groundwater Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Location ID | KMY-DU01 | KMY-DU02 | KMY-DU03 |
| | | | | | | | | | | | | Sample ID | DPWNPS0108-12N | DPWNPS0210-14N | DPWNPS0315-19N |
| | | | | | | | | | | | | Sample Date | 4/20/2017 | 4/21/2017 | 4/21/2017 |
| | | | | | | | | | | | | Type | N | N | N |
| Analyte | Unit | Project Screening Criteria | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/l | | SW8290A | T | 57653-85-7 | | | | | | | 3 | < 2.74 U | < 1.95 U | < 2.13 U |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/l | | SW8290A | T | 72918-21-9 | | | | | | | 3 | < 1.93 U | < 1.91 U | < 1.92 U |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/l | | SW8290A | T | 19408-74-3 | | | | | | | 3 | < 2.78 U | < 2.15 U | < 2.28 U |
| 1,2,3,7,8-PeCDF | pg/l | | SW8290A | T | 57117-41-6 | | | | | | | 3 | < 1.59 U | < 1.31 U | < 1.12 U |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/l | | SW8290A | T | 40321-76-4 | | | | | | | 3 | < 2.46 U | < 2.3 U | < 1.88 U |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/l | | SW8290A | T | 60851-34-5 | | | | | | | 3 | < 1.58 U | < 1.59 U | < 1.59 U |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/l | | SW8290A | T | 57117-31-4 | | | | | | | 3 | < 1.5 U | < 1.26 U | < 1.17 U |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/l | | SW8290A | T | 51207-31-9 | | | | | | | 3 | < 1.94 U | < 2.18 U | < 1.56 U |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/l | 30 | SW8290A | T | 1746-01-6 | | | | | | | 3 | < 2.3 U | < 2.37 U | < 1.91 U |
| Octachlorochlorodibenzofuran | pg/l | | SW8290A | T | 39001-02-0 | | | | | | | 3 | < 13.7 U | < 11.4 U | < 7.85 U |
| Octachlorochlorodibenzo-p-dioxin | pg/l | | SW8290A | T | 3268-87-9 | 1950 | 1950 | 1950 | 1950 | KMY-DU01 | 1 | 3 | **1950** | < 13.8 U | < 19.5 U |
| Total HpCDD | pg/l | | SW8290A | T | 37871-00-4 | 144 | 144 | 144 | 144 | KMY-DU01 | 1 | 3 | **144** | < 2.52 U | < 1.95 U |
| Total HpCDF | pg/l | | SW8290A | T | 38998-75-3 | | | | | | | 3 | < 0.614 U | < 1.28 U | < 0.797 U |
| Total HxCDD | pg/l | | SW8290A | T | 34465-46-8 | 15.3 | 15.3 | 15.3 | 15.3 | KMY-DU01 | 1 | 3 | **15.3** | < 2.03 U | < 2.12 U |
| Total HxCDF | pg/l | | SW8290A | T | 55684-94-1 | | | | | | | 3 | < 1.66 U | < 1.63 U | < 1.64 U |
| Total PeCDD | pg/l | | SW8290A | T | 36088-22-9 | 10.1 | 10.1 | 10.1 | 10.1 | KMY-DU02 | 1 | 3 | < 2.46 U | **10.1** | < 1.88 U |
| Total PeCDF | pg/l | | SW8290A | T | 30402-15-4 | | | | | | | 3 | < 1.55 U | < 1.28 U | < 1.14 U |
| Total TCDD | pg/l | | SW8290A | T | 41903-57-5 | | | | | | | 3 | < 2.3 U | < 2.37 U | < 1.91 U |
| Total TCDF | pg/l | | SW8290A | T | 55722-27-5 | | | | | | | 3 | < 1.94 U | < 2.18 U | < 1.56 U |
| TCDD TEQ HH | pg/l | 30 | SW8290A | T | DFTEQ-HH | 1.13 | 1.13 | 1.13 | 1.13 | KMY-DU01 | 1 | 3 | **1.13** | < 2.37 U | < 1.91 U |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Project Screening Criteria.
T = Total
N = Normal
FD = Field Duplicate
EN = Essential nutrient
HHRA screening values provided for detected compounds or compound sums where applicable.
Heirarchy: 1) Lower of DOEE/MCL (primary standards). 2) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte.
JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the reported sample quantitation limit. The reported quantitation limit is approximate.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
mg/l = milligrams per liter
pg/l = picograms per liter
ug/l = micrograms per liter

**Table 4-30**
**Waterside Investigation Area Surface Water Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | SUW10B | SUW1B | SUW2B | SUW3C | SUW4B | SUW5C | SUW6B | SUW6B | SUW7B | SUW8B | SUW9C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | Sample ID | SUW10BN | SUW1BN | SUW2BN | SUW3CN | SUW4BN | SUW5CN | SUW6BN | SUW6BR | SUW7BN | SUW8BN | SUW9CN |
| | | | | | | | | | | | | | | Sample Date | 9/26/2013 | 9/23/2013 | 9/23/2013 | 9/23/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/25/2013 |
| | | | | | | | | | | | | | | Type | N | N | N | N | N | N | N | FD | N | N | N |
| Hardness (as CaCO3) | mg/l | | | A2340C | D | HARD | 68 | 48 | 57 | 56 | SUW1B | 11 | | 11 | 56 | 68 | 60 | 50 | 54 | 58 | 56 | 56 | 64 | 48 | 62 |
| Hardness (as CaCO3) | mg/l | | | A2340C | T | HARD | 72 | 50 | 60 | 58 | SUW1B | 11 | | 11 | 58 | 72 | 58 | 50 | 56 | 62 | 58 | 58 | 68 | 52 | 64 |
| HEM (Oil and Grease) | mg/l | | | E1664B | N | 348 | 2.2 | 1.5 | 1.9 | 1.8 | SUW3C | 6 | | 6 | 2.1 J | 1.8 J | | 2.2 J | | | 1.8 J | 1.5 J | 1.7 J | | |
| Conductivity | ms/cm | | | FIELD | T | Cond | 0.263 | 0.198 | 0.23 | 0.231 | SUW1B | 10 | | 10 | 0.228 | 0.263 | 0.231 | 0.198 | 0.215 | 0.231 | 0.242 | | 0.247 | 0.202 | 0.243 |
| DO | mg/l | | | FIELD | T | DO | 3.97 | 3.35 | 3.66 | 3.63 | SUW9C | 10 | | 10 | 3.94 | 3.41 | 3.79 | 3.94 | 3.35 | 3.45 | 3.46 | | 3.41 | 3.84 | 3.97 |
| OXIDATION-REDUCTION POTENTIAL | mV | | | FIELD | T | ORP | 98.6 | 7.6 | 55.1 | 56.6 | SUW4B | 10 | | 10 | 79.8 | 29.6 | 48.1 | 41.1 | 98.6 | 54.3 | 63.9 | | 7.6 | 68.7 | 58.8 |
| PH | ph units | | | FIELD | T | PH | 6.93 | 6.52 | 6.73 | 6.74 | SUW7B | 10 | | 10 | 6.81 | 6.81 | 6.82 | 6.67 | 6.67 | 6.86 | 6.58 | | 6.93 | 6.61 | 6.52 |
| SALINITY | ppt | | | FIELD | T | SAL | 0.13 | 0.09 | 0.11 | 0.11 | SUW1B | 10 | | 10 | 0.11 | 0.13 | 0.11 | 0.09 | 0.10 | 0.11 | 0.11 | | 0.12 | 0.10 | 0.12 |
| TEMPERATURE | deg F | | | FIELD | T | TEMP | 68.2 | 65.62 | 67.23 | 67.61 | SUW3C | 10 | | 10 | 65.62 | 67.87 | 67.80 | 68.20 | 66.48 | 65.71 | 67.42 | | 67.20 | 67.93 | 68.10 |
| TURBIDITY | ntu | | | FIELD | T | TURB | 24.9 | 0 | 11 | 9.55 | SUW10B | 10 | | 10 | 24.9 | 0 | 15.0 | 4.3 | 6.5 | 19.4 | 17.2 | | 3.3 | 8.4 | 10.7 |
| Aluminum | ug/l | 2000 | 87 | SW6020A | D | 7429-90-5 | | | | | | | | 11 | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U |
| Antimony | ug/l | 640 | 30 | SW6020A | D | 7440-36-0 | 1.8 | 0.74 | 0.92 | 0.84 | SUW3C | 11 | | 11 | 0.74 J | 0.92 J | 0.84 J | 1.8 J | 0.78 J | 0.79 J | 0.87 J | 0.88 J | 0.94 J | 0.79 J | 0.77 J |
| Arsenic | ug/l | 0.14 | 150 | SW6020A | D | 7440-38-2 | 0.67 | 0.32 | 0.5 | 0.49 | SUW6B | 8 | | 11 | 0.32 J | < 1.0 U | 0.41 J | < 1.0 U | 0.56 J | < 1.0 U | 0.67 J | 0.49 J | 0.64 J | 0.48 J | 0.44 J |
| Barium | ug/l | 380 | *4* | SW6020A | D | 7440-39-3 | 36 | 28 | 32 | 33 | SUW1B SUW7B | 11 | | 11 | *30* | *36* | *34* | *30* | *31* | *33* | *33* | *32* | *36* | *28* | *34* |
| Beryllium | ug/l | 2.5 | 0.66 | SW6020A | D | 7440-41-7 | 0.079 | 0.037 | 0.05 | 0.045 | SUW3C | 5 | | 11 | < 1.0 U | 0.045 J | < 1.0 U | 0.079 J | < 1.0 U | 0.037 J | < 1.0 U | < 1.0 U | < 1.0 U | 0.042 J | 0.048 J |
| Cadmium | ug/l | 0.92 | 0.51 | SW6020A | D | 7440-43-9 | | | | | | | | 11 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Calcium | ug/l | EN | 116000 | SW6020A | D | 7440-70-2 | 19000 | 14000 | 16000 | 16000 | SUW1B | 11 | | 11 | 15000 | 19000 | 17000 | 14000 | 15000 | 16000 | 16000 | 16000 | 18000 | 14000 | 17000 |
| Chromium | ug/l | 2200 | 11 | SW6020A | D | 7440-47-3 | 2.3 | 1.6 | 1.9 | 1.9 | SUW1B | 11 | | 11 | 1.7 J | 2.3 | 2.1 | 2.2 | 2.0 | 1.9 J | 1.7 J | 1.8 J | 1.8 J | 1.9 J | 1.6 J |
| Cobalt | ug/l | 0.6 | 23 | SW6020A | D | 7440-48-4 | 0.71 | 0.093 | 0.29 | 0.29 | SUW3C | 11 | | 11 | 0.093 J | 0.31 J | 0.23 J | 0.71 | 0.24 J | 0.23 J | 0.31 J | 0.34 J | 0.31 J | 0.29 J | 0.10 J |
| Copper | ug/l | 80 | 22 | SW6020A | D | 7440-50-8 | 3.9 | 1.7 | 2.4 | 2.2 | SUW3C | 11 | | 11 | 1.8 J | 2.7 | 3.3 | 3.9 | 2.7 | 2.5 | 2.2 | 1.9 J | 1.7 J | 2.2 | 1.7 J |
| Iron | ug/l | EN | 1000 | SW6020A | D | 7439-89-6 | 18 | 8.9 | 12 | 11 | SUW2B | 5 | | 11 | 9.1 J | < 50 U | 18 J | 11 J | 11 J | < 50 U | 8.9 J | < 50 U | < 50 U | < 50 U | < 50 U |
| Lead | ug/l | 15 | 7.8 | SW6020A | D | 7439-92-1 | | | | | | | | 11 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Magnesium | ug/l | EN | 82000 | SW6020A | D | 7439-95-4 | 5800 | 3700 | 4700 | 4500 | SUW1B | 11 | | 11 | 4300 | 5800 | 5000 | 4000 | 4400 | 4800 | 4500 | 4500 | 5500 | 3700 | 5100 |
| Manganese | ug/l | 100 | 120 | SW6020A | D | 7439-96-5 | 77 | 29 | 56 | 59 | SUW7B | 9 | | 11 | < 5.0 U | 42 | 36 | 29 | 51 | 59 | 70 | 75 | 77 | 64 | < 5.0 U |
| Nickel | ug/l | 4600 | 128 | SW6020A | D | 7440-02-0 | 2.5 | 1.5 | 2.1 | 2.1 | SUW3C | 11 | | 11 | 1.5 | 2.4 | 2.4 | 2.5 | 2.1 | 2.2 | 2.1 | 2.0 | 2.1 | 2.1 | 1.7 |
| Potassium | ug/l | EN | 53000 | SW6020A | D | 7440-09-7 | 3800 | 3100 | 3500 | 3500 | SUW1B | 11 | | 11 | 3300 | 3800 | 3600 | 3300 | 3400 | 3500 | 3400 | 3500 | 3700 | 3100 | 3500 |
| Selenium | ug/l | 4200 | | SW6020A | D | 7782-49-2 | 0.55 | 0.55 | 0.55 | 0.55 | SUW7B | 1 | | 11 | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | 0.55 J | < 5.0 U | < 5.0 U |
| Silver | ug/l | 65000 | 20 | SW6020A | D | 7440-22-4 | 0.062 | 0.062 | 0.062 | 0.062 | SUW3C | 1 | | 11 | < 1.0 U | < 1.0 U | < 1.0 U | 0.062 J | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | EN | 680000 | SW6020A | D | 7440-23-5 | 20000 | 15000 | 18000 | 17000 | SUW1B | 11 | | 11 | 17000 | 20000 | 19000 | 16000 | 17000 | 18000 | 17000 | 17000 | 19000 | 15000 | 19000 |
| Thallium | ug/l | 0.47 | | SW6020A | D | 7440-28-0 | 0.21 | 0.028 | 0.08 | 0.051 | SUW3C | 11 | | 11 | 0.034 J | 0.19 J | 0.12 J | 0.21 J | 0.068 J | 0.051 J | 0.047 J | 0.029 J | 0.077 J | 0.028 J | 0.031 J |
| Vanadium | ug/l | 8.6 | 20 | SW6020A | D | 7440-62-2 | 1 | 0.11 | 0.37 | 0.29 | SUW3C | 8 | | 11 | < 1.0 U | 0.14 J | 0.28 J | 1.0 | 0.21 J | 0.29 J | 0.61 J | 0.11 J | 0.29 J | < 1.0 U | < 1.0 U |
| Zinc | ug/l | 26000 | 291 | SW6020A | D | 7440-66-6 | 12 | 4 | 7.6 | 7.6 | SUW6B SUW8B | 11 | | 11 | 4.7 J | 7.6 J | 6.8 J | 7.7 J | 7.9 J | 6.7 J | 12 J | 5.4 J | 8.3 J | 12 J | 4.0 J |
| Aluminum | ug/l | 2000 | | SW6020A | T | 7429-90-5 | 570 | 230 | 390 | 380 | SUW3C | 11 | | 11 | 310 | 460 | 330 | 570 | 380 | 490 | 430 | 550 | 230 | 290 | 250 |
| Antimony | ug/l | 640 | | SW6020A | T | 7440-36-0 | 0.81 | 0.54 | 0.61 | 0.6 | SUW6B | 11 | | 11 | 0.56 J | 0.62 J | 0.63 J | 0.62 J | 0.57 J | 0.60 J | 0.59 J | 0.81 J | 0.58 J | 0.62 J | 0.54 J |
| Arsenic | ug/l | 0.14 | | SW6020A | T | 7440-38-2 | 1.2 | 0.48 | 0.75 | 0.7 | SUW4B SUW6B | 11 | | 11 | 0.62 J | 0.73 J | 0.59 J | 0.70 J | 1.2 J | 0.83 J | 0.48 J | 1.2 J | 0.48 J | 0.82 J | 0.62 J |
| Barium | ug/l | 380 | | SW6020A | T | 7440-39-3 | 41 | 33 | 37 | 36 | SUW1B | 11 | | 11 | 35 | 41 | 36 | 33 | 36 | 38 | 36 | 37 | 39 | 33 | 38 |
| Beryllium | ug/l | 2.5 | | SW6020A | T | 7440-41-7 | 0.1 | 0.038 | 0.064 | 0.056 | SUW3C | 11 | | 11 | 0.048 J | 0.038 J | 0.093 J | 0.10 J | 0.079 J | 0.064 J | 0.054 J | 0.056 J | 0.041 J | 0.043 J | 0.083 J |
| Cadmium | ug/l | 0.92 | | SW6020A | T | 7440-43-9 | | | | | | | | 11 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Calcium | ug/l | EN | | SW6020A | T | 7440-70-2 | 19000 | 14000 | 16000 | 16000 | SUW1B | 11 | | 11 | 15000 | 19000 | 16000 | 14000 | 15000 | 16000 | 16000 | 15000 | 18000 | 14000 | 17000 |
| Chromium | ug/l | 2200 | | SW6020A | T | 7440-47-3 | 3.6 | 2.3 | 3 | 2.9 | SUW6B | 11 | | 11 | 2.7 | 3.3 | 2.9 | 3.5 | 2.9 | 3.2 | 2.9 | 3.6 | 2.4 | 2.8 | 2.3 |
| Cobalt | ug/l | 0.6 | | SW6020A | T | 7440-48-4 | 1.1 | 0.8 | 0.98 | 0.98 | SUW10B SUW3C SUW6B | 11 | | 11 | 1.1 | 0.96 | 0.93 | 1.1 | 1.0 | 0.97 | 1.0 | 1.1 | 0.80 | 0.98 | 0.89 |
| Copper | ug/l | 80 | | SW6020A | T | 7440-50-8 | 5.8 | 2.9 | 4 | 4.1 | SUW4B | 11 | | 11 | 3.3 | 3.9 | 4.1 | 4.8 | 5.8 | 4.0 | 4.2 | 4.2 | 2.9 | 4.2 | 2.9 |
| Iron | ug/l | EN | *300* | SW6020A | T | 7439-89-6 | 1400 | 740 | 1100 | 1100 | SUW3C | 11 | | 11 | *1100* | *1200* | *1000* | *1400* | *1100* | *1200* | *1200* | *1300* | *740* | *950* | *800* |
| Lead | ug/l | 15 | | SW6020A | T | 7439-92-1 | 3.2 | 2.1 | 2.7 | 2.8 | SUW4B | 11 | | 11 | 2.4 | 2.8 | 2.7 | 3.1 | 3.2 | 2.9 | 2.9 | 2.9 | 2.1 | 2.6 | 2.2 |
| Magnesium | ug/l | EN | | SW6020A | T | 7439-95-4 | 5700 | 3800 | 4700 | 4500 | SUW1B | 11 | | 11 | 4400 | 5700 | 4600 | 3800 | 4500 | 4900 | 4500 | 4500 | 5400 | 3900 | 5100 |
| Manganese | ug/l | 100 | | SW6020A | T | 7439-96-5 | 170 | 120 | 140 | 140 | SUW10B | 11 | | 11 | 170 | 140 | 130 | 120 | 140 | 140 | 140 | 140 | 140 | 130 | 150 |
| Nickel | ug/l | 4600 | | SW6020A | T | 7440-02-0 | 3.2 | 2.4 | 2.8 | 2.8 | SUW3C SUW4B | 11 | | 11 | 2.7 | 2.9 | 2.8 | 3.2 | 3.2 | 2.8 | 2.8 | 3.0 | 2.4 | 2.8 | 2.4 |
| Potassium | ug/l | EN | | SW6020A | T | 7440-09-7 | 3800 | 3100 | 3400 | 3400 | SUW1B | 11 | | 11 | 3300 | 3800 | 3400 | 3100 | 3400 | 3500 | 3400 | 3300 | 3600 | 3200 | 3500 |
| Selenium | ug/l | 4200 | 5 | SW6020A | T | 7782-49-2 | 0.86 | 0.5 | 0.68 | 0.68 | SUW2B | 2 | | 11 | < 5.0 U | < 5.0 U | 0.86 J | < 5.0 U | 0.50 J | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Silver | ug/l | 65000 | | SW6020A | T | 7440-22-4 | | | | | | | | 11 | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |

# Table 4-30
## Waterside Investigation Area Surface Water Results
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | | Location ID | SUW10B | SUW1B | SUW2B | SUW3C | SUW4B | SUW5C | SUW6B | SUW6B | SUW7B | SUW8B | SUW9C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | Sample ID | SUW10BN | SUW1BN | SUW2BN | SUW3CN | SUW4BN | SUW5CN | SUW6BN | SUW6BR | SUW7BN | SUW8BN | SUW9CN |
| | | | | | | | | | | | | | | Sample Date | 9/26/2013 | 9/23/2013 | 9/23/2013 | 9/23/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/25/2013 |
| | | | | | | | | | | | | | | Type | N | N | N | N | N | N | N | FD | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | | | | |
| Sodium | ug/l | EN | | SW6020A | T | 7440-23-5 | 19000 | 15000 | 17000 | 17000 | SUW1B SUW7B | 11 | | 11 | **17000** | **19000** | **17000** | **15000** | **17000** | **18000** | **17000** | **17000** | **19000** | **16000** | **18000** |
| Thallium | ug/l | 0.47 | 0.8 | SW6020A | T | 7440-28-0 | 0.11 | 0.015 | 0.046 | 0.035 | SUW6B | 11 | | 11 | **0.050 J** | **0.10 J** | **0.073 J** | **0.035 J** | **0.018 J** | **0.020 J** | **0.018 J** | **0.11 J** | **0.015 J** | **0.053 J** | **0.017 J** |
| Vanadium | ug/l | 8.6 | | SW6020A | T | 7440-62-2 | 2.7 | 1.4 | 2.2 | 2.3 | SUW6B | 11 | | 11 | **1.4** | **2.4** | **1.9** | **2.6** | **2.5** | **2.3** | **2.7** | **2.7** | **2.0** | **1.6** | **2.1** |
| Zinc | ug/l | 26000 | | SW6020A | T | 7440-66-6 | 31 | 6.9 | 12 | 9.8 | SUW1B | 11 | | 11 | **8.2** | **31** | **9.5** | **12** | **12** | **9.7** | **9.8** | **11** | **8.4** | **10** | **6.9** |
| Mercury | ug/l | 0.15 | | SW7470A | D | 7439-97-6 | | | | | | | | 11 | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U |
| Mercury | ug/l | 0.15 | 0.77 | SW7470A | T | 7439-97-6 | | | | | | | | 11 | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U |
| 4,4'-DDD | ug/l | 0.00031 | 0.001 | SW8081B LL | N | 72-54-8 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| 4,4'-DDE | ug/l | 0.00022 | 0.001 | SW8081B LL | N | 72-55-9 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| 4,4'-DDT | ug/l | 0.00022 | *0.001* | SW8081B LL | N | 50-29-3 | 0.0016 | 0.0011 | 0.0012 | 0.0011 | SUW1B | 6 | | 6 | ***0.0011 J*** | ***0.0016*** | | ***0.0014*** | | | ***0.0011 J*** | ***0.0011 J*** | ***0.0011 J*** | | |
| Aldrin | ug/l | 5e-005 | 3 | SW8081B LL | N | 309-00-2 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| alpha-BHC | ug/l | 0.0049 | | SW8081B LL | N | 319-84-6 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| beta-BHC | ug/l | 0.017 | 2.2 | SW8081B LL | N | 319-85-7 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| cis-Chlordane | ug/l | 0.00081 | 0.0022 | SW8081B LL | N | 5103-71-9 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| delta-BHC | ug/l | 0.0072 | 141 | SW8081B LL | N | 319-86-8 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| Dieldrin | ug/l | 5.4e-005 | 0.056 | SW8081B LL | N | 60-57-1 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| Endosulfan I | ug/l | 89 | 0.056 | SW8081B LL | N | 959-98-8 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| Endosulfan II | ug/l | 89 | 0.056 | SW8081B LL | N | 33213-65-9 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| Endosulfan Sulfate | ug/l | 89 | 0.056 | SW8081B LL | N | 1031-07-8 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| Endrin | ug/l | 0.06 | 0.036 | SW8081B LL | N | 72-20-8 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| Endrin aldehyde | ug/l | 0.3 | 0.15 | SW8081B LL | N | 7421-93-4 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 UJ | | |
| Endrin ketone | ug/l | 0.23 | 0.036 | SW8081B LL | N | 53494-70-5 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| gamma-BHC (Lindane) | ug/l | 1.8 | | SW8081B LL | N | 58-89-9 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| Heptachlor | ug/l | 7.9e-005 | 0.0038 | SW8081B LL | N | 76-44-8 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| Heptachlor Epoxide | ug/l | 3.9e-005 | 0.0038 | SW8081B LL | N | 1024-57-3 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| Methoxychlor | ug/l | 0.02 | 0.03 | SW8081B LL | N | 72-43-5 | | | | | | | | 6 | < 0.0026 UJ | < 0.0025 U | | < 0.0024 U | | | < 0.0026 UJ | < 0.0024 U | < 0.0024 U | | |
| Toxaphene | ug/l | 0.00028 | 0.0002 | SW8081B LL | N | 8001-35-2 | | | | | | | | 6 | < 0.10 UJ | < 0.10 U | | < 0.095 U | | | < 0.10 UJ | < 0.095 U | < 0.094 U | | |
| trans-Chlordane | ug/l | 0.00081 | 0.0022 | SW8081B LL | N | 5103-74-2 | | | | | | | | 6 | < 0.0013 UJ | < 0.0013 U | | < 0.0012 U | | | < 0.0013 UJ | < 0.0012 U | < 0.0012 U | | |
| Aroclor-1016 | ug/l | | 0.014 | SW8082A LL | N | 12674-11-2 | | | | | | | | 11 | < 0.010 U | < 0.010 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1221 | ug/l | | 0.014 | SW8082A LL | N | 11104-28-2 | | | | | | | | 11 | < 0.010 U | < 0.010 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1232 | ug/l | | 0.014 | SW8082A LL | N | 11141-16-5 | | | | | | | | 11 | < 0.010 U | < 0.010 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1242 | ug/l | | 0.014 | SW8082A LL | N | 53469-21-9 | | | | | | | | 11 | < 0.010 U | < 0.010 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1248 | ug/l | | 0.014 | SW8082A LL | N | 12672-29-6 | | | | | | | | 11 | < 0.010 U | < 0.010 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1254 | ug/l | | 0.014 | SW8082A LL | N | 11097-69-1 | | | | | | | | 11 | < 0.010 U | < 0.010 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1260 | ug/l | | 0.014 | SW8082A LL | N | 11096-82-5 | | | | | | | | 11 | < 0.010 U | < 0.010 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1262 | ug/l | | 0.014 | SW8082A LL | N | 37324-23-5 | | | | | | | | 11 | < 0.010 U | < 0.010 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U |
| Aroclor-1268 | ug/l | | 0.014 | SW8082A LL | N | 11100-14-4 | | | | | | | | 11 | < 0.010 U | < 0.010 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U |
| PCB, Total Aroclors (Lab provided) | ug/l | 6.4e-005 | | SW8082A LL | N | TOT-PCB-ARO | | | | | | | | 11 | < 0.010 U | < 0.010 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U |
| PCB, Total Aroclors (AECOM Calc) | ug/l | 6.4e-005 | 0.014 | SW8082A LL | N | TOT-PCB-ARO-C | | | | | | | | 11 | < 0.010 U | < 0.010 U | < 0.0094 U | < 0.0095 U | < 0.0095 U | < 0.0094 U | < 0.010 U | < 0.0095 U | < 0.0094 U | < 0.0095 U | < 0.0095 U |
| 1,1,1-Trichloroethane | ug/l | 200000 | 11 | SW8260B | N | 71-55-6 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| 1,1,2,2-Tetrachloroethane | ug/l | 4 | 610 | SW8260B | N | 79-34-5 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/l | 1000 | | SW8260B | N | 76-13-1 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| 1,1,2-Trichloroethane | ug/l | 16 | 1200 | SW8260B | N | 79-00-5 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| 1,1-Dichloroethane | ug/l | 2.8 | 47 | SW8260B | N | 75-34-3 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| 1,1-Dichloroethene | ug/l | 7100 | 25 | SW8260B | N | 75-35-4 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| 1,2,3-Trichlorobenzene | ug/l | 0.7 | | SW8260B | N | 87-61-6 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| 1,2,4-Trichlorobenzene | ug/l | 70 | | SW8260B | N | 120-82-1 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| 1,2-Dibromo-3-chloropropane | ug/l | 0.00033 | | SW8260B | N | 96-12-8 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| 1,2-Dibromoethane | ug/l | 0.0075 | | SW8260B | N | 106-93-4 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| 1,2-Dichlorobenzene | ug/l | 1300 | 200 | SW8260B | N | 95-50-1 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| 1,2-Dichloroethane | ug/l | 37 | 100 | SW8260B | N | 107-06-2 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| 1,2-Dichloropropane | ug/l | 15 | 2000 | SW8260B | N | 78-87-5 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| 1,3-Dichlorobenzene | ug/l | 960 | 200 | SW8260B | N | 541-73-1 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| 1,4-Dichlorobenzene | ug/l | 190 | 200 | SW8260B | N | 106-46-7 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| 1,4-Dioxane | ug/l | 0.46 | | SW8260B | N | 123-91-1 | | | | | | | | 6 | < 200 U | < 200 U | | < 200 U | | | < 200 U | < 200 U | < 200 U | | |
| 2-Butanone | ug/l | 560 | 14000 | SW8260B | N | 78-93-3 | | | | | | | | 6 | < 5.0 U | < 5.0 U | | < 5.0 U | | | < 5.0 U | < 5.0 U | < 5.0 U | | |

**Table 4-30**
**Waterside Investigation Area Surface Water Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | Location ID | SUW10B | SUW1B | SUW2B | SUW3C | SUW4B | SUW5C | SUW6B | SUW6B | SUW7B | SUW8B | SUW9C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample ID | SUW10BN | SUW1BN | SUW2BN | SUW3CN | SUW4BN | SUW5CN | SUW6BN | SUW6BR | SUW7BN | SUW8BN | SUW9CN |
| | | | | | | | | | | | | | Sample Date | 9/26/2013 | 9/23/2013 | 9/23/2013 | 9/23/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/25/2013 |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N | FD | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | | | | |
| 2-Hexanone | ug/l | 3.8 | 99 | SW8260B | N | 591-78-6 | | | | | | | | 6 | < 5.0 U | < 5.0 U | | < 5.0 U | | | < 5.0 U | < 5.0 U | < 5.0 U | | |
| 4-Methyl-2-pentanone | ug/l | 630 | 170 | SW8260B | N | 108-10-1 | | | | | | | | 6 | < 5.0 U | < 5.0 U | | < 5.0 U | | | < 5.0 U | < 5.0 U | < 5.0 U | | |
| Acetone | ug/l | 1400 | 1500 | SW8260B | N | 67-64-1 | | | | | | | | 6 | < 5.0 U | < 5.0 U | | < 5.0 U | | | < 5.0 U | < 5.0 U | < 5.0 U | | |
| Benzene | ug/l | 51 | 1000 | SW8260B | N | 71-43-2 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Bromochloromethane | ug/l | 8.3 | | SW8260B | N | 74-97-5 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Bromodichloromethane | ug/l | 17 | | SW8260B | N | 75-27-4 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Bromoform | ug/l | 140 | 320 | SW8260B | N | 75-25-2 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Bromomethane | ug/l | 1500 | | SW8260B | N | 74-83-9 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Carbon Disulfide | ug/l | 81 | 0.92 | SW8260B | N | 75-15-0 | 0.4 | 0.4 | 0.4 | 0.4 | SUW6B | 1 | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | **0.40 J** | < 1.0 U | < 1.0 U | | |
| Carbon Tetrachloride | ug/l | 1.6 | 1000 | SW8260B | N | 56-23-5 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Chlorobenzene | ug/l | 1600 | 25 | SW8260B | N | 108-90-7 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Chloroethane | ug/l | 2100 | 50 | SW8260B | N | 75-00-3 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Chloroform | ug/l | 470 | 3000 | SW8260B | N | 67-66-3 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Chloromethane | ug/l | 19 | | SW8260B | N | 74-87-3 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| cis-1,2-Dichloroethylene | ug/l | 10000 | | SW8260B | N | 156-59-2 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| cis-1,3-Dichloropropene | ug/l | 21 | | SW8260B | N | 10061-01-5 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Cyclohexane | ug/l | 1300 | | SW8260B | N | 110-82-7 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Dibromochloromethane | ug/l | 13 | | SW8260B | N | 124-48-1 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Dichlorodifluoromethane | ug/l | 20 | | SW8260B | N | 75-71-8 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Ethylbenzene | ug/l | 2100 | 40 | SW8260B | N | 100-41-4 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Isopropylbenzene | ug/l | 45 | 2.6 | SW8260B | N | 98-82-8 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| m, p-Xylene | ug/l | 19 | | SW8260B | N | XYLMP | | | | | | | | 6 | < 2.0 U | < 2.0 U | | < 2.0 U | | | < 2.0 U | < 2.0 U | < 2.0 U | | |
| Methyl Acetate | ug/l | 2000 | | SW8260B | N | 79-20-9 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Methyl tert-Butyl Ether (MTBE) | ug/l | 14 | 11070 | SW8260B | N | 1634-04-4 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Methylcyclohexane | ug/l | 1300 | | SW8260B | N | 108-87-2 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Methylene Chloride | ug/l | 590 | | SW8260B | N | 75-09-2 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| o-Xylene | ug/l | 19 | 350 | SW8260B | N | 95-47-6 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Styrene | ug/l | 120 | | SW8260B | N | 100-42-5 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Tetrachloroethylene | ug/l | 3.3 | 800 | SW8260B | N | 127-18-4 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Toluene | ug/l | 15000 | 600 | SW8260B | N | 108-88-3 | 0.15 | 0.15 | 0.15 | 0.15 | SUW10B | 1 | | 6 | **0.15 J** | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| trans-1,2-Dichloroethene | ug/l | 10000 | 970 | SW8260B | N | 156-60-5 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| trans-1,3-Dichloropropene | ug/l | 21 | 0.055 | SW8260B | N | 10061-02-6 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Trichloroethene | ug/l | 30 | 21 | SW8260B | N | 79-01-6 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Trichlorofluoromethane | ug/l | 520 | 11000 | SW8260B | N | 75-69-4 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Vinyl Chloride | ug/l | 2.4 | 930 | SW8260B | N | 75-01-4 | | | | | | | | 6 | < 1.0 U | < 1.0 U | | < 1.0 U | | | < 1.0 U | < 1.0 U | < 1.0 U | | |
| Xylenes (total) | ug/l | 19 | | SW8260B | N | 1330-20-7 | | | | | | | | 6 | < 2.0 U | < 2.0 U | | < 2.0 U | | | < 2.0 U | < 2.0 U | < 2.0 U | | |
| 1,1'-Biphenyl | ug/l | 0.083 | 14 | SW8270D LL | N | 92-52-4 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 1,2,4,5-Tetrachlorobenzene | ug/l | 1.1 | 3 | SW8270D LL | N | 95-94-3 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 2,2'-oxybis(1-Chloropropane) | ug/l | 65000 | | SW8270D LL | N | 108-60-1 | | | | | | | | 6 | < 0.21 U | < 0.22 U | | < 0.19 U | | | < 0.19 U | < 0.19 U | < 0.19 UJ | | |
| 2,3,4,6-Tetrachlorophenol | ug/l | 24 | 1.2 | SW8270D LL | N | 58-90-2 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 2,4,5-Trichlorophenol | ug/l | 3600 | 63 | SW8270D LL | N | 95-95-4 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 2,4,6-Trichlorophenol | ug/l | 2.4 | 4.9 | SW8270D LL | N | 88-06-2 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 2,4-Dichlorophenol | ug/l | 290 | 11 | SW8270D LL | N | 120-83-2 | | | | | | | | 6 | < 0.21 U | < 0.22 U | | < 0.19 U | | | < 0.19 U | < 0.19 U | < 0.19 U | | |
| 2,4-Dimethylphenol | ug/l | 850 | 200 | SW8270D LL | N | 105-67-9 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 2,4-Dinitrophenol | ug/l | 5300 | 19 | SW8270D LL | N | 51-28-5 | | | | | | | | 6 | < 5.3 U | < 5.6 U | | < 4.8 U | | | < 4.9 U | < 4.8 U | < 4.8 U | | |
| 2,4-Dinitrotoluene | ug/l | 3.4 | 33 | SW8270D LL | N | 121-14-2 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 2,6-Dinitrotoluene | ug/l | 0.049 | 81 | SW8270D LL | N | 606-20-2 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 2-Chloronaphthalene | ug/l | 1600 | 200 | SW8270D LL | N | 91-58-7 | | | | | | | | 6 | < 0.21 U | < 0.22 U | | < 0.19 U | | | < 0.19 U | < 0.19 U | < 0.19 U | | |
| 2-Chlorophenol | ug/l | 150 | 100 | SW8270D LL | N | 95-57-8 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 2-Methylnaphthalene | ug/l | 3.6 | 4.7 | SW8270D LL | N | 91-57-6 | 0.016 | 0.016 | 0.016 | 0.016 | SUW3C | 1 | | 6 | < 0.21 U | < 0.22 U | | **0.016 J** | | | < 0.19 U | < 0.19 U | < 0.19 U | | |
| 2-Methylphenol | ug/l | 93 | 13 | SW8270D LL | N | 95-48-7 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 2-Nitroaniline | ug/l | 19 | | SW8270D LL | N | 88-74-4 | | | | | | | | 6 | < 5.3 U | < 5.6 U | | < 4.8 U | | | < 4.9 U | < 4.8 U | < 4.8 U | | |
| 2-Nitrophenol | ug/l | 580 | 1920 | SW8270D LL | N | 88-75-5 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 3,3'-Dichlorobenzidine | ug/l | 0.028 | 10 | SW8270D LL | N | 91-94-1 | | | | | | | 1 | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | R | | |
| 3-Nitroaniline | ug/l | 3.8 | | SW8270D LL | N | 99-09-2 | | | | | | | | 6 | < 5.3 U | < 5.6 U | | < 4.8 U | | | < 4.9 U | < 4.8 U | < 4.8 U | | |
| 4,6-Dinitro-2-methylphenol | ug/l | 280 | | SW8270D LL | N | 534-52-1 | | | | | | | | 6 | < 5.3 U | < 5.6 U | | < 4.8 U | | | < 4.9 U | < 4.8 U | < 4.8 U | | |

**Table 4-30**
**Waterside Investigation Area Surface Water Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | SUW10B | SUW1B | SUW2B | SUW3C | SUW4B | SUW5C | SUW6B | SUW6B | SUW7B | SUW8B | SUW9C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | Sample ID | SUW10BN | SUW1BN | SUW2BN | SUW3CN | SUW4BN | SUW5CN | SUW6BN | SUW6BR | SUW7BN | SUW8BN | SUW9CN |
| | | | | | | | | | | | | | | Sample Date | 9/26/2013 | 9/23/2013 | 9/23/2013 | 9/23/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/25/2013 |
| | | | | | | | | | | | | | | Type | N | N | N | N | N | N | N | FD | N | N | N |
| 4-Bromophenyl-phenylether | ug/l | | 1.5 | SW8270D LL | N | 101-55-3 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 4-Chloro-3-methylphenol | ug/l | 2000 | | SW8270D LL | N | 59-50-7 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 4-Chloroaniline | ug/l | 0.37 | 232 | SW8270D LL | N | 106-47-8 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 4-Chlorophenyl-phenylether | ug/l | | | SW8270D LL | N | 7005-72-3 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 4-Methylphenol | ug/l | 190 | 543 | SW8270D LL | N | 106-44-5 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| 4-Nitroaniline | ug/l | 3.8 | | SW8270D LL | N | 100-01-6 | | | | | | | | 6 | < 5.3 U | < 5.6 U | | < 4.8 U | | | < 4.9 U | < 4.8 U | < 4.8 U | | |
| 4-Nitrophenol | ug/l | 580 | 60 | SW8270D LL | N | 100-02-7 | | | | | | | | 6 | < 5.3 U | < 5.6 U | | < 4.8 U | | | < 4.9 U | < 4.8 U | < 4.8 U | | |
| Acenaphthene | ug/l | 990 | 50 | SW8270D LL | N | 83-32-9 | | | | | | | | 11 | < 0.21 U | < 0.22 U | < 0.27 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.21 U |
| Acenaphthylene | ug/l | 53 | 4840 | SW8270D LL | N | 208-96-8 | | | | | | | | 11 | < 0.21 U | < 0.22 U | < 0.27 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.21 U |
| Acetophenone | ug/l | 190 | | SW8270D LL | N | 98-86-2 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| Anthracene | ug/l | 40000 | *0.012* | SW8270D LL | N | 120-12-7 | 0.018 | 0.018 | 0.018 | 0.018 | SUW4B | 1 | | 11 | < 0.21 U | < 0.22 U | < 0.27 U | < 0.19 U | ***0.018 J*** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.21 U |
| Atrazine | ug/l | 0.3 | | SW8270D LL | N | 1912-24-9 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| Benzaldehyde | ug/l | 19 | | SW8270D LL | N | 100-52-7 | | | | | | | | 6 | < 1.1 U | < 1.1 UJ | | < 0.96 UJ | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| Benzo(a)anthracene | ug/l | 0.018 | | SW8270D LL | N | 56-55-3 | | | | | | | | 11 | < 0.21 U | < 0.22 U | < 0.27 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.21 U |
| Benzo(a)pyrene | ug/l | 0.018 | | SW8270D LL | N | 50-32-8 | | | | | | | | 11 | < 0.21 U | < 0.22 U | < 0.27 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.21 U |
| Benzo(b)fluoranthene | ug/l | 0.018 | 9.07 | SW8270D LL | N | 205-99-2 | | | | | | | | 11 | < 0.21 U | < 0.22 U | < 0.27 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.21 U |
| Benzo(g,h,i)perylene | ug/l | 12 | 7.64 | SW8270D LL | N | 191-24-2 | | | | | | | | 11 | < 0.21 U | < 0.22 U | < 0.27 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.21 U |
| Benzo(k)fluoranthene | ug/l | 0.018 | 0.015 | SW8270D LL | N | 207-08-9 | | | | | | | | 11 | < 0.21 U | < 0.22 U | < 0.27 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.21 U |
| bis-(2-chloroethoxy)methane | ug/l | 5.9 | 11000 | SW8270D LL | N | 111-91-1 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| bis-(2-Chloroethyl)ether | ug/l | 0.53 | | SW8270D LL | N | 111-44-4 | | | | | | | | 6 | < 0.21 U | < 0.22 U | | < 0.19 U | | | < 0.19 U | < 0.19 U | < 0.19 U | | |
| bis-(2-Ethylhexyl)phthalate | ug/l | 2.2 | 16 | SW8270D LL | N | 117-81-7 | 2.2 | 1.4 | 1.9 | 2.2 | SUW10B SUW6B | 3 | | 6 | **2.2** | **1.4 J** | | < 1.9 U | | | **2.2** | < 1.9 U | < 1.9 U | | |
| Butylbenzylphthalate | ug/l | 1900 | 19 | SW8270D LL | N | 85-68-7 | 0.86 | 0.86 | 0.86 | 0.86 | SUW6B | 2 | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | **0.86 J** | **0.86 J** | < 0.96 U | | |
| Caprolactam | ug/l | 990 | | SW8270D LL | N | 105-60-2 | | | | | | | | 6 | < 5.3 U | < 5.6 U | | < 4.8 U | | | < 4.9 U | < 4.8 U | < 4.8 U | | |
| Carbazole | ug/l | 29 | | SW8270D LL | N | 86-74-8 | 0.037 | 0.037 | 0.037 | 0.037 | SUW3C | 1 | | 6 | < 0.21 U | < 0.22 U | | **0.037 J** | | | < 0.19 U | < 0.19 U | < 0.19 U | | |
| Chrysene | ug/l | 0.018 | 0.015 | SW8270D LL | N | 218-01-9 | | | | | | | | 11 | < 0.21 U | < 0.22 U | < 0.27 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.21 U |
| Dibenzo(a,h)anthracene | ug/l | 0.018 | 0.015 | SW8270D LL | N | 53-70-3 | | | | | | | | 11 | < 0.21 U | < 0.22 U | < 0.27 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.21 U |
| Dibenzofuran | ug/l | 0.79 | 3.7 | SW8270D LL | N | 132-64-9 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| Diethylphthalate | ug/l | 44000 | 210 | SW8270D LL | N | 84-66-2 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| Dimethylphthalate | ug/l | 1.1e+006 | 3 | SW8270D LL | N | 131-11-3 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| Di-n-butylphthalate | ug/l | 4500 | 19 | SW8270D LL | N | 84-74-2 | 0.51 | 0.47 | 0.49 | 0.49 | SUW6B | 2 | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | **0.47 J** | **0.51 J** | < 0.96 U | | |
| Di-n-octylphthalate | ug/l | 20 | 22 | SW8270D LL | N | 117-84-0 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| Fluoranthene | ug/l | 140 | 400 | SW8270D LL | N | 206-44-0 | 0.036 | 0.017 | 0.028 | 0.031 | SUW3C | 7 | | 11 | < 0.21 U | **0.032 J** | **0.031 J** | **0.036 J** | **0.035 J** | < 0.19 U | **0.017 J** | **0.025 J** | < 0.19 U | **0.019 J** | < 0.21 U |
| Fluorene | ug/l | 5300 | 3 | SW8270D LL | N | 86-73-7 | | | | | | | | 11 | < 0.21 U | < 0.22 U | < 0.27 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.21 U |
| Hexachlorobenzene | ug/l | 0.00029 | 0.0003 | SW8270D LL | N | 118-74-1 | | | | | | | | 6 | < 0.21 U | < 0.22 U | | < 0.19 U | | | < 0.19 U | < 0.19 U | < 0.19 U | | |
| Hexachlorobutadiene | ug/l | 18 | 10 | SW8270D LL | N | 87-68-3 | | | | | | | | 6 | < 0.21 U | < 0.22 U | | < 0.19 U | | | < 0.19 U | < 0.19 U | < 0.19 U | | |
| Hexachlorocyclo-pentadiene | ug/l | 1100 | 0.5 | SW8270D LL | N | 77-47-4 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 UJ | < 0.96 UJ | < 0.96 UJ | | |
| Hexachloroethane | ug/l | 3.3 | 12 | SW8270D LL | N | 67-72-1 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 UJ | | |
| Indeno(1,2,3-cd)pyrene | ug/l | 0.018 | 4.31 | SW8270D LL | N | 193-39-5 | | | | | | | | 11 | < 0.21 U | < 0.22 U | < 0.27 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.21 U |
| Isophorone | ug/l | 960 | 1000 | SW8270D LL | N | 78-59-1 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| Naphthalene | ug/l | 0.17 | 600 | SW8270D LL | N | 91-20-3 | | | | | | | | 11 | < 0.21 U | < 0.22 U | < 0.27 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.21 U |
| Nitrobenzene | ug/l | 690 | 1000 | SW8270D LL | N | 98-95-3 | | | | | | | | 6 | < 2.1 U | < 2.2 U | | < 1.9 U | | | < 1.9 U | < 1.9 U | < 1.9 U | | |
| N-Nitroso-di-n-propylamine | ug/l | 0.51 | | SW8270D LL | N | 621-64-7 | | | | | | | | 6 | < 0.21 U | < 0.22 U | | < 0.19 U | | | < 0.19 U | < 0.19 U | < 0.19 U | | |
| N-Nitrosodiphenylamine | ug/l | 6 | 210 | SW8270D LL | N | 86-30-6 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| Pentachlorophenol | ug/l | 3 | 5.10209 | SW8270D LL | N | 87-86-5 | | | | | | | | 6 | < 1.1 U | < 1.1 U | | < 0.96 U | | | < 0.97 U | < 0.96 U | < 0.96 U | | |
| Phenanthrene | ug/l | 180 | 0.4 | SW8270D LL | N | 85-01-8 | | | | | | | | 11 | < 0.21 U | < 0.22 U | < 0.27 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.21 U |
| Phenol | ug/l | 860000 | 4 | SW8270D LL | N | 108-95-2 | | | | | | | | 6 | < 0.21 U | < 0.22 U | | < 0.19 U | | | < 0.19 U | < 0.19 U | < 0.19 U | | |
| Pyrene | ug/l | 4000 | *0.025* | SW8270D LL | N | 129-00-0 | 0.038 | 0.021 | 0.03 | 0.03 | SUW1B | 4 | | 11 | < 0.21 U | ***0.038 J*** | ***0.026 J*** | ***0.034 J*** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | **0.021 J** |
| BaP-TE | ug/l | 0.018 | | SW8270D LL | N | BAP | | | | | | | | 11 | < 0.210 U | < 0.220 U | < 0.270 U | < 0.190 U | < 0.190 U | < 0.190 U | < 0.190 U | < 0.190 U | < 0.190 U | < 0.190 U | < 0.210 U |
| Total High-molecular-weight PAHs | ug/l | | *0.015* | SW8270D LL | N | TOT-PAH-HMW | 0.07 | 0.017 | 0.039 | 0.03 | SUW1B SUW3C | 8 | | 11 | < 0.21 U | ***0.070*** | ***0.057*** | ***0.070*** | ***0.035*** | < 0.19 U | ***0.017*** | ***0.025*** | < 0.19 U | ***0.019*** | ***0.021*** |
| Total Low-molecular-weight PAHs | ug/l | | *0.012* | SW8270D LL | N | TOT-PAH-LMW | 0.018 | 0.018 | 0.018 | 0.018 | SUW4B | 1 | | 11 | < 0.21 U | < 0.22 U | < 0.27 U | < 0.19 U | ***0.018*** | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.19 U | < 0.21 U |
| Total PAHs (sum 16) | ug/l | | *0.012* | SW8270D LL | N | TOT-PAH | 0.07 | 0.017 | 0.042 | 0.039 | SUW1B SUW3C | 8 | | 11 | < 0.21 U | ***0.070*** | ***0.057*** | ***0.070*** | ***0.053*** | < 0.19 U | ***0.017*** | ***0.025*** | < 0.19 U | ***0.019*** | ***0.021*** |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/l | | | SW8290A | N | 67562-39-4 | 2.28 | 1.11 | 1.47 | 1.41 | SUW6B | 6 | | 6 | **1.47 J** | **1.41 J** | | **1.41 J** | | | **2.28 J** | **1.16 J** | **1.11 J** | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/l | | | SW8290A | N | 35822-46-9 | 7.77 | 6.59 | 7.24 | 7.26 | SUW6B | 6 | | 6 | **7.71 J** | **6.59 J** | | **7.00 J** | | | **7.77 J** | **7.51 J** | **6.85 J** | | |

**Table 4-30**
**Waterside Investigation Area Surface Water Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | Location ID | SUW10B | SUW1B | SUW2B | SUW3C | SUW4B | SUW5C | SUW6B | SUW6B | SUW7B | SUW8B | SUW9C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | Sample ID | SUW10BN | SUW1BN | SUW2BN | SUW3CN | SUW4BN | SUW5CN | SUW6BN | SUW6BR | SUW7BN | SUW8BN | SUW9CN |
| | | | | | | | | | | | | | | Sample Date | 9/26/2013 | 9/23/2013 | 9/23/2013 | 9/23/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/24/2013 | 9/25/2013 |
| | | | | | | | | | | | | | | Type | N | N | N | N | N | N | N | FD | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | | | | |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/l | | | SW8290A | N | 55673-89-7 | 0.601 | 0.552 | 0.577 | 0.577 | SUW1B | 2 | | 6 | < 0.144 U | **0.601 J** | | **0.552 J** | | | < 0.101 U | < 0.0564 U | < 0.0690 U | | |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/l | | | SW8290A | N | 70648-26-9 | 0.68 | 0.68 | 0.68 | 0.68 | SUW3C | 1 | | 6 | < 0.103 U | < 0.0935 U | | **0.680 J** | | | < 0.0988 U | < 0.258 U | < 0.0646 U | | |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/l | | | SW8290A | N | 39227-28-6 | 0.559 | 0.559 | 0.559 | 0.559 | SUW6B | 1 | | 6 | < 0.0818 U | < 0.0887 U | | < 0.0898 U | | | < 0.0837 U | **0.559 J** | < 0.0797 U | | |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/l | | | SW8290A | N | 57117-44-9 | 1.19 | 0.796 | 0.993 | 0.993 | SUW6B | 2 | | 6 | < 0.108 U | < 0.0946 U | | **0.796 J** | | | **1.19 J** | < 0.0586 U | < 0.0648 U | | |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/l | | | SW8290A | N | 57653-85-7 | 0.455 | 0.42 | 0.435 | 0.429 | SUW7B | 3 | | 6 | < 0.0808 U | **0.420 J** | | < 0.288 U | | | **0.429 J** | < 0.0718 U | **0.455 J** | | |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/l | | | SW8290A | N | 72918-21-9 | 0.904 | 0.198 | 0.488 | 0.362 | SUW10B | 3 | | 6 | **0.904 J** | **0.198 J** | | **0.362 J** | | | < 0.107 U | < 0.0669 U | < 0.0733 U | | |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/l | | | SW8290A | N | 19408-74-3 | 0.736 | 0.213 | 0.423 | 0.443 | SUW3C | 5 | | 6 | < 0.0736 U | **0.443 J** | | **0.736 J** | | | **0.213 J** | **0.498 J** | **0.224 J** | | |
| 1,2,3,7,8-PeCDF | pg/l | | | SW8290A | N | 57117-41-6 | | | | | | | | 6 | < 0.0873 U | < 0.184 U | | < 0.101 U | | | < 0.0785 U | < 0.0652 U | < 0.0609 U | | |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/l | | | SW8290A | N | 40321-76-4 | | | | | | | | 6 | < 0.0421 U | < 0.0509 U | | < 0.0539 U | | | < 0.0457 U | < 0.0426 U | < 0.0506 U | | |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/l | | | SW8290A | N | 60851-34-5 | 0.418 | 0.418 | 0.418 | 0.418 | SUW7B | 1 | | 6 | < 0.0911 U | < 0.275 U | | < 0.0843 U | | | < 0.0994 U | < 0.0521 U | **0.418 J** | | |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/l | | | SW8290A | N | 57117-31-4 | 0.692 | 0.444 | 0.568 | 0.568 | SUW6B | 2 | | 6 | < 0.0837 U | < 0.0850 U | | < 0.0838 U | | | **0.692 J** | < 0.0585 U | **0.444 J** | | |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/l | | | SW8290A | N | 51207-31-9 | 0.419 | 0.419 | 0.419 | 0.419 | SUW3C | 1 | | 6 | < 0.0800 U | < 0.0775 U | | **0.419 J** | | | < 0.0760 U | < 0.0638 U | < 0.0724 U | | |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/l | 0.051 | | SW8290A | N | 1746-01-6 | 0.148 | 0.148 | 0.148 | 0.148 | SUW3C | 1 | | 6 | < 0.0721 U | < 0.0623 U | | **0.148 J** | | | < 0.0520 U | < 0.0406 U | < 0.0709 U | | |
| Octachlorochlorodibenzofuran | pg/l | | | SW8290A | N | 39001-02-0 | 3.35 | 1.49 | 2.22 | 1.92 | SUW3C | 6 | | 6 | **1.96 J** | **2.95 J** | | **3.35 J** | | | **1.88 J** | **1.49 J** | **1.67 J** | | |
| Octachlorochlorodibenzo-p-dioxin | pg/l | | | SW8290A | N | 3268-87-9 | 248 | 182 | 208 | 205 | SUW3C | 6 | | 6 | **191** | **190** | | **248** | | | **219** | **218** | **182 J** | | |
| Total HpCDD | pg/l | | | SW8290A | N | 37871-00-4 | 17.1 | 13.9 | 16 | 16.4 | SUW3C | 6 | | 6 | **16.8 J** | **15.9 J** | | **17.1 J** | | | **16.8 J** | **15.6 J** | **13.9 J** | | |
| Total HpCDF | pg/l | | | SW8290A | N | 38998-75-3 | 3.71 | 1.47 | 2.38 | 2.19 | SUW6B | 6 | | 6 | **1.47 J** | **2.88 J** | | **1.96 J** | | | **3.71 J** | **2.41 J** | **1.84 J** | | |
| Total HxCDD | pg/l | | | SW8290A | N | 34465-46-8 | 3.77 | 0.807 | 2.5 | 2.66 | SUW3C | 6 | | 6 | **0.807 J** | **3.42 J** | | **3.77 J** | | | **1.90 J** | **3.75 J** | **1.34 J** | | |
| Total HxCDF | pg/l | | | SW8290A | N | 55684-94-1 | 9.11 | 5 | 6.45 | 5.57 | SUW3C | 6 | | 6 | **5.00 J** | **5.67 J** | | **9.11 J** | | | **8.09 J** | **5.36 J** | **5.46 J** | | |
| Total PeCDD | pg/l | | | SW8290A | N | 36088-22-9 | 3.08 | 0.333 | 1.38 | 0.73 | SUW1B | 3 | | 6 | < 0.0421 U | **3.08 J** | | < 0.0539 U | | | **0.333 J** | **0.730 J** | < 0.0506 U | | |
| Total PeCDF | pg/l | | | SW8290A | N | 30402-15-4 | 13.3 | 6.82 | 9.27 | 9.19 | SUW3C | 6 | | 6 | **6.82 J** | **10.2 J** | | **13.3 J** | | | **9.70 J** | **8.67 J** | **6.92 J** | | |
| Total TCDD | pg/l | | | SW8290A | N | 41903-57-5 | 0.538 | 0.538 | 0.538 | 0.538 | SUW7B | 1 | | 6 | < 0.0721 U | < 0.110 U | | < 0.148 U | | | < 0.0520 U | < 0.102 U | **0.538 J** | | |
| Total TCDF | pg/l | | | SW8290A | N | 55722-27-5 | 21.2 | 10.5 | 14.9 | 15.1 | SUW3C | 6 | | 6 | **10.5 J** | **16.0 J** | | **21.2 J** | | | **15.7 J** | **11.3 J** | **14.5 J** | | |
| TCDD TEQ Bird | pg/l | | | SW8290A | N | DFTEQ-Bird | 0.889 | 0.114 | 0.447 | 0.341 | SUW6B | 6 | | 6 | **0.132** | **0.114** | | **0.876** | | | **0.889** | **0.119** | **0.549** | | |
| TCDD TEQ Fish | pg/l | | 10 | SW8290A | N | DFTEQ-Fish | 0.524 | 0.0744 | 0.296 | 0.317 | SUW6B | 6 | | 6 | **0.132** | **0.0744** | | **0.412** | | | **0.524** | **0.326** | **0.307** | | |
| TCDD TEQ HH | pg/l | 0.051 | | SW8290A | N | DFTEQ-HH | 0.612 | 0.24 | 0.383 | 0.318 | SUW3C | 6 | | 6 | **0.240** | **0.250** | | **0.612** | | | **0.558** | **0.258** | **0.378** | | |

Notes:

Bold values indicate detects. Highlighted values indicate exceedance of the Human Health Risk Assessment (HHRA) screening level.
Italicized values indicate exceedance of the Ecological Risk Assessment (ERA) screening level.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
D = Dissolved
deg F = degrees Farenheit
mg/l = milligrams per liter
ms/cm = millisiemens per centimeter
mV = millivolt
ntu = nephelometric turbidity units
pg/l = picograms per liter

ppt = parts per trillion
ug/l = micrograms per liter
T = Total
N = Normal
FD = Field Duplicate
HHRA and ERA screening values provided for detected compounds or compound sums where applicable.
(a) The HHRA selected surface water screening level was chosen from the following hierarchy:
1) DOEE SW Class D (2013) 2) NRWQC, organism only (9/2017) 3) RSL Table, May 2018 Tapwater [ELCR = 1E-6, HQ=0.1]
(b) Chronic ESVs selected based on a hierarchy of water quality standards and benchmarks from DDOE WQS Criteria (DOH, 2014), USEPA Region 3 freshwater screening values (USEPA, 2006), and literature values (Suter and Tsao, 1996; Buchman, 2008).

**Table 4-31**
**Inorganic Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location ID | SED1.5B | SED1.5C | SED1.5C | SED10A | SED10B | SED10C |
| | | | | | Sample Date | 11/6/2013 12:25:00 PM | 6/21/2017 8:15:00 AM | 6/21/2017 8:17:00 AM | 11/11/2013 1:00:00 PM | 11/11/2013 1:59:00 PM | 11/11/2013 3:00:00 PM |
| | | | | | Sample ID | SED1.5B00N | SED1.5C00AN | SED1.5C00AR | SED10A00N | SED10B00N | SED10C00N |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | Type | N | N | FD | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | |
| Total Organic Carbon | mg/kg | | | | | 37000 | | | 55000 | 24000 | 37000 |
| SEM/AVS Ratio | none | | | | | 1.5 | | | 2.0 | 2.0 | 1.3 |
| Arsenic | umol/g | | | | | 0.0086 J | | | 0.017 J | 0.011 J | 0.012 J |
| Cadmium | umol/g | | | | | 0.0071 | | | 0.0014 J | 0.0022 | 0.0029 |
| Chromium | umol/g | | | | | 0.22 | | | 0.14 | 0.17 J | 0.20 |
| Copper | umol/g | | | | | 0.37 | | | 0.16 | 0.26 J | 0.34 |
| Lead | umol/g | | | | | 0.26 | | | 0.056 | 0.16 J | 0.17 |
| Nickel | umol/g | | | | | 0.22 | | | 0.33 | 0.22 | 0.26 |
| Silver | umol/g | | | | | < 0.0024 UJ | | | < 0.0029 UJ | 0.00036 J | 0.00062 J |
| Zinc | umol/g | | | | | 2.5 | | | 0.92 | 1.5 | 1.8 |
| Mercury | umol/g | | | | | < 0.00013 U | | | < 0.00016 U | 0.000049 J | 0.000052 J |
| Sulfide | umol/g | | | | | 2.5 J | | | < 1.2 U | < 1.2 U | 2.3 |
| Beryllium-7 | pCi/g | | | | | | 0.231 | 0.444 | | | |
| Cesium-137 | pCi/g | | | | | | 0.0425 | 0.0733 | | | |
| Radium-226 | pCi/g | | | | | | 0.975 | 1.10 | | | |
| Polonium-210 | pCi/g | | | | | | 1.94 | 2.80 | | | |
| Aluminum | mg/kg | 7700 | | 15034 | | 10000 | 5600 | | 6900 | 3300 | 5300 |
| Antimony | mg/kg | 3.1 | 2 | 0.92 | | 0.48 J- | 0.60 J | | 0.050 J- | 0.20 J- | 0.31 J- |
| Arsenic | mg/kg | 0.68 | 5.9 | 4.9 | | 4.1 | 3.0 | | 2.8 J- | 1.3 J- | 2.1 J- |
| Barium | mg/kg | 1500 | 0.7 | 107 | | 98 | 52 | | 79 J+ | 38 | 63 |
| Beryllium | mg/kg | 16 | | 1.6 | | 1.3 | 0.75 | | 1.2 | 0.53 | 0.85 |
| Cadmium | mg/kg | 7.1 | 0.583 | | | 1.4 | 0.77 | | 0.33 | 0.37 | 0.60 |
| Calcium | mg/kg | EN | | | | 3500 | 1900 | | 1300 J- | 1700 | 2700 |
| Chromium | mg/kg | 12000 | 26 | | | 47 J+ | 28 J | | 13 J+ | 16 J+ | 24 J+ |
| Cobalt | mg/kg | 2.3 | 50 | 21 | | 20 | 13 | | 13 J | 8.9 | 16 |
| Copper | mg/kg | 310 | 31.6 | | | 53 J+ | 37 J | | 9.8 | 22 | 40 |
| Iron | mg/kg | 5500 | 20000 | | | 27000 | 15000 | | 17000 | 12000 | 17000 |
| Lead | mg/kg | 400 | 31 | | | 99 | 43 | | 11 J | 31 | 44 |
| Magnesium | mg/kg | EN | | | | 3600 | 2500 | | 1400 | 1600 | 2500 |
| Manganese | mg/kg | 180 | 460 | 436 | | 470 | 130 J | | 480 | 190 J+ | 210 J+ |
| Nickel | mg/kg | 150 | 16 | 40 | | 38 | 23 | | 16 | 16 | 26 |
| Potassium | mg/kg | EN | | | | 1200 | 1100 | | 560 | 580 | 1000 |
| Selenium | mg/kg | 39 | | | | 1.3 | 0.59 J | | 0.30 J | 0.42 J- | 0.76 J- |
| Silver | mg/kg | 39 | 0.5 | | | 0.48 | 0.52 | | 0.061 J | 0.10 | 0.18 |
| Sodium | mg/kg | EN | | | | 120 | 110 | | 100 | 63 | 100 |
| Thallium | mg/kg | 0.078 | | 0.31 | | 0.22 | 0.15 | | 0.11 J | 0.10 | 0.17 |
| Vanadium | mg/kg | 39 | | 43 | | 39 | 27 | | 23 J+ | 14 | 23 |
| Zinc | mg/kg | 2300 | 98 | | | 250 | 180 | | 46 J+ | 99 J | 160 J |
| Mercury | mg/kg | 2.3 | 0.174 | | | 0.17 | 0.10 J | | 0.075 | 0.099 J | 0.10 J |

**Table 4-31**
**Inorganic Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | SED1A | SED1B | SED1C | SED2.5B | SED2A | SED2B | SED2C | SED3.5B | SED3A | SED3B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location ID | SED1A | SED1B | SED1C | SED2.5B | SED2A | SED2B | SED2C | SED3.5B | SED3A | SED3B |
| | | | | | S Sample Date | 11/6/2013 2:00:00 PM | 11/6/2013 2:05:00 PM | 11/7/2013 10:25:00 AM | 11/7/2013 9:34:00 AM | 11/6/2013 11:05:00 AM | 11/5/2013 2:26:00 PM | 11/6/2013 9:16:00 AM | 11/12/2013 11:44:00 AM | 11/7/2013 1:37:00 PM | 11/8/2013 9:37:00 AM |
| | | | | | Sample ID | SED1A00N | SED1B00N | SED1C00N | SED2.5B00N | SED2A00N | SED2B00N | SED2C00N | SED3.5B00N | SED3A00N | SED3B00N |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | Type | N | N | N | N | N | N | N | N | N | N |
| Total Organic Carbon | mg/kg | | | | | 51000 | 23000 | 25000 | 23000 | 48000 | 33000 | 35000 | 8400 | 46000 | 6300 |
| SEM/AVS Ratio | none | | | | | 2.2 | 1.1 | 1.5 | 1.2 | 2.3 | 1.1 | 0.56 | 2.9 | 2.4 | 5.5 |
| Arsenic | umol/g | | | | | 0.012 J | 0.011 J | 0.0053 J | 0.0066 J | 0.017 J | 0.0080 J | 0.0065 J | 0.0087 J | 0.010 J | 0.0040 J |
| Cadmium | umol/g | | | | | 0.0055 | < 0.0043 U | 0.0036 | 0.0028 | 0.0048 | 0.0027 | 0.0068 | 0.0018 | < 0.0045 U | 0.0017 |
| Chromium | umol/g | | | | | 0.24 | 0.14 | 0.12 | 0.14 | 0.25 | 0.11 | 0.19 | 0.12 | 0.061 | 0.10 |
| Copper | umol/g | | | | | 0.72 | 0.36 | 0.23 | 0.23 | 0.47 | 0.19 | 0.33 | 0.15 | 0.14 | 0.086 |
| Lead | umol/g | | | | | 0.24 | 0.12 | 0.14 | 0.14 | 0.20 | 0.12 | 0.37 | 0.094 | 0.042 | 0.085 |
| Nickel | umol/g | | | | | 0.26 | 0.10 | 0.13 | 0.14 | 0.25 | 0.16 | 0.24 | 0.12 | 0.12 | 0.060 |
| Silver | umol/g | | | | | < 0.0031 UJ | < 0.0045 UJ | < 0.0019 UJ | < 0.0020 UJ | < 0.0030 UJ | < 0.0025 UJ | < 0.0023 UJ | < 0.0017 UJ | < 0.0047 UJ | < 0.0016 UJ |
| Zinc | umol/g | | | | | 2.9 | 1.2 | 1.7 | 1.5 | 2.3 | 1.6 J | 2.8 | 1.0 | 0.77 | 0.81 |
| Mercury | umol/g | | | | | 0.000034 J | < 0.00012 U | 0.000019 J | 0.000012 J | 0.000042 J | < 0.00013 U | 0.000013 J | 0.000079 J | < 0.00013 U | < 0.000085 U |
| Sulfide | umol/g | | | | | 2.0 J | 1.9 J | 1.7 J | 1.9 J | 1.6 J | 2.1 J | 7.3 J | < 0.70 U | < 0.95 UJ | < 0.64 UJ |
| Beryllium-7 | pCi/g | | | | | | | | | | | | | | |
| Cesium-137 | pCi/g | | | | | | | | | | | | | | |
| Radium-226 | pCi/g | | | | | | | | | | | | | | |
| Polonium-210 | pCi/g | | | | | | | | | | | | | | |
| Aluminum | mg/kg | 7700 | | 15034 | | 11000 | 18000 | 5200 | 6500 | 8300 | 7600 | 6200 | 2000 | 14000 | 1900 |
| Antimony | mg/kg | 3.1 | 2 | 0.92 | | 0.62 J- | 0.29 | 0.39 | 0.39 | 0.53 J- | 0.48 J- | 0.50 J- | 0.15 J- | < 0.20 U | 0.17 |
| Arsenic | mg/kg | 0.68 | 5.9 | 4.9 | | 4.0 | 3.9 | 2.0 | 1.9 | 3.6 | 2.9 | 2.6 | 0.96 J- | 1.8 | 0.79 |
| Barium | mg/kg | 1500 | 0.7 | 107 | | 110 | 140 | 53 | 60 | 86 | 76 | 61 | 30 | 180 | 29 |
| Beryllium | mg/kg | 16 | | 1.6 | | 1.5 | 1.5 | 0.63 | 0.80 | 1.1 | 0.89 | 0.82 | 0.36 | 1.9 | 0.32 |
| Cadmium | mg/kg | 7.1 | 0.583 | | | 1.0 | 0.62 | 0.58 | 0.52 | 0.99 | 0.81 | 0.92 | 0.36 | 0.59 | 0.24 |
| Calcium | mg/kg | EN | | | | 3600 | 2500 | 1900 | 2300 | 5100 | 2500 | 2500 | 1100 | 1100 | 7700 J- |
| Chromium | mg/kg | 12000 | 26 | | | 49 J+ | 37 | 24 | 30 | 37 J+ | 38 J+ | 29 J+ | 11 J+ | 24 | 11 J+ |
| Cobalt | mg/kg | 2.3 | 50 | 21 | | 21 | 15 | 11 | 12 | 18 | 16 | 18 | 6.7 | 16 | 4.8 |
| Copper | mg/kg | 310 | 31.6 | | | 65 J+ | 50 | 28 | 33 | 54 J+ | 45 J+ | 40 J+ | 17 | 17 | 9.6 |
| Iron | mg/kg | 5500 | 20000 | | | 31000 | 30000 | 14000 | 17000 | 25000 | 22000 | 19000 | 8300 | 16000 | 8300 |
| Lead | mg/kg | 400 | 31 | | | 73 | 50 | 37 | 44 | 72 | 63 | 61 | 19 | 16 | 20 |
| Magnesium | mg/kg | EN | | | | 3800 | 3200 | 2600 | 2800 | 3400 | 2600 | 2800 | 840 | 2600 | 870 |
| Manganese | mg/kg | 180 | 460 | 436 | | 460 | 470 | 160 | 210 | 420 | 310 | 200 | 120 J+ | 300 | 120 J- |
| Nickel | mg/kg | 150 | 16 | 40 | | 39 | 23 | 19 | 22 | 37 | 30 | 29 | 11 | 26 | 8.0 |
| Potassium | mg/kg | EN | | | | 1300 | 1300 | 1000 | 1100 | 1000 | 1000 | 1000 | 410 | 880 | 500 |
| Selenium | mg/kg | 39 | | | | 1.4 | 1.4 | 0.53 | 0.62 | 1.2 | 0.95 | 0.84 | 0.31 J- | 1.2 | 0.23 J |
| Silver | mg/kg | 39 | 0.5 | | | 0.36 | 0.25 | 0.15 | 0.16 | 0.30 | 0.34 | 0.27 | 0.064 J | 0.097 J | 0.044 J |
| Sodium | mg/kg | EN | | | | 160 | 130 | 110 | 120 | 180 | 110 | 140 | 47 | 65 | 75 |
| Thallium | mg/kg | 0.078 | | 0.31 | | 0.25 | 0.29 | 0.15 | 0.16 | 0.19 | 0.18 | 0.19 | 0.065 J | 0.18 | 0.057 J |
| Vanadium | mg/kg | 39 | | 43 | | 44 | 38 | 21 | 22 | 32 | 29 | 27 | 9.6 | 26 | 8.5 J+ |
| Zinc | mg/kg | 2300 | 98 | | | 240 | 150 | 140 | 130 | 190 | 180 | 200 | 68 J | 73 | 60 |
| Mercury | mg/kg | 2.3 | 0.174 | | | 0.23 | 0.23 | 0.11 | 0.086 | 0.16 | 0.13 | 0.15 | 0.067 J | 0.064 | 0.033 |

**Table 4-31**
**Inorganic Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location ID | SED3C | SED3C | SED4.5B | SED4A | SED4B | SED4B | SED4C | SED5.5B | SED5A | SED5B |
| | | | | | S Sample Date | 11/7/2013 12:27:00 PM | 11/7/2013 12:27:00 PM | 11/8/2013 10:16:00 AM | 11/12/2013 1:33:00 PM | 11/12/2013 12:13:00 PM | 11/12/2013 12:13:00 PM | 11/12/2013 2:09:00 PM | 11/12/2013 2:53:00 PM | 11/8/2013 11:37:00 AM | 11/8/2013 12:30:00 PM |
| | | | | | Sample ID | SED3C00N | SED3C00R | SED4.5B00N | SED4A00N | SED4B00N | SED4B00R | SED4C00N | SED5.5B00N | SED5A00N | SED5B00N |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | Type | N | FD | N | N | N | FD | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | | |
| Total Organic Carbon | mg/kg | | | | | 37000 | 43000 | 43000 | 47000 | 17000 | 20000 | 56000 | 58000 | 35000 | 39000 |
| SEM/AVS Ratio | none | | | | | 0.70 | 0.54 | 8.2 | 3.0 | 2.0 | 0.65 | 2.1 | 1.3 | 2.1 | 2.5 |
| Arsenic | umol/g | | | | | 0.0052 J | 0.0069 J | 0.011 J | 0.023 J | 0.014 J | 0.0098 J | 0.016 J | 0.015 J | 0.022 J | 0.026 J |
| Cadmium | umol/g | | | | | 0.0031 | 0.0032 | 0.0058 | 0.0044 | 0.0058 | 0.0057 | 0.0073 J | 0.0094 | 0.0036 | 0.0048 |
| Chromium | umol/g | | | | | 0.13 | 0.11 | 0.24 | 0.32 | 0.51 | 0.62 | 0.49 J | 1.3 | 0.30 | 0.36 |
| Copper | umol/g | | | | | 0.19 | 0.21 | 0.58 | 0.54 | 0.27 | 0.19 | 0.75 | 0.75 | 0.47 | 0.64 |
| Lead | umol/g | | | | | 0.12 | 0.12 | 0.25 | 0.26 | 0.47 | 0.31 | 0.29 J | 0.31 | 0.23 | 0.30 |
| Nickel | umol/g | | | | | 0.16 | 0.15 | 0.27 | 0.36 | 0.18 | 0.14 | 0.43 | 0.36 | 0.32 | 0.42 |
| Silver | umol/g | | | | | < 0.0024 UJ | < 0.0025 UJ | < 0.0028 UJ | 0.00067 J | 0.00058 J | 0.0035 J | 0.00065 J | 0.0065 J | 0.00092 J | 0.0012 J |
| Zinc | umol/g | | | | | 1.4 | 1.4 | 2.9 | 2.6 | 1.8 | 1.5 | 3.5 | 3.3 | 2.3 | 3.1 |
| Mercury | umol/g | | | | | < 0.00013 U | < 0.00014 U | 0.000024 J | 0.00013 J | < 0.000093 U | < 0.000090 U | 0.00018 J | 0.00020 | 0.00010 J | 0.00010 J |
| Sulfide | umol/g | | | | | 3.0 J | 3.7 J | < 1.1 UJ | < 1.4 U | 1.8 | 4.7 | 2.7 J | 5.1 J | 1.8 J | 2.1 J |
| Beryllium-7 | pCi/g | | | | | | | | | | | | | | |
| Cesium-137 | pCi/g | | | | | | | | | | | | | | |
| Radium-226 | pCi/g | | | | | | | | | | | | | | |
| Polonium-210 | pCi/g | | | | | | | | | | | | | | |
| Aluminum | mg/kg | 7700 | | 15034 | | 5900 | 5300 | 13000 | 9400 | 4800 | 6000 | 10000 | 11000 | 11000 | 15000 |
| Antimony | mg/kg | 3.1 | 2 | 0.92 | | 0.52 | 0.40 | 0.87 | 0.47 J- | 0.15 J- | 0.15 J- | 0.64 J- | 0.56 J- | 0.59 | 0.80 |
| Arsenic | mg/kg | 0.68 | 5.9 | 4.9 | | 2.3 | 2.6 | 4.1 | 3.6 J- | 2.7 J- | 3.0 J- | 3.4 J- | 4.2 J- | 3.5 | 4.6 |
| Barium | mg/kg | 1500 | 0.7 | 107 | | 61 | 55 | 120 | 120 | 76 | 98 | 110 | 130 | 97 | 130 |
| Beryllium | mg/kg | 16 | | 1.6 | | 0.76 | 0.69 | 1.6 | 1.5 | 0.73 | 0.85 | 1.4 | 1.5 | 1.3 | 1.7 |
| Cadmium | mg/kg | 7.1 | 0.583 | | | 0.55 | 0.50 | 1.0 | 0.97 | 0.77 | 1.2 | 1.1 | 1.4 | 0.81 | 1.1 |
| Calcium | mg/kg | EN | | | | 2400 | 2200 | 4300 J- | 8400 | 1300 | 1600 | 3500 | 3300 | 3200 J- | 4000 J- |
| Chromium | mg/kg | 12000 | 26 | | | 25 | 23 | 54 J+ | 45 J+ | 44 J+ | 73 J+ | 45 | 140 | 44 J+ | 57 J+ |
| Cobalt | mg/kg | 2.3 | 50 | 21 | | 13 | 12 | 23 | 23 | 10 | 11 | 19 | 22 | 18 | 23 |
| Copper | mg/kg | 310 | 31.6 | | | 29 | 28 | 68 | 66 | 27 | 38 | 66 | 65 | 51 | 70 |
| Iron | mg/kg | 5500 | 20000 | | | 16000 | 14000 | 32000 | 29000 | 14000 | 16000 | 27000 | 29000 | 27000 | 33000 |
| Lead | mg/kg | 400 | 31 | | | 36 | 33 | 80 | 72 | 100 | 140 | 80 | 90 | 63 | 84 |
| Magnesium | mg/kg | EN | | | | 2600 | 2300 | 4500 | 3300 | 1300 | 1700 | 3600 | 3100 | 3700 | 4600 |
| Manganese | mg/kg | 180 | 460 | 436 | | 200 | 190 | 560 J- | 570 J+ | 160 J+ | 170 J+ | 390 | 530 | 430 J- | 560 J- |
| Nickel | mg/kg | 150 | 16 | 40 | | 23 | 21 | 40 | 39 | 16 | 20 | 37 | 33 | 33 | 41 |
| Potassium | mg/kg | EN | | | | 1100 | 960 | 1500 | 1200 | 790 | 900 | 1200 | 1200 | 1300 | 1500 |
| Selenium | mg/kg | 39 | | | | 0.65 | 0.66 | 1.3 | 1.4 J- | 0.58 J- | 0.77 J- | 1.3 J- | 1.4 J- | 1.1 | 1.4 |
| Silver | mg/kg | 39 | 0.5 | | | 0.14 | 0.16 | 0.41 | 0.38 | 0.40 | 0.63 | 0.43 | 1.4 | 0.32 | 0.43 |
| Sodium | mg/kg | EN | | | | 110 | 110 | 150 | 260 | 54 | 63 | 160 | 140 | 120 | 170 |
| Thallium | mg/kg | 0.078 | | 0.31 | | 0.18 | 0.15 | 0.28 | 0.25 | 0.15 | 0.19 | 0.25 | 0.27 | 0.23 | 0.28 |
| Vanadium | mg/kg | 39 | | 43 | | 26 | 30 | 42 J+ | 38 | 23 | 27 | 41 | 43 | 36 J+ | 49 J+ |
| Zinc | mg/kg | 2300 | 98 | | | 130 | 120 | 280 | 250 J | 140 J | 200 J | 260 J- | 250 J- | 220 | 290 |
| Mercury | mg/kg | 2.3 | 0.174 | | | 0.091 | 0.16 | 0.20 | 0.25 J | 0.12 J | 0.25 J | 0.24 | 0.28 | 0.14 | 0.20 |

# Table 4-31
## Inorganic Concentrations in Waterside Investigation Area Surface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | Location ID | SED5B | SED5C | SED6.5D | SED6.5D | SED6.5E | SED6.5E | SED6A | SED6A | SED6B | SED6B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | S Sample Date | 6/20/2017 7:45:00 AM | 11/11/2013 8:38:00 AM | 11/25/2013 8:10:00 AM | 6/9/2017 9:45:00 AM | 11/25/2013 8:20:00 AM | 6/8/2017 10:00:00 AM | 11/13/2013 1:39:00 PM | 6/8/2017 1:15:00 PM | 11/13/2013 12:39:00 PM | 11/13/2013 12:39:00 PM |
| | | | | | Sample ID | SED5B00AN | SED5C00N | SED6.5D00N | SED6.5D00EN | SED6.5E00N | SED6.5E00EN | SED6A00N | SED6A00EN | SED6B00N | SED6B00R |
| | | | | | Depth | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | Type | N | N | N | N | N | N | N | N | N | FD |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | | |
| Total Organic Carbon | mg/kg | | | | | | 31000 | 50000 | 65000 J | 86000 J | 70000 | 11000 | 83000 | 20000 | 28000 |
| SEM/AVS Ratio | none | | | | | | 1.8 | 2.2 | 2.7 | 2.9 | 0.78 | 1.6 | 0.35 | 2.8 | 3.2 |
| Arsenic | umol/g | | | | | | 0.031 J | 0.057 | 0.014 | 0.024 J | 0.020 | 0.0099 J | 0.016 | < 0.0082 UJ | 0.0094 J |
| Cadmium | umol/g | | | | | | 0.0084 | 0.033 | 0.02 | 0.033 J | 0.020 | 0.0042 | 0.0048 | 0.0031 | 0.0034 |
| Chromium | umol/g | | | | | | 0.74 J | 0.51 | 0.14 | 0.28 J | 0.13 | 0.42 | 0.15 | 0.27 | 0.28 |
| Copper | umol/g | | | | | | 0.67 | 1.5 | 0.46 | 1.3 | 0.45 | 0.25 | 0.30 | 0.35 | 0.36 |
| Lead | umol/g | | | | | | 0.58 | 0.62 | 0.46 | 0.65 | 0.94 | 0.31 | 0.21 | 0.15 | 0.15 |
| Nickel | umol/g | | | | | | 0.57 J | 1.0 | 0.36 | 0.67 J | 0.35 | 0.16 | 0.27 | 0.24 | 0.25 |
| Silver | umol/g | | | | | | 0.0044 J | 0.0016 J | < 0.0026 U | 0.0051 J | < 0.0028 U | 0.00071 J | < 0.0033 U | 0.0012 J | < 0.0021 UJ |
| Zinc | umol/g | | | | | | 3.3 | 6.1 | 4.4 | 8.6 | 4.4 | 1.6 | 2.3 | 1.8 | 1.9 |
| Mercury | umol/g | | | | | | 0.000030 J | 0.000013 J | < 0.000056 U | 0.000072 J | < 0.000061 U | 0.000044 J | < 0.000071 U | 0.000094 J | 0.000093 J |
| Sulfide | umol/g | | | | | | 3.4 | 4.6 J | 2.2 | 4.1 J | 8.2 | 1.9 J | 9.5 | < 1.0 UJ | < 1.0 UJ |
| Beryllium-7 | pCi/g | | | | | 2.12 | | | | | | | | | |
| Cesium-137 | pCi/g | | | | | 0.049 | | | | | | | | | |
| Radium-226 | pCi/g | | | | | 1.20 | | | | | | | | | |
| Polonium-210 | pCi/g | | | | | 3.73 J | | | | | | | | | |
| Aluminum | mg/kg | 7700 | | 15034 | | 10000 | 8000 | 13000 | 8200 | 6000 | 7000 | 2000 | 8200 | 5500 | 5600 |
| Antimony | mg/kg | 3.1 | 2 | 0.92 | | 1.1 | 0.27 J- | 0.77 J- | 1.3 | 1.4 J- | 2.8 | 0.13 J- | 0.82 | 0.35 J- | 0.35 J- |
| Arsenic | mg/kg | 0.68 | 5.9 | 4.9 | | 6.1 | 5.3 J- | 14 J- | 7.0 | 5.9 J- | 6.1 | 1.2 J- | 4.5 | 1.8 J- | 2.0 J- |
| Barium | mg/kg | 1500 | 0.7 | 107 | | 100 | 87 J+ | 120 J- | 81 | 79 | 70 | 29 | 83 | 60 | 74 |
| Beryllium | mg/kg | 16 | | 1.6 | | 1.4 | 0.89 | 1.8 | 1.1 | 0.73 | 0.89 | 0.37 | 1.1 | 0.77 | 0.86 |
| Cadmium | mg/kg | 7.1 | 0.583 | | | 0.81 | 1.0 | 2.8 J- | 2.5 | 3.8 J- | 2.4 | 0.33 | 0.61 | 0.50 | 0.54 |
| Calcium | mg/kg | EN | | | | 4400 | 1800 J- | 1400 J- | 3600 | 3000 | 3000 | 870 | 3700 | 2100 | 2500 |
| Chromium | mg/kg | 12000 | 26 | | | 45 | 57 J+ | 47 J- | 40 | 31 | 31 | 14 | 34 | 25 | 25 |
| Cobalt | mg/kg | 2.3 | 50 | 21 | | 23 | 12 J | 17 J- | 16 | 16 | 16 | 5.3 | 18 | 12 | 14 |
| Copper | mg/kg | 310 | 31.6 | | | 65 | 40 | 130 | 74 | 96 | 71 | 13 | 50 | 34 | 35 |
| Iron | mg/kg | 5500 | 20000 | | | 30000 | 23000 | 17000 | 20000 | 16000 | 17000 | 8200 | 23000 | 18000 | 18000 |
| Lead | mg/kg | 400 | 31 | | | 54 | 120 J | 140 | 99 | 130 | 160 | 51 | 43 | 47 | 40 |
| Magnesium | mg/kg | EN | | | | 3700 | 1800 | 1800 | 3500 | 2400 | 2900 | 640 | 3100 | 2200 | 2300 |
| Manganese | mg/kg | 180 | 460 | 436 | | 430 | 300 | 130 J- | 190 | 150 | 160 | 100 | 300 | 260 | 300 |
| Nickel | mg/kg | 150 | 16 | 40 | | 40 | 20 | 91 J- | 47 | 65 J- | 47 | 7.7 | 31 | 22 | 24 |
| Potassium | mg/kg | EN | | | | 1200 | 850 | 590 | 1000 | 610 | 810 | 380 | 1100 | 950 | 950 |
| Selenium | mg/kg | 39 | | | | 1.2 | 0.56 | 1.5 J- | 0.97 | 0.78 J- | 0.86 | 0.33 J- | 1.0 | 0.70 J- | 0.74 J- |
| Silver | mg/kg | 39 | 0.5 | | | 0.24 | 0.90 | 0.80 | 0.99 | 1.5 J- | 0.63 | 0.12 | 0.35 | 0.17 | 0.17 |
| Sodium | mg/kg | EN | | | | 240 | 71 | 140 | 220 | 140 | 190 | 25 | 220 | 80 | 93 |
| Thallium | mg/kg | 0.078 | | 0.31 | | 0.21 | 0.27 | 0.53 | 0.22 | 0.16 J- | 0.18 | 0.070 | 0.18 | 0.13 | 0.16 |
| Vanadium | mg/kg | 39 | | 43 | | 44 | 61 J+ | 250 J+ | 63 | 120 | 77 | 11 | 33 | 20 | 22 |
| Zinc | mg/kg | 2300 | 98 | | | 280 | 160 J+ | 300 J- | 340 | 420 | 340 | 57 J- | 200 | 140 J- | 150 J- |
| Mercury | mg/kg | 2.3 | 0.174 | | | 0.18 | 0.38 | 0.27 J | 0.26 | 0.23 J | 0.23 | 0.045 J- | 0.18 | 0.095 J- | 0.096 J- |

**Table 4-31**
**Inorganic Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | Location ID | SED6B | SED6C | SED6C | SED7.5D | SED7.5D | SED7.5E | SED7.5E | SED7A | SED7A | SED7B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | S Sample Date | 6/8/2017 12:30:00 PM | 11/14/2013 1:33:00 PM | 6/7/2017 10:00:00 AM | 11/25/2013 7:30:00 AM | 6/9/2017 8:15:00 AM | 11/25/2013 10:30:00 AM | 6/8/2017 9:15:00 AM | 11/13/2013 11:50:00 AM | 6/9/2017 11:15:00 AM | 11/13/2013 10:50:00 AM |
| | | | | | Sample ID | SED6B00EN | SED6C00N | SED6C00EN | SED7.5D00N | SED7.5D00EN | SED7.5E00N | SED7.5E00EN | SED7A00N | SED7A00EN | SED7B00N |
| | | | | | Depth | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft |
| | | | | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | | |
| Total Organic Carbon | mg/kg | | | | | 21000 | 44000 | 96000 | 40000 | 50000 J | 140000 | 94000 | 28000 | 79000 J | 21000 |
| SEM/AVS Ratio | none | | | | | 2.0 | 5.7 | 3.6 | 2.2 | 7.9 | 2.2 | 0.29 | 1.6 | 3.8 | 0.92 |
| Arsenic | umol/g | | | | | 0.011 | 0.012 | 0.020 | 0.055 | 0.015 | 0.081 | 0.018 | < 0.0082 UJ | 0.023 | 0.014 J |
| Cadmium | umol/g | | | | | 0.0043 | 0.0078 | 0.0069 | 0.0097 | 0.014 | 0.046 | 0.022 | 0.0025 | 0.0067 | 0.0071 |
| Chromium | umol/g | | | | | 0.088 | 0.44 | 0.20 | 1.4 | 0.2 | 0.88 | 0.18 | 0.22 | 0.21 | 0.64 |
| Copper | umol/g | | | | | 0.25 | 0.74 | 0.57 | 2.9 | 0.57 | 3.1 | 0.051 | 0.35 | 0.73 | 0.46 |
| Lead | umol/g | | | | | 0.13 | 0.28 | 0.29 | 0.69 | 0.47 | 1.0 | 0.46 | 0.11 | 0.28 | 0.35 |
| Nickel | umol/g | | | | | 0.17 | 0.39 | 0.34 | 0.71 | 0.47 | 1.5 | 0.76 | 0.19 | 0.39 | 0.22 |
| Silver | umol/g | | | | | < 0.0023 U | 0.0011 J | < 0.0035 U | 0.0013 J | < 0.0027 U | 0.0088 | < 0.0033 U | < 0.0019 UJ | < 0.0034 U | 0.0034 J |
| Zinc | umol/g | | | | | 1.5 | 3.2 | 3.1 | 5.1 | 4.3 | 9.7 | 6.6 | 1.6 | 3.5 | 2.1 |
| Mercury | umol/g | | | | | < 0.000049 U | 0.000076 J | < 0.000075 U | 0.000050 J | < 0.000059 U | 0.000052 J | < 0.000070 U | 0.00012 | < 0.000074 U | 0.000054 J |
| Sulfide | umol/g | | | | | 1.1 | 0.92 J | 1.3 J | 5.3 J | 0.78 J | 7.6 J | 28 | < 1.6 UJ | 1.4 | 4.5 J |
| Beryllium-7 | pCi/g | | | | | | | | | | | | | | |
| Cesium-137 | pCi/g | | | | | | | | | | | | | | |
| Radium-226 | pCi/g | | | | | | | | | | | | | | |
| Polonium-210 | pCi/g | | | | | | | | | | | | | | |
| Aluminum | mg/kg | 7700 | | 15034 | | 5200 | 9800 | 13000 | 13000 | 12000 | 15000 | 8900 | 5900 | 12000 | 8900 |
| Antimony | mg/kg | 3.1 | 2 | 0.92 | | 0.42 | 0.49 J- | 1.0 | 0.43 J- | 1.7 | 1.0 J- | 2.3 | 0.43 J- | 1.5 | 0.28 J- |
| Arsenic | mg/kg | 0.68 | 5.9 | 4.9 | | 2.8 | 3.6 J- | 6.4 | 11 J- | 6.8 | 17 J- | 17 | 2.2 J- | 6.8 | 4.2 J- |
| Barium | mg/kg | 1500 | 0.7 | 107 | | 54 | 89 | 110 | 97 J- | 110 | 150 J- | 110 | 62 | 120 | 92 |
| Beryllium | mg/kg | 16 | | 1.6 | | 0.78 | 1.3 | 1.7 | 1.7 | 1.6 | 2.2 | 1.1 | 0.83 | 1.8 | 1.2 |
| Cadmium | mg/kg | 7.1 | 0.583 | | | 0.38 | 1.2 | 0.99 | 1.3 J- | 2.0 | 5.2 J- | 3.3 | 0.52 | 0.94 | 1.3 |
| Calcium | mg/kg | EN | | | | 2200 | 2800 J- | 4400 | 1400 J- | 4500 | 2500 J- | 5700 | 2500 | 6600 | 1700 |
| Chromium | mg/kg | 12000 | 26 | | | 25 | 45 | 51 | 80 J- | 50 | 76 J- | 62 | 25 | 53 | 61 |
| Cobalt | mg/kg | 2.3 | 50 | 21 | | 10 | 19 | 22 | 15 J- | 20 | 32 J- | 23 | 12 | 26 | 13 |
| Copper | mg/kg | 310 | 31.6 | | | 30 | 65 | 72 | 160 | 94 | 240 | 150 | 38 | 74 | 44 |
| Iron | mg/kg | 5500 | 20000 | | | 16000 | 26000 | 33000 | 19000 | 29000 | 25000 | 25000 | 16000 | 34000 | 22000 |
| Lead | mg/kg | 400 | 31 | | | 33 | 71 | 62 | 150 | 97 | 230 | 140 | 40 | 59 | 110 |
| Magnesium | mg/kg | EN | | | | 2200 | 2500 | 4400 | 1800 | 4400 | 3100 | 5100 | 2100 | 5100 | 1900 |
| Manganese | mg/kg | 180 | 460 | 436 | | 200 | 390 | 430 | 180 J- | 250 | 230 J- | 190 | 270 | 590 | 260 |
| Nickel | mg/kg | 150 | 16 | 40 | | 19 | 36 | 42 | 59 J- | 57 | 150 J- | 97 | 21 | 45 | 22 |
| Potassium | mg/kg | EN | | | | 1000 | 1100 | 1400 | 650 | 1300 | 760 | 990 | 710 | 1400 | 950 |
| Selenium | mg/kg | 39 | | | | 0.57 | 1.3 J- | 1.4 | 1.0 J- | 1.2 | 1.8 J- | 1.4 | 0.73 J- | 1.3 | 1.1 J- |
| Silver | mg/kg | 39 | 0.5 | | | 0.12 | 0.58 | 0.39 | 0.89 | 0.82 | 3.3 | 1.3 | 0.19 | 0.29 | 1.2 |
| Sodium | mg/kg | EN | | | | 120 | 120 J- | 250 | 110 | 230 | 220 | 270 | 110 | 280 | 120 |
| Thallium | mg/kg | 0.078 | | 0.31 | | 0.12 | 0.23 J- | 0.24 | 0.35 | 0.26 | 0.63 | 0.27 | 0.13 | 0.24 | 0.27 |
| Vanadium | mg/kg | 39 | | 43 | | 21 | 37 | 48 | 180 J+ | 88 | 360 J+ | 160 | 22 | 50 | 38 |
| Zinc | mg/kg | 2300 | 98 | | | 120 | 260 | 290 | 280 J- | 410 | 580 J- | 600 | 140 J- | 320 | 170 J- |
| Mercury | mg/kg | 2.3 | 0.174 | | | 0.095 | 0.23 J+ | 0.24 | 0.28 J | 0.30 | 0.69 J | 0.44 | 0.11 J- | 0.23 | 0.40 J- |

**Table 4-31**
**Inorganic Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | Location ID | SED7B | SED7B | SED7D | SED7D | SED7E | SED7E | SED7E | SED7F | SED7F | SED7G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | S Sample Date | 11/13/2013 10:50:00 AM | 6/7/2017 12:30:00 PM | 11/25/2013 8:05:00 AM | 6/9/2017 9:15:00 AM | 11/25/2013 10:00:00 AM | 6/8/2017 10:30:00 AM | 6/22/2017 9:00:00 AM | 11/25/2013 12:00:00 PM | 6/8/2017 8:30:00 AM | 1/30/2014 2:30:00 PM |
| | | | | | Sample ID | SED7B00R | SED7B00EN | SED7D00N | SED7D00EN | SED7E00N | SED7E00EN | SED7E00AN | SED7F00N | SED7F00EN | SED7G00N |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft |
| | | | | | Type | FD | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | | |
| Total Organic Carbon | mg/kg | | | | | 20000 | 31000 | 49000 | 58000 J | 51000 | 45000 | | 240000 J | 58000 | 8400 |
| SEM/AVS Ratio | none | | | | | 2.6 | 1.7 | 2.1 | < 0.0010 | 5.7 | 0.83 | | 38 | 5.9 | 2.3 |
| Arsenic | umol/g | | | | | 0.013 J | 0.016 | 0.019 | 0.015 | 0.024 J | 0.015 | | 0.066 J | 0.022 | 0.026 J |
| Cadmium | umol/g | | | | | 0.0068 | 0.0063 | 0.042 | 0.01 | 0.022 | 0.014 | | 0.035 J | 0.017 | 0.0031 |
| Chromium | umol/g | | | | | 0.60 | 0.32 | 0.38 | 0.17 | 0.30 | 0.15 | | 0.48 | 0.15 | 0.19 J |
| Copper | umol/g | | | | | 0.48 | 0.33 | 0.79 | 0.58 | 1.3 | 0.39 | | 2.6 | 0.87 | 0.56 |
| Lead | umol/g | | | | | 0.33 | 0.26 | 0.84 | 0.31 | 0.75 | 0.40 | | 1.5 | 0.55 | 0.19 J |
| Nickel | umol/g | | | | | 0.23 | 0.26 | 0.66 | 0.37 | 0.92 J | 0.47 | | 1.8 | 0.55 | 0.51 J |
| Silver | umol/g | | | | | 0.0030 J | < 0.0031 U | 0.0048 | < 0.0028 U | 0.0034 J | < 0.0021 U | | 0.016 J | < 0.0027 U | 0.00026 J |
| Zinc | umol/g | | | | | 2.1 | 2.4 | 6.5 | 3.5 | 6.7 | 4.5 | | 11 | 5.1 | 2.2 |
| Mercury | umol/g | | | | | 0.000066 J | < 0.000066 U | 0.000032 J | < 0.000061 U | 0.000026 J | < 0.000044 U | | 0.00049 | < 0.000058 U | 0.000021 J |
| Sulfide | umol/g | | | | | < 1.6 UJ | 2.2 | 4.4 J | < 1.1 U | 1.8 J | 7.3 | | 0.46 J | 1.3 | 1.6 |
| Beryllium-7 | pCi/g | | | | | | | | | | | < 0.300 U | | | |
| Cesium-137 | pCi/g | | | | | | | | | | | 0.0384 | | | |
| Radium-226 | pCi/g | | | | | | | | | | | 0.690 | | | |
| Polonium-210 | pCi/g | | | | | | | | | | | 1.12 | | | |
| Aluminum | mg/kg | 7700 | | 15034 | | 9300 | 11000 | 7300 | 10000 | 4500 | 4000 | 3700 | 7300 | 7500 | 2400 |
| Antimony | mg/kg | 3.1 | 2 | 0.92 | | 0.23 J- | 0.83 | 0.69 J- | 1.1 | 1.2 J- | 1.1 | 1.4 J | 2.8 J- | 43 | 0.38 |
| Arsenic | mg/kg | 0.68 | 5.9 | 4.9 | | 3.8 J- | 5.5 | 4.3 J- | 5.7 | 4.6 J- | 5.1 | 5.6 J | 11 J- | 7.2 | 2.5 |
| Barium | mg/kg | 1500 | 0.7 | 107 | | 92 | 120 | 110 J- | 97 | 72 J- | 52 | 54 | 100 | 87 | 17 |
| Beryllium | mg/kg | 16 | | 1.6 | | 1.3 | 1.5 | 1.0 | 1.4 | 0.71 | 0.51 | 0.54 | 0.95 | 1.0 | 0.15 |
| Cadmium | mg/kg | 7.1 | 0.583 | | | 1.2 | 0.87 | 4.7 J- | 1.5 | 3.7 J- | 1.7 | 2.4 J | 4.4 J- | 2.6 | 0.74 |
| Calcium | mg/kg | EN | | | | 1600 | 3400 | 2000 J- | 3700 | 4200 J- | 3300 | 3500 J | 2300 | 4000 | 17000 |
| Chromium | mg/kg | 12000 | 26 | | | 62 | 60 | 36 J- | 46 | 29 J- | 29 | 19 | 46 | 40 | 33 |
| Cobalt | mg/kg | 2.3 | 50 | 21 | | 13 | 18 | 16 J- | 19 | 13 J- | 9.3 | 4.9 | 13 | 14 | 7.1 |
| Copper | mg/kg | 310 | 31.6 | | | 43 | 55 | 64 | 73 | 110 | 64 | 45 J | 190 | 130 | 54 |
| Iron | mg/kg | 5500 | 20000 | | | 23000 | 28000 | 17000 | 28000 | 14000 | 13000 | 7500 | 21000 | 20000 | 12000 |
| Lead | mg/kg | 400 | 31 | | | 110 | 85 | 170 | 71 | 130 | 76 | 120 | 320 | 130 | 48 |
| Magnesium | mg/kg | EN | | | | 1800 | 3200 | 2700 | 4300 | 3200 | 3100 | 2900 J | 2800 | 3900 | 12000 |
| Manganese | mg/kg | 180 | 460 | 436 | | 270 | 370 | 180 J- | 270 | 120 J- | 100 | 86 | 200 | 200 | 120 |
| Nickel | mg/kg | 150 | 16 | 40 | | 22 | 32 | 50 J- | 46 | 120 J- | 56 | 38 J | 160 J- | 75 | 84 |
| Potassium | mg/kg | EN | | | | 960 | 1300 | 1100 | 1400 | 450 | 460 | 390 | 580 | 870 | 230 |
| Selenium | mg/kg | 39 | | | | 1.1 J- | 1.1 | 0.72 J- | 1.1 | 0.54 J- | 0.61 | 0.50 J | 1.1 J- | 0.93 | 0.034 J |
| Silver | mg/kg | 39 | 0.5 | | | 1.0 | 0.48 | 1.3 | 0.45 | 0.92 | 0.55 | 0.70 J | 3.5 J- | 1.6 | 0.083 |
| Sodium | mg/kg | EN | | | | 86 | 180 | 100 | 220 | 110 | 140 | 91 J | 160 | 200 | 420 |
| Thallium | mg/kg | 0.078 | | 0.31 | | 0.27 | 0.23 | 0.25 | 0.24 | 0.15 | 0.13 | 0.14 | 0.13 J- | 0.20 | 0.037 J |
| Vanadium | mg/kg | 39 | | 43 | | 37 | 42 | 110 J+ | 56 | 150 J+ | 110 | 94 J | 440 | 140 | 56 |
| Zinc | mg/kg | 2300 | 98 | | | 160 J- | 230 | 380 J- | 320 | 430 J- | 280 | 180 J | 630 | 470 | 260 |
| Mercury | mg/kg | 2.3 | 0.174 | | | 0.34 J- | 0.47 | 0.24 J | 0.29 | 0.27 J | 0.18 | 0.21 J | 0.46 J | 0.36 | 0.041 |

# Table 4-31
## Inorganic Concentrations in Waterside Investigation Area Surface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location ID | SED8.5B | SED8A | SED8A | SED8B | SED8B | SED8C | SED8C | SED8C | SED9.5B | SED9A |
| | | | | | S Sample Date | 11/13/2013 8:40:00 AM | 11/13/2013 10:05:00 AM | 6/9/2017 10:30:00 AM | 11/13/2013 9:17:00 AM | 6/9/2017 12:00:00 PM | 11/14/2013 12:36:00 PM | 11/14/2013 12:52:00 PM | 6/7/2017 11:30:00 AM | 11/11/2013 12:14:00 PM | 11/11/2013 9:47:00 AM |
| | | | | | Sample ID | SED8.5B00N | SED8A00N | SED8A00EN | SED8B00N | SED8B00EN | SED8C00N | SED8C00R | SED8C00EN | SED9.5B00N | SED9A00N |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | Type | N | N | N | N | N | N | FD | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | | |
| Total Organic Carbon | mg/kg | | | | | 31000 | 41000 | 66000 J | 25000 | 67000 J | 29000 | 36000 | 44000 | 39000 | 30000 |
| SEM/AVS Ratio | none | | | | | 2.8 | 2.1 | 5.9 | 2.6 | < 0.0010 | 4.4 | 21 | 1.2 | 1.7 | 2.6 |
| Arsenic | umol/g | | | | | 0.010 J | 0.012 J | 0.02 | < 0.0093 UJ | 0.018 | 0.0084 | 0.010 | 0.018 | 0.016 J | 0.021 J |
| Cadmium | umol/g | | | | | 0.0042 | 0.0050 | 0.0062 | 0.0037 | 0.0052 | 0.0053 | 0.0063 | 0.0061 | 0.0034 | 0.0044 |
| Chromium | umol/g | | | | | 0.35 | 0.41 | 0.18 | 0.28 | 0.16 | 0.36 | 0.41 | 0.18 | 0.25 | 0.58 |
| Copper | umol/g | | | | | 0.49 | 0.59 | 0.6 | 0.39 | 0.51 | 0.50 | 0.59 | 0.56 | 0.40 | 0.48 |
| Lead | umol/g | | | | | 0.19 | 0.21 | 0.28 | 0.16 | 0.23 | 0.21 | 0.24 | 0.24 | 0.19 | 0.24 |
| Nickel | umol/g | | | | | 0.31 | 0.36 | 0.32 | 0.25 | 0.29 | 0.26 | 0.30 | 0.30 | 0.30 | 0.29 |
| Silver | umol/g | | | | | 0.00038 J | < 0.0027 UJ | < 0.0032 U | 0.00047 J | < 0.0031 U | 0.00039 J | 0.00027 J | < 0.0030 U | 0.00040 J | 0.0025 J |
| Zinc | umol/g | | | | | 2.4 | 2.7 | 2.8 | 1.9 | 2.6 | 2.3 J | 5.9 J | 2.7 | 2.1 | 2.2 |
| Mercury | umol/g | | | | | 0.00015 | 0.00014 J | < 0.000068 U | 0.00012 | < 0.000066 U | 0.000052 J | 0.000031 J | < 0.000066 U | 0.000083 J | 0.000091 J |
| Sulfide | umol/g | | | | | < 1.4 UJ | < 2.2 UJ | 0.74 J | < 1.2 UJ | < 1.2 U | 0.87 J | 0.36 J | 3.5 | 2.0 | 1.6 |
| Beryllium-7 | pCi/g | | | | | | | | | | | | | | |
| Cesium-137 | pCi/g | | | | | | | | | | | | | | |
| Radium-226 | pCi/g | | | | | | | | | | | | | | |
| Polonium-210 | pCi/g | | | | | | | | | | | | | | |
| Aluminum | mg/kg | 7700 | | 15034 | | 7700 | 9700 | 12000 | 5500 | 11000 | 6600 | 7700 | 10000 | 4500 | 8800 |
| Antimony | mg/kg | 3.1 | 2 | 0.92 | | 0.45 J- | 0.55 J- | 1.1 | 0.38 J- | 1.0 | 0.35 J- | 0.31 J- | 0.89 | 0.27 J- | 0.43 J- |
| Arsenic | mg/kg | 0.68 | 5.9 | 4.9 | | 2.6 J- | 2.9 J- | 5.9 | 2.0 J- | 5.3 | 3.0 J- | 3.6 J- | 5.1 | 2.1 J- | 3.2 J- |
| Barium | mg/kg | 1500 | 0.7 | 107 | | 84 | 99 | 120 | 68 | 100 | 63 | 71 | 99 | 44 J+ | 88 J+ |
| Beryllium | mg/kg | 16 | | 1.6 | | 1.1 | 1.4 | 1.7 | 0.82 | 1.5 | 0.85 | 1.0 | 1.4 | 0.67 | 1.1 |
| Cadmium | mg/kg | 7.1 | 0.583 | | | 0.73 | 0.87 | 0.86 | 0.61 | 0.69 | 0.80 | 0.89 | 0.82 | 0.35 | 0.88 |
| Calcium | mg/kg | EN | | | | 2800 | 3100 | 3900 | 2200 | 4600 | 2200 J- | 2400 J- | 3600 | 1500 J- | 2000 J- |
| Chromium | mg/kg | 12000 | 26 | | | 32 | 40 | 49 | 25 | 45 | 37 | 41 | 42 | 18 J+ | 68 J+ |
| Cobalt | mg/kg | 2.3 | 50 | 21 | | 16 | 19 | 20 | 12 | 20 | 14 | 16 | 18 | 9.1 J | 12 J |
| Copper | mg/kg | 310 | 31.6 | | | 45 | 55 | 66 | 38 | 58 | 44 | 52 | 59 | 21 | 38 |
| Iron | mg/kg | 5500 | 20000 | | | 22000 | 25000 | 32000 | 17000 | 29000 | 19000 | 21000 | 27000 | 12000 | 21000 |
| Lead | mg/kg | 400 | 31 | | | 55 | 66 | 62 | 46 | 55 | 56 | 62 | 55 | 36 J | 61 J |
| Magnesium | mg/kg | EN | | | | 3000 | 3500 | 4000 | 2100 | 4100 | 2000 | 2300 | 3600 | 1900 | 2400 |
| Manganese | mg/kg | 180 | 460 | 436 | | 370 | 360 | 420 | 290 | 390 | 280 | 330 | 350 | 140 | 310 |
| Nickel | mg/kg | 150 | 16 | 40 | | 29 | 34 | 38 | 21 | 36 | 25 | 28 | 35 | 15 | 19 |
| Potassium | mg/kg | EN | | | | 1100 | 1300 | 1400 | 750 | 1400 | 870 | 980 | 1200 | 670 | 920 |
| Selenium | mg/kg | 39 | | | | 0.98 J- | 1.2 J- | 1.3 | 0.74 J- | 1.1 | 1.0 J- | 1.2 J- | 1.0 | 0.19 J | 0.76 |
| Silver | mg/kg | 39 | 0.5 | | | 0.24 | 0.31 | 0.33 | 0.26 | 0.25 | 0.29 | 0.43 | 0.27 | 0.15 | 0.69 |
| Sodium | mg/kg | EN | | | | 120 | 140 | 220 | 90 | 200 | 89 J- | 89 J- | 200 | 74 | 120 |
| Thallium | mg/kg | 0.078 | | 0.31 | | 0.19 | 0.24 | 0.26 | 0.14 | 0.23 | 0.16 J- | 0.18 J- | 0.22 | 0.12 | 0.20 |
| Vanadium | mg/kg | 39 | | 43 | | 28 | 35 | 45 | 23 | 41 | 29 | 36 | 39 | 25 J+ | 35 J+ |
| Zinc | mg/kg | 2300 | 98 | | | 190 J- | 220 J- | 260 | 140 J- | 240 | 180 | 210 | 240 | 97 J+ | 150 J+ |
| Mercury | mg/kg | 2.3 | 0.174 | | | 0.13 J- | 0.20 J- | 0.21 | 0.12 J- | 0.11 | 0.16 J+ | 0.17 J+ | 0.21 | 0.20 | 0.29 |

# Table 4-31
## Inorganic Concentrations in Waterside Investigation Area Surface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | Location ID | SED9B | SED9C | WSED1 | WSED1 | WSED2 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 11/11/2013 11:23:00 AM | 11/11/2013 10:43:00 AM | 11/15/2013 11:14:00 AM | 11/15/2013 11:14:00 AM | 11/15/2013 12:13:00 PM |
| | | | | | Sample ID | SED9B00N | SED9C00N | WSED100N | WSED100R | WSED200N |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | Type | N | N | N | FD | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | |
| Total Organic Carbon | mg/kg | | | | | 35000 | 33000 | 40000 J | 54000 J | 60000 |
| SEM/AVS Ratio | none | | | | | 6.8 | 2.9 | 1.8 | 0.89 | 0.33 |
| Arsenic | umol/g | | | | | 0.020 J | 0.016 J | 0.0068 J | 0.0080 J | 0.011 J |
| Cadmium | umol/g | | | | | 0.0039 | 0.0035 | 0.013 J | 0.0040 J | 0.0050 J |
| Chromium | umol/g | | | | | 0.30 | 0.24 | 0.34 J | 0.22 J | 0.27 J |
| Copper | umol/g | | | | | 0.55 | 0.40 | 0.55 J | 0.39 J | 0.48 J |
| Lead | umol/g | | | | | 0.24 | 0.21 | 0.72 J | 0.15 J | 0.20 J |
| Nickel | umol/g | | | | | 0.34 | 0.31 | 0.35 J | 0.24 J | 0.31 J |
| Silver | umol/g | | | | | 0.00096 J | 0.00045 J | 0.0022 J | < 0.0023 UJ | < 0.0037 UJ |
| Zinc | umol/g | | | | | 2.5 | 2.2 | 3.8 J | 1.9 J | 2.6 J |
| Mercury | umol/g | | | | | 0.00013 J | 0.000060 J | 0.000090 J | 0.000032 J | 0.000028 J |
| Sulfide | umol/g | | | | | < 1.1 U | < 1.2 U | 3.3 J | 3.4 J | 12 J |
| Beryllium-7 | pCi/g | | | | | | | | | |
| Cesium-137 | pCi/g | | | | | | | | | |
| Radium-226 | pCi/g | | | | | | | | | |
| Polonium-210 | pCi/g | | | | | | | | | |
| Aluminum | mg/kg | 7700 | | 15034 | | 5600 | 6300 | 7900 | 6100 | 8700 |
| Antimony | mg/kg | 3.1 | 2 | 0.92 | | 0.31 J- | 0.48 J- | 0.44 J- | 0.59 J- | 0.74 J- |
| Arsenic | mg/kg | 0.68 | 5.9 | 4.9 | | 3.3 J- | 2.5 J- | 3.0 | 2.4 | 4.0 J- |
| Barium | mg/kg | 1500 | 0.7 | 107 | | 57 J+ | 66 J+ | 89 | 71 | 97 |
| Beryllium | mg/kg | 16 | | 1.6 | | 0.83 | 0.91 | 1.0 | 0.94 | 1.3 J |
| Cadmium | mg/kg | 7.1 | 0.583 | | | 0.43 | 0.59 | 1.5 | 0.64 | 0.95 |
| Calcium | mg/kg | EN | | | | 1600 J- | 1900 J- | 1700 J | 2200 J | 3500 |
| Chromium | mg/kg | 12000 | 26 | | | 20 J+ | 24 J+ | 34 J+ | 29 J+ | 42 |
| Cobalt | mg/kg | 2.3 | 50 | 21 | | 8.4 J | 12 J | 14 | 16 | 22 |
| Copper | mg/kg | 310 | 31.6 | | | 27 | 30 | 41 | 41 | 59 |
| Iron | mg/kg | 5500 | 20000 | | | 14000 | 17000 | 19000 | 19000 | 25000 |
| Lead | mg/kg | 400 | 31 | | | 44 J | 49 J | 160 J | 47 J | 70 J |
| Magnesium | mg/kg | EN | | | | 1900 | 2500 | 2600 | 2600 | 3300 |
| Manganese | mg/kg | 180 | 460 | 436 | | 240 | 230 | 260 | 240 | 310 |
| Nickel | mg/kg | 150 | 16 | 40 | | 16 | 20 | 32 | 29 | 39 J- |
| Potassium | mg/kg | EN | | | | 580 | 880 | 1200 | 1200 | 1400 |
| Selenium | mg/kg | 39 | | | | 0.16 J | 0.53 | 0.93 J- | 0.91 J- | 1.5 J- |
| Silver | mg/kg | 39 | 0.5 | | | 0.17 | 0.18 | 0.72 J | 0.19 J | 0.51 J |
| Sodium | mg/kg | EN | | | | 87 | 97 | 130 | 120 | 170 |
| Thallium | mg/kg | 0.078 | | 0.31 | | 0.12 | 0.16 | 0.17 | 0.18 | 0.26 |
| Vanadium | mg/kg | 39 | | 43 | | 35 J+ | 29 J+ | 36 | 25 | 37 |
| Zinc | mg/kg | 2300 | 98 | | | 100 J+ | 130 J+ | 220 J | 170 J | 250 |
| Mercury | mg/kg | 2.3 | 0.174 | | | 0.18 | 0.15 | 0.19 | 0.34 | 0.15 |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Human Health Risk Assessment (HHRA) screening level.
Italicized values indicate exceedance of the Ecological Risk Assessment (ERA) screening level.
Underlined values indicate exceedance of the BTV Statistic.
EN= Essential Nutrient
AVS = Acid Volatile Sulfide SEM = Simultaneously Extracted Metals
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

N = Normal
FD = Field Duplicate
HHRA and ERA screening values provided for detected compounds or compound sums where applicable.
(a) RSL Table, May 2018 Residential Soil [ELCR = 1E-6, HQ=0.1]
(b) Low Effect Ecological Screening Value
mg/kg = milligrams per kilogram
pCi/g = picocuries per gram
umol/g = micromoles per gram

## Table 4-32
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | Location ID | SED1.5B | SED1.5C | SED10A | SED10B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample Date | 11/6/2013 12:25:00 PM | 6/21/2017 8:15:00 AM | 11/11/2013 1:00:00 PM | 11/11/2013 1:59:00 PM |
| | | | | | | | | | | | | | Sample ID | SED1.5B00N | SED1.5C00AN | SED10A00N | SED10B00N |
| | | | | | | | | | | | | | Depth | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | | | | | | | | | Type | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | 3090 | 1020 | 2120 | 2240 | SED7E | 3 | | 3 | | | **1020 J-** | | |
| Diesel Range Organics (C10-C20) | mg/kg | 96 | | 64 | 270 | 31 | 90 | 74 | SED7B | 18 | | 18 | | | **48** | | |
| Oil Range Organics (C20-C36) | mg/kg | 23000 | | | 1600 | 350 | 660 | 610 | SED5B | 18 | | 18 | | | **420** | | |
| 1,1,1-Trichloroethane | ug/kg | 810000 | 70 | | | | | | | | | 20 | | | | | < 12 U |
| 1,1,2,2-Tetrachloroethane | ug/kg | 600 | 1360 | | | | | | | | | 20 | | | | | < 12 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 670000 | | | | | | | | | | 20 | | | | | < 12 U |
| 1,1,2-Trichloroethane | ug/kg | 150 | 400 | | | | | | | | | 20 | | | | | < 12 U |
| 1,1-Dichloroethane | ug/kg | 3600 | 20 | | | | | | | | | 20 | | | | | < 12 U |
| 1,1-Dichloroethene | ug/kg | 23000 | 100 | | | | | | | | | 20 | | | | | < 12 U |
| 1,2,3-Trichlorobenzene | ug/kg | 6300 | 11 | | | | | | | | | 20 | | | | | < 12 U |
| 1,2,4-Trichlorobenzene | ug/kg | 5800 | 11 | | | | | | | | | 20 | | | | | < 12 U |
| 1,2-Dibromo-3-chloropropane | ug/kg | 5.3 | | | | | | | | | | 20 | | | | | < 12 U |
| 1,2-Dibromoethane | ug/kg | 36 | | | | | | | | | | 20 | | | | | < 12 U |
| 1,2-Dichlorobenzene | ug/kg | 180000 | 30 | | | | | | | | | 20 | | | | | < 12 U |
| 1,2-Dichloroethane | ug/kg | 460 | 20 | | | | | | | | | 20 | | | | | < 12 U |
| 1,2-Dichloropropane | ug/kg | 1600 | 2 | | | | | | | | | 20 | | | | | < 12 U |
| 1,3-Dichlorobenzene | ug/kg | 2600 | 30 | | | | | | | | | 20 | | | | | < 12 U |
| 1,4-Dichlorobenzene | ug/kg | 2600 | 30 | | | | | | | | | 20 | | | | | < 12 U |
| 1,4-Dioxane | ug/kg | 5300 | 119 | | | | | | | | | 20 | | | | | < 2300 U |
| 2-Butanone | ug/kg | 2.7e+006 | 35000 | | 12 | 12 | 12 | 12 | SED2C | 1 | | 20 | | | | | < 12 U |
| 2-Hexanone | ug/kg | 20000 | 58.2 | | | | | | | | | 20 | | | | | < 12 U |
| 4-Methyl-2-pentanone | ug/kg | 3.3e+006 | 25.1 | | | | | | | | | 20 | | | | | < 12 U |
| Acetone | ug/kg | 6.1e+006 | 65 | | 55 | 20 | 38 | 38 | SED2C | 2 | | 20 | | | | | < 47 U |
| Benzene | ug/kg | 1200 | 10 | | | | | | | | | 20 | | | | | < 12 U |
| Bromochloromethane | ug/kg | 15000 | | | | | | | | | | 20 | | | | | < 12 U |
| Bromodichloromethane | ug/kg | 290 | | | | | | | | | | 20 | | | | | < 12 U |
| Bromoform | ug/kg | 19000 | 75000 | | | | | | | | | 20 | | | | | < 12 U |
| Bromomethane | ug/kg | 680 | 1.37 | | | | | | | | | 20 | | | | | < 12 U |
| Carbon Disulfide | ug/kg | 77000 | 0.851 | | | | | | | | | 20 | | | | | < 12 U |
| Carbon Tetrachloride | ug/kg | 650 | 170 | | | | | | | | | 20 | | | | | < 12 U |
| Chlorobenzene | ug/kg | 28000 | 30 | | | | | | | | | 20 | | | | | < 12 U |
| Chloroethane | ug/kg | 1.4e+006 | | | | | | | | | | 20 | | | | | < 12 U |
| Chloroform | ug/kg | 320 | 20 | | 1.4 | 1.1 | 1.2 | 1.2 | SED7B | 3 | | 20 | | | | | < 12 U |
| Chloromethane | ug/kg | 11000 | | | | | | | | | | 20 | | | | | < 12 U |
| cis-1,2-Dichloroethylene | ug/kg | 16000 | 200 | | | | | | | | | 20 | | | | | < 12 U |
| cis-1,3-Dichloropropene | ug/kg | 1800 | | | | | | | | | | 20 | | | | | < 12 U |
| Cyclohexane | ug/kg | 650000 | | | | | | | | | | 20 | | | | | < 12 U |
| Dibromochloromethane | ug/kg | 8300 | | | | | | | | | | 20 | | | | | < 12 U |
| Dichlorodifluoromethane | ug/kg | 8700 | | | | | | | | | | 20 | | | | | < 12 U |
| Ethylbenzene | ug/kg | 5800 | 30 | | | | | | | | | 20 | | | | | < 12 U |
| Isopropylbenzene | ug/kg | 190000 | 86 | | | | | | | | | 20 | | | | | < 12 U |
| m, p-Xylene | ug/kg | 55000 | | | | | | | | | | 20 | | | | | < 23 U |
| Methyl Acetate | ug/kg | 7.8e+006 | | | | | | | | | | 20 | | | | | < 12 U |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 47000 | 100000 | | | | | | | | | 20 | | | | | < 12 U |
| Methylcyclohexane | ug/kg | 650000 | | | | | | | | | | 20 | | | | | < 12 U |
| Methylene Chloride | ug/kg | 35000 | 18 | | | | | | | | | 20 | | | | | < 12 U |
| o-Xylene | ug/kg | 65000 | 89 | | | | | | | | | 20 | | | | | < 12 U |
| Styrene | ug/kg | 600000 | 200 | | | | | | | | | 20 | | | | | < 12 U |
| Tetrachloroethylene | ug/kg | 8100 | 2 | | | | | | | | | 20 | | | | | < 12 U |
| Toluene | ug/kg | 490000 | 10 | | | | | | | | | 20 | | | | | < 12 U |
| trans-1,2-Dichloroethene | ug/kg | 160000 | 200 | | | | | | | | | 20 | | | | | < 12 U |
| trans-1,3-Dichloropropene | ug/kg | 1800 | | | | | | | | | | 20 | | | | | < 12 U |
| Trichloroethene | ug/kg | 410 | | | | | | | | | | 20 | | | | | < 12 U |
| Trichlorofluoromethane | ug/kg | 2.3e+006 | | | | | | | | | | 20 | | | | | < 12 U |
| Vinyl Chloride | ug/kg | 59 | 10 | | | | | | | | | 20 | | | | | < 12 U |
| Xylenes (total) | ug/kg | 58000 | | | | | | | | | | 20 | | | | | < 23 U |

# Table 4-32
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Location ID | SED1.5B | SED1.5C | SED10A | SED10B |
| | | | | | | | | | | | | | Sample Date | 11/6/2013 12:25:00 PM | 6/21/2017 8:15:00 AM | 11/11/2013 1:00:00 PM | 11/11/2013 1:59:00 PM |
| | | | | | | | | | | | | | Sample ID | SED1.5B00N | SED1.5C00AN | SED10A00N | SED10B00N |
| | | | | | | | | | | | | | Depth | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | | | | | | | | | Type | N | N | N | N |
| 1,1'-Biphenyl | ug/kg | 4700 | 1220 | | 18 | 18 | 18 | 18 | SED4B | 1 | | 20 | | | | | < 300 U |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 2300 | 10 | | | | | | | | | 20 | | | | | < 300 U |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 310000 | | | | | | | | | | 20 | | | | | < 61 U |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 190000 | 10 | | | | | | | | | 20 | | | | | < 300 U |
| 2,4,5-Trichlorophenol | ug/kg | 630000 | 10 | | | | | | | | | 20 | | | | | < 300 U |
| 2,4,6-Trichlorophenol | ug/kg | 6300 | 10 | | | | | | | | | 20 | | | | | < 300 U |
| 2,4-Dichlorophenol | ug/kg | 19000 | 10 | | | | | | | | | 20 | | | | | < 61 U |
| 2,4-Dimethylphenol | ug/kg | 130000 | 29 | | 27 | 27 | 27 | 27 | SED4B SED7B | 2 | | 20 | | | | | < 300 U |
| 2,4-Dinitrophenol | ug/kg | 13000 | 6.21 | | | | | | | | | 20 | | | | | < 1600 U |
| 2,4-Dinitrotoluene | ug/kg | 1700 | 41.6 | | | | | | | | | 20 | | | | | < 300 U |
| 2,6-Dinitrotoluene | ug/kg | 360 | 41.6 | | | | | | | | | 20 | | | | | < 300 U |
| 2-Chloronaphthalene | ug/kg | 480000 | 250 | | | | | | | | | 20 | | | | | < 61 U |
| 2-Chlorophenol | ug/kg | 39000 | 55 | | | | | | | | | 20 | | | | | < 300 U |
| 2-Methylnaphthalene | ug/kg | 24000 | *20.2* | | 82 | 9.2 | 35 | 26 | SED4B | 18 | | 20 | | | | | ***11 J*** |
| 2-Methylphenol | ug/kg | 320000 | 5.1 | | | | | | | | | 20 | | | | | < 300 U |
| 2-Nitroaniline | ug/kg | 63000 | | | | | | | | | | 20 | | | | | < 1600 U |
| 2-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | | | | | | | 20 | | | | | < 300 U |
| 3,3'-Dichlorobenzidine | ug/kg | 1200 | 127 | | | | | | | | | 20 | | | | | < 300 U |
| 3-Nitroaniline | ug/kg | 25000 | | | | | | | | | | 20 | | | | | < 1600 U |
| 4,6-Dinitro-2-methylphenol | ug/kg | 510 | 104 | | | | | | | | | 20 | | | | | < 1600 U |
| 4-Bromophenyl-phenylether | ug/kg | | 1230 | | | | | | | | | 20 | | | | | < 300 U |
| 4-Chloro-3-methylphenol | ug/kg | 630000 | 15000 | | | | | | | | | 20 | | | | | < 300 U |
| 4-Chloroaniline | ug/kg | 2700 | *0.9* | | 82 | 57 | 70 | 70 | SED7B | 2 | | 20 | | | | | < 300 U |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | 20 | | | | | < 300 U |
| 4-Methylphenol | ug/kg | 630000 | *5.1* | | 110 | 15 | 65 | 65 | SED7G WSED1 | 7 | | 20 | | | | | < 300 U |
| 4-Nitroaniline | ug/kg | 25000 | | | | | | | | | | 20 | | | | | < 1600 U |
| 4-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | | | | | | | 20 | | | | | < 1600 U |
| Acenaphthene | ug/kg | 360000 | *6.71* | | 190 | 7.7 | 44 | 34 | SED4B | 42 | | 55 | | ***59 J*** | < 150 U | < 42 U | ***18 J*** |
| Acenaphthylene | ug/kg | 360000 | *5.87* | | 170 | 16 | 60 | 59 | SED5C | 43 | | 55 | | ***60 J*** | < 150 U | < 42 U | < 61 U |
| Acetophenone | ug/kg | 780000 | | | 44 | 15 | 30 | 30 | SED6.5E | 7 | | 20 | | | | | < 300 U |
| Anthracene | ug/kg | 1.8e+006 | *10* | | 350 | 16 | 110 | 96 | SED4B | 52 | | 55 | | ***220*** | ***78 J*** | < 42 U | ***61*** |
| Atrazine | ug/kg | 2400 | 0.2 | | | | | | | | | 20 | | | | | < 300 U |
| Benzaldehyde | ug/kg | 170000 | | | 320 | 24 | 170 | 150 | SED3C | 13 | 4 | 20 | | | | | **250 J** |
| Benzo(a)anthracene | ug/kg | 1100 | *15.72* | 1603 | 1000 | 21 | 450 | 420 | SED1.5B SED4B WSED1 | 54 | | 55 | | ***1000*** | ***400*** | ***21 J*** | ***380*** |
| Benzo(a)pyrene | ug/kg | 110 | *31.9* | 1700 | 1100 | 28 | 510 | 520 | SED1.5B WSED1 | 54 | | 55 | | ***1100*** | ***560*** | **28 J** | ***480*** |
| Benzo(b)fluoranthene | ug/kg | 1100 | *190* | 2305 | 1800 | 43 | 770 | 810 | WSED1 | 54 | | 55 | | ***1700*** | ***880*** | **43** | ***700*** |
| Benzo(g,h,i)perylene | ug/kg | 180000 | *170* | | 1200 | 29 | 520 | 550 | SED1.5B | 54 | | 55 | | ***1200*** | ***520*** | **29 J** | ***430 J*** |
| Benzo(k)fluoranthene | ug/kg | 11000 | *27.2* | 934 | 570 | 66 | 290 | 290 | SED8C | 53 | | 55 | | ***540*** | ***310*** | < 42 U | ***290*** |
| bis-(2-chloroethoxy)methane | ug/kg | 19000 | | | | | | | | | | 20 | | | | | < 300 U |
| bis-(2-Chloroethyl)ether | ug/kg | 230 | 3520 | | | | | | | | | 20 | | | | | < 61 U |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 39000 | *100* | 2306 | 1800 | 190 | 1000 | 1100 | SED8C | 20 | | 20 | | | | | ***1100*** |
| Butylbenzylphthalate | ug/kg | 290000 | *100* | | 180 | 41 | 91 | 81 | SED7G | 10 | | 20 | | | | | ***110 J*** |
| Caprolactam | ug/kg | 3.1e+006 | | | 390 | 390 | 390 | 390 | SED8C | 1 | | 20 | | | | | < 1600 U |
| Carbazole | ug/kg | 240000 | | | 250 | 23 | 83 | 77 | SED7G | 18 | | 20 | | | | | **58 J** |
| Chrysene | ug/kg | 110000 | *26.83* | 1801 | 1500 | 31 | 720 | 750 | SED1.5B | 54 | | 55 | | ***1500*** | ***650*** | ***31 J*** | ***580*** |
| Dibenzo(a,h)anthracene | ug/kg | 110 | *6.22* | 111 | 210 | 24 | 120 | 130 | SED1.5B | 50 | | 55 | | ***210*** | ***130 J*** | < 42 U | ***110*** |
| Dibenzofuran | ug/kg | 7300 | 5100 | | 110 | 27 | 62 | 56 | SED7G | 4 | | 20 | | | | | < 300 U |
| Diethylphthalate | ug/kg | 5.1e+006 | 530 | | 120 | 35 | 78 | 78 | SED8C | 2 | | 20 | | | | | < 300 U |
| Dimethylphthalate | ug/kg | 5.1e+006 | 1000 | | | | | | | | | 20 | | | | | < 300 U |
| Di-n-butylphthalate | ug/kg | 630000 | 440 | | 200 | 23 | 72 | 33 | SED6B | 4 | | 20 | | | | | < 300 U |
| Di-n-octylphthalate | ug/kg | 63000 | *100* | | 240 | 42 | 120 | 100 | WSED1 | 5 | | 20 | | | | | < 300 U |
| Fluoranthene | ug/kg | 240000 | *31.46* | | 2800 | 37 | 1100 | 970 | SED1.5B | 54 | | 55 | | ***2800*** | ***960*** | ***37 J*** | ***880*** |
| Fluorene | ug/kg | 240000 | *10* | | 190 | 12 | 53 | 45 | SED4B | 43 | | 55 | | ***110 J*** | < 150 U | < 42 U | ***23 J*** |

**Table 4-32**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | Location ID | SED1.5B | SED1.5C | SED10A | SED10B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample Date | 11/6/2013 12:25:00 PM | 6/21/2017 8:15:00 AM | 11/11/2013 1:00:00 PM | 11/11/2013 1:59:00 PM |
| | | | | | | | | | | | | | Sample ID | SED1.5B00N | SED1.5C00AN | SED10A00N | SED10B00N |
| | | | | | | | | | | | | | Depth | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | | | | | | | | | Type | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | |
| Hexachlorobenzene | ug/kg | 210 | 1.4 | | | | | | | | | 20 | | | | | < 61 U |
| Hexachlorobutadiene | ug/kg | 1200 | 26.5 | | | | | | | | | 20 | | | | | < 61 U |
| Hexachlorocyclo-pentadiene | ug/kg | 180 | 901 | | | | | | | | | 20 | | | | | < 300 U |
| Hexachloroethane | ug/kg | 1800 | 1027 | | | | | | | | | 20 | | | | | < 300 U |
| Indeno(1,2,3-cd)pyrene | ug/kg | 1100 | *17.32* | 1446 | 1200 | 22 | 420 | 430 | SED1.5B | 54 | | 55 | | ***1200*** | ***440*** | ***22 J*** | ***380*** |
| Isophorone | ug/kg | 570000 | 432 | | | | | | | | | 20 | | | | | < 300 U |
| Naphthalene | ug/kg | 3800 | *14.65* | | 95 | 4.9 | 32 | 24 | SED7G | 29 | | 55 | | < 210 U | < 150 U | < 42 U | < 61 U |
| Nitrobenzene | ug/kg | 5100 | 145 | | | | | | | | | 20 | | | | | < 610 U |
| N-Nitroso-di-n-propylamine | ug/kg | 78 | | | | | | | | | | 20 | | | | | < 61 U |
| N-Nitrosodiphenylamine | ug/kg | 110000 | 2680 | | | | | | | | | 20 | | | | | < 300 U |
| Pentachlorophenol | ug/kg | 1000 | 10 | | | | | | | | | 20 | | | | | < 300 U |
| Phenanthrene | ug/kg | 1.8e+006 | *18.73* | | 2000 | 92 | 470 | 370 | SED7G | 53 | | 55 | | ***1000*** | ***310*** | < 42 U | ***290*** |
| Phenol | ug/kg | 1.9e+006 | 48 | | | | | | | | | 20 | | | | | < 61 U |
| Pyrene | ug/kg | 180000 | *44.27* | | 2100 | 36 | 870 | 840 | SED7G | 54 | | 55 | | ***1800*** | ***790*** | **36 J** | ***720*** |
| BaP-TE | ug/kg | 110 | | | 1710 | 36.6 | 788 | 787 | SED1.5B | 54 | | 55 | | **1710** | **866** | **36.6** | **739** |
| Total High-molecular-weight PAHs | ug/kg | | *193* | 19270 | 13000 | 250 | 5700 | 5700 | SED1.5B | 54 | | 55 | | ***13000*** | ***5600*** | ***250*** | ***5000*** |
| Total Low-molecular-weight PAHs | ug/kg | | *76.42* | | 2800 | 150 | 720 | 580 | SED4B | 53 | | 55 | | ***1400*** | ***390*** | < 42 U | ***390*** |
| Total PAHs (sum 16) | ug/kg | | *264.1* | | 14000 | 250 | 6400 | 6300 | SED1.5B SED7G | 54 | | 55 | | ***14000*** | ***6000*** | **250** | ***5300*** |

**Table 4-32**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | Location ID | SED10C | SED1A | SED1B | SED1C | SED2.5B | SED2A | SED2B | SED2C | SED3.5B | SED3A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 11/11/2013 3:00:00 PM | 11/6/2013 2:00:00 PM | 11/6/2013 2:05:00 PM | 11/7/2013 10:25:00 AM | 11/7/2013 9:34:00 AM | 11/6/2013 11:05:00 AM | 11/5/2013 2:26:00 PM | 11/6/2013 9:16:00 AM | 11/12/2013 11:44:00 AM | 11/7/2013 1:37:00 PM |
| | | | | | Sample ID | SED10C00N | SED1A00N | SED1B00N | SED1C00N | SED2.5B00N | SED2A00N | SED2B00N | SED2C00N | SED3.5B00N | SED3A00N |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 96 | | 64 | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 23000 | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 810000 | 70 | | | | | < 12 U | | | | | < 8.2 U | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 600 | 1360 | | | | | < 12 U | | | | | < 8.2 U | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 670000 | | | | | | < 12 U | | | | | < 8.2 U | | |
| 1,1,2-Trichloroethane | ug/kg | 150 | 400 | | | | | < 12 U | | | | | < 8.2 U | | |
| 1,1-Dichloroethane | ug/kg | 3600 | 20 | | | | | < 12 U | | | | | < 8.2 U | | |
| 1,1-Dichloroethene | ug/kg | 23000 | 100 | | | | | < 12 U | | | | | < 8.2 U | | |
| 1,2,3-Trichlorobenzene | ug/kg | 6300 | 11 | | | | | < 12 U | | | | | < 8.2 U | | |
| 1,2,4-Trichlorobenzene | ug/kg | 5800 | 11 | | | | | < 12 U | | | | | < 8.2 U | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 5.3 | | | | | | < 12 U | | | | | < 8.2 U | | |
| 1,2-Dibromoethane | ug/kg | 36 | | | | | | < 12 U | | | | | < 8.2 U | | |
| 1,2-Dichlorobenzene | ug/kg | 180000 | 30 | | | | | < 12 U | | | | | < 8.2 U | | |
| 1,2-Dichloroethane | ug/kg | 460 | 20 | | | | | < 12 U | | | | | < 8.2 U | | |
| 1,2-Dichloropropane | ug/kg | 1600 | 2 | | | | | < 12 U | | | | | < 8.2 U | | |
| 1,3-Dichlorobenzene | ug/kg | 2600 | 30 | | | | | < 12 U | | | | | < 8.2 U | | |
| 1,4-Dichlorobenzene | ug/kg | 2600 | 30 | | | | | < 12 U | | | | | < 8.2 U | | |
| 1,4-Dioxane | ug/kg | 5300 | 119 | | | | | < 2400 U | | | | | < 1600 U | | |
| 2-Butanone | ug/kg | 2.7e+006 | 35000 | | | | | < 12 U | | | | | **12** | | |
| 2-Hexanone | ug/kg | 20000 | 58.2 | | | | | < 12 U | | | | | < 8.2 U | | |
| 4-Methyl-2-pentanone | ug/kg | 3.3e+006 | 25.1 | | | | | < 12 U | | | | | < 8.2 U | | |
| Acetone | ug/kg | 6.1e+006 | 65 | | | | | < 47 U | | | | | **55** | | |
| Benzene | ug/kg | 1200 | 10 | | | | | < 12 U | | | | | < 8.2 U | | |
| Bromochloromethane | ug/kg | 15000 | | | | | | < 12 U | | | | | < 8.2 U | | |
| Bromodichloromethane | ug/kg | 290 | | | | | | < 12 U | | | | | < 8.2 U | | |
| Bromoform | ug/kg | 19000 | 75000 | | | | | < 12 U | | | | | < 8.2 U | | |
| Bromomethane | ug/kg | 680 | 1.37 | | | | | < 12 U | | | | | < 8.2 U | | |
| Carbon Disulfide | ug/kg | 77000 | 0.851 | | | | | < 12 U | | | | | < 8.2 U | | |
| Carbon Tetrachloride | ug/kg | 650 | 170 | | | | | < 12 U | | | | | < 8.2 U | | |
| Chlorobenzene | ug/kg | 28000 | 30 | | | | | < 12 U | | | | | < 8.2 U | | |
| Chloroethane | ug/kg | 1.4e+006 | | | | | | < 12 U | | | | | < 8.2 U | | |
| Chloroform | ug/kg | 320 | 20 | | | | | < 12 U | | | | | < 8.2 U | | |
| Chloromethane | ug/kg | 11000 | | | | | | < 12 U | | | | | < 8.2 U | | |
| cis-1,2-Dichloroethylene | ug/kg | 16000 | 200 | | | | | < 12 U | | | | | < 8.2 U | | |
| cis-1,3-Dichloropropene | ug/kg | 1800 | | | | | | < 12 U | | | | | < 8.2 U | | |
| Cyclohexane | ug/kg | 650000 | | | | | | < 12 U | | | | | < 8.2 U | | |
| Dibromochloromethane | ug/kg | 8300 | | | | | | < 12 U | | | | | < 8.2 U | | |
| Dichlorodifluoromethane | ug/kg | 8700 | | | | | | < 12 U | | | | | < 8.2 U | | |
| Ethylbenzene | ug/kg | 5800 | 30 | | | | | < 12 U | | | | | < 8.2 U | | |
| Isopropylbenzene | ug/kg | 190000 | 86 | | | | | < 12 U | | | | | < 8.2 U | | |
| m, p-Xylene | ug/kg | 55000 | | | | | | < 24 U | | | | | < 16 U | | |
| Methyl Acetate | ug/kg | 7.8e+006 | | | | | | < 12 U | | | | | < 8.2 U | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 47000 | 100000 | | | | | < 12 U | | | | | < 8.2 U | | |
| Methylcyclohexane | ug/kg | 650000 | | | | | | < 12 U | | | | | < 8.2 U | | |
| Methylene Chloride | ug/kg | 35000 | 18 | | | | | < 12 U | | | | | < 8.2 U | | |
| o-Xylene | ug/kg | 65000 | 89 | | | | | < 12 U | | | | | < 8.2 U | | |
| Styrene | ug/kg | 600000 | 200 | | | | | < 12 U | | | | | < 8.2 U | | |
| Tetrachloroethylene | ug/kg | 8100 | 2 | | | | | < 12 U | | | | | < 8.2 U | | |
| Toluene | ug/kg | 490000 | 10 | | | | | < 12 U | | | | | < 8.2 U | | |
| trans-1,2-Dichloroethene | ug/kg | 160000 | 200 | | | | | < 12 U | | | | | < 8.2 U | | |
| trans-1,3-Dichloropropene | ug/kg | 1800 | | | | | | < 12 U | | | | | < 8.2 U | | |
| Trichloroethene | ug/kg | 410 | | | | | | < 12 U | | | | | < 8.2 U | | |
| Trichlorofluoromethane | ug/kg | 2.3e+006 | | | | | | < 12 U | | | | | < 8.2 U | | |
| Vinyl Chloride | ug/kg | 59 | 10 | | | | | < 12 U | | | | | < 8.2 U | | |
| Xylenes (total) | ug/kg | 58000 | | | | | | < 24 U | | | | | < 16 U | | |

**Table 4-32**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | SED10C | SED1A | SED1B | SED1C | SED2.5B | SED2A | SED2B | SED2C | SED3.5B | SED3A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location ID | SED10C | SED1A | SED1B | SED1C | SED2.5B | SED2A | SED2B | SED2C | SED3.5B | SED3A |
| | | | | | Sample Date | 11/11/2013 3:00:00 PM | 11/6/2013 2:00:00 PM | 11/6/2013 2:05:00 PM | 11/7/2013 10:25:00 AM | 11/7/2013 9:34:00 AM | 11/6/2013 11:05:00 AM | 11/5/2013 2:26:00 PM | 11/6/2013 9:16:00 AM | 11/12/2013 11:44:00 AM | 11/7/2013 1:37:00 PM |
| | | | | | Sample ID | SED10C00N | SED1A00N | SED1B00N | SED1C00N | SED2.5B00N | SED2A00N | SED2B00N | SED2C00N | SED3.5B00N | SED3A00N |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | Type | N | N | N | N | N | N | N | N | N | N |
| 1,1'-Biphenyl | ug/kg | 4700 | 1220 | | | | | < 160 U | | | | | < 1300 U | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 2300 | 10 | | | | | < 160 U | | | | | < 1300 U | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 310000 | | | | | | < 33 U | | | | | < 270 U | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 190000 | 10 | | | | | < 160 U | | | | | < 1300 U | | |
| 2,4,5-Trichlorophenol | ug/kg | 630000 | 10 | | | | | < 160 U | | | | | < 1300 U | | |
| 2,4,6-Trichlorophenol | ug/kg | 6300 | 10 | | | | | < 160 U | | | | | < 1300 U | | |
| 2,4-Dichlorophenol | ug/kg | 19000 | 10 | | | | | < 33 U | | | | | < 270 U | | |
| 2,4-Dimethylphenol | ug/kg | 130000 | 29 | | | | | < 160 U | | | | | < 1300 U | | |
| 2,4-Dinitrophenol | ug/kg | 13000 | 6.21 | | | | | < 830 U | | | | | < 6800 U | | |
| 2,4-Dinitrotoluene | ug/kg | 1700 | 41.6 | | | | | < 160 U | | | | | < 1300 U | | |
| 2,6-Dinitrotoluene | ug/kg | 360 | 41.6 | | | | | < 160 U | | | | | < 1300 U | | |
| 2-Chloronaphthalene | ug/kg | 480000 | 250 | | | | | < 33 U | | | | | < 270 U | | |
| 2-Chlorophenol | ug/kg | 39000 | 55 | | | | | < 160 U | | | | | < 1300 U | | |
| 2-Methylnaphthalene | ug/kg | 24000 | *20.2* | | | | | ***21 J*** | | | | | < 270 U | | |
| 2-Methylphenol | ug/kg | 320000 | 5.1 | | | | | < 160 U | | | | | < 1300 U | | |
| 2-Nitroaniline | ug/kg | 63000 | | | | | | < 830 U | | | | | < 6800 U | | |
| 2-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | | | < 160 U | | | | | < 1300 U | | |
| 3,3'-Dichlorobenzidine | ug/kg | 1200 | 127 | | | | | < 160 U | | | | | < 1300 U | | |
| 3-Nitroaniline | ug/kg | 25000 | | | | | | < 830 U | | | | | < 6800 U | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 510 | 104 | | | | | < 830 U | | | | | < 6800 U | | |
| 4-Bromophenyl-phenylether | ug/kg | | 1230 | | | | | < 160 U | | | | | < 1300 U | | |
| 4-Chloro-3-methylphenol | ug/kg | 630000 | 15000 | | | | | < 160 U | | | | | < 1300 U | | |
| 4-Chloroaniline | ug/kg | 2700 | *0.9* | | | | | < 160 U | | | | | < 1300 U | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | < 160 U | | | | | < 1300 U | | |
| 4-Methylphenol | ug/kg | 630000 | *5.1* | | | | | < 160 U | | | | | < 1300 U | | |
| 4-Nitroaniline | ug/kg | 25000 | | | | | | < 830 U | | | | | < 6800 U | | |
| 4-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | | | < 830 U | | | | | < 6800 U | | |
| Acenaphthene | ug/kg | 360000 | *6.71* | | | ***24 J*** | < 270 U | ***19 J*** | < 220 U | < 240 U | < 260 U | < 110 U | < 270 U | ***7.7 J*** | < 6.7 U |
| Acenaphthylene | ug/kg | 360000 | *5.87* | | | ***33 J*** | < 270 U | ***31 J*** | < 220 U | < 240 U | ***62 J*** | ***51 J*** | ***67 J*** | ***16 J*** | < 6.7 U |
| Acetophenone | ug/kg | 780000 | | | | | | **15 J** | | | | | < 1300 U | | |
| Anthracene | ug/kg | 1.8e+006 | *10* | | | ***82*** | ***76 J*** | ***69*** | ***82 J*** | ***120 J*** | ***120 J*** | ***97 J*** | ***130 J*** | ***20 J*** | < 6.7 U |
| Atrazine | ug/kg | 2400 | 0.2 | | | | | < 160 U | | | | | < 1300 U | | |
| Benzaldehyde | ug/kg | 170000 | | | | | | **150 J** | | | | | < 1300 UJ | | |
| Benzo(a)anthracene | ug/kg | 1100 | *15.72* | 1603 | | ***480*** | ***360*** | ***260*** | ***490*** | ***610*** | ***420*** | ***390*** | ***590*** | ***110*** | < 6.7 U |
| Benzo(a)pyrene | ug/kg | 110 | *31.9* | 1700 | | ***580*** | ***460*** | ***300*** | ***550*** | ***710*** | ***370*** | ***450*** | ***670*** | ***130*** | < 6.7 U |
| Benzo(b)fluoranthene | ug/kg | 1100 | *190* | 2305 | | ***840*** | ***920*** | ***440*** | ***730*** | ***1000*** | ***820*** | ***640*** | ***730*** | ***210*** | < 6.7 U |
| Benzo(g,h,i)perylene | ug/kg | 180000 | *170* | | | ***490 J*** | ***560*** | ***330*** | ***470*** | ***760*** | ***740*** | ***520*** | ***730*** | ***110*** | < 6.7 U |
| Benzo(k)fluoranthene | ug/kg | 11000 | *27.2* | 934 | | ***350*** | ***250 J*** | ***210*** | ***400*** | ***470*** | ***280*** | ***240*** | ***560*** | ***66*** | < 6.7 U |
| bis-(2-chloroethoxy)methane | ug/kg | 19000 | | | | | | < 160 U | | | | | < 1300 U | | |
| bis-(2-Chloroethyl)ether | ug/kg | 230 | 3520 | | | | | < 33 U | | | | | < 270 U | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 39000 | *100* | 2306 | | | | ***520*** | | | | | ***1500 J*** | | |
| Butylbenzylphthalate | ug/kg | 290000 | *100* | | | | | < 160 U | | | | | < 1300 U | | |
| Caprolactam | ug/kg | 3.1e+006 | | | | | | < 830 U | | | | | < 6800 U | | |
| Carbazole | ug/kg | 240000 | | | | | | **23 J** | | | | | **67 J** | | |
| Chrysene | ug/kg | 110000 | *26.83* | 1801 | | ***700*** | ***690*** | ***400*** | ***710*** | ***940*** | ***760*** | ***620*** | ***900*** | ***190*** | < 6.7 U |
| Dibenzo(a,h)anthracene | ug/kg | 110 | *6.22* | 111 | | ***140*** | ***130 J*** | ***65*** | ***110 J*** | ***170 J*** | ***170 J*** | ***100 J*** | ***200 J*** | ***24 J*** | < 6.7 U |
| Dibenzofuran | ug/kg | 7300 | 5100 | | | | | **27 J** | | | | | < 1300 U | | |
| Diethylphthalate | ug/kg | 5.1e+006 | 530 | | | | | < 160 U | | | | | < 1300 U | | |
| Dimethylphthalate | ug/kg | 5.1e+006 | 1000 | | | | | < 160 U | | | | | < 1300 U | | |
| Di-n-butylphthalate | ug/kg | 630000 | 440 | | | | | < 160 U | | | | | < 1300 U | | |
| Di-n-octylphthalate | ug/kg | 63000 | *100* | | | | | < 160 U | | | | | < 1300 U | | |
| Fluoranthene | ug/kg | 240000 | *31.46* | | | ***1100*** | ***940*** | ***580*** | ***1000*** | ***1400*** | ***990*** | ***1100*** | ***1300*** | ***270*** | < 6.7 U |
| Fluorene | ug/kg | 240000 | *10* | | | ***26 J*** | < 270 U | ***36*** | < 220 U | < 240 U | < 260 U | < 110 U | < 270 U | ***12 J*** | < 6.7 U |

# Table 4-32
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | Location ID | SED10C | SED1A | SED1B | SED1C | SED2.5B | SED2A | SED2B | SED2C | SED3.5B | SED3A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 11/11/2013 3:00:00 PM | 11/6/2013 2:00:00 PM | 11/6/2013 2:05:00 PM | 11/7/2013 10:25:00 AM | 11/7/2013 9:34:00 AM | 11/6/2013 11:05:00 AM | 11/5/2013 2:26:00 PM | 11/6/2013 9:16:00 AM | 11/12/2013 11:44:00 AM | 11/7/2013 1:37:00 PM |
| | | | | | Sample ID | SED10C00N | SED1A00N | SED1B00N | SED1C00N | SED2.5B00N | SED2A00N | SED2B00N | SED2C00N | SED3.5B00N | SED3A00N |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | | |
| Hexachlorobenzene | ug/kg | 210 | 1.4 | | | | | < 33 U | | | | | < 270 U | | |
| Hexachlorobutadiene | ug/kg | 1200 | 26.5 | | | | | < 33 U | | | | | < 270 U | | |
| Hexachlorocyclo-pentadiene | ug/kg | 180 | 901 | | | | | < 160 U | | | | | < 1300 U | | |
| Hexachloroethane | ug/kg | 1800 | 1027 | | | | | < 160 U | | | | | < 1300 U | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 1100 | *17.32* | 1446 | | ***420*** | ***440*** | ***270*** | ***400*** | ***610*** | ***140 J*** | ***410*** | ***580*** | ***88*** | < 6.7 U |
| Isophorone | ug/kg | 570000 | 432 | | | | | < 160 U | | | | | < 1300 U | | |
| Naphthalene | ug/kg | 3800 | *14.65* | | | **13 J** | < 270 U | ***27 J*** | < 220 U | < 240 U | < 260 U | < 110 U | < 270 U | **4.9 J** | < 6.7 U |
| Nitrobenzene | ug/kg | 5100 | 145 | | | | | < 320 U | | | | | < 2700 U | | |
| N-Nitroso-di-n-propylamine | ug/kg | 78 | | | | | | < 33 U | | | | | < 270 U | | |
| N-Nitrosodiphenylamine | ug/kg | 110000 | 2680 | | | | | < 160 U | | | | | < 1300 U | | |
| Pentachlorophenol | ug/kg | 1000 | 10 | | | | | < 160 U | | | | | < 1300 U | | |
| Phenanthrene | ug/kg | 1.8e+006 | *18.73* | | | ***380*** | ***290*** | ***260*** | ***370*** | ***550*** | ***310*** | ***370*** | ***380*** | ***92*** | < 6.7 U |
| Phenol | ug/kg | 1.9e+006 | 48 | | | | | < 33 U | | | | | < 270 U | | |
| Pyrene | ug/kg | 180000 | *44.27* | | | ***830*** | ***730*** | ***480*** | ***960*** | ***1200*** | ***800*** | ***640*** | ***1000*** | ***190*** | < 6.7 U |
| BaP-TE | ug/kg | 110 | | | | **898** | **765** | **465** | **827** | **1110** | **682** | **697** | **1070** | **196** | < 6.70 U |
| Total High-molecular-weight PAHs | ug/kg | | *193* | 19270 | | ***5900*** | ***5500*** | ***3300*** | ***5800*** | ***7900*** | ***5500*** | ***5100*** | ***7300*** | ***1400*** | < 6.7 U |
| Total Low-molecular-weight PAHs | ug/kg | | *76.42* | | | ***560*** | ***370*** | ***440*** | ***450*** | ***670*** | ***490*** | ***520*** | ***580*** | ***150*** | < 6.7 U |
| Total PAHs (sum 16) | ug/kg | | *264.1* | | | ***6500*** | ***5800*** | ***3800*** | ***6300*** | ***8500*** | ***6000*** | ***5600*** | ***7800*** | ***1500*** | < 6.7 U |

**Table 4-32**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | Location ID | SED3B | SED3C | SED3C | SED4.5B | SED4A | SED4B | SED4B | SED4C | SED5.5B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 11/8/2013 9:37:00 AM | 11/7/2013 12:27:00 PM | 11/7/2013 12:27:00 PM | 11/8/2013 10:16:00 AM | 11/12/2013 1:33:00 PM | 11/12/2013 12:13:00 PM | 11/12/2013 12:13:00 PM | 11/12/2013 2:09:00 PM | 11/12/2013 2:53:00 PM |
| | | | | | Sample ID | SED3B00N | SED3C00N | SED3C00R | SED4.5B00N | SED4A00N | SED4B00N | SED4B00R | SED4C00N | SED5.5B00N |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | Type | N | N | FD | N | N | N | FD | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 96 | | 64 | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 23000 | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 810000 | 70 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 600 | 1360 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 670000 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 1,1,2-Trichloroethane | ug/kg | 150 | 400 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 1,1-Dichloroethane | ug/kg | 3600 | 20 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 1,1-Dichloroethene | ug/kg | 23000 | 100 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 1,2,3-Trichlorobenzene | ug/kg | 6300 | 11 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 1,2,4-Trichlorobenzene | ug/kg | 5800 | 11 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 5.3 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 1,2-Dibromoethane | ug/kg | 36 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 1,2-Dichlorobenzene | ug/kg | 180000 | 30 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 1,2-Dichloroethane | ug/kg | 460 | 20 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 1,2-Dichloropropane | ug/kg | 1600 | 2 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 1,3-Dichlorobenzene | ug/kg | 2600 | 30 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 1,4-Dichlorobenzene | ug/kg | 2600 | 30 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 1,4-Dioxane | ug/kg | 5300 | 119 | | | | < 3400 U | < 2100 U | | | < 1500 U | < 1400 U | | |
| 2-Butanone | ug/kg | 2.7e+006 | 35000 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 2-Hexanone | ug/kg | 20000 | 58.2 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| 4-Methyl-2-pentanone | ug/kg | 3.3e+006 | 25.1 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Acetone | ug/kg | 6.1e+006 | 65 | | | | < 67 U | < 41 U | | | < 30 U | < 27 U | | |
| Benzene | ug/kg | 1200 | 10 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Bromochloromethane | ug/kg | 15000 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Bromodichloromethane | ug/kg | 290 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Bromoform | ug/kg | 19000 | 75000 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Bromomethane | ug/kg | 680 | 1.37 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Carbon Disulfide | ug/kg | 77000 | 0.851 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Carbon Tetrachloride | ug/kg | 650 | 170 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Chlorobenzene | ug/kg | 28000 | 30 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Chloroethane | ug/kg | 1.4e+006 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Chloroform | ug/kg | 320 | 20 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Chloromethane | ug/kg | 11000 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| cis-1,2-Dichloroethylene | ug/kg | 16000 | 200 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| cis-1,3-Dichloropropene | ug/kg | 1800 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Cyclohexane | ug/kg | 650000 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Dibromochloromethane | ug/kg | 8300 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Dichlorodifluoromethane | ug/kg | 8700 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Ethylbenzene | ug/kg | 5800 | 30 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Isopropylbenzene | ug/kg | 190000 | 86 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| m, p-Xylene | ug/kg | 55000 | | | | | < 34 U | < 21 U | | | < 15 U | < 14 U | | |
| Methyl Acetate | ug/kg | 7.8e+006 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 47000 | 100000 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Methylcyclohexane | ug/kg | 650000 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Methylene Chloride | ug/kg | 35000 | 18 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| o-Xylene | ug/kg | 65000 | 89 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Styrene | ug/kg | 600000 | 200 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Tetrachloroethylene | ug/kg | 8100 | 2 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Toluene | ug/kg | 490000 | 10 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| trans-1,2-Dichloroethene | ug/kg | 160000 | 200 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| trans-1,3-Dichloropropene | ug/kg | 1800 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Trichloroethene | ug/kg | 410 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Trichlorofluoromethane | ug/kg | 2.3e+006 | | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Vinyl Chloride | ug/kg | 59 | 10 | | | | < 17 U | < 10 U | | | < 7.4 U | < 6.8 U | | |
| Xylenes (total) | ug/kg | 58000 | | | | | < 34 U | < 21 U | | | < 15 U | < 14 U | | |

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**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | Location ID | SED3B | SED3C | SED3C | SED4.5B | SED4A | SED4B | SED4B | SED4C | SED5.5B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 11/8/2013 9:37:00 AM | 11/7/2013 12:27:00 PM | 11/7/2013 12:27:00 PM | 11/8/2013 10:16:00 AM | 11/12/2013 1:33:00 PM | 11/12/2013 12:13:00 PM | 11/12/2013 12:13:00 PM | 11/12/2013 2:09:00 PM | 11/12/2013 2:53:00 PM |
| | | | | | Sample ID | SED3B00N | SED3C00N | SED3C00R | SED4.5B00N | SED4A00N | SED4B00N | SED4B00R | SED4C00N | SED5.5B00N |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | Type | N | N | FD | N | N | N | FD | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 4700 | 1220 | | | | < 340 U | < 360 U | | | < 120 U | 18 J | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 2300 | 10 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 310000 | | | | | < 70 U | < 73 U | | | < 25 U | < 24 U | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 190000 | 10 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| 2,4,5-Trichlorophenol | ug/kg | 630000 | 10 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| 2,4,6-Trichlorophenol | ug/kg | 6300 | 10 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| 2,4-Dichlorophenol | ug/kg | 19000 | 10 | | | | < 70 U | < 73 U | | | < 25 U | < 24 U | | |
| 2,4-Dimethylphenol | ug/kg | 130000 | 29 | | | | < 340 U | < 360 U | | | < 120 U | 27 J | | |
| 2,4-Dinitrophenol | ug/kg | 13000 | 6.21 | | | | < 1800 U | < 1900 U | | | < 630 U | < 610 U | | |
| 2,4-Dinitrotoluene | ug/kg | 1700 | 41.6 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| 2,6-Dinitrotoluene | ug/kg | 360 | 41.6 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| 2-Chloronaphthalene | ug/kg | 480000 | 250 | | | | < 70 U | < 73 U | | | < 25 U | < 24 U | | |
| 2-Chlorophenol | ug/kg | 39000 | 55 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| 2-Methylnaphthalene | ug/kg | 24000 | 20.2 | | | | 15 J | < 73 U | | | 41 | 82 | | |
| 2-Methylphenol | ug/kg | 320000 | 5.1 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| 2-Nitroaniline | ug/kg | 63000 | | | | | < 1800 U | < 1900 U | | | < 630 U | < 610 U | | |
| 2-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| 3,3'-Dichlorobenzidine | ug/kg | 1200 | 127 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| 3-Nitroaniline | ug/kg | 25000 | | | | | < 1800 U | < 1900 U | | | < 630 U | < 610 U | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 510 | 104 | | | | < 1800 U | < 1900 U | | | < 630 U | < 610 U | | |
| 4-Bromophenyl-phenylether | ug/kg | | 1230 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| 4-Chloro-3-methylphenol | ug/kg | 630000 | 15000 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| 4-Chloroaniline | ug/kg | 2700 | 0.9 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| 4-Methylphenol | ug/kg | 630000 | 5.1 | | | | 71 J | < 360 U | | | 15 J | 27 J | | |
| 4-Nitroaniline | ug/kg | 25000 | | | | | < 1800 U | < 1900 U | | | < 630 U | < 610 U | | |
| 4-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | | < 1800 U | < 1900 U | | | < 630 U | < 610 U | | |
| Acenaphthene | ug/kg | 360000 | 6.71 | | | 10 J | 61 J | 34 J | 28 J | 34 J | 49 J | 190 J | 22 J | 33 J |
| Acenaphthylene | ug/kg | 360000 | 5.87 | | | < 23 U | 84 | 65 J | < 81 U | 73 J | 90 | 120 | 80 J | 85 |
| Acetophenone | ug/kg | 780000 | | | | | 30 J | < 360 U | | | < 120 U | < 120 U | | |
| Anthracene | ug/kg | 1.8e+006 | 10 | | | 16 J | 170 | 100 | 95 | 100 | 96 J | 350 J | 87 J | 110 |
| Atrazine | ug/kg | 2400 | 0.2 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| Benzaldehyde | ug/kg | 170000 | | | | | 320 J | 320 J | | | R | R | | |
| Benzo(a)anthracene | ug/kg | 1100 | 15.72 | 1603 | | 110 | 620 | 410 | 500 | 410 | 350 J | 1000 J | 470 | 410 |
| Benzo(a)pyrene | ug/kg | 110 | 31.9 | 1700 | | 130 | 700 | 490 | 580 | 530 | 340 J | 930 J | 550 | 510 |
| Benzo(b)fluoranthene | ug/kg | 1100 | 190 | 2305 | | 210 | 1000 | 710 | 950 | 870 | 400 J | 910 J | 940 | 780 |
| Benzo(g,h,i)perylene | ug/kg | 180000 | 170 | | | 140 | 760 | 580 | 680 | 740 | 290 J | 740 J | 740 | 630 |
| Benzo(k)fluoranthene | ug/kg | 11000 | 27.2 | 934 | | 90 | 320 | 250 | 380 | 300 | 150 J | 490 J | 320 | 290 |
| bis-(2-chloroethoxy)methane | ug/kg | 19000 | | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| bis-(2-Chloroethyl)ether | ug/kg | 230 | 3520 | | | | < 70 U | < 73 U | | | < 25 U | < 24 U | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 39000 | 100 | 2306 | | | 840 | 640 J | | | 190 J | 210 J | | |
| Butylbenzylphthalate | ug/kg | 290000 | 100 | | | | 78 J | < 360 U | | | < 120 U | < 120 U | | |
| Caprolactam | ug/kg | 3.1e+006 | | | | | < 1800 U | < 1900 U | | | < 630 U | < 610 U | | |
| Carbazole | ug/kg | 240000 | | | | | 95 | 63 J | | | 29 | 110 | | |
| Chrysene | ug/kg | 110000 | 26.83 | 1801 | | 190 | 930 | 650 | 1000 | 800 | 410 J | 1100 J | 830 | 800 |
| Dibenzo(a,h)anthracene | ug/kg | 110 | 6.22 | 111 | | 32 | 170 | 130 | 140 | 160 | 68 | 170 | 160 | 110 |
| Dibenzofuran | ug/kg | 7300 | 5100 | | | | < 340 U | < 360 U | | | < 120 U | 70 J | | |
| Diethylphthalate | ug/kg | 5.1e+006 | 530 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| Dimethylphthalate | ug/kg | 5.1e+006 | 1000 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| Di-n-butylphthalate | ug/kg | 630000 | 440 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| Di-n-octylphthalate | ug/kg | 63000 | 100 | | | | 42 J | < 360 U | | | < 120 U | < 120 UJ | | |
| Fluoranthene | ug/kg | 240000 | 31.46 | | | 290 | 1800 | 1200 | 1300 | 990 | 640 J | 2500 J | 1000 | 910 |
| Fluorene | ug/kg | 240000 | 10 | | | 13 J | 81 | < 73 U | 30 J | 35 J | 57 J | 190 J | 39 J | 54 |

**Table 4-32**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | Location ID | SED3B | SED3C | SED3C | SED4.5B | SED4A | SED4B | SED4B | SED4C | SED5.5B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 11/8/2013 9:37:00 AM | 11/7/2013 12:27:00 PM | 11/7/2013 12:27:00 PM | 11/8/2013 10:16:00 AM | 11/12/2013 1:33:00 PM | 11/12/2013 12:13:00 PM | 11/12/2013 12:13:00 PM | 11/12/2013 2:09:00 PM | 11/12/2013 2:53:00 PM |
| | | | | | Sample ID | SED3B00N | SED3C00N | SED3C00R | SED4.5B00N | SED4A00N | SED4B00N | SED4B00R | SED4C00N | SED5.5B00N |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | Type | N | N | FD | N | N | N | FD | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | |
| Hexachlorobenzene | ug/kg | 210 | 1.4 | | | | < 70 U | < 73 U | | | < 25 U | < 24 U | | |
| Hexachlorobutadiene | ug/kg | 1200 | 26.5 | | | | < 70 U | < 73 U | | | < 25 U | < 24 U | | |
| Hexachlorocyclo-pentadiene | ug/kg | 180 | 901 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| Hexachloroethane | ug/kg | 1800 | 1027 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 1100 | *17.32* | 1446 | | ***110*** | ***600*** | ***440*** | ***550*** | ***530*** | ***220 J*** | ***600 J*** | ***590*** | ***410*** |
| Isophorone | ug/kg | 570000 | 432 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| Naphthalene | ug/kg | 3800 | *14.65* | | | < 23 U | < 70 U | < 73 U | < 81 U | ***24 J*** | ***36*** | ***61*** | ***22 J*** | ***36 J*** |
| Nitrobenzene | ug/kg | 5100 | 145 | | | | < 700 U | < 730 U | | | < 250 U | < 240 U | | |
| N-Nitroso-di-n-propylamine | ug/kg | 78 | | | | | < 70 U | < 73 U | | | < 25 U | < 24 U | | |
| N-Nitrosodiphenylamine | ug/kg | 110000 | 2680 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| Pentachlorophenol | ug/kg | 1000 | 10 | | | | < 340 U | < 360 U | | | < 120 U | < 120 U | | |
| Phenanthrene | ug/kg | 1.8e+006 | *18.73* | | | ***190*** | ***640 J*** | ***360 J*** | ***440*** | ***320*** | ***450 J*** | ***1900 J*** | ***320*** | ***400*** |
| Phenol | ug/kg | 1.9e+006 | 48 | | | | < 70 U | < 73 U | | | < 25 U | < 24 U | | |
| Pyrene | ug/kg | 180000 | *44.27* | | | ***270*** | ***910*** | ***640*** | ***1100*** | ***760*** | ***650 J*** | ***1800 J*** | ***840*** | ***870*** |
| BaP-TE | ug/kg | 110 | | | | **206** | **1100** | **779** | **925** | **875** | **507** | **1360** | **914** | **784** |
| Total High-molecular-weight PAHs | ug/kg | | *193* | 19270 | | ***1600*** | ***7800*** | ***5500*** | ***7200*** | ***6100*** | ***3500*** | ***10000*** | ***6400*** | ***5700*** |
| Total Low-molecular-weight PAHs | ug/kg | | *76.42* | | | ***230*** | ***1000*** | ***560*** | ***590*** | ***590*** | ***780*** | ***2800*** | ***570*** | ***720*** |
| Total PAHs (sum 16) | ug/kg | | *264.1* | | | ***1800*** | ***8800*** | ***6100*** | ***7800*** | ***6700*** | ***4300*** | ***13000*** | ***7000*** | ***6400*** |

# Table 4-32
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | Location ID | SED5A | SED5B | SED5B | SED5C | SED6.5D | SED6.5D | SED6.5E | SED6.5E | SED6A | SED6A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 11/8/2013 11:37:00 AM | 11/8/2013 12:30:00 PM | 6/20/2017 7:45:00 AM | 11/11/2013 8:38:00 AM | 11/25/2013 8:10:00 AM | 6/9/2017 9:45:00 AM | 11/25/2013 8:20:00 AM | 6/8/2017 10:00:00 AM | 11/13/2013 1:39:00 PM | 6/8/2017 1:15:00 PM |
| | | | | | Sample ID | SED5A00N | SED5B00N | SED5B00AN | SED5C00N | SED6.5D00N | SED6.5D00EN | SED6.5E00N | SED6.5E00EN | SED6A00N | SED6A00EN |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft |
| | | | | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | **2240 J-** | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 96 | | 64 | | | | **140 J-** | | | **87** | | **100** | | **31 J** |
| Oil Range Organics (C20-C36) | mg/kg | 23000 | | | | | | **1600 J-** | | | **700** | | **640** | | **350** |
| 1,1,1-Trichloroethane | ug/kg | 810000 | 70 | | | | | | | | | < 11 U | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 600 | 1360 | | | | | | | | | < 11 U | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 670000 | | | | | | | | | | < 11 U | | | |
| 1,1,2-Trichloroethane | ug/kg | 150 | 400 | | | | | | | | | < 11 U | | | |
| 1,1-Dichloroethane | ug/kg | 3600 | 20 | | | | | | | | | < 11 U | | | |
| 1,1-Dichloroethene | ug/kg | 23000 | 100 | | | | | | | | | < 11 U | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 6300 | 11 | | | | | | | | | < 11 U | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 5800 | 11 | | | | | | | | | < 11 U | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 5.3 | | | | | | | | | | < 11 U | | | |
| 1,2-Dibromoethane | ug/kg | 36 | | | | | | | | | | < 11 U | | | |
| 1,2-Dichlorobenzene | ug/kg | 180000 | 30 | | | | | | | | | < 11 U | | | |
| 1,2-Dichloroethane | ug/kg | 460 | 20 | | | | | | | | | < 11 U | | | |
| 1,2-Dichloropropane | ug/kg | 1600 | 2 | | | | | | | | | < 11 U | | | |
| 1,3-Dichlorobenzene | ug/kg | 2600 | 30 | | | | | | | | | < 11 U | | | |
| 1,4-Dichlorobenzene | ug/kg | 2600 | 30 | | | | | | | | | < 11 U | | | |
| 1,4-Dioxane | ug/kg | 5300 | 119 | | | | | | | | | < 2100 U | | | |
| 2-Butanone | ug/kg | 2.7e+006 | 35000 | | | | | | | | | < 11 U | | | |
| 2-Hexanone | ug/kg | 20000 | 58.2 | | | | | | | | | < 11 U | | | |
| 4-Methyl-2-pentanone | ug/kg | 3.3e+006 | 25.1 | | | | | | | | | < 11 U | | | |
| Acetone | ug/kg | 6.1e+006 | 65 | | | | | | | | | < 43 U | | | |
| Benzene | ug/kg | 1200 | 10 | | | | | | | | | < 11 U | | | |
| Bromochloromethane | ug/kg | 15000 | | | | | | | | | | < 11 U | | | |
| Bromodichloromethane | ug/kg | 290 | | | | | | | | | | < 11 U | | | |
| Bromoform | ug/kg | 19000 | 75000 | | | | | | | | | < 11 U | | | |
| Bromomethane | ug/kg | 680 | 1.37 | | | | | | | | | < 11 U | | | |
| Carbon Disulfide | ug/kg | 77000 | 0.851 | | | | | | | | | < 11 U | | | |
| Carbon Tetrachloride | ug/kg | 650 | 170 | | | | | | | | | < 11 U | | | |
| Chlorobenzene | ug/kg | 28000 | 30 | | | | | | | | | < 11 U | | | |
| Chloroethane | ug/kg | 1.4e+006 | | | | | | | | | | < 11 U | | | |
| Chloroform | ug/kg | 320 | 20 | | | | | | | | | < 11 U | | | |
| Chloromethane | ug/kg | 11000 | | | | | | | | | | < 11 U | | | |
| cis-1,2-Dichloroethylene | ug/kg | 16000 | 200 | | | | | | | | | < 11 U | | | |
| cis-1,3-Dichloropropene | ug/kg | 1800 | | | | | | | | | | < 11 U | | | |
| Cyclohexane | ug/kg | 650000 | | | | | | | | | | < 11 U | | | |
| Dibromochloromethane | ug/kg | 8300 | | | | | | | | | | < 11 U | | | |
| Dichlorodifluoromethane | ug/kg | 8700 | | | | | | | | | | < 11 U | | | |
| Ethylbenzene | ug/kg | 5800 | 30 | | | | | | | | | < 11 U | | | |
| Isopropylbenzene | ug/kg | 190000 | 86 | | | | | | | | | < 11 U | | | |
| m, p-Xylene | ug/kg | 55000 | | | | | | | | | | < 21 U | | | |
| Methyl Acetate | ug/kg | 7.8e+006 | | | | | | | | | | < 11 U | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 47000 | 100000 | | | | | | | | | < 11 U | | | |
| Methylcyclohexane | ug/kg | 650000 | | | | | | | | | | < 11 U | | | |
| Methylene Chloride | ug/kg | 35000 | 18 | | | | | | | | | < 11 U | | | |
| o-Xylene | ug/kg | 65000 | 89 | | | | | | | | | < 11 U | | | |
| Styrene | ug/kg | 600000 | 200 | | | | | | | | | < 11 U | | | |
| Tetrachloroethylene | ug/kg | 8100 | 2 | | | | | | | | | < 11 U | | | |
| Toluene | ug/kg | 490000 | 10 | | | | | | | | | < 11 U | | | |
| trans-1,2-Dichloroethene | ug/kg | 160000 | 200 | | | | | | | | | < 11 U | | | |
| trans-1,3-Dichloropropene | ug/kg | 1800 | | | | | | | | | | < 11 U | | | |
| Trichloroethene | ug/kg | 410 | | | | | | | | | | < 11 U | | | |
| Trichlorofluoromethane | ug/kg | 2.3e+006 | | | | | | | | | | < 11 U | | | |
| Vinyl Chloride | ug/kg | 59 | 10 | | | | | | | | | < 11 U | | | |
| Xylenes (total) | ug/kg | 58000 | | | | | | | | | | < 21 U | | | |

| | | | | | Location ID | SED5A | SED5B | SED5B | SED5C | SED6.5D | SED6.5D | SED6.5E | SED6.5E | SED6A | SED6A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 11/8/2013 11:37:00 AM | 11/8/2013 12:30:00 PM | 6/20/2017 7:45:00 AM | 11/11/2013 8:38:00 AM | 11/25/2013 8:10:00 AM | 6/9/2017 9:45:00 AM | 11/25/2013 8:20:00 AM | 6/8/2017 10:00:00 AM | 11/13/2013 1:39:00 PM | 6/8/2017 1:15:00 PM |
| | | | | | Sample ID | SED5A00N | SED5B00N | SED5B00AN | SED5C00N | SED6.5D00N | SED6.5D00EN | SED6.5E00N | SED6.5E00EN | SED6A00N | SED6A00EN |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft |
| | | | | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 4700 | 1220 | | | | | | | | | < 300 U | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 2300 | 10 | | | | | | | | | < 300 U | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 310000 | | | | | | | | | | < 61 U | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 190000 | 10 | | | | | | | | | < 300 U | | | |
| 2,4,5-Trichlorophenol | ug/kg | 630000 | 10 | | | | | | | | | < 300 U | | | |
| 2,4,6-Trichlorophenol | ug/kg | 6300 | 10 | | | | | | | | | < 300 U | | | |
| 2,4-Dichlorophenol | ug/kg | 19000 | 10 | | | | | | | | | < 61 U | | | |
| 2,4-Dimethylphenol | ug/kg | 130000 | 29 | | | | | | | | | < 300 U | | | |
| 2,4-Dinitrophenol | ug/kg | 13000 | 6.21 | | | | | | | | | < 1600 U | | | |
| 2,4-Dinitrotoluene | ug/kg | 1700 | 41.6 | | | | | | | | | < 300 U | | | |
| 2,6-Dinitrotoluene | ug/kg | 360 | 41.6 | | | | | | | | | < 300 U | | | |
| 2-Chloronaphthalene | ug/kg | 480000 | 250 | | | | | | | | | < 61 U | | | |
| 2-Chlorophenol | ug/kg | 39000 | 55 | | | | | | | | | < 300 U | | | |
| 2-Methylnaphthalene | ug/kg | 24000 | *20.2* | | | | | | | | | ***74*** | | | |
| 2-Methylphenol | ug/kg | 320000 | 5.1 | | | | | | | | | < 300 U | | | |
| 2-Nitroaniline | ug/kg | 63000 | | | | | | | | | | < 1600 U | | | |
| 2-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | | | | | | | < 300 U | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 1200 | 127 | | | | | | | | | < 300 U | | | |
| 3-Nitroaniline | ug/kg | 25000 | | | | | | | | | | < 1600 U | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 510 | 104 | | | | | | | | | < 1600 U | | | |
| 4-Bromophenyl-phenylether | ug/kg | | 1230 | | | | | | | | | < 300 U | | | |
| 4-Chloro-3-methylphenol | ug/kg | 630000 | 15000 | | | | | | | | | < 300 U | | | |
| 4-Chloroaniline | ug/kg | 2700 | *0.9* | | | | | | | | | < 300 U | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | < 300 U | | | |
| 4-Methylphenol | ug/kg | 630000 | *5.1* | | | | | | | | | ***55 J*** | | | |
| 4-Nitroaniline | ug/kg | 25000 | | | | | | | | | | < 1600 U | | | |
| 4-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | | | | | | | < 1600 U | | | |
| Acenaphthene | ug/kg | 360000 | *6.71* | | | ***31 J*** | ***18 J*** | < 230 U | ***80*** | ***57 J*** | | < 61 U | | ***84*** | |
| Acenaphthylene | ug/kg | 360000 | *5.87* | | | < 72 U | < 87 U | < 230 U | ***170*** | ***35 J*** | | ***48 J*** | | ***84*** | |
| Acetophenone | ug/kg | 780000 | | | | | | | | | | **44 J** | | | |
| Anthracene | ug/kg | 1.8e+006 | *10* | | | ***71 J*** | ***58 J*** | < 230 U | ***210*** | ***60 J*** | | ***89*** | | ***130*** | |
| Atrazine | ug/kg | 2400 | 0.2 | | | | | | | | | < 300 U | | | |
| Benzaldehyde | ug/kg | 170000 | | | | | | | | | | **64 J** | | | |
| Benzo(a)anthracene | ug/kg | 1100 | *15.72* | 1603 | | ***370*** | ***370*** | ***420*** | ***630*** | ***190*** | | ***400*** | | ***390*** | |
| Benzo(a)pyrene | ug/kg | 110 | *31.9* | 1700 | | ***450*** | ***440*** | ***520*** | ***780*** | ***190*** | | ***460*** | | ***430*** | |
| Benzo(b)fluoranthene | ug/kg | 1100 | *190* | 2305 | | ***730*** | ***800*** | ***1100*** | ***1100*** | ***320*** | | ***730*** | | ***470*** | |
| Benzo(g,h,i)perylene | ug/kg | 180000 | *170* | | | ***640*** | ***630*** | ***680*** | ***830*** | ***190*** | | ***530*** | | ***370*** | |
| Benzo(k)fluoranthene | ug/kg | 11000 | *27.2* | 934 | | ***290*** | ***250*** | ***340*** | ***390*** | ***96 J*** | | ***250*** | | ***160*** | |
| bis-(2-chloroethoxy)methane | ug/kg | 19000 | | | | | | | | | | < 300 U | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 230 | 3520 | | | | | | | | | < 61 U | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 39000 | *100* | 2306 | | | | | | | | ***1300*** | | | |
| Butylbenzylphthalate | ug/kg | 290000 | *100* | | | | | | | | | < 300 U | | | |
| Caprolactam | ug/kg | 3.1e+006 | | | | | | | | | | < 1600 U | | | |
| Carbazole | ug/kg | 240000 | | | | | | | | | | **60 J** | | | |
| Chrysene | ug/kg | 110000 | *26.83* | 1801 | | ***750*** | ***720*** | ***880*** | ***960*** | ***320*** | | ***740*** | | ***470*** | |
| Dibenzo(a,h)anthracene | ug/kg | 110 | *6.22* | 111 | | ***140*** | ***96*** | ***140 J*** | ***170*** | ***52 J*** | | ***140*** | | ***88*** | |
| Dibenzofuran | ug/kg | 7300 | 5100 | | | | | | | | | < 300 U | | | |
| Diethylphthalate | ug/kg | 5.1e+006 | 530 | | | | | | | | | < 300 U | | | |
| Dimethylphthalate | ug/kg | 5.1e+006 | 1000 | | | | | | | | | < 300 U | | | |
| Di-n-butylphthalate | ug/kg | 630000 | 440 | | | | | | | | | **41 J** | | | |
| Di-n-octylphthalate | ug/kg | 63000 | *100* | | | | | | | | | < 300 U | | | |
| Fluoranthene | ug/kg | 240000 | *31.46* | | | ***840*** | ***800*** | ***920*** | ***1100*** | ***370*** | | ***1000*** | | ***1000*** | |
| Fluorene | ug/kg | 240000 | *10* | | | ***45 J*** | ***41 J*** | < 230 U | ***70 J*** | ***63 J*** | | ***50 J*** | | ***70*** | |

# Table 4-32
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | Location ID | SED5A | SED5B | SED5B | SED5C | SED6.5D | SED6.5D | SED6.5E | SED6.5E | SED6A | SED6A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 11/8/2013 11:37:00 AM | 11/8/2013 12:30:00 PM | 6/20/2017 7:45:00 AM | 11/11/2013 8:38:00 AM | 11/25/2013 8:10:00 AM | 6/9/2017 9:45:00 AM | 11/25/2013 8:20:00 AM | 6/8/2017 10:00:00 AM | 11/13/2013 1:39:00 PM | 6/8/2017 1:15:00 PM |
| | | | | | Sample ID | SED5A00N | SED5B00N | SED5B00AN | SED5C00N | SED6.5D00N | SED6.5D00EN | SED6.5E00N | SED6.5E00EN | SED6A00N | SED6A00EN |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft |
| | | | | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | | |
| Hexachlorobenzene | ug/kg | 210 | 1.4 | | | | | | | | | < 61 U | | | |
| Hexachlorobutadiene | ug/kg | 1200 | 26.5 | | | | | | | | | < 61 U | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 180 | 901 | | | | | | | | | < 300 U | | | |
| Hexachloroethane | ug/kg | 1800 | 1027 | | | | | | | | | < 300 U | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 1100 | *17.32* | 1446 | | ***500*** | ***480*** | ***510*** | ***620*** | ***140 J*** | | ***420*** | | ***290*** | |
| Isophorone | ug/kg | 570000 | 432 | | | | | | | | | < 300 U | | | |
| Naphthalene | ug/kg | 3800 | *14.65* | | | < 72 U | < 87 U | < 230 U | < 75 U | ***52 J*** | | ***33 J*** | | ***18 J*** | |
| Nitrobenzene | ug/kg | 5100 | 145 | | | | | | | | | < 610 U | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 78 | | | | | | | | | | < 61 U | | | |
| N-Nitrosodiphenylamine | ug/kg | 110000 | 2680 | | | | | | | | | < 300 U | | | |
| Pentachlorophenol | ug/kg | 1000 | 10 | | | | | | | | | < 300 U | | | |
| Phenanthrene | ug/kg | 1.8e+006 | *18.73* | | | ***300*** | ***260*** | ***450*** | ***560*** | ***190*** | | ***370*** | | ***610*** | |
| Phenol | ug/kg | 1.9e+006 | 48 | | | | | | | | | < 61 U | | | |
| Pyrene | ug/kg | 180000 | *44.27* | | | ***780*** | ***730*** | ***1200*** | ***1100*** | ***410*** | | ***910*** | | ***750*** | |
| BaP-TE | ug/kg | 110 | | | | ***754*** | ***704*** | ***867*** | ***1190*** | ***308*** | | ***758*** | | ***635*** | |
| Total High-molecular-weight PAHs | ug/kg | | *193* | 19270 | | ***5500*** | ***5300*** | ***6700*** | ***7700*** | ***2300*** | | ***5600*** | | ***4400*** | |
| Total Low-molecular-weight PAHs | ug/kg | | *76.42* | | | ***450*** | ***380*** | ***450*** | ***1100*** | ***460*** | | ***590*** | | ***1000*** | |
| Total PAHs (sum 16) | ug/kg | | *264.1* | | | ***5900*** | ***5700*** | ***7200*** | ***8800*** | ***2700*** | | ***6200*** | | ***5400*** | |

**Table 4-32**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location ID | SED6B | SED6B | SED6B | SED6C | SED6C | SED7.5D | SED7.5D | SED7.5E | SED7.5E |
| | | | | | Sample Date | 11/13/2013 12:39:00 PM | 11/13/2013 12:39:00 PM | 6/8/2017 12:30:00 PM | 11/14/2013 1:33:00 PM | 6/7/2017 10:00:00 AM | 11/25/2013 7:30:00 AM | 6/9/2017 8:15:00 AM | 11/25/2013 10:30:00 AM | 6/8/2017 9:15:00 AM |
| | | | | | Sample ID | SED6B00N | SED6B00R | SED6B00EN | SED6C00N | SED6C00EN | SED7.5D00N | SED7.5D00EN | SED7.5E00N | SED7.5E00EN |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft |
| | | | | | Type | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 96 | | 64 | | | | **37** | | **88** | | **79** | | **100** |
| Oil Range Organics (C20-C36) | mg/kg | 23000 | | | | | | **370** | | **600** | | **590** | | **860** |
| 1,1,1-Trichloroethane | ug/kg | 810000 | 70 | | | < 8.9 U | < 8.3 U | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 600 | 1360 | | | < 8.9 U | < 8.3 U | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 670000 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 150 | 400 | | | < 8.9 U | < 8.3 U | | | | | | | |
| 1,1-Dichloroethane | ug/kg | 3600 | 20 | | | < 8.9 U | < 8.3 U | | | | | | | |
| 1,1-Dichloroethene | ug/kg | 23000 | 100 | | | < 8.9 U | < 8.3 U | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 6300 | 11 | | | < 8.9 U | < 8.3 U | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 5800 | 11 | | | < 8.9 U | < 8.3 U | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 5.3 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| 1,2-Dibromoethane | ug/kg | 36 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 180000 | 30 | | | < 8.9 U | < 8.3 U | | | | | | | |
| 1,2-Dichloroethane | ug/kg | 460 | 20 | | | < 8.9 U | < 8.3 U | | | | | | | |
| 1,2-Dichloropropane | ug/kg | 1600 | 2 | | | < 8.9 U | < 8.3 U | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 2600 | 30 | | | < 8.9 U | < 8.3 U | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 2600 | 30 | | | < 8.9 U | < 8.3 U | | | | | | | |
| 1,4-Dioxane | ug/kg | 5300 | 119 | | | < 1800 U | < 1700 U | | | | | | | |
| 2-Butanone | ug/kg | 2.7e+006 | 35000 | | | < 8.9 U | < 8.3 U | | | | | | | |
| 2-Hexanone | ug/kg | 20000 | 58.2 | | | < 8.9 U | < 8.3 U | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 3.3e+006 | 25.1 | | | < 8.9 U | < 8.3 U | | | | | | | |
| Acetone | ug/kg | 6.1e+006 | 65 | | | < 36 U | **20 J** | | | | | | | |
| Benzene | ug/kg | 1200 | 10 | | | < 8.9 U | < 8.3 U | | | | | | | |
| Bromochloromethane | ug/kg | 15000 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| Bromodichloromethane | ug/kg | 290 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| Bromoform | ug/kg | 19000 | 75000 | | | < 8.9 U | < 8.3 U | | | | | | | |
| Bromomethane | ug/kg | 680 | 1.37 | | | < 8.9 U | < 8.3 U | | | | | | | |
| Carbon Disulfide | ug/kg | 77000 | 0.851 | | | < 8.9 U | < 8.3 U | | | | | | | |
| Carbon Tetrachloride | ug/kg | 650 | 170 | | | < 8.9 U | < 8.3 U | | | | | | | |
| Chlorobenzene | ug/kg | 28000 | 30 | | | < 8.9 U | < 8.3 U | | | | | | | |
| Chloroethane | ug/kg | 1.4e+006 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| Chloroform | ug/kg | 320 | 20 | | | **1.1 J** | < 8.3 U | | | | | | | |
| Chloromethane | ug/kg | 11000 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 16000 | 200 | | | < 8.9 U | < 8.3 U | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 1800 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| Cyclohexane | ug/kg | 650000 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| Dibromochloromethane | ug/kg | 8300 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| Dichlorodifluoromethane | ug/kg | 8700 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| Ethylbenzene | ug/kg | 5800 | 30 | | | < 8.9 U | < 8.3 U | | | | | | | |
| Isopropylbenzene | ug/kg | 190000 | 86 | | | < 8.9 U | < 8.3 U | | | | | | | |
| m, p-Xylene | ug/kg | 55000 | | | | < 18 U | < 17 U | | | | | | | |
| Methyl Acetate | ug/kg | 7.8e+006 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 47000 | 100000 | | | < 8.9 U | < 8.3 U | | | | | | | |
| Methylcyclohexane | ug/kg | 650000 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| Methylene Chloride | ug/kg | 35000 | 18 | | | < 8.9 U | < 8.3 U | | | | | | | |
| o-Xylene | ug/kg | 65000 | 89 | | | < 8.9 U | < 8.3 U | | | | | | | |
| Styrene | ug/kg | 600000 | 200 | | | < 8.9 U | < 8.3 U | | | | | | | |
| Tetrachloroethylene | ug/kg | 8100 | 2 | | | < 8.9 U | < 8.3 U | | | | | | | |
| Toluene | ug/kg | 490000 | 10 | | | < 8.9 U | < 8.3 U | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 160000 | 200 | | | < 8.9 U | < 8.3 U | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 1800 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| Trichloroethene | ug/kg | 410 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| Trichlorofluoromethane | ug/kg | 2.3e+006 | | | | < 8.9 U | < 8.3 U | | | | | | | |
| Vinyl Chloride | ug/kg | 59 | 10 | | | < 8.9 U | < 8.3 U | | | | | | | |
| Xylenes (total) | ug/kg | 58000 | | | | < 18 U | < 17 U | | | | | | | |

**Table 4-32**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | Location ID | SED6B | SED6B | SED6B | SED6C | SED6C | SED7.5D | SED7.5D | SED7.5E | SED7.5E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 11/13/2013 12:39:00 PM | 11/13/2013 12:39:00 PM | 6/8/2017 12:30:00 PM | 11/14/2013 1:33:00 PM | 6/7/2017 10:00:00 AM | 11/25/2013 7:30:00 AM | 6/9/2017 8:15:00 AM | 11/25/2013 10:30:00 AM | 6/8/2017 9:15:00 AM |
| | | | | | Sample ID | SED6B00N | SED6B00R | SED6B00EN | SED6C00N | SED6C00EN | SED7.5D00N | SED7.5D00EN | SED7.5E00N | SED7.5E00EN |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft |
| | | | | | Type | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 4700 | 1220 | | | < 290 U | < 300 U | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 2300 | 10 | | | < 290 U | < 300 U | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 310000 | | | | < 58 U | < 61 U | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 190000 | 10 | | | < 290 U | < 300 U | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 630000 | 10 | | | < 290 U | < 300 U | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 6300 | 10 | | | < 290 U | < 300 U | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | 19000 | 10 | | | < 58 U | < 61 U | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | 130000 | 29 | | | < 290 U | < 300 U | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | 13000 | 6.21 | | | < 1500 U | < 1600 U | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 1700 | 41.6 | | | < 290 U | < 300 U | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 360 | 41.6 | | | < 290 U | < 300 U | | | | | | | |
| 2-Chloronaphthalene | ug/kg | 480000 | 250 | | | < 58 U | < 61 U | | | | | | | |
| 2-Chlorophenol | ug/kg | 39000 | 55 | | | < 290 U | < 300 U | | | | | | | |
| 2-Methylnaphthalene | ug/kg | 24000 | 20.2 | | | 19 J | 19 J | | | | | | | |
| 2-Methylphenol | ug/kg | 320000 | 5.1 | | | < 290 U | < 300 U | | | | | | | |
| 2-Nitroaniline | ug/kg | 63000 | | | | < 1500 U | < 1600 U | | | | | | | |
| 2-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | < 290 U | < 300 U | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 1200 | 127 | | | < 290 U | < 300 U | | | | | | | |
| 3-Nitroaniline | ug/kg | 25000 | | | | < 1500 U | < 1600 U | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 510 | 104 | | | < 1500 U | < 1600 U | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | 1230 | | | < 290 U | < 300 U | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 630000 | 15000 | | | < 290 U | < 300 U | | | | | | | |
| 4-Chloroaniline | ug/kg | 2700 | 0.9 | | | < 290 U | < 300 U | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | < 290 U | < 300 U | | | | | | | |
| 4-Methylphenol | ug/kg | 630000 | 5.1 | | | < 290 U | < 300 U | | | | | | | |
| 4-Nitroaniline | ug/kg | 25000 | | | | < 1500 U | < 1600 U | | | | | | | |
| 4-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | < 1500 U | < 1600 U | | | | | | | |
| Acenaphthene | ug/kg | 360000 | 6.71 | | | 35 J | 32 J | | 19 J | | 35 J | | 59 | |
| Acenaphthylene | ug/kg | 360000 | 5.87 | | | 64 | 59 J | | 61 J | | 28 J | | 47 J | |
| Acetophenone | ug/kg | 780000 | | | | < 290 U | < 300 U | | | | | | | |
| Anthracene | ug/kg | 1.8e+006 | 10 | | | 120 | 120 | | 61 J | | 47 J | | 120 | |
| Atrazine | ug/kg | 2400 | 0.2 | | | < 290 U | < 300 U | | | | | | | |
| Benzaldehyde | ug/kg | 170000 | | | | 250 J | 250 J | | | | | | | |
| Benzo(a)anthracene | ug/kg | 1100 | 15.72 | 1603 | | 480 | 520 | | 420 J | | 160 | | 360 | |
| Benzo(a)pyrene | ug/kg | 110 | 31.9 | 1700 | | 610 | 650 | | 530 J | | 160 | | 310 | |
| Benzo(b)fluoranthene | ug/kg | 1100 | 190 | 2305 | | 850 | 910 | | 850 J | | 290 | | 500 | |
| Benzo(g,h,i)perylene | ug/kg | 180000 | 170 | | | 620 | 620 | | 350 J | | 170 | | 290 | |
| Benzo(k)fluoranthene | ug/kg | 11000 | 27.2 | 934 | | 310 | 330 | | 330 J | | 100 | | 140 | |
| bis-(2-chloroethoxy)methane | ug/kg | 19000 | | | | < 290 U | < 300 U | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 230 | 3520 | | | < 58 U | < 61 U | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 39000 | 100 | 2306 | | 1100 | 1200 | | | | | | | |
| Butylbenzylphthalate | ug/kg | 290000 | 100 | | | 61 J | 68 J | | | | | | | |
| Caprolactam | ug/kg | 3.1e+006 | | | | < 1500 U | < 1600 U | | | | | | | |
| Carbazole | ug/kg | 240000 | | | | 81 | 78 | | | | | | | |
| Chrysene | ug/kg | 110000 | 26.83 | 1801 | | 800 | 840 | | 850 J | | 270 | | 490 | |
| Dibenzo(a,h)anthracene | ug/kg | 110 | 6.22 | 111 | | 140 | 150 | | 89 J | | 40 J | | 55 | |
| Dibenzofuran | ug/kg | 7300 | 5100 | | | < 290 U | < 300 U | | | | | | | |
| Diethylphthalate | ug/kg | 5.1e+006 | 530 | | | < 290 U | < 300 U | | | | | | | |
| Dimethylphthalate | ug/kg | 5.1e+006 | 1000 | | | < 290 U | < 300 U | | | | | | | |
| Di-n-butylphthalate | ug/kg | 630000 | 440 | | | 200 J | < 300 U | | | | | | | |
| Di-n-octylphthalate | ug/kg | 63000 | 100 | | | 100 J | 43 J | | | | | | | |
| Fluoranthene | ug/kg | 240000 | 31.46 | | | 1400 | 1400 | | 1100 J | | 320 | | 800 | |
| Fluorene | ug/kg | 240000 | 10 | | | 41 J | 51 J | | 44 J | | 44 J | | 110 | |

**Table 4-32**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | Location ID | SED6B | SED6B | SED6B | SED6C | SED6C | SED7.5D | SED7.5D | SED7.5E | SED7.5E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 11/13/2013 12:39:00 PM | 11/13/2013 12:39:00 PM | 6/8/2017 12:30:00 PM | 11/14/2013 1:33:00 PM | 6/7/2017 10:00:00 AM | 11/25/2013 7:30:00 AM | 6/9/2017 8:15:00 AM | 11/25/2013 10:30:00 AM | 6/8/2017 9:15:00 AM |
| | | | | | Sample ID | SED6B00N | SED6B00R | SED6B00EN | SED6C00N | SED6C00EN | SED7.5D00N | SED7.5D00EN | SED7.5E00N | SED7.5E00EN |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft |
| | | | | | Type | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | |
| Hexachlorobenzene | ug/kg | 210 | 1.4 | | | < 58 U | < 61 U | | | | | | | |
| Hexachlorobutadiene | ug/kg | 1200 | 26.5 | | | < 58 U | < 61 U | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 180 | 901 | | | < 290 U | < 300 U | | | | | | | |
| Hexachloroethane | ug/kg | 1800 | 1027 | | | < 290 U | < 300 U | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 1100 | *17.32* | 1446 | | ***530*** | ***550*** | | ***350 J*** | | ***120*** | | ***230*** | |
| Isophorone | ug/kg | 570000 | 432 | | | < 290 U | < 300 U | | | | | | | |
| Naphthalene | ug/kg | 3800 | *14.65* | | | ***17 J*** | ***17 J*** | | ***22 J*** | | ***47 J*** | | ***94*** | |
| Nitrobenzene | ug/kg | 5100 | 145 | | | < 580 U | < 610 U | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 78 | | | | < 58 U | < 61 U | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 110000 | 2680 | | | < 290 U | < 300 U | | | | | | | |
| Pentachlorophenol | ug/kg | 1000 | 10 | | | < 290 U | < 300 U | | | | | | | |
| Phenanthrene | ug/kg | 1.8e+006 | *18.73* | | | ***530*** | ***480*** | | ***300 J*** | | ***200*** | | ***470*** | |
| Phenol | ug/kg | 1.9e+006 | 48 | | | < 58 U | < 61 U | | | | | | | |
| Pyrene | ug/kg | 180000 | *44.27* | | | ***900*** | ***890*** | | ***860 J*** | | ***340*** | | ***730*** | |
| BaP-TE | ug/kg | 110 | | | | **940** | **1000** | | **785** | | **258** | | **476** | |
| Total High-molecular-weight PAHs | ug/kg | | *193* | 19270 | | ***6600*** | ***6900*** | | ***5700*** | | ***2000*** | | ***3900*** | |
| Total Low-molecular-weight PAHs | ug/kg | | *76.42* | | | ***810*** | ***760*** | | ***510*** | | ***400*** | | ***900*** | |
| Total PAHs (sum 16) | ug/kg | | *264.1* | | | ***7400*** | ***7600*** | | ***6200*** | | ***2400*** | | ***4800*** | |

# Table 4-32
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | Location ID | SED7A | SED7A | SED7B | SED7B | SED7B | SED7D | SED7D | SED7E | SED7E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 11/13/2013 11:50:00 AM | 6/9/2017 11:15:00 AM | 11/13/2013 10:50:00 AM | 11/13/2013 10:50:00 AM | 6/7/2017 12:30:00 PM | 11/25/2013 8:05:00 AM | 6/9/2017 9:15:00 AM | 11/25/2013 10:00:00 AM | 6/8/2017 10:30:00 AM |
| | | | | | Sample ID | SED7A00N | SED7A00EN | SED7B00N | SED7B00R | SED7B00EN | SED7D00N | SED7D00EN | SED7E00N | SED7E00EN |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft |
| | | | | | Type | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 96 | | 64 | | | **45 J** | | | **270** | | **51** | | **110 J** |
| Oil Range Organics (C20-C36) | mg/kg | 23000 | | | | | **460** | | | **830** | | **500** | | **790** |
| 1,1,1-Trichloroethane | ug/kg | 810000 | 70 | | | | | < 8.5 U | < 9.8 U | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | 600 | 1360 | | | | | < 8.5 U | < 9.8 U | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 670000 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| 1,1,2-Trichloroethane | ug/kg | 150 | 400 | | | | | < 8.5 U | < 9.8 U | | | | | |
| 1,1-Dichloroethane | ug/kg | 3600 | 20 | | | | | < 8.5 U | < 9.8 U | | | | | |
| 1,1-Dichloroethene | ug/kg | 23000 | 100 | | | | | < 8.5 U | < 9.8 U | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | 6300 | 11 | | | | | < 8.5 U | < 9.8 U | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | 5800 | 11 | | | | | < 8.5 U | < 9.8 U | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | 5.3 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| 1,2-Dibromoethane | ug/kg | 36 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| 1,2-Dichlorobenzene | ug/kg | 180000 | 30 | | | | | < 8.5 U | < 9.8 U | | | | | |
| 1,2-Dichloroethane | ug/kg | 460 | 20 | | | | | < 8.5 U | < 9.8 U | | | | | |
| 1,2-Dichloropropane | ug/kg | 1600 | 2 | | | | | < 8.5 U | < 9.8 U | | | | | |
| 1,3-Dichlorobenzene | ug/kg | 2600 | 30 | | | | | < 8.5 U | < 9.8 U | | | | | |
| 1,4-Dichlorobenzene | ug/kg | 2600 | 30 | | | | | < 8.5 U | < 9.8 U | | | | | |
| 1,4-Dioxane | ug/kg | 5300 | 119 | | | | | < 1700 U | < 2000 U | | | | | |
| 2-Butanone | ug/kg | 2.7e+006 | 35000 | | | | | < 8.5 U | < 9.8 U | | | | | |
| 2-Hexanone | ug/kg | 20000 | 58.2 | | | | | < 8.5 U | < 9.8 U | | | | | |
| 4-Methyl-2-pentanone | ug/kg | 3.3e+006 | 25.1 | | | | | < 8.5 U | < 9.8 U | | | | | |
| Acetone | ug/kg | 6.1e+006 | 65 | | | | | < 34 U | < 39 U | | | | | |
| Benzene | ug/kg | 1200 | 10 | | | | | < 8.5 U | < 9.8 U | | | | | |
| Bromochloromethane | ug/kg | 15000 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| Bromodichloromethane | ug/kg | 290 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| Bromoform | ug/kg | 19000 | 75000 | | | | | < 8.5 U | < 9.8 U | | | | | |
| Bromomethane | ug/kg | 680 | 1.37 | | | | | < 8.5 U | < 9.8 U | | | | | |
| Carbon Disulfide | ug/kg | 77000 | 0.851 | | | | | < 8.5 U | < 9.8 U | | | | | |
| Carbon Tetrachloride | ug/kg | 650 | 170 | | | | | < 8.5 U | < 9.8 U | | | | | |
| Chlorobenzene | ug/kg | 28000 | 30 | | | | | < 8.5 U | < 9.8 U | | | | | |
| Chloroethane | ug/kg | 1.4e+006 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| Chloroform | ug/kg | 320 | 20 | | | | | **1.2 J** | **1.4 J** | | | | | |
| Chloromethane | ug/kg | 11000 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | 16000 | 200 | | | | | < 8.5 U | < 9.8 U | | | | | |
| cis-1,3-Dichloropropene | ug/kg | 1800 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| Cyclohexane | ug/kg | 650000 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| Dibromochloromethane | ug/kg | 8300 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| Dichlorodifluoromethane | ug/kg | 8700 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| Ethylbenzene | ug/kg | 5800 | 30 | | | | | < 8.5 U | < 9.8 U | | | | | |
| Isopropylbenzene | ug/kg | 190000 | 86 | | | | | < 8.5 U | < 9.8 U | | | | | |
| m, p-Xylene | ug/kg | 55000 | | | | | | < 17 U | < 20 U | | | | | |
| Methyl Acetate | ug/kg | 7.8e+006 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 47000 | 100000 | | | | | < 8.5 U | < 9.8 U | | | | | |
| Methylcyclohexane | ug/kg | 650000 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| Methylene Chloride | ug/kg | 35000 | 18 | | | | | < 8.5 U | < 9.8 U | | | | | |
| o-Xylene | ug/kg | 65000 | 89 | | | | | < 8.5 U | < 9.8 U | | | | | |
| Styrene | ug/kg | 600000 | 200 | | | | | < 8.5 U | < 9.8 U | | | | | |
| Tetrachloroethylene | ug/kg | 8100 | 2 | | | | | < 8.5 U | < 9.8 U | | | | | |
| Toluene | ug/kg | 490000 | 10 | | | | | < 8.5 U | < 9.8 U | | | | | |
| trans-1,2-Dichloroethene | ug/kg | 160000 | 200 | | | | | < 8.5 U | < 9.8 U | | | | | |
| trans-1,3-Dichloropropene | ug/kg | 1800 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| Trichloroethene | ug/kg | 410 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| Trichlorofluoromethane | ug/kg | 2.3e+006 | | | | | | < 8.5 U | < 9.8 U | | | | | |
| Vinyl Chloride | ug/kg | 59 | 10 | | | | | < 8.5 U | < 9.8 U | | | | | |
| Xylenes (total) | ug/kg | 58000 | | | | | | < 17 U | < 20 U | | | | | |

# Table 4-32
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | Location ID / Sample Date / Sample ID / Depth / Type | SED7A<br>11/13/2013 11:50:00 AM<br>SED7A00N<br>0 - 0.5 ft<br>N | SED7A<br>6/9/2017 11:15:00 AM<br>SED7A00EN<br>0 - 0.33 ft<br>N | SED7B<br>11/13/2013 10:50:00 AM<br>SED7B00N<br>0 - 0.5 ft<br>N | SED7B<br>11/13/2013 10:50:00 AM<br>SED7B00R<br>0 - 0.5 ft<br>FD | SED7B<br>6/7/2017 12:30:00 PM<br>SED7B00EN<br>0 - 0.33 ft<br>N | SED7D<br>11/25/2013 8:05:00 AM<br>SED7D00N<br>0 - 0.5 ft<br>N | SED7D<br>6/9/2017 9:15:00 AM<br>SED7D00EN<br>0 - 0.33 ft<br>N | SED7E<br>11/25/2013 10:00:00 AM<br>SED7E00N<br>0 - 0.5 ft<br>N | SED7E<br>6/8/2017 10:30:00 AM<br>SED7E00EN<br>0 - 0.33 ft<br>N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1'-Biphenyl | ug/kg | 4700 | 1220 | | | | | < 140 U | < 280 U | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 2300 | 10 | | | | | < 140 U | < 280 U | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 310000 | | | | | | < 29 U | < 57 U | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 190000 | 10 | | | | | < 140 U | < 280 U | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | 630000 | 10 | | | | | < 140 U | < 280 U | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | 6300 | 10 | | | | | < 140 U | < 280 U | | | | | |
| 2,4-Dichlorophenol | ug/kg | 19000 | 10 | | | | | < 29 U | < 57 U | | | | | |
| 2,4-Dimethylphenol | ug/kg | 130000 | 29 | | | | | 27 J | < 280 U | | | | | |
| 2,4-Dinitrophenol | ug/kg | 13000 | 6.21 | | | | | < 720 U | < 1500 U | | | | | |
| 2,4-Dinitrotoluene | ug/kg | 1700 | 41.6 | | | | | < 140 U | < 280 U | | | | | |
| 2,6-Dinitrotoluene | ug/kg | 360 | 41.6 | | | | | < 140 U | < 280 U | | | | | |
| 2-Chloronaphthalene | ug/kg | 480000 | 250 | | | | | < 29 U | < 57 U | | | | | |
| 2-Chlorophenol | ug/kg | 39000 | 55 | | | | | < 140 U | < 280 U | | | | | |
| 2-Methylnaphthalene | ug/kg | 24000 | 20.2 | | | | | 29 | 30 J | | | | | |
| 2-Methylphenol | ug/kg | 320000 | 5.1 | | | | | < 140 U | < 280 U | | | | | |
| 2-Nitroaniline | ug/kg | 63000 | | | | | | < 720 U | < 1500 U | | | | | |
| 2-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | | | < 140 U | < 280 U | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | 1200 | 127 | | | | | < 140 U | < 280 U | | | | | |
| 3-Nitroaniline | ug/kg | 25000 | | | | | | < 720 U | < 1500 U | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | 510 | 104 | | | | | < 720 U | < 1500 U | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | 1230 | | | | | < 140 U | < 280 U | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | 630000 | 15000 | | | | | < 140 U | < 280 U | | | | | |
| 4-Chloroaniline | ug/kg | 2700 | 0.9 | | | | | 82 J | < 280 U | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | < 140 U | < 280 U | | | | | |
| 4-Methylphenol | ug/kg | 630000 | 5.1 | | | | | < 140 U | 65 J | | | | | |
| 4-Nitroaniline | ug/kg | 25000 | | | | | | < 720 U | < 1500 U | | | | | |
| 4-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | | | < 720 U | < 1500 U | | | | | |
| Acenaphthene | ug/kg | 360000 | 6.71 | | | 20 J | | 34 | 34 J | | 35 J | | 46 J | |
| Acenaphthylene | ug/kg | 360000 | 5.87 | | | 37 J | | 72 | 86 | | 70 J | | 27 J | |
| Acetophenone | ug/kg | 780000 | | | | | | < 140 U | < 280 U | | | | | |
| Anthracene | ug/kg | 1.8e+006 | 10 | | | 66 | | 65 | 87 | | 110 J | | 130 J | |
| Atrazine | ug/kg | 2400 | 0.2 | | | | | < 140 U | < 280 U | | | | | |
| Benzaldehyde | ug/kg | 170000 | | | | | | 24 J | R | | | | | |
| Benzo(a)anthracene | ug/kg | 1100 | 15.72 | 1603 | | 290 | | 200 | 240 | | 480 | | 490 | |
| Benzo(a)pyrene | ug/kg | 110 | 31.9 | 1700 | | 370 | | 200 * | 240 | | 540 | | 520 | |
| Benzo(b)fluoranthene | ug/kg | 1100 | 190 | 2305 | | 620 | | 230 * | 360 | | 860 | | 850 | |
| Benzo(g,h,i)perylene | ug/kg | 180000 | 170 | | | 490 | | 180 * | 240 | | 470 | | 470 | |
| Benzo(k)fluoranthene | ug/kg | 11000 | 27.2 | 934 | | 190 | | 88 * | 96 | | 190 | | 270 | |
| bis-(2-chloroethoxy)methane | ug/kg | 19000 | | | | | | < 140 U | < 280 U | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | 230 | 3520 | | | | | < 29 U | < 57 U | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 39000 | 100 | 2306 | | | | 800 | 860 | | | | | |
| Butylbenzylphthalate | ug/kg | 290000 | 100 | | | | | < 140 U | < 280 U | | | | | |
| Caprolactam | ug/kg | 3.1e+006 | | | | | | < 720 U | < 1500 U | | | | | |
| Carbazole | ug/kg | 240000 | | | | | | 24 J | < 57 U | | | | | |
| Chrysene | ug/kg | 110000 | 26.83 | 1801 | | 550 | | 300 | 360 | | 630 | | 760 | |
| Dibenzo(a,h)anthracene | ug/kg | 110 | 6.22 | 111 | | 110 | | 31 * | < 57 U | | 86 J | | 94 J | |
| Dibenzofuran | ug/kg | 7300 | 5100 | | | | | < 140 U | < 280 U | | | | | |
| Diethylphthalate | ug/kg | 5.1e+006 | 530 | | | | | < 140 U | < 280 U | | | | | |
| Dimethylphthalate | ug/kg | 5.1e+006 | 1000 | | | | | < 140 U | < 280 U | | | | | |
| Di-n-butylphthalate | ug/kg | 630000 | 440 | | | | | 24 J | < 280 U | | | | | |
| Di-n-octylphthalate | ug/kg | 63000 | 100 | | | | | < 140 U* | < 280 U | | | | | |
| Fluoranthene | ug/kg | 240000 | 31.46 | | | 850 | | 400 | 410 | | 870 | | 1200 | |
| Fluorene | ug/kg | 240000 | 10 | | | 31 J | | 34 | < 57 U | | 53 J | | 55 J | |

**Table 4-32**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | Location ID | SED7A | SED7A | SED7B | SED7B | SED7B | SED7D | SED7D | SED7E | SED7E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 11/13/2013 11:50:00 AM | 6/9/2017 11:15:00 AM | 11/13/2013 10:50:00 AM | 11/13/2013 10:50:00 AM | 6/7/2017 12:30:00 PM | 11/25/2013 8:05:00 AM | 6/9/2017 9:15:00 AM | 11/25/2013 10:00:00 AM | 6/8/2017 10:30:00 AM |
| | | | | | Sample ID | SED7A00N | SED7A00EN | SED7B00N | SED7B00R | SED7B00EN | SED7D00N | SED7D00EN | SED7E00N | SED7E00EN |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft |
| | | | | | Type | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | |
| Hexachlorobenzene | ug/kg | 210 | 1.4 | | | | | < 29 U | < 57 U | | | | | |
| Hexachlorobutadiene | ug/kg | 1200 | 26.5 | | | | | < 29 U | < 57 U | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | 180 | 901 | | | | | < 140 U | < 280 U | | | | | |
| Hexachloroethane | ug/kg | 1800 | 1027 | | | | | < 140 U | < 280 U | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | 1100 | *17.32* | 1446 | | ***410*** | | ***130 **** | ***180*** | | ***370*** | | ***380*** | |
| Isophorone | ug/kg | 570000 | 432 | | | | | < 140 U | < 280 U | | | | | |
| Naphthalene | ug/kg | 3800 | *14.65* | | | **13 J** | | ***19 J*** | ***24 J*** | | ***46 J*** | | ***31 J*** | |
| Nitrobenzene | ug/kg | 5100 | 145 | | | | | < 280 U | < 570 U | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | 78 | | | | | | < 29 U | < 57 U | | | | | |
| N-Nitrosodiphenylamine | ug/kg | 110000 | 2680 | | | | | < 140 U | < 280 U | | | | | |
| Pentachlorophenol | ug/kg | 1000 | 10 | | | | | < 140 U | < 280 U | | | | | |
| Phenanthrene | ug/kg | 1.8e+006 | *18.73* | | | ***250*** | | ***260*** | ***290*** | | ***350*** | | ***500*** | |
| Phenol | ug/kg | 1.9e+006 | 48 | | | | | < 29 U | < 57 U | | | | | |
| Pyrene | ug/kg | 180000 | *44.27* | | | ***520*** | | ***420*** | ***500*** | | ***950*** | | ***1000*** | |
| BaP-TE | ug/kg | 110 | | | | **614** | | **288** | **319** | | **800** | | **789** | |
| Total High-molecular-weight PAHs | ug/kg | | *193* | 19270 | | ***4400*** | | ***2200*** | ***2600*** | | ***5400*** | | ***6000*** | |
| Total Low-molecular-weight PAHs | ug/kg | | *76.42* | | | ***420*** | | ***480*** | ***520*** | | ***660*** | | ***790*** | |
| Total PAHs (sum 16) | ug/kg | | *264.1* | | | ***4800*** | | ***2700*** | ***3100*** | | ***6100*** | | ***6800*** | |

**Table 4-32**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | Location ID | SED7E | SED7F | SED7F | SED7G | SED8.5B | SED8A | SED8A | SED8B | SED8B | SED8C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 6/22/2017 9:00:00 AM | 11/25/2013 12:00:00 PM | 6/8/2017 8:30:00 AM | 1/30/2014 2:30:00 PM | 11/13/2013 8:40:00 AM | 11/13/2013 10:05:00 AM | 6/9/2017 10:30:00 AM | 11/13/2013 9:17:00 AM | 6/9/2017 12:00:00 PM | 11/14/2013 12:36:00 PM |
| | | | | | Sample ID | SED7E00AN | SED7F00N | SED7F00EN | SED7G00N | SED8.5B00N | SED8A00N | SED8A00EN | SED8B00N | SED8B00EN | SED8C00N |
| | | | | | Depth | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft |
| | | | | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | **3090** | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 96 | | 64 | | **220 J** | | **69** | | | | **62** | | **38 J** | |
| Oil Range Organics (C20-C36) | mg/kg | 23000 | | | | **1100** | | **610** | | | | **620** | | **400** | |
| 1,1,1-Trichloroethane | ug/kg | 810000 | 70 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 1,1,2,2-Tetrachloroethane | ug/kg | 600 | 1360 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 670000 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 1,1,2-Trichloroethane | ug/kg | 150 | 400 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 1,1-Dichloroethane | ug/kg | 3600 | 20 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 1,1-Dichloroethene | ug/kg | 23000 | 100 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 1,2,3-Trichlorobenzene | ug/kg | 6300 | 11 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 1,2,4-Trichlorobenzene | ug/kg | 5800 | 11 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 1,2-Dibromo-3-chloropropane | ug/kg | 5.3 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 1,2-Dibromoethane | ug/kg | 36 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 1,2-Dichlorobenzene | ug/kg | 180000 | 30 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 1,2-Dichloroethane | ug/kg | 460 | 20 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 1,2-Dichloropropane | ug/kg | 1600 | 2 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 1,3-Dichlorobenzene | ug/kg | 2600 | 30 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 1,4-Dichlorobenzene | ug/kg | 2600 | 30 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 1,4-Dioxane | ug/kg | 5300 | 119 | | | | < 2900 U | | < 1200 U | | | | | | < 2200 U |
| 2-Butanone | ug/kg | 2.7e+006 | 35000 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 2-Hexanone | ug/kg | 20000 | 58.2 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| 4-Methyl-2-pentanone | ug/kg | 3.3e+006 | 25.1 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Acetone | ug/kg | 6.1e+006 | 65 | | | | < 57 U | | < 23 U | | | | | | < 45 U |
| Benzene | ug/kg | 1200 | 10 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Bromochloromethane | ug/kg | 15000 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Bromodichloromethane | ug/kg | 290 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Bromoform | ug/kg | 19000 | 75000 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Bromomethane | ug/kg | 680 | 1.37 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Carbon Disulfide | ug/kg | 77000 | 0.851 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Carbon Tetrachloride | ug/kg | 650 | 170 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Chlorobenzene | ug/kg | 28000 | 30 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Chloroethane | ug/kg | 1.4e+006 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Chloroform | ug/kg | 320 | 20 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Chloromethane | ug/kg | 11000 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| cis-1,2-Dichloroethylene | ug/kg | 16000 | 200 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| cis-1,3-Dichloropropene | ug/kg | 1800 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Cyclohexane | ug/kg | 650000 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Dibromochloromethane | ug/kg | 8300 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Dichlorodifluoromethane | ug/kg | 8700 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Ethylbenzene | ug/kg | 5800 | 30 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Isopropylbenzene | ug/kg | 190000 | 86 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| m, p-Xylene | ug/kg | 55000 | | | | | < 29 U | | < 12 U | | | | | | < 22 U |
| Methyl Acetate | ug/kg | 7.8e+006 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 47000 | 100000 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Methylcyclohexane | ug/kg | 650000 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Methylene Chloride | ug/kg | 35000 | 18 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| o-Xylene | ug/kg | 65000 | 89 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Styrene | ug/kg | 600000 | 200 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Tetrachloroethylene | ug/kg | 8100 | 2 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Toluene | ug/kg | 490000 | 10 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| trans-1,2-Dichloroethene | ug/kg | 160000 | 200 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| trans-1,3-Dichloropropene | ug/kg | 1800 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Trichloroethene | ug/kg | 410 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Trichlorofluoromethane | ug/kg | 2.3e+006 | | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Vinyl Chloride | ug/kg | 59 | 10 | | | | < 14 U | | < 5.8 U | | | | | | < 11 U |
| Xylenes (total) | ug/kg | 58000 | | | | | < 29 U | | < 12 U | | | | | | < 22 U |

# Table 4-32
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | Location ID | SED7E | SED7F | SED7F | SED7G | SED8.5B | SED8A | SED8A | SED8B | SED8B | SED8C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 6/22/2017 9:00:00 AM | 11/25/2013 12:00:00 PM | 6/8/2017 8:30:00 AM | 1/30/2014 2:30:00 PM | 11/13/2013 8:40:00 AM | 11/13/2013 10:05:00 AM | 6/9/2017 10:30:00 AM | 11/13/2013 9:17:00 AM | 6/9/2017 12:00:00 PM | 11/14/2013 12:36:00 PM |
| | | | | | Sample ID | SED7E00AN | SED7F00N | SED7F00EN | SED7G00N | SED8.5B00N | SED8A00N | SED8A00EN | SED8B00N | SED8B00EN | SED8C00N |
| | | | | | Depth | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft |
| | | | | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 4700 | 1220 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 2300 | 10 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 310000 | | | | | < 60 U | | < 41 U | | | | | | < 31 U |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 190000 | 10 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 2,4,5-Trichlorophenol | ug/kg | 630000 | 10 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 2,4,6-Trichlorophenol | ug/kg | 6300 | 10 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 2,4-Dichlorophenol | ug/kg | 19000 | 10 | | | | < 60 U | | < 41 U | | | | | | < 31 U |
| 2,4-Dimethylphenol | ug/kg | 130000 | 29 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 2,4-Dinitrophenol | ug/kg | 13000 | 6.21 | | | | < 1500 U | | < 1000 U | | | | | | < 790 U |
| 2,4-Dinitrotoluene | ug/kg | 1700 | 41.6 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 2,6-Dinitrotoluene | ug/kg | 360 | 41.6 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 2-Chloronaphthalene | ug/kg | 480000 | 250 | | | | < 60 U | | < 41 U | | | | | | < 31 U |
| 2-Chlorophenol | ug/kg | 39000 | 55 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 2-Methylnaphthalene | ug/kg | 24000 | *20.2* | | | | ***67*** | | ***68*** | | | | | | ***33*** |
| 2-Methylphenol | ug/kg | 320000 | 5.1 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 2-Nitroaniline | ug/kg | 63000 | | | | | < 1500 U | | < 1000 U | | | | | | < 790 U |
| 2-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 3,3'-Dichlorobenzidine | ug/kg | 1200 | 127 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 3-Nitroaniline | ug/kg | 25000 | | | | | < 1500 U | | < 1000 U | | | | | | < 790 U |
| 4,6-Dinitro-2-methylphenol | ug/kg | 510 | 104 | | | | < 1500 U | | < 1000 U | | | | | | < 790 U |
| 4-Bromophenyl-phenylether | ug/kg | | 1230 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 4-Chloro-3-methylphenol | ug/kg | 630000 | 15000 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 4-Chloroaniline | ug/kg | 2700 | *0.9* | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| 4-Methylphenol | ug/kg | 630000 | *5.1* | | | | < 300 U | | ***110 J*** | | | | | | < 150 U |
| 4-Nitroaniline | ug/kg | 25000 | | | | | < 1500 U | | < 1000 U | | | | | | < 790 U |
| 4-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | | < 1500 U | | < 1000 U | | | | | | < 790 U |
| Acenaphthene | ug/kg | 360000 | *6.71* | | | ***100*** | ***64*** | | ***140*** | ***32 J*** | ***29 J*** | | ***23 J*** | | ***8.9 J*** |
| Acenaphthylene | ug/kg | 360000 | *5.87* | | | ***17 J*** | ***43 J*** | | ***23 J*** | ***52 J*** | ***68 J*** | | ***46 J*** | | ***34*** |
| Acetophenone | ug/kg | 780000 | | | | | **30 J** | | **27 J** | | | | | | < 150 U |
| Anthracene | ug/kg | 1.8e+006 | *10* | | | ***200*** | ***140*** | | ***210*** | ***94*** | ***110*** | | ***72*** | | ***49*** |
| Atrazine | ug/kg | 2400 | 0.2 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| Benzaldehyde | ug/kg | 170000 | | | | | < 300 UJ | | **190 J** | | | | | | **57 J** |
| Benzo(a)anthracene | ug/kg | 1100 | *15.72* | 1603 | | ***550*** | ***590*** | | ***950*** | ***480*** | ***530*** | | ***330*** | | ***320*** |
| Benzo(a)pyrene | ug/kg | 110 | *31.9* | 1700 | | ***440*** | ***600*** | | ***890*** | ***500*** | ***710*** | | ***420*** | | ***390*** |
| Benzo(b)fluoranthene | ug/kg | 1100 | *190* | 2305 | | ***650*** | ***860*** | | ***1200*** | ***800*** | ***1100*** | | ***730*** | | ***240 J*** |
| Benzo(g,h,i)perylene | ug/kg | 180000 | *170* | | | ***310*** | ***640*** | | ***780*** | ***650*** | ***870*** | | ***580*** | | ***300 J*** |
| Benzo(k)fluoranthene | ug/kg | 11000 | *27.2* | 934 | | ***220*** | ***300*** | | ***430*** | ***410*** | ***330*** | | ***280*** | | ***570*** |
| bis-(2-chloroethoxy)methane | ug/kg | 19000 | | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| bis-(2-Chloroethyl)ether | ug/kg | 230 | 3520 | | | | < 60 U | | < 41 U | | | | | | < 31 U |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 39000 | *100* | 2306 | | | ***590 J*** | | ***550*** | | | | | | ***1300*** |
| Butylbenzylphthalate | ug/kg | 290000 | *100* | | | | ***120 J*** | | ***180 J*** | | | | | | **41 J** |
| Caprolactam | ug/kg | 3.1e+006 | | | | | < 1500 U | | < 1000 U | | | | | | **390 J** |
| Carbazole | ug/kg | 240000 | | | | | **100** | | **250** | | | | | | **30 J** |
| Chrysene | ug/kg | 110000 | *26.83* | 1801 | | ***620*** | ***890*** | | ***1200*** | ***820*** | ***1000*** | | ***660*** | | ***530*** |
| Dibenzo(a,h)anthracene | ug/kg | 110 | *6.22* | <u>111</u> | | ***84*** | ***<u>160</u>*** | | ***<u>150</u>*** | ***<u>130</u>*** | ***<u>170</u>*** | | ***79*** | | < 31 U |
| Dibenzofuran | ug/kg | 7300 | 5100 | | | | **42 J** | | **110 J** | | | | | | < 150 U |
| Diethylphthalate | ug/kg | 5.1e+006 | 530 | | | | < 300 U | | < 200 U | | | | | | **35 J** |
| Dimethylphthalate | ug/kg | 5.1e+006 | 1000 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| Di-n-butylphthalate | ug/kg | 630000 | 440 | | | | < 300 U | | < 200 U | | | | | | **23 J** |
| Di-n-octylphthalate | ug/kg | 63000 | *100* | | | | < 300 U | | ***150 J*** | | | | | | < 150 U |
| Fluoranthene | ug/kg | 240000 | *31.46* | | | ***900*** | ***1300*** | | ***2600*** | ***950*** | ***1300*** | | ***660*** | | ***670*** |
| Fluorene | ug/kg | 240000 | *10* | | | ***85*** | ***63*** | | ***100*** | ***48 J*** | ***38 J*** | | ***22 J*** | | ***26 J*** |

**Table 4-32**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | Location ID / Sample Date / Sample ID / Depth / Type | SED7E<br>6/22/2017 9:00:00 AM<br>SED7E00AN<br>0 - 0.33 ft<br>N | SED7F<br>11/25/2013 12:00:00 PM<br>SED7F00N<br>0 - 0.5 ft<br>N | SED7F<br>6/8/2017 8:30:00 AM<br>SED7F00EN<br>0 - 0.33 ft<br>N | SED7G<br>1/30/2014 2:30:00 PM<br>SED7G00N<br>0 - 0.5 ft<br>N | SED8.5B<br>11/13/2013 8:40:00 AM<br>SED8.5B00N<br>0 - 0.5 ft<br>N | SED8A<br>11/13/2013 10:05:00 AM<br>SED8A00N<br>0 - 0.5 ft<br>N | SED8A<br>6/9/2017 10:30:00 AM<br>SED8A00EN<br>0 - 0.33 ft<br>N | SED8B<br>11/13/2013 9:17:00 AM<br>SED8B00N<br>0 - 0.5 ft<br>N | SED8B<br>6/9/2017 12:00:00 PM<br>SED8B00EN<br>0 - 0.33 ft<br>N | SED8C<br>11/14/2013 12:36:00 PM<br>SED8C00N<br>0 - 0.5 ft<br>N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hexachlorobenzene | ug/kg | 210 | 1.4 | | | | < 60 U | | < 41 U | | | | | | < 31 U |
| Hexachlorobutadiene | ug/kg | 1200 | 26.5 | | | | < 60 U | | < 41 U | | | | | | < 31 U |
| Hexachlorocyclo-pentadiene | ug/kg | 180 | 901 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| Hexachloroethane | ug/kg | 1800 | 1027 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| Indeno(1,2,3-cd)pyrene | ug/kg | 1100 | *17.32* | 1446 | | ***260*** | ***510*** | | ***640*** | ***530*** | ***670*** | | ***430*** | | ***270 J*** |
| Isophorone | ug/kg | 570000 | 432 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| Naphthalene | ug/kg | 3800 | *14.65* | | | ***24 J*** | ***38 J*** | | ***95*** | ***29 J*** | < 77 U | | ***17 J*** | | ***22 J*** |
| Nitrobenzene | ug/kg | 5100 | 145 | | | | < 600 U | | < 400 U | | | | | | < 310 U |
| N-Nitroso-di-n-propylamine | ug/kg | 78 | | | | | < 60 U | | < 41 U | | | | | | < 31 U |
| N-Nitrosodiphenylamine | ug/kg | 110000 | 2680 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| Pentachlorophenol | ug/kg | 1000 | 10 | | | | < 300 U | | < 200 U | | | | | | < 150 U |
| Phenanthrene | ug/kg | 1.8e+006 | *18.73* | | | ***910*** | ***560*** | | ***2000*** | ***480*** | ***480*** | | ***250*** | | ***220*** |
| Phenol | ug/kg | 1.9e+006 | 48 | | | | < 60 U | | < 41 U | | | | | | < 31 U |
| Pyrene | ug/kg | 180000 | *44.27* | | | ***1100*** | ***1100*** | | ***2100*** | ***1000*** | ***1100*** | | ***730*** | | ***660*** |
| BaP-TE | ug/kg | 110 | | | | **673** | **960** | | **1320** | **816** | **1110** | | **651** | | **479** |
| Total High-molecular-weight PAHs | ug/kg | | *193* | 19270 | | ***5100*** | ***7000*** | | ***11000*** | ***6300*** | ***7800*** | | ***4900*** | | ***4000*** |
| Total Low-molecular-weight PAHs | ug/kg | | *76.42* | | | ***1300*** | ***910*** | | ***2600*** | ***740*** | ***730*** | | ***430*** | | ***360*** |
| Total PAHs (sum 16) | ug/kg | | *264.1* | | | ***6500*** | ***7900*** | | ***14000*** | ***7000*** | ***8500*** | | ***5300*** | | ***4300*** |

**Table 4-32**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | Location ID | SED8C | SED8C | SED9.5B | SED9A | SED9B | SED9C | WSED1 | WSED1 | WSED2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 11/14/2013 12:52:00 PM | 6/7/2017 11:30:00 AM | 11/11/2013 12:14:00 PM | 11/11/2013 9:47:00 AM | 11/11/2013 11:23:00 AM | 11/11/2013 10:43:00 AM | 11/15/2013 11:14:00 AM | 11/15/2013 11:14:00 AM | 11/15/2013 12:13:00 PM |
| | | | | | Sample ID | SED8C00R | SED8C00EN | SED9.5B00N | SED9A00N | SED9B00N | SED9C00N | WSED100N | WSED100R | WSED200N |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | Type | FD | N | N | N | N | N | N | FD | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | 96 | | 64 | | | **50** | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | 23000 | | | | | **490** | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | 810000 | 70 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 1,1,2,2-Tetrachloroethane | ug/kg | 600 | 1360 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | 670000 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 1,1,2-Trichloroethane | ug/kg | 150 | 400 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 1,1-Dichloroethane | ug/kg | 3600 | 20 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 1,1-Dichloroethene | ug/kg | 23000 | 100 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 1,2,3-Trichlorobenzene | ug/kg | 6300 | 11 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 1,2,4-Trichlorobenzene | ug/kg | 5800 | 11 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 1,2-Dibromo-3-chloropropane | ug/kg | 5.3 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 1,2-Dibromoethane | ug/kg | 36 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 1,2-Dichlorobenzene | ug/kg | 180000 | 30 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 1,2-Dichloroethane | ug/kg | 460 | 20 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 1,2-Dichloropropane | ug/kg | 1600 | 2 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 1,3-Dichlorobenzene | ug/kg | 2600 | 30 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 1,4-Dichlorobenzene | ug/kg | 2600 | 30 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 1,4-Dioxane | ug/kg | 5300 | 119 | | | < 2900 U | | | | | < 2300 U | < 1600 U | < 2800 U | < 3800 U |
| 2-Butanone | ug/kg | 2.7e+006 | 35000 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 2-Hexanone | ug/kg | 20000 | 58.2 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| 4-Methyl-2-pentanone | ug/kg | 3.3e+006 | 25.1 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Acetone | ug/kg | 6.1e+006 | 65 | | | < 57 U | | | | | < 45 U | < 32 U | < 57 U | < 76 U |
| Benzene | ug/kg | 1200 | 10 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Bromochloromethane | ug/kg | 15000 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Bromodichloromethane | ug/kg | 290 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Bromoform | ug/kg | 19000 | 75000 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Bromomethane | ug/kg | 680 | 1.37 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Carbon Disulfide | ug/kg | 77000 | 0.851 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Carbon Tetrachloride | ug/kg | 650 | 170 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Chlorobenzene | ug/kg | 28000 | 30 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Chloroethane | ug/kg | 1.4e+006 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Chloroform | ug/kg | 320 | 20 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Chloromethane | ug/kg | 11000 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| cis-1,2-Dichloroethylene | ug/kg | 16000 | 200 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| cis-1,3-Dichloropropene | ug/kg | 1800 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Cyclohexane | ug/kg | 650000 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Dibromochloromethane | ug/kg | 8300 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Dichlorodifluoromethane | ug/kg | 8700 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Ethylbenzene | ug/kg | 5800 | 30 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Isopropylbenzene | ug/kg | 190000 | 86 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| m, p-Xylene | ug/kg | 55000 | | | | < 29 U | | | | | < 23 U | < 16 U | < 28 U | < 38 U |
| Methyl Acetate | ug/kg | 7.8e+006 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | 47000 | 100000 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Methylcyclohexane | ug/kg | 650000 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Methylene Chloride | ug/kg | 35000 | 18 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| o-Xylene | ug/kg | 65000 | 89 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Styrene | ug/kg | 600000 | 200 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Tetrachloroethylene | ug/kg | 8100 | 2 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Toluene | ug/kg | 490000 | 10 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| trans-1,2-Dichloroethene | ug/kg | 160000 | 200 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| trans-1,3-Dichloropropene | ug/kg | 1800 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Trichloroethene | ug/kg | 410 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Trichlorofluoromethane | ug/kg | 2.3e+006 | | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Vinyl Chloride | ug/kg | 59 | 10 | | | < 14 U | | | | | < 11 U | < 7.9 U | < 14 U | < 19 U |
| Xylenes (total) | ug/kg | 58000 | | | | < 29 U | | | | | < 23 U | < 16 U | < 28 U | < 38 U |

**Table 4-32**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | Location ID | SED8C | SED8C | SED9.5B | SED9A | SED9B | SED9C | WSED1 | WSED1 | WSED2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Sample Date | 11/14/2013 12:52:00 PM | 6/7/2017 11:30:00 AM | 11/11/2013 12:14:00 PM | 11/11/2013 9:47:00 AM | 11/11/2013 11:23:00 AM | 11/11/2013 10:43:00 AM | 11/15/2013 11:14:00 AM | 11/15/2013 11:14:00 AM | 11/15/2013 12:13:00 PM |
| | | | | | Sample ID | SED8C00R | SED8C00EN | SED9.5B00N | SED9A00N | SED9B00N | SED9C00N | WSED100N | WSED100R | WSED200N |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | Type | FD | N | N | N | N | N | N | FD | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | 4700 | 1220 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | 2300 | 10 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | 310000 | | | | < 67 U | | | | | < 66 U | < 51 UJ | < 67 UJ | < 110 UJ |
| 2,3,4,6-Tetrachlorophenol | ug/kg | 190000 | 10 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| 2,4,5-Trichlorophenol | ug/kg | 630000 | 10 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| 2,4,6-Trichlorophenol | ug/kg | 6300 | 10 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| 2,4-Dichlorophenol | ug/kg | 19000 | 10 | | | < 67 U | | | | | < 66 U | < 51 U | < 67 U | < 110 U |
| 2,4-Dimethylphenol | ug/kg | 130000 | 29 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| 2,4-Dinitrophenol | ug/kg | 13000 | 6.21 | | | < 1700 U | | | | | < 1700 U | < 1300 UJ | < 1700 UJ | < 2700 UJ |
| 2,4-Dinitrotoluene | ug/kg | 1700 | 41.6 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| 2,6-Dinitrotoluene | ug/kg | 360 | 41.6 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| 2-Chloronaphthalene | ug/kg | 480000 | 250 | | | < 67 U | | | | | < 66 U | < 51 U | < 67 U | < 110 U |
| 2-Chlorophenol | ug/kg | 39000 | 55 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| 2-Methylnaphthalene | ug/kg | 24000 | *20.2* | | | ***23 J*** | | | | | ***9.2 J*** | ***54*** | ***21 J*** | ***22 J*** |
| 2-Methylphenol | ug/kg | 320000 | 5.1 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| 2-Nitroaniline | ug/kg | 63000 | | | | < 1700 U | | | | | < 1700 U | < 1300 U | < 1700 U | < 2700 U |
| 2-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| 3,3'-Dichlorobenzidine | ug/kg | 1200 | 127 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| 3-Nitroaniline | ug/kg | 25000 | | | | < 1700 U | | | | | < 1700 U | < 1300 U | < 1700 U | < 2700 U |
| 4,6-Dinitro-2-methylphenol | ug/kg | 510 | 104 | | | < 1700 U | | | | | < 1700 U | < 1300 U | < 1700 U | < 2700 U |
| 4-Bromophenyl-phenylether | ug/kg | | 1230 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| 4-Chloro-3-methylphenol | ug/kg | 630000 | 15000 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| 4-Chloroaniline | ug/kg | 2700 | *0.9* | | | < 330 U | | | | | < 320 U | ***57 J*** | < 330 U | < 520 U |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| 4-Methylphenol | ug/kg | 630000 | *5.1* | | | < 330 U | | | | | < 320 U | ***110 J*** | < 330 U | < 520 U |
| 4-Nitroaniline | ug/kg | 25000 | | | | < 1700 U | | | | | < 1700 U | < 1300 U | < 1700 U | < 2700 U |
| 4-Nitrophenol | ug/kg | 1.9e+006 | 13.3 | | | < 1700 U | | | | | < 1700 U | < 1300 U | < 1700 U | < 2700 U |
| Acenaphthene | ug/kg | 360000 | *6.71* | | | < 67 U | | ***17 J*** | ***33 J*** | ***77 J*** | ***16 J*** | ***37 J*** | ***61 J*** | < 110 U |
| Acenaphthylene | ug/kg | 360000 | *5.87* | | | ***60 J*** | | ***49 J*** | ***110*** | ***47 J*** | ***56 J*** | ***35 J*** | ***55 J*** | ***64 J*** |
| Acetophenone | ug/kg | 780000 | | | | < 330 U | | | | | < 320 U | **30 J** | **35 J** | < 520 U |
| Anthracene | ug/kg | 1.8e+006 | *10* | | | ***77*** | | ***87*** | ***120*** | ***120*** | ***95*** | ***49 J*** | ***280 J*** | ***120*** |
| Atrazine | ug/kg | 2400 | 0.2 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| Benzaldehyde | ug/kg | 170000 | | | | R | | | | | **63 J** | < 250 UJ | **87 J** | **140 J** |
| Benzo(a)anthracene | ug/kg | 1100 | *15.72* | 1603 | | ***450*** | | ***450*** | ***480*** | ***400*** | ***480*** | ***260 J*** | ***1000 J*** | ***690*** |
| Benzo(a)pyrene | ug/kg | 110 | *31.9* | 1700 | | ***630*** | | ***540*** | ***590*** | ***470*** | ***620*** | ***250 J*** | ***1100 J*** | ***790*** |
| Benzo(b)fluoranthene | ug/kg | 1100 | *190* | 2305 | | ***920 J*** | | ***880*** | ***830*** | ***760*** | ***990*** | ***430 J*** | ***1800 J*** | ***1500*** |
| Benzo(g,h,i)perylene | ug/kg | 180000 | *170* | | | ***770 J*** | | ***560*** | ***670*** | ***500*** | ***740*** | ***120 J*** | ***400 J*** | ***360*** |
| Benzo(k)fluoranthene | ug/kg | 11000 | *27.2* | 934 | | ***410*** | | ***200*** | ***330*** | ***250*** | ***290*** | ***89 J*** | ***500 J*** | ***500*** |
| bis-(2-chloroethoxy)methane | ug/kg | 19000 | | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| bis-(2-Chloroethyl)ether | ug/kg | 230 | 3520 | | | < 67 U | | | | | < 66 U | < 51 U | < 67 U | < 110 U |
| bis-(2-Ethylhexyl)phthalate | ug/kg | 39000 | *100* | 2306 | | ***1800*** | | | | | ***1500*** | ***1600*** | ***1300*** | ***1500*** |
| Butylbenzylphthalate | ug/kg | 290000 | *100* | | | ***84 J*** | | | | | < 320 U | ***62 J*** | ***110 J*** | < 520 U |
| Caprolactam | ug/kg | 3.1e+006 | | | | < 1700 U | | | | | < 1700 U | < 1300 U | < 1700 U | < 2700 U |
| Carbazole | ug/kg | 240000 | | | | **75** | | | | | **90** | < 51 U | **170** | **96 J** |
| Chrysene | ug/kg | 110000 | *26.83* | 1801 | | ***750*** | | ***790*** | ***770*** | ***700*** | ***880*** | ***400 J*** | ***1400 J*** | ***1300*** |
| Dibenzo(a,h)anthracene | ug/kg | 110 | *6.22* | 111 | | ***160*** | | ***120*** | ***140*** | ***89*** | ***140*** | < 51 U | ***120*** | ***150*** |
| Dibenzofuran | ug/kg | 7300 | 5100 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| Diethylphthalate | ug/kg | 5.1e+006 | 530 | | | **120 J** | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| Dimethylphthalate | ug/kg | 5.1e+006 | 1000 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| Di-n-butylphthalate | ug/kg | 630000 | 440 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| Di-n-octylphthalate | ug/kg | 63000 | *100* | | | < 330 U | | | | | < 320 U | < 250 U | ***240 J*** | < 520 U |
| Fluoranthene | ug/kg | 240000 | *31.46* | | | ***970*** | | ***920*** | ***1000*** | ***950*** | ***950*** | ***690 J*** | ***2700 J*** | ***1800*** |
| Fluorene | ug/kg | 240000 | *10* | | | ***33 J*** | | ***22 J*** | ***43 J*** | ***50 J*** | ***32 J*** | ***61*** | ***91*** | ***52 J*** |

**Table 4-32**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Location ID | SED8C | SED8C | SED9.5B | SED9A | SED9B | SED9C | WSED1 | WSED1 | WSED2 |
| | | | | | Sample Date | 11/14/2013 12:52:00 PM | 6/7/2017 11:30:00 AM | 11/11/2013 12:14:00 PM | 11/11/2013 9:47:00 AM | 11/11/2013 11:23:00 AM | 11/11/2013 10:43:00 AM | 11/15/2013 11:14:00 AM | 11/15/2013 11:14:00 AM | 11/15/2013 12:13:00 PM |
| | | | | | Sample ID | SED8C00R | SED8C00EN | SED9.5B00N | SED9A00N | SED9B00N | SED9C00N | WSED100N | WSED100R | WSED200N |
| | | | | | Depth | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | Type | FD | N | N | N | N | N | N | FD | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | | | | | | | | | | |
| Hexachlorobenzene | ug/kg | 210 | 1.4 | | | < 67 U | | | | | < 66 U | < 51 U | < 67 U | < 110 U |
| Hexachlorobutadiene | ug/kg | 1200 | 26.5 | | | < 67 U | | | | | < 66 U | < 51 U | < 67 U | < 110 U |
| Hexachlorocyclo-pentadiene | ug/kg | 180 | 901 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| Hexachloroethane | ug/kg | 1800 | 1027 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| Indeno(1,2,3-cd)pyrene | ug/kg | 1100 | *17.32* | 1446 | | ***620 J*** | | ***430*** | ***550*** | ***410*** | ***570*** | ***120 J*** | ***440 J*** | ***380*** |
| Isophorone | ug/kg | 570000 | 432 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| Naphthalene | ug/kg | 3800 | *14.65* | | | < 67 U | | < 67 U | < 73 U | < 81 U | < 66 U | ***22 J*** | ***23 J*** | < 110 U |
| Nitrobenzene | ug/kg | 5100 | 145 | | | < 670 U | | | | | < 660 U | < 500 U | < 670 U | < 1100 U |
| N-Nitroso-di-n-propylamine | ug/kg | 78 | | | | < 67 U | | | | | < 66 U | < 51 U | < 67 U | < 110 U |
| N-Nitrosodiphenylamine | ug/kg | 110000 | 2680 | | | < 330 U | | | | | < 320 U | < 250 U | < 330 U | < 520 U |
| Pentachlorophenol | ug/kg | 1000 | 10 | | | < 330 U | | | | | < 320 U | < 250 UJ | < 330 UJ | < 520 UJ |
| Phenanthrene | ug/kg | 1.8e+006 | *18.73* | | | ***310*** | | ***370*** | ***420*** | ***470*** | ***390*** | ***360 J*** | ***1100 J*** | ***630*** |
| Phenol | ug/kg | 1.9e+006 | 48 | | | < 67 U | | | | | < 66 U | < 51 U | < 67 U | < 110 U |
| Pyrene | ug/kg | 180000 | *44.27* | | | ***930*** | | ***920*** | ***840*** | ***810*** | ***1100*** | ***540 J*** | ***1600 J*** | ***1300*** |
| BaP-TE | ug/kg | 110 | | | | **994** | | **839** | **920** | **719** | **968** | **332** | **1550** | **1200** |
| Total High-molecular-weight PAHs | ug/kg | | *193* | 19270 | | ***6600*** | | ***5800*** | ***6200*** | ***5300*** | ***6800*** | ***2900*** | ***11000*** | ***8800*** |
| Total Low-molecular-weight PAHs | ug/kg | | *76.42* | | | ***480*** | | ***550*** | ***730*** | ***760*** | ***590*** | ***560*** | ***1600*** | ***870*** |
| Total PAHs (sum 16) | ug/kg | | *264.1* | | | ***7100*** | | ***6400*** | ***6900*** | ***6100*** | ***7300*** | ***3500*** | ***13000*** | ***9600*** |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Human Health Risk Assessment (HHRA) screening level.
Italicized values indicate exceedance of the Ecological Risk Assessment (ERA) screening level.
Underlined values indicate exceedance of the BTV Statistic.
EN= Essential Nutrient
AVS = Acid Volatile Sulfide SEM = Simultaneously Extracted Metals
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
N = Normal
FD = Field Duplicate
HHRA and ERA screening values provided for detected compounds or compound sums where applicable.
(a) RSL Table, May 2018 Residential Soil [ELCR = 1E-6, HQ=0.1]
(b) Low Effect Ecological Screening Value
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram

**Table 4-33**
**PCBs and Pesticides Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | Location ID | SED1.5B | SED1.5C | SED10A | SED10B | SED10C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample Date | 11/6/2013 12:25:00 PM | 6/21/2017 8:15:00 AM | 11/11/2013 1:00:00 PM | 11/11/2013 1:59:00 PM | 11/11/2013 3:00:00 PM |
| | | | | | | | | | | | | | Sample ID | SED1.5B00N | SED1.5C00AN | SED10A00N | SED10B00N | SED10C00N |
| | | | | | | | | | | | | | Depth | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | | | | | | | | | Type | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | BTV Statistic | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | |
| 4,4'-DDD | ug/kg | 190 | *3.54* | | 68 | 0.76 | 7.5 | 4 | SED4B | 35 | | 35 | | | | | ***2.2 J*** | |
| 4,4'-DDE | ug/kg | 2000 | *3.16* | | 56 | 1.4 | 12 | 6.3 | SED7B | 34 | | 35 | | | | | ***3.8 J*** | |
| 4,4'-DDT | ug/kg | 1900 | *1.19* | 2.8 | 1500 | 0.37 | 82 | 3.6 | SED4B | 19 | | 35 | | | | | ***1.7 J*** | |
| Aldrin | ug/kg | 39 | *2* | | 3 | 0.074 | 0.65 | 0.47 | WSED1 | 20 | | 35 | | | | | **0.35 J** | |
| alpha-BHC | ug/kg | 86 | 6 | | 0.24 | 0.24 | 0.24 | 0.24 | SED4B | 1 | | 35 | | | | | < 0.38 U | |
| beta-BHC | ug/kg | 300 | 5 | | 2 | 0.29 | 0.92 | 0.87 | SED7F | 10 | | 35 | | | | | **0.29 J** | |
| cis-Chlordane | ug/kg | 1700 | *0.03* | | 18 | 1.2 | 7.2 | 6.6 | WSED1 | 35 | | 35 | | | | | ***3.6 J*** | |
| delta-BHC | ug/kg | 86 | 10 | | 5.5 | 0.25 | 1.4 | 1 | SED7F | 13 | | 35 | | | | | < 0.38 UJ | |
| Dieldrin | ug/kg | 34 | *1.9* | | 4.9 | 0.26 | 2 | 1.8 | SED7F | 26 | | 35 | | | | | **0.81 J** | |
| Endosulfan I | ug/kg | 47000 | 2.9 | | 1.5 | 0.64 | 1.1 | 1.2 | SED7G | 3 | | 35 | | | | | < 0.38 U | |
| Endosulfan II | ug/kg | 47000 | 14 | | 5 | 0.13 | 0.92 | 0.6 | SED7F | 19 | | 35 | | | | | **0.19 J** | |
| Endosulfan Sulfate | ug/kg | 47000 | *5.4* | | 10 | 0.17 | 1.9 | 1.1 | SED7F | 20 | 1 | 35 | | | | | **0.60 J** | |
| Endrin | ug/kg | 1900 | *2.22* | | 22 | 0.31 | 4 | 2.9 | SED7F | 22 | | 35 | | | | | **1.9 J** | |
| Endrin aldehyde | ug/kg | 1900 | 2.22 | | 2.1 | 0.16 | 0.96 | 0.92 | SED7B | 16 | | 35 | | | | | **0.16 J** | |
| Endrin ketone | ug/kg | 1900 | *2.22* | | 8 | 0.52 | 2.8 | 2.3 | SED7F | 15 | 1 | 35 | | | | | **1.5 J** | |
| gamma-BHC (Lindane) | ug/kg | 570 | 2.37 | | 1.6 | 0.077 | 0.52 | 0.3 | SED7G | 17 | | 35 | | | | | **0.28 J** | |
| Heptachlor | ug/kg | 130 | 10 | | 7.1 | 0.21 | 1.9 | 1.3 | WSED1 | 21 | | 35 | | | | | **0.50 J** | |
| Heptachlor Epoxide | ug/kg | 70 | *0.6* | | 6.2 | 0.12 | 1.4 | 1 | SED7F | 34 | | 35 | | | | | **0.45 J** | |
| Methoxychlor | ug/kg | 32000 | *18.7* | | 27 | 1.7 | 12 | 12 | WSED2 | 20 | 1 | 35 | | | | | **5.7** | |
| Toxaphene | ug/kg | 490 | 0.1 | | | | | | | | | 35 | | | | | < 15 U | |
| trans-Chlordane | ug/kg | 1700 | *0.03* | | 31 | 1.9 | 9.5 | 8.6 | WSED1 | 30 | | 35 | | | | | ***5.6 J*** | |
| Aroclor-1016 | ug/kg | | 26 | | | | | | | | | 70 | | < 4.3 U | < 3.6 U | < 10 U | < 7.6 U | < 7.8 U |
| Aroclor-1221 | ug/kg | | 26 | | | | | | | | | 70 | | < 4.3 U | < 3.6 U | < 10 U | < 7.6 U | < 7.8 U |
| Aroclor-1232 | ug/kg | | 26 | | | | | | | | | 70 | | < 4.3 U | < 3.6 U | < 10 U | < 7.6 U | < 7.8 U |
| Aroclor-1242 | ug/kg | | 26 | | | | | | | | | 70 | | < 4.3 U | < 3.6 U | < 10 U | < 7.6 U | < 7.8 U |
| Aroclor-1248 | ug/kg | | *26* | | 890 | 29 | 180 | 120 | SED7.5E | 60 | | 70 | | ***150 J*** | ***35 J+*** | < 10 U | ***35 J*** | ***46 J*** |
| Aroclor-1254 | ug/kg | | *60* | | 250 | 19 | 94 | 81 | SED7.5E | 18 | | 70 | | < 4.3 U | **32 J+** | < 10 U | < 7.6 U | < 7.8 U |
| Aroclor-1260 | ug/kg | | *26* | | 1000 | 3.1 | 130 | 74 | SED6.5D | 69 | | 70 | | ***84 J*** | **20 J+** | **3.1 J** | ***31 J*** | ***31 J*** |
| Aroclor-1262 | ug/kg | | 26 | | | | | | | | | 70 | | < 4.3 U | < 3.6 U | < 10 U | < 7.6 U | < 7.8 U |
| Aroclor-1268 | ug/kg | | 26 | | | | | | | | | 70 | | < 4.3 U | < 3.6 U | < 10 U | < 7.6 U | < 7.8 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 120 | *26* | 182 | 1900 | 3.1 | 320 | 180 | SED7.5E | 69 | | 70 | | ***230*** | ***87*** | **3.1** | ***66*** | ***77*** |
| PCB congeners | ug/kg | 120 | *26* | 423 | 11800 | 38 | 905.2 | 294 | SED7.5E | 32 | | 32 | | | ***180*** | | | |

**Table 4-33**
**PCBs and Pesticides Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | Location ID | SED1A | SED1B | SED1C | SED2.5B | SED2A | SED2B | SED2C | SED3.5B | SED3A | SED3B | SED3C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sample Date | 11/6/2013 2:00:00 PM | 11/6/2013 2:05:00 PM | 11/7/2013 10:25:00 AM | 11/7/2013 9:34:00 AM | 11/6/2013 11:05:00 AM | 11/5/2013 2:26:00 PM | 11/6/2013 9:16:00 AM | 11/12/2013 11:44:00 AM | 11/7/2013 1:37:00 PM | 11/8/2013 9:37:00 AM | 11/7/2013 12:27:00 PM |
| | | | | Sample ID | SED1A00N | SED1B00N | SED1C00N | SED2.5B00N | SED2A00N | SED2B00N | SED2C00N | SED3.5B00N | SED3A00N | SED3B00N | SED3C00N |
| | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | Type | N | N | N | N | N | N | N | N | N | N | N |
| 4,4'-DDD | ug/kg | 190 | 3.54 | | | 0.76 J | | | | | 4.1 J | | | | 2.3 J |
| 4,4'-DDE | ug/kg | 2000 | 3.16 | | | 1.4 | | | | | 6.5 J | | | | 2.8 J |
| 4,4'-DDT | ug/kg | 1900 | 1.19 | | | 0.37 J | | | | | 2.8 J | | | | 0.70 J |
| Aldrin | ug/kg | 39 | 2 | | | 0.074 J | | | | | 0.46 J | | | | 0.37 J |
| alpha-BHC | ug/kg | 86 | 6 | | | < 0.40 U | | | | | < 0.83 U | | | | < 0.44 U |
| beta-BHC | ug/kg | 300 | 5 | | | < 0.40 U | | | | | 0.58 J | | | | < 0.44 U |
| cis-Chlordane | ug/kg | 1700 | 0.03 | | | 1.4 J | | | | | 6.4 J | | | | 4.3 J |
| delta-BHC | ug/kg | 86 | 10 | | | < 0.40 U | | | | | < 0.83 U | | | | < 0.44 U |
| Dieldrin | ug/kg | 34 | 1.9 | | | 0.26 J | | | | | 1.5 J | | | | 0.62 J |
| Endosulfan I | ug/kg | 47000 | 2.9 | | | < 0.40 U | | | | | < 0.83 U | | | | < 0.44 U |
| Endosulfan II | ug/kg | 47000 | 14 | | | 0.21 J | | | | | 1.2 | | | | 0.13 J |
| Endosulfan Sulfate | ug/kg | 47000 | 5.4 | | | 0.17 J | | | | | 1.5 | | | | 0.22 J |
| Endrin | ug/kg | 1900 | 2.22 | | | 0.31 J | | | | | 5.3 | | | | 1.3 J |
| Endrin aldehyde | ug/kg | 1900 | 2.22 | | | < 0.40 U | | | | | 0.60 J | | | | < 0.44 U |
| Endrin ketone | ug/kg | 1900 | 2.22 | | | 0.52 | | | | | 2.4 J | | | | 2.3 |
| gamma-BHC (Lindane) | ug/kg | 570 | 2.37 | | | 0.077 J | | | | | 0.20 J | | | | 0.21 J |
| Heptachlor | ug/kg | 130 | 10 | | | 0.22 J | | | | | 1.3 J | | | | 1.2 |
| Heptachlor Epoxide | ug/kg | 70 | 0.6 | | | 0.12 J | | | | | 0.72 J | | | | 0.42 J |
| Methoxychlor | ug/kg | 32000 | 18.7 | | | 1.7 J | | | | | 13 J | | | | 7.8 |
| Toxaphene | ug/kg | 490 | 0.1 | | | < 16 U | | | | | < 33 U | | | | < 17 U |
| trans-Chlordane | ug/kg | 1700 | 0.03 | | | 2.1 | | | | | 11 | | | | 7.1 |
| Aroclor-1016 | ug/kg | | 26 | | < 11 U | < 8.1 U | < 6.9 U | < 7.4 U | < 5.4 U | < 4.5 U | < 4.2 U | < 6.1 U | < 8.4 U | < 5.7 U | < 8.7 U |
| Aroclor-1221 | ug/kg | | 26 | | < 11 U | < 8.1 U | < 6.9 U | < 7.4 U | < 5.4 U | < 4.5 U | < 4.2 U | < 6.1 U | < 8.4 U | < 5.7 U | < 8.7 U |
| Aroclor-1232 | ug/kg | | 26 | | < 11 U | < 8.1 U | < 6.9 U | < 7.4 U | < 5.4 U | < 4.5 U | < 4.2 U | < 6.1 U | < 8.4 U | < 5.7 U | < 8.7 U |
| Aroclor-1242 | ug/kg | | 26 | | < 11 U | < 8.1 U | < 6.9 U | < 7.4 U | < 5.4 U | < 4.5 U | < 4.2 U | < 6.1 U | < 8.4 U | < 5.7 U | < 8.7 U |
| Aroclor-1248 | ug/kg | | 26 | | 95 J | 50 J | 71 J | 53 J | 150 J | 76 J | 130 J | 33 J | < 8.4 U | 32 J | 130 J |
| Aroclor-1254 | ug/kg | | 60 | | < 11 U | < 8.1 U | < 6.9 U | < 7.4 U | < 5.4 U | < 4.5 U | < 4.2 U | < 6.1 U | < 8.4 U | < 5.7 U | < 8.7 U |
| Aroclor-1260 | ug/kg | | 26 | | 51 J | 28 J | 38 J | 23 J | 81 J | 33 J | 97 J | 17 J | < 8.4 U | 10 J | 59 J |
| Aroclor-1262 | ug/kg | | 26 | | < 11 U | < 8.1 U | < 6.9 U | < 7.4 U | < 5.4 U | < 4.5 U | < 4.2 U | < 6.1 U | < 8.4 U | < 5.7 U | < 8.7 U |
| Aroclor-1268 | ug/kg | | 26 | | < 11 U | < 8.1 U | < 6.9 U | < 7.4 U | < 5.4 U | < 4.5 U | < 4.2 U | < 6.1 U | < 8.4 U | < 5.7 U | < 8.7 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 120 | 26 | | 150 | 78 | 110 | 76 | 230 | 110 | 230 | 50 | < 8.4 U | 42 | 190 |
| PCB congeners | ug/kg | 120 | 26 | | | | | | 294 | | | | | | |

**Table 4-33**
**PCBs and Pesticides Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | Location ID | SED3C | SED4.5B | SED4A | SED4B | SED4B | SED4C | SED5.5B | SED5A | SED5B | SED5B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sample Date | 11/7/2013 12:27:00 PM | 11/8/2013 10:16:00 AM | 11/12/2013 1:33:00 PM | 11/12/2013 12:13:00 PM | 11/12/2013 12:13:00 PM | 11/12/2013 2:09:00 PM | 11/12/2013 2:53:00 PM | 11/8/2013 11:37:00 AM | 11/8/2013 12:30:00 PM | 6/20/2017 7:45:00 AM |
| | | | | Sample ID | SED3C00R | SED4.5B00N | SED4A00N | SED4B00N | SED4B00R | SED4C00N | SED5.5B00N | SED5A00N | SED5B00N | SED5B00AN |
| | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft |
| | | | | Type | FD | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 190 | *3.54* | | **3.3 J** | | | ***68 J*** | ***36 J*** | | | | | |
| 4,4'-DDE | ug/kg | 2000 | *3.16* | | ***3.4 J*** | | | ***24 J*** | ***26 J*** | | | | | |
| 4,4'-DDT | ug/kg | 1900 | *1.19* | | ***4.8 J*** | | | ***1500 J*** | ***1.4 J*** | | | | | |
| Aldrin | ug/kg | 39 | *2* | | **0.48** | | | < 1.6 U | **0.34 J** | | | | | |
| alpha-BHC | ug/kg | 86 | 6 | | < 0.45 U | | | < 1.6 U | **0.24 J** | | | | | |
| beta-BHC | ug/kg | 300 | 5 | | < 0.45 U | | | **1.1 J** | **1.1 J** | | | | | |
| cis-Chlordane | ug/kg | 1700 | *0.03* | | ***5.5 J*** | | | ***6.1 J*** | ***4.4 J*** | | | | | |
| delta-BHC | ug/kg | 86 | 10 | | < 0.45 U | | | < 1.6 U | **1.5 J** | | | | | |
| Dieldrin | ug/kg | 34 | *1.9* | | **0.82 J** | | | **1.2 J** | **1.9 J** | | | | | |
| Endosulfan I | ug/kg | 47000 | 2.9 | | < 0.45 U | | | < 1.6 U | < 1.5 U | | | | | |
| Endosulfan II | ug/kg | 47000 | 14 | | **0.52 J** | | | **0.99 J** | **1.5** | | | | | |
| Endosulfan Sulfate | ug/kg | 47000 | *5.4* | | **0.84 J** | | | **0.79 J** | **2.7** | | | | | |
| Endrin | ug/kg | 1900 | *2.22* | | **1.5 J** | | | ***3.1 J*** | ***4.4 J*** | | | | | |
| Endrin aldehyde | ug/kg | 1900 | 2.22 | | **0.56** | | | **0.83 J** | < 1.5 U | | | | | |
| Endrin ketone | ug/kg | 1900 | *2.22* | | ***2.3*** | | | **0.91 J** | **1.9 J** | | | | | |
| gamma-BHC (Lindane) | ug/kg | 570 | 2.37 | | **0.23 J** | | | < 1.6 U | **0.51 J** | | | | | |
| Heptachlor | ug/kg | 130 | 10 | | **1.4** | | | **3.3** | **3.0** | | | | | |
| Heptachlor Epoxide | ug/kg | 70 | *0.6* | | **0.47 J** | | | ***1.5 J*** | ***1.3 J*** | | | | | |
| Methoxychlor | ug/kg | 32000 | *18.7* | | **8.5** | | | **11 J** | **12 J** | | | | | |
| Toxaphene | ug/kg | 490 | 0.1 | | < 18 U | | | < 62 U | < 60 U | | | | | |
| trans-Chlordane | ug/kg | 1700 | *0.03* | | ***8.3*** | | | ***10*** | ***8.0*** | | | | | |
| Aroclor-1016 | ug/kg | | 26 | | < 9.1 U | < 10 U | < 11 U | < 6.2 U | < 6.0 U | < 11 U | < 11 U | < 9.0 U | < 11 U | < 5.7 U |
| Aroclor-1221 | ug/kg | | 26 | | < 9.1 U | < 10 U | < 11 U | < 6.2 U | < 6.0 U | < 11 U | < 11 U | < 9.0 U | < 11 U | < 5.7 U |
| Aroclor-1232 | ug/kg | | 26 | | < 9.1 U | < 10 U | < 11 U | < 6.2 U | < 6.0 U | < 11 U | < 11 U | < 9.0 U | < 11 U | < 5.7 U |
| Aroclor-1242 | ug/kg | | 26 | | < 9.1 U | < 10 U | < 11 U | < 6.2 U | < 6.0 U | < 11 U | < 11 U | < 9.0 U | < 11 U | < 5.7 U |
| Aroclor-1248 | ug/kg | | *26* | | ***110 J*** | ***130 J*** | ***100 J*** | ***210 J*** | ***570 J*** | ***280 J*** | < 11 U | ***82 J*** | ***130 J*** | ***77 J+*** |
| Aroclor-1254 | ug/kg | | *60* | | < 9.1 U | < 10 U | < 11 U | < 6.2 U | < 6.0 U | < 11 U | < 11 U | < 9.0 U | < 11 U | ***61 J+*** |
| Aroclor-1260 | ug/kg | | *26* | | ***51 J*** | ***60 J*** | ***48 J*** | ***97 J*** | ***300 J*** | ***110 J*** | ***160 J*** | ***43 J*** | ***95 J*** | ***43 J+*** |
| Aroclor-1262 | ug/kg | | 26 | | < 9.1 U | < 10 U | < 11 U | < 6.2 U | < 6.0 U | < 11 U | < 11 U | < 9.0 U | < 11 U | < 5.7 U |
| Aroclor-1268 | ug/kg | | 26 | | < 9.1 U | < 10 U | < 11 U | < 6.2 U | < 6.0 U | < 11 U | < 11 U | < 9.0 U | < 11 U | < 5.7 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 120 | *26* | | ***160*** | ***190*** | ***150*** | ***310*** | ***870*** | ***390*** | ***160*** | ***130*** | ***230*** | ***180*** |
| PCB congeners | ug/kg | 120 | *26* | | | | | | | | | | ***240*** | |

# Table 4-33
## PCBs and Pesticides Concentrations in Waterside Investigation Area Surface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | Location ID | SED5C | SED6.5D | SED6.5D | SED6.5E | SED6.5E | SED6A | SED6A | SED6B | SED6B | SED6B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sample Date | 11/11/2013 8:38:00 AM | 11/25/2013 8:10:00 AM | 6/9/2017 9:45:00 AM | 11/25/2013 8:20:00 AM | 6/8/2017 10:00:00 AM | 11/13/2013 1:39:00 PM | 6/8/2017 1:15:00 PM | 11/13/2013 12:39:00 PM | 11/13/2013 12:39:00 PM | 6/8/2017 12:30:00 PM |
| | | | | Sample ID | SED5C00N | SED6.5D00N | SED6.5D00EN | SED6.5E00N | SED6.5E00EN | SED6A00N | SED6A00EN | SED6B00N | SED6B00R | SED6B00EN |
| | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft |
| | | | | Type | N | N | N | N | N | N | N | N | FD | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 190 | *3.54* | | | | ***4.4 J*** | **2.4 J** | ***4.0 J*** | | **3.3 J** | ***3.7*** | ***4.9*** | **1.8 J** |
| 4,4'-DDE | ug/kg | 2000 | *3.16* | | | | ***5.8 J*** | ***3.5 J*** | ***6.1 J*** | | ***6.5*** | ***4.3*** | ***5.0*** | ***3.9*** |
| 4,4'-DDT | ug/kg | 1900 | *1.19* | | | | < 0.93 U | ***1.9 J*** | < 1.0 U | | < 1.2 U | ***3.7 J*** | ***5.1 J*** | < 0.82 U |
| Aldrin | ug/kg | 39 | *2* | | | | < 0.93 U | **0.25 J** | < 1.0 U | | < 1.2 U | **0.72** | **1.0 J** | < 0.82 U |
| alpha-BHC | ug/kg | 86 | 6 | | | | < 0.93 U | < 0.76 U | < 1.0 U | | < 1.2 U | < 0.72 U | < 0.76 U | < 0.82 U |
| beta-BHC | ug/kg | 300 | 5 | | | | < 0.93 U | **0.94 J** | < 1.0 U | | < 1.2 U | < 0.72 U | < 0.76 U | < 0.82 U |
| cis-Chlordane | ug/kg | 1700 | *0.03* | | | | ***7.8*** | ***5.8*** | ***8.6*** | | ***13*** | ***5.1 J*** | ***8.7 J*** | ***6.6*** |
| delta-BHC | ug/kg | 86 | 10 | | | | < 0.93 U | **1.7 J** | < 1.0 U | | < 1.2 U | **0.27 J** | **0.76 J** | < 0.82 U |
| Dieldrin | ug/kg | 34 | *1.9* | | | | < 0.93 U | **1.3 J** | < 1.0 U | | ***2.6 J*** | **1.4 J** | **1.4 J** | **1.3 J** |
| Endosulfan I | ug/kg | 47000 | 2.9 | | | | < 0.93 U | < 0.76 U | < 1.0 U | | < 1.2 U | < 0.72 U | **0.64 J** | < 0.82 U |
| Endosulfan II | ug/kg | 47000 | 14 | | | | < 0.93 U | **1.5 J** | < 1.0 U | | < 1.2 U | **0.23 J** | **0.17 J** | < 0.82 U |
| Endosulfan Sulfate | ug/kg | 47000 | *5.4* | | | | < 0.93 U | **2.9** | < 1.0 U | | < 1.2 U | **0.93** | **0.44 J** | < 0.82 U |
| Endrin | ug/kg | 1900 | *2.22* | | | | < 0.93 U | ***5.5 J*** | < 1.0 U | | **0.68 J** | **1.3 J** | ***2.9 J*** | < 0.82 U |
| Endrin aldehyde | ug/kg | 1900 | 2.22 | | | | < 0.93 U | **0.49 J** | < 1.0 U | | < 1.2 U | **0.23 J** | < 0.76 U | < 0.82 U |
| Endrin ketone | ug/kg | 1900 | *2.22* | | | | < 0.93 U | ***2.7 J*** | < 1.0 U | | < 1.2 U | ***2.3 J*** | **2.2 J** | < 0.82 U |
| gamma-BHC (Lindane) | ug/kg | 570 | 2.37 | | | | < 0.93 U | **0.40 J** | < 1.0 U | | < 1.2 U | **1.1** | **0.83 J** | < 0.82 U |
| Heptachlor | ug/kg | 130 | 10 | | | | < 0.93 U | **0.80 J** | < 1.0 U | | **0.21 J** | **0.67 J** | **0.72 J** | < 0.82 U |
| Heptachlor Epoxide | ug/kg | 70 | *0.6* | | | | ***1.2 J*** | ***2.1 J*** | ***2.3 J*** | | **0.44 J** | **0.55 J** | ***1.4 J*** | **0.35 J** |
| Methoxychlor | ug/kg | 32000 | *18.7* | | | | < 0.93 U | **7.0 J** | < 1.0 U | | < 1.2 U | **12 J** | **7.6** | < 0.82 U |
| Toxaphene | ug/kg | 490 | 0.1 | | | | < 37 U | < 31 U | < 41 U | | < 48 U | < 29 U | < 30 U | < 33 U |
| trans-Chlordane | ug/kg | 1700 | *0.03* | | | | ***8.2*** | ***7.7*** | < 1.0 U | | ***11*** | ***7.8*** | ***9.4*** | ***6.0*** |
| Aroclor-1016 | ug/kg | | 26 | | < 9.3 U | < 8.0 U | < 4.7 U | < 7.6 U | < 5.1 U | < 5.5 U | < 6.0 U | < 7.2 U | < 7.6 U | < 4.1 U |
| Aroclor-1221 | ug/kg | | 26 | | < 9.3 U | < 8.0 U | < 4.7 U | < 7.6 U | < 5.1 U | < 5.5 U | < 6.0 U | < 7.2 U | < 7.6 U | < 4.1 U |
| Aroclor-1232 | ug/kg | | 26 | | < 9.3 U | < 8.0 U | < 4.7 U | < 7.6 U | < 5.1 U | < 5.5 U | < 6.0 U | < 7.2 U | < 7.6 U | < 4.1 U |
| Aroclor-1242 | ug/kg | | 26 | | < 9.3 U | < 8.0 U | < 4.7 U | < 7.6 U | < 5.1 U | < 5.5 U | < 6.0 U | < 7.2 U | < 7.6 U | < 4.1 U |
| Aroclor-1248 | ug/kg | | *26* | | ***510 J*** | ***770 J*** | < 4.7 U | ***240 J*** | ***56 J+*** | ***110 J*** | ***29 J+*** | ***63 J*** | ***63 J*** | ***49 J+*** |
| Aroclor-1254 | ug/kg | | *60* | | < 9.3 U | < 8.0 U | ***81 J+*** | < 7.6 UJ | ***82 J+*** | < 5.5 U | **23 J+** | < 7.2 U | < 7.6 U | **52 J+** |
| Aroclor-1260 | ug/kg | | *26* | | ***240 J*** | ***1000 J*** | ***81 J+*** | ***160 J*** | ***110 J+*** | ***33 J*** | **17 J+** | ***59 J*** | ***27 J*** | ***27 J+*** |
| Aroclor-1262 | ug/kg | | 26 | | < 9.3 U | < 8.0 U | < 4.7 U | < 7.6 UJ | < 5.1 U | < 5.5 U | < 6.0 U | < 7.2 U | < 7.6 U | < 4.1 U |
| Aroclor-1268 | ug/kg | | 26 | | < 9.3 U | < 8.0 U | < 4.7 U | < 7.6 UJ | < 5.1 U | < 5.5 U | < 6.0 U | < 7.2 U | < 7.6 U | < 4.1 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 120 | *26* | | ***750*** | ***1800*** | ***160*** | ***400*** | ***250*** | ***140*** | ***69*** | ***120*** | ***90*** | ***130*** |
| PCB congeners | ug/kg | 120 | *26* | | | | | ***760*** | | | ***180*** | ***210*** | | |

**Table 4-33**
**PCBs and Pesticides Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | Location ID / Sample Date / Sample ID / Depth / Type | SED6C<br>11/14/2013 1:33:00 PM<br>SED6C00N<br>0 - 0.5 ft<br>N | SED6C<br>6/7/2017 10:00:00 AM<br>SED6C00EN<br>0 - 0.33 ft<br>N | SED7.5D<br>11/25/2013 7:30:00 AM<br>SED7.5D00N<br>0 - 0.5 ft<br>N | SED7.5D<br>6/9/2017 8:15:00 AM<br>SED7.5D00EN<br>0 - 0.33 ft<br>N | SED7.5E<br>11/25/2013 10:30:00 AM<br>SED7.5E00N<br>0 - 0.5 ft<br>N | SED7.5E<br>6/8/2017 9:15:00 AM<br>SED7.5E00EN<br>0 - 0.33 ft<br>N | SED7A<br>11/13/2013 11:50:00 AM<br>SED7A00N<br>0 - 0.5 ft<br>N | SED7A<br>6/9/2017 11:15:00 AM<br>SED7A00EN<br>0 - 0.33 ft<br>N | SED7B<br>11/13/2013 10:50:00 AM<br>SED7B00N<br>0 - 0.5 ft<br>N | SED7B<br>11/13/2013 10:50:00 AM<br>SED7B00R<br>0 - 0.5 ft<br>FD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-DDD | ug/kg | 190 | *3.54* | | | ***6.3 J*** | | **3.5 J** | | ***4.4 J*** | | **2.5 J** | ***8.9 J*** | ***5.2 J*** |
| 4,4'-DDE | ug/kg | 2000 | *3.16* | | | ***20 J+*** | | ***6.1 J*** | | ***10 J*** | | ***5.6*** | ***56*** | ***36*** |
| 4,4'-DDT | ug/kg | 1900 | *1.19* | | | < 1.3 U | | < 0.98 U | | < 1.2 U | | < 1.2 U | < 0.71 UJ | ***3.6 J*** |
| Aldrin | ug/kg | 39 | *2* | | | < 1.3 U | | < 0.98 U | | < 1.2 U | | < 1.2 U | **0.30 J** | **0.18 J** |
| alpha-BHC | ug/kg | 86 | 6 | | | < 1.3 U | | < 0.98 U | | < 1.2 U | | < 1.2 U | < 0.71 U | < 0.71 U |
| beta-BHC | ug/kg | 300 | 5 | | | < 1.3 U | | < 0.98 U | | < 1.2 U | | < 1.2 U | **1.1 J** | **0.74 J** |
| cis-Chlordane | ug/kg | 1700 | *0.03* | | | ***10 J*** | | ***9.4*** | | ***9.6*** | | ***6.7 J*** | ***3.2 J*** | ***1.2 J*** |
| delta-BHC | ug/kg | 86 | 10 | | | < 1.3 U | | < 0.98 U | | < 1.2 U | | < 1.2 U | **0.25 J** | **1.0 J** |
| Dieldrin | ug/kg | 34 | *1.9* | | | ***3.5 J*** | | < 0.98 U | | < 1.2 U | | ***2.1 J*** | ***3.2 J*** | ***2.0 J*** |
| Endosulfan I | ug/kg | 47000 | 2.9 | | | < 1.3 U | | < 0.98 U | | < 1.2 U | | < 1.2 U | < 0.71 U | < 0.71 U |
| Endosulfan II | ug/kg | 47000 | 14 | | | < 1.3 U | | < 0.98 U | | < 1.2 U | | < 1.2 U | **1.3 J** | **0.75 J** |
| Endosulfan Sulfate | ug/kg | 47000 | *5.4* | | | R | | < 0.98 U | | < 1.2 U | | < 1.2 U | **3.6 J** | **2.1 J** |
| Endrin | ug/kg | 1900 | *2.22* | | | < 1.3 U | | < 0.98 U | | < 1.2 U | | < 1.2 U | ***8.5 J*** | ***4.9 J*** |
| Endrin aldehyde | ug/kg | 1900 | 2.22 | | | < 1.3 U | | < 0.98 U | | < 1.2 U | | < 1.2 U | **1.1 J** | **2.1 J** |
| Endrin ketone | ug/kg | 1900 | *2.22* | | | R | | < 0.98 U | | < 1.2 U | | < 1.2 U | < 0.71 U | < 0.71 U |
| gamma-BHC (Lindane) | ug/kg | 570 | 2.37 | | | < 1.3 U | | < 0.98 U | | < 1.2 U | | < 1.2 U | < 0.71 U | **0.17 J** |
| Heptachlor | ug/kg | 130 | 10 | | | < 1.3 U | | < 0.98 U | | < 1.2 U | | < 1.2 U | **4.8 J** | **1.8 J** |
| Heptachlor Epoxide | ug/kg | 70 | *0.6* | | | ***1.1 J*** | | ***1.8 J*** | | ***4.9 J*** | | **0.41 J** | ***1.8 J*** | ***0.89 J*** |
| Methoxychlor | ug/kg | 32000 | *18.7* | | | R | | < 0.98 U | | < 1.2 U | | < 1.2 U | **14 J** | **9.3 J** |
| Toxaphene | ug/kg | 490 | 0.1 | | | < 50 U | | < 39 U | | < 47 U | | < 49 U | < 29 U | < 28 U |
| trans-Chlordane | ug/kg | 1700 | *0.03* | | | ***14*** | | ***9.5*** | | < 1.2 U | | ***9.4*** | ***3.5 J*** | ***3.1*** |
| Aroclor-1016 | ug/kg | | 26 | | < 11 U | < 6.3 U | < 7.7 U | < 4.9 U | < 12 U | < 5.9 U | < 7.0 U | < 6.2 U | < 7.2 U | < 7.1 U |
| Aroclor-1221 | ug/kg | | 26 | | < 11 U | < 6.3 U | < 7.7 U | < 4.9 U | < 12 U | < 5.9 U | < 7.0 U | < 6.2 U | < 7.2 U | < 7.1 U |
| Aroclor-1232 | ug/kg | | 26 | | < 11 U | < 6.3 U | < 7.7 U | < 4.9 U | < 12 U | < 5.9 U | < 7.0 U | < 6.2 U | < 7.2 U | < 7.1 U |
| Aroclor-1242 | ug/kg | | 26 | | < 11 U | < 6.3 U | < 7.7 U | < 4.9 U | < 12 U | < 5.9 U | < 7.0 U | < 6.2 U | < 7.2 U | < 7.1 U |
| Aroclor-1248 | ug/kg | | *26* | | ***130 J*** | ***78 J+*** | ***390 J*** | ***120 J+*** | ***890 J*** | ***170 J+*** | < 7.0 U | < 6.2 U | ***340 J*** | ***320 J*** |
| Aroclor-1254 | ug/kg | | *60* | | < 11 U | ***110 J+*** | < 7.7 U | ***170 J+*** | < 12 U | ***250 J+*** | < 7.0 U | **37 J+** | < 7.2 U | < 7.1 U |
| Aroclor-1260 | ug/kg | | *26* | | ***110 J*** | ***100 J+*** | ***480 J*** | ***250 J+*** | ***970 J*** | ***360 J+*** | **23** | ***30 J+*** | ***160 J*** | ***160 J*** |
| Aroclor-1262 | ug/kg | | 26 | | < 11 U | < 6.3 U | < 7.7 U | < 4.9 U | < 12 U | < 5.9 U | < 7.0 U | < 6.2 U | < 7.2 U | < 7.1 U |
| Aroclor-1268 | ug/kg | | 26 | | < 11 U | < 6.3 U | < 7.7 U | < 4.9 U | < 12 U | < 5.9 U | < 7.0 U | < 6.2 U | < 7.2 U | < 7.1 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 120 | *26* | | ***240*** | ***290*** | ***870*** | ***540*** | ***1900*** | ***780*** | **23** | ***67*** | ***500*** | ***480*** |
| PCB congeners | ug/kg | 120 | *26* | | | | | | ***11800*** | ***1400*** | | | | |

**Table 4-33**
**PCBs and Pesticides Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | Location ID | SED7B | SED7D | SED7D | SED7E | SED7E | SED7E | SED7F | SED7F | SED7G | SED8.5B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sample Date | 6/7/2017 12:30:00 PM | 11/25/2013 8:05:00 AM | 6/9/2017 9:15:00 AM | 11/25/2013 10:00:00 AM | 6/8/2017 10:30:00 AM | 6/22/2017 9:00:00 AM | 11/25/2013 12:00:00 PM | 6/8/2017 8:30:00 AM | 1/30/2014 2:30:00 PM | 11/13/2013 8:40:00 AM |
| | | | | Sample ID | SED7B00EN | SED7D00N | SED7D00EN | SED7E00N | SED7E00EN | SED7E00AN | SED7F00N | SED7F00EN | SED7G00N | SED8.5B00N |
| | | | | Depth | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 190 | 3.54 | | 8.1 J | | 3.2 J | | 3.5 J | | 12 J | 3.4 J | 9.0 | |
| 4,4'-DDE | ug/kg | 2000 | 3.16 | | 40 | | 8.3 | | 4.2 J | | 5.9 J | 5.1 J | < 1.3 U | |
| 4,4'-DDT | ug/kg | 1900 | 1.19 | | < 1.1 U | | < 1.0 U | | < 0.73 U | | 11 J | < 0.96 U | 0.91 J | |
| Aldrin | ug/kg | 39 | 2 | | 0.54 J | | < 1.0 U | | 0.13 J | | 0.75 J | < 0.96 U | < 1.3 U | |
| alpha-BHC | ug/kg | 86 | 6 | | < 1.1 U | | < 1.0 U | | < 0.73 U | | < 1.9 U | < 0.96 U | < 1.3 U | |
| beta-BHC | ug/kg | 300 | 5 | | < 1.1 U | | < 1.0 U | | < 0.73 U | | 2.0 J | < 0.96 U | < 1.3 U | |
| cis-Chlordane | ug/kg | 1700 | 0.03 | | 1.8 J | | 9.9 | | 7.7 | | 10 | 8.0 | 1.7 J | |
| delta-BHC | ug/kg | 86 | 10 | | < 1.1 U | | < 1.0 U | | < 0.73 U | | 5.5 J | < 0.96 U | 2.4 J | |
| Dieldrin | ug/kg | 34 | 1.9 | | < 1.1 U | | 2.0 J | | < 0.73 U | | 4.9 J | < 0.96 U | 2.3 J | |
| Endosulfan I | ug/kg | 47000 | 2.9 | | < 1.1 U | | < 1.0 U | | < 0.73 U | | 1.2 J | < 0.96 U | 1.5 J | |
| Endosulfan II | ug/kg | 47000 | 14 | | < 1.1 U | | < 1.0 U | | < 0.73 U | | 5.0 J | < 0.96 U | < 1.3 U | |
| Endosulfan Sulfate | ug/kg | 47000 | 5.4 | | < 1.1 U | | < 1.0 U | | < 0.73 U | | 10 | < 0.96 U | 3.6 | |
| Endrin | ug/kg | 1900 | 2.22 | | < 1.1 U | | < 1.0 U | | < 0.73 U | | 22 J | < 0.96 U | 2.3 J | |
| Endrin aldehyde | ug/kg | 1900 | 2.22 | | < 1.1 U | | < 1.0 U | | < 0.73 U | | 1.4 J | < 0.96 U | 1.0 J | |
| Endrin ketone | ug/kg | 1900 | 2.22 | | < 1.1 U | | < 1.0 U | | < 0.73 U | | 8.0 J | < 0.96 U | < 1.3 U | |
| gamma-BHC (Lindane) | ug/kg | 570 | 2.37 | | < 1.1 U | | < 1.0 U | | < 0.73 U | | 0.77 J | < 0.96 U | 1.6 J | |
| Heptachlor | ug/kg | 130 | 10 | | < 1.1 U | | < 1.0 U | | < 0.73 U | | 1.0 J | < 0.96 U | 0.65 J | |
| Heptachlor Epoxide | ug/kg | 70 | 0.6 | | < 1.1 U | | 1.2 J | | 4.1 J | | 6.2 J | 2.2 J | 0.62 J | |
| Methoxychlor | ug/kg | 32000 | 18.7 | | < 1.1 U | | < 1.0 U | | < 0.73 U | | 23 J | < 0.96 U | 19 J | |
| Toxaphene | ug/kg | 490 | 0.1 | | < 44 U | | < 41 U | | < 29 U | | < 75 U | < 38 U | < 50 U | |
| trans-Chlordane | ug/kg | 1700 | 0.03 | | < 1.1 U | | 9.3 | | < 0.73 U | | 8.2 J | < 0.96 U | 1.9 | |
| Aroclor-1016 | ug/kg | | 26 | | < 5.5 U | < 7.4 U | < 5.1 U | < 7.2 U | < 3.7 U | < 2.9 UJ | < 7.5 U | < 4.8 U | < 5.0 U | < 8.8 U |
| Aroclor-1221 | ug/kg | | 26 | | < 5.5 U | < 7.4 U | < 5.1 U | < 7.2 U | < 3.7 U | < 2.9 U | < 7.5 U | < 4.8 U | < 5.0 U | < 8.8 U |
| Aroclor-1232 | ug/kg | | 26 | | < 5.5 U | < 7.4 U | < 5.1 U | < 7.2 U | < 3.7 U | < 2.9 U | < 7.5 U | < 4.8 U | < 5.0 U | < 8.8 U |
| Aroclor-1242 | ug/kg | | 26 | | < 5.5 U | < 7.4 U | < 5.1 U | < 7.2 U | < 3.7 U | < 2.9 U | < 7.5 U | < 4.8 U | < 5.0 U | < 8.8 U |
| Aroclor-1248 | ug/kg | | 26 | | 66 J+ | 400 J | < 5.1 U | 550 J | 170 J+ | 200 J+ | 390 J | 67 J+ | 100 J | 76 J |
| Aroclor-1254 | ug/kg | | 60 | | 130 J+ | < 7.4 U | 29 J+ | < 7.2 UJ | 170 J+ | 240 J | < 7.5 U | 100 J+ | < 5.0 U | < 8.8 U |
| Aroclor-1260 | ug/kg | | 26 | | 270 J+ | 220 J | 24 J+ | 410 J | 290 J+ | 350 J+ | 380 J | 130 J+ | 130 J | 35 J |
| Aroclor-1262 | ug/kg | | 26 | | < 5.5 U | < 7.4 U | < 5.1 U | < 7.2 UJ | < 3.7 U | < 2.9 U | < 7.5 U | < 4.8 U | < 5.0 U | < 8.8 U |
| Aroclor-1268 | ug/kg | | 26 | | < 5.5 U | < 7.4 U | < 5.1 U | < 7.2 UJ | < 3.7 U | < 2.9 U | < 7.5 U | < 4.8 U | < 5.0 U | < 8.8 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 120 | 26 | | 470 | 620 | 53 | 960 | 630 | 790 | 770 | 300 | 230 | 110 |
| PCB congeners | ug/kg | 120 | 26 | | | | | | 980 | | 1000 | | | |

**Table 4-33**
**PCBs and Pesticides Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | Location ID | SED8A | SED8A | SED8B | SED8B | SED8C | SED8C | SED8C | SED9.5B | SED9A | SED9B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Sample Date | 11/13/2013 10:05:00 AM | 6/9/2017 10:30:00 AM | 11/13/2013 9:17:00 AM | 6/9/2017 12:00:00 PM | 11/14/2013 12:36:00 PM | 11/14/2013 12:52:00 PM | 6/7/2017 11:30:00 AM | 11/11/2013 12:14:00 PM | 11/11/2013 9:47:00 AM | 11/11/2013 11:23:00 AM |
| | | | | Sample ID | SED8A00N | SED8A00EN | SED8B00N | SED8B00EN | SED8C00N | SED8C00R | SED8C00EN | SED9.5B00N | SED9A00N | SED9B00N |
| | | | | Depth | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | Type | N | N | N | N | N | FD | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | | | | | | | | | | | |
| 4,4'-DDD | ug/kg | 190 | 3.54 | | | 2.5 J | | 2.1 J | 9.3 J | 3.9 J | 5.1 J | | | |
| 4,4'-DDE | ug/kg | 2000 | 3.16 | | | 6.1 | | 4.0 | 30 J | 11 J | 13 | | | |
| 4,4'-DDT | ug/kg | 1900 | 1.19 | | | < 1.1 U | | 1.8 J | 5.5 J | < 0.84 UJ | < 1.1 U | | | |
| Aldrin | ug/kg | 39 | 2 | | | < 1.1 U | | < 1.1 U | 0.23 J | 0.76 J | < 1.1 U | | | |
| alpha-BHC | ug/kg | 86 | 6 | | | < 1.1 U | | < 1.1 U | < 0.78 U | < 0.84 U | < 1.1 U | | | |
| beta-BHC | ug/kg | 300 | 5 | | | < 1.1 U | | < 1.1 U | 0.79 J | 0.54 J | < 1.1 U | | | |
| cis-Chlordane | ug/kg | 1700 | 0.03 | | | 6.7 J | | 4.8 J | 5.6 J | 4.9 J | 16 | | | |
| delta-BHC | ug/kg | 86 | 10 | | | < 1.1 U | | < 1.1 U | 1.5 J | 0.32 J | < 1.1 U | | | |
| Dieldrin | ug/kg | 34 | 1.9 | | | 2.0 J | | 1.5 J | < 0.78 U | 2.3 | 4.0 | | | |
| Endosulfan I | ug/kg | 47000 | 2.9 | | | < 1.1 U | | < 1.1 U | < 0.78 U | < 0.84 U | < 1.1 U | | | |
| Endosulfan II | ug/kg | 47000 | 14 | | | < 1.1 U | | < 1.1 U | 1.2 J | 0.55 J | < 1.1 U | | | |
| Endosulfan Sulfate | ug/kg | 47000 | 5.4 | | | < 1.1 U | | < 1.1 U | 2.7 | 1.2 | < 1.1 U | | | |
| Endrin | ug/kg | 1900 | 2.22 | | | < 1.1 U | | 0.49 J | 5.4 J | 2.5 J | < 1.1 U | | | |
| Endrin aldehyde | ug/kg | 1900 | 2.22 | | | < 1.1 U | | < 1.1 U | 1.3 J | 0.61 J | < 1.1 U | | | |
| Endrin ketone | ug/kg | 1900 | 2.22 | | | < 1.1 U | | < 1.1 U | < 0.78 U | 1.8 J | < 1.1 U | | | |
| gamma-BHC (Lindane) | ug/kg | 570 | 2.37 | | | < 1.1 U | | < 1.1 U | 0.30 J | < 0.84 U | < 1.1 U | | | |
| Heptachlor | ug/kg | 130 | 10 | | | < 1.1 U | | < 1.1 U | 2.2 J | 1.3 J | < 1.1 U | | | |
| Heptachlor Epoxide | ug/kg | 70 | 0.6 | | | 0.80 J | | 0.39 J | 1.9 J | 0.84 J | 0.85 J | | | |
| Methoxychlor | ug/kg | 32000 | 18.7 | | | < 1.1 U | | < 1.1 U | 12 J | 11 J | < 1.1 U | | | |
| Toxaphene | ug/kg | 490 | 0.1 | | | < 46 U | | < 44 U | < 31 U | < 34 U | < 43 U | | | |
| trans-Chlordane | ug/kg | 1700 | 0.03 | | | 8.9 | | 6.3 | 9.5 | 7.7 | 13 | | | |
| Aroclor-1016 | ug/kg | | 26 | | < 9.6 U | < 5.7 U | < 8.1 U | < 5.5 U | < 7.8 U | < 8.4 U | < 5.5 U | < 8.4 U | < 9.0 U | < 10 U |
| Aroclor-1221 | ug/kg | | 26 | | < 9.6 U | < 5.7 U | < 8.1 U | < 5.5 U | < 7.8 U | < 8.4 U | < 5.5 U | < 8.4 U | < 9.0 U | < 10 U |
| Aroclor-1232 | ug/kg | | 26 | | < 9.6 U | < 5.7 U | < 8.1 U | < 5.5 U | < 7.8 U | < 8.4 U | < 5.5 U | < 8.4 U | < 9.0 U | < 10 U |
| Aroclor-1242 | ug/kg | | 26 | | < 9.6 U | < 5.7 U | < 8.1 U | < 5.5 U | < 7.8 U | < 8.4 U | < 5.5 U | < 8.4 U | < 9.0 U | < 10 U |
| Aroclor-1248 | ug/kg | | 26 | | 110 J | < 5.7 U | 69 J | < 5.5 U | 380 J | 290 J | 64 J+ | 300 J | < 9.0 U | 120 J |
| Aroclor-1254 | ug/kg | | 60 | | < 9.6 U | 32 J+ | < 8.1 U | 19 J+ | < 7.8 U | < 8.4 U | 81 J+ | < 8.4 U | < 9.0 U | < 10 U |
| Aroclor-1260 | ug/kg | | 26 | | 46 J | 27 J+ | 34 J | 14 J+ | 210 J | 120 J | 110 J+ | 84 J | 74 J | 57 J |
| Aroclor-1262 | ug/kg | | 26 | | < 9.6 U | < 5.7 U | < 8.1 U | < 5.5 U | < 7.8 U | < 8.4 U | < 5.5 U | < 8.4 U | < 9.0 U | < 10 U |
| Aroclor-1268 | ug/kg | | 26 | | < 9.6 U | < 5.7 U | < 8.1 U | < 5.5 U | < 7.8 U | < 8.4 U | < 5.5 U | < 8.4 U | < 9.0 U | < 10 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 120 | 26 | | 160 | 59 | 100 | 33 | 590 | 410 | 260 | 380 | 74 | 180 |
| PCB congeners | ug/kg | 120 | 26 | | | | | | | | | 170 | | |

## Table 4-33
## PCBs and Pesticides Concentrations in Waterside Investigation Area Surface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | Location ID | SED9C | WSED1 | WSED1 | WSED2 |
|---|---|---|---|---|---|---|---|---|
| | | | | Sample Date | 11/11/2013 10:43:00 AM | 11/15/2013 11:14:00 AM | 11/15/2013 11:14:00 AM | 11/15/2013 12:13:00 PM |
| | | | | Sample ID | SED9C00N | WSED100N | WSED100R | WSED200N |
| | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | Type | N | N | FD | N |
| Analyte | Unit | HHRA Screening Levels (a) | ERA Screening Levels (b) | | | | | |
| 4,4'-DDD | ug/kg | 190 | *3.54* | | **3.0 J** | ***6.4 J*** | ***6.5 J*** | ***12 J*** |
| 4,4'-DDE | ug/kg | 2000 | *3.16* | | ***7.1*** | ***8.0 J*** | ***7.3 J*** | ***13 J*** |
| 4,4'-DDT | ug/kg | 1900 | *1.19* | | ***2.5 J*** | ***4.0 J*** | ***4.8 J*** | ***7.2 J*** |
| Aldrin | ug/kg | 39 | *2* | | **0.60 J** | ***3.0 J*** | **0.80 J** | **1.7 J** |
| alpha-BHC | ug/kg | 86 | 6 | | < 0.82 U | < 0.63 U | < 0.83 U | < 1.3 U |
| beta-BHC | ug/kg | 300 | 5 | | < 0.82 U | < 0.63 U | < 0.83 U | < 1.3 U |
| cis-Chlordane | ug/kg | 1700 | *0.03* | | ***6.6 J*** | ***18 J*** | ***9.0 J*** | ***15 J*** |
| delta-BHC | ug/kg | 86 | 10 | | < 0.82 U | **2.0 J** | **0.32 J** | **1.0 J** |
| Dieldrin | ug/kg | 34 | *1.9* | | **1.4 J** | < 0.63 U | **1.7 J** | ***2.7 J*** |
| Endosulfan I | ug/kg | 47000 | 2.9 | | < 0.82 U | < 0.63 U | < 0.83 U | < 1.3 U |
| Endosulfan II | ug/kg | 47000 | 14 | | **0.23 J** | **0.60 J** | **0.38 J** | **0.89 J** |
| Endosulfan Sulfate | ug/kg | 47000 | *5.4* | | **0.28 J** | **1.5** | **0.83 J** | **0.32 J** |
| Endrin | ug/kg | 1900 | *2.22* | | ***2.9*** | ***6.7 J*** | **1.8 J** | ***3.2 J*** |
| Endrin aldehyde | ug/kg | 1900 | 2.22 | | **0.68 J** | **1.4** | **1.8 J** | **1.1 J** |
| Endrin ketone | ug/kg | 1900 | *2.22* | | ***3.1*** | < 0.63 U | ***3.8 J*** | ***6.1 J*** |
| gamma-BHC (Lindane) | ug/kg | 570 | 2.37 | | **0.23 J** | **0.15 J** | **0.30 J** | **1.4 J** |
| Heptachlor | ug/kg | 130 | 10 | | **1.5** | **7.1 J** | **1.6 J** | **3.8 J** |
| Heptachlor Epoxide | ug/kg | 70 | *0.6* | | ***0.65 J*** | ***1.2 J*** | ***0.99 J*** | ***1.3 J*** |
| Methoxychlor | ug/kg | 32000 | *18.7* | | **13** | **8.3 J** | **12 J** | ***27 J*** |
| Toxaphene | ug/kg | 490 | 0.1 | | < 33 U | < 25 U | < 33 U | < 53 U |
| trans-Chlordane | ug/kg | 1700 | *0.03* | | ***11*** | ***31 J*** | ***13 J*** | ***24 J*** |
| Aroclor-1016 | ug/kg | | 26 | | < 8.2 U | < 6.2 U | < 8.3 U | < 13 U |
| Aroclor-1221 | ug/kg | | 26 | | < 8.2 U | < 6.2 U | < 8.3 U | < 13 U |
| Aroclor-1232 | ug/kg | | 26 | | < 8.2 U | < 6.2 U | < 8.3 U | < 13 U |
| Aroclor-1242 | ug/kg | | 26 | | < 8.2 U | < 6.2 U | < 8.3 U | < 13 U |
| Aroclor-1248 | ug/kg | | *26* | | ***120 J*** | ***250 J*** | ***86 J*** | ***110 J*** |
| Aroclor-1254 | ug/kg | | *60* | | < 8.2 U | < 6.2 U | < 8.3 U | < 13 U |
| Aroclor-1260 | ug/kg | | *26* | | ***54 J*** | ***77 J*** | ***36 J*** | ***63 J*** |
| Aroclor-1262 | ug/kg | | 26 | | < 8.2 U | < 6.2 U | < 8.3 U | < 13 U |
| Aroclor-1268 | ug/kg | | 26 | | < 8.2 U | < 6.2 U | < 8.3 U | < 13 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | 120 | *26* | | ***170*** | ***330*** | ***120*** | ***170*** |
| PCB congeners | ug/kg | 120 | *26* | | | | | |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Human Health Risk Assessment (HHRA) screening level.
Italicized values indicate exceedance of the Ecological Risk Assessment (ERA) screening level.
Underlined values indicate exceedance of the BTV Statistic.
BTV Statistic = Background threshold value statistic (95% upper tolerance limit) that is used to identify any COPCs for which concentrations are elevated relative to background.
EN= Essential Nutrient
AVS = Acid Volatile Sulfide SEM = Simultaneously Extracted Metals
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
N = Normal
FD = Field Duplicate
HHRA and ERA screening values provided for detected compounds or compound sums where applicable.
(a) RSL Table, May 2018 Residential Soil [ELCR = 1E-6, HQ=0.1]
(b) Low Effect Ecological Screening Value
ug/kg = micrograms per kilogram

**Table 4-34**
**Dioxins and Furans Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | SED10B | SED1B | SED2C | SED3C | SED3C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Location ID | SED10B | SED1B | SED2C | SED3C | SED3C |
| | | | | | | | | | | | Sample Date | 11/11/2013 1:59:00 PM | 11/6/2013 2:05:00 PM | 11/6/2013 9:16:00 AM | 11/7/2013 12:27:00 PM | 11/7/2013 12:27:00 PM |
| | | | | | | | | | | | Sample ID | SED10B00N | SED1B00N | SED2C00N | SED3C00N | SED3C00R |
| | | | | | | | | | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | | | | | | | | | Type | N | N | N | N | FD |
| Analyte | Unit | HHRA Screening Levels (a) | BTV Statistic | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/g | | 47 | 1080 | 0.237 | 65.8 | 18.7 | SED7F | 35 | 35 | | 4.33 J | 0.237 J | 155 | 6.61 JN | 13.7 JN |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/g | | 381 | 4100 | 8.42 | 246 | 75.2 | SED7F | 35 | 35 | | 24.9 | 8.42 | 181 | 32.1 J | 57.8 J |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/g | | 3.0 | 151 | 0.08 | 7.78 | 1.44 | SED7F | 35 | 35 | | 0.592 J | 0.0800 JN | 4.83 JN | 0.705 JN | 1.27 JN |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/g | | 7.2 | 470 | 0.0902 | 25.3 | 2.29 | SED7F | 35 | 35 | | 0.574 JN | 0.0902 JN | 128 J | 1.32 JN | 2.07 JN |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | 4.8 | 289 | 0.158 | 14.3 | 1.43 | SED7F | 35 | 35 | | 0.479 JN | 0.158 JN | 12.8 | 0.663 J | 1.16 J |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/g | | 3.3 | 272 | 0.105 | 15.8 | 2.84 | SED7F | 35 | 35 | | 1.13 JN | 0.105 JN | 35.8 JN | 1.61 JN | 2.05 JN |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | 14 | 548 | 0.265 | 26.7 | 3.56 | SED7F | 35 | 35 | | 1.18 J | 0.265 J | 17.9 | 1.31 JN | 2.80 J |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/g | | | 24.3 | 0.0583 | 1.55 | 0.254 | SED7F | 28 | 35 | | 0.0605 JN | < 0.0148 U | 0.798 JN | 0.0705 JN | 0.121 JN |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/g | | 15 | 705 | 0.209 | 32.6 | 3.77 | SED7F | 35 | 35 | | 1.33 J | 0.209 JN | 33.2 J | 1.58 JN | 3.09 J |
| 1,2,3,7,8-PeCDF | pg/g | | 1.8 | 124 | 0.113 | 7.38 | 0.742 | SED7F | 34 | 35 | | 0.193 JN | < 0.0177 U | 17.1 | 0.450 JN | 0.736 JN |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/g | | 2.2 | 277 | 0.0426 | 13.7 | 1.23 | SED7F | 35 | 35 | | 0.480 JN | 0.0426 JN | 10.5 | 0.400 JN | 1.23 JN |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/g | | 3.8 | 285 | 0.0737 | 16.1 | 1.89 | SED7F | 35 | 35 | | 0.520 J | 0.0737 JN | 26.6 JN | 0.610 J | 1.19 JN |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/g | | 2.6 | 217 | 0.345 | 14.6 | 2.26 | SED7F | 34 | 35 | | 0.480 J | < 0.0156 U | 28.3 | 0.998 JN | 1.65 JN |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/g | | 3.1 | 56.7 | 0.127 | 4.65 | 1.5 | SED7F | 34 | 35 | | 0.288 JN | < 0.0118 U | 9.98 | 0.468 JN | 0.825 JN |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/g | | 0.68 | 38.2 | 0.0502 | 3.01 | 0.741 | SED7F | 26 | 35 | | 0.0593 JN | < 0.0131 U | 2.08 JN | < 0.0241 U | 0.334 JN |
| Octachlorochlorodibenzofuran | pg/g | | 92 | 1000 | 0.514 | 71.6 | 25.5 | SED7F | 35 | 35 | | 9.87 J | 0.514 JN | 39.0 | 13.8 | 21.7 |
| Octachlorochlorodibenzo-p-dioxin | pg/g | | 12600 | 14700 | 338 | 2590 | 1800 | SED7F | 35 | 35 | | 683 J | 343 | 3180 | 617 J | 1420 J |
| Total HpCDD | pg/g | | | 7850 | 17.5 | 495 | 175 | SED7F | 35 | 35 | | 58.6 | 17.5 | 373 | 77.0 J | 130 J |
| Total HpCDF | pg/g | | | 2170 | 0.626 | 134 | 41.7 | SED7F | 35 | 35 | | 11.9 JN | 0.626 JN | 211 JN | 19.5 JN | 33.5 JN |
| Total HxCDD | pg/g | | | 5930 | 2.86 | 294 | 35.3 | SED7F | 35 | 35 | | 11.9 JN | 2.86 JN | 203 | 15.1 JN | 29.7 JN |
| Total HxCDF | pg/g | | | 2890 | 1.29 | 190 | 60.4 | SED7F | 35 | 35 | | 19.3 JN | 1.29 JN | 472 JN | 24.5 JN | 41.1 JN |
| Total PeCDD | pg/g | | | 6440 | 0.451 | 356 | 69.5 | SED7F | 35 | 35 | | 4.57 JN | 0.451 JN | 310 JN | 5.81 JN | 97.3 JN |
| Total PeCDF | pg/g | | | 2690 | 1.16 | 217 | 80.6 | SED7F | 35 | 35 | | 29.7 JN | 1.16 JN | 591 JN | 38.0 JN | 62.1 JN |
| Total TCDD | pg/g | | | 1650 | 0.711 | 87 | 8.17 | SED7F | 35 | 35 | | 2.60 JN | 0.711 JN | 71.3 JN | 3.84 JN | 7.53 JN |
| Total TCDF | pg/g | | | 2240 | 1.39 | 224 | 102 | SED7F | 35 | 35 | | 42.2 JN | 1.39 JN | 593 JN | 63.4 JN | 102 JN |
| TCDD TEQ Bird | pg/g | | | 815 | 0.147 | 46.7 | 7.44 | SED7F | 35 | 35 | | 1.87 | 0.147 | 77.9 | 2.64 | 5.40 |
| TCDD TEQ Fish | pg/g | | | 713 | 0.199 | 38.4 | 5.32 | SED7F | 35 | 35 | | 1.44 | 0.199 | 56.2 | 1.83 | 4.00 |
| TCDD TEQ HH | pg/g | 4.8 | 17 | 707 | 0.323 | 38 | 5.96 | SED7F | 35 | 35 | | 1.75 | 0.323 | 52.5 | 2.06 | 4.57 |

# Table 4-34
## Dioxins and Furans Concentrations in Waterside Investigation Area Surface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | Location ID | SED4B | SED4B | SED6.5D | SED6.5E | SED6.5E | SED6A | SED6B | SED6B | SED6B | SED6C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 11/12/2013 12:13:00 PM | 11/12/2013 12:13:00 PM | 6/9/2017 9:45:00 AM | 11/25/2013 8:20:00 AM | 6/8/2017 10:00:00 AM | 6/8/2017 1:15:00 PM | 11/13/2013 12:39:00 PM | 11/13/2013 12:39:00 PM | 6/8/2017 12:30:00 PM | 6/7/2017 10:00:00 AM |
| | | | Sample ID | SED4B00N | SED4B00R | SED6.5D00EN | SED6.5E00N | SED6.5E00EN | SED6A00EN | SED6B00N | SED6B00R | SED6B00EN | SED6C00EN |
| | | | Depth | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.33 ft |
| | | | Type | N | FD | N | N | N | N | N | FD | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | | | | | | | | | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/g | | | 34.4 J | 11.0 J | 23.3 | 307 | 65.8 | 6.56 | 16.3 JN | 21.0 JN | 4.79 | 25.1 |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/g | | | 149 J | 50.3 J | 97.4 | 1080 | 237 | 43.5 | 47.2 J | 105 J | 38.2 | 143 |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/g | | | 2.74 J | 1.05 J | 2.16 | 41.6 | 7.66 | 0.535 J | 0.809 J | 1.64 JN | 0.37 J | 2.14 JN |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/g | | | 7.26 JN | 2.29 JN | 4.9 | 158 JN | 16.2 | 0.427 JN | 1.57 J | 1.67 J | 0.416 JN | 4.14 |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | 2.38 J | 0.930 J | 4.59 | 83.5 | 14.8 | 0.624 J | 0.861 J | 1.19 JN | 0.517 J | 3.63 |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/g | | | 11.4 JN | 5.05 JN | 5.37 | 85.4 | 17.4 | 0.607 J | 1.93 JN | 2.75 JN | 0.502 J | 4.63 |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | 6.81 | 3.06 J | 8.94 | 131 | 26.9 | 1.52 J | 2.08 JN | 3.42 J | 1.19 J | 7.98 |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/g | | | 0.295 J | 0.212 JN | 0.385 JN | 6.56 | 2.53 J | < 0.109 U | 0.109 JN | 0.141 JN | < 0.124 U | 0.455 JN |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/g | | | 5.99 | 2.59 J | 7.44 | 196 | 23.5 | 1.48 J | 2.42 JN | 2.53 J | 1.1 J | 6.07 |
| 1,2,3,7,8-PeCDF | pg/g | | | 1.95 J | 0.747 JN | 3.13 J | 45.9 | 10.5 J | 0.316 J | 0.370 JN | 0.360 JN | 0.174 JN | 2.09 J |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/g | | | 3.91 JN | 0.786 JN | 4.43 | 76.0 | 15.4 | 0.489 J | 0.859 JN | 0.997 JN | 0.325 JN | 3.18 |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/g | | | 4.78 | 1.81 JN | 7.04 | 81.3 JN | 22.2 | 0.916 J | 0.888 JN | 0.900 J | 0.808 J | 6.01 |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/g | | | 5.61 JN | 2.05 JN | 6.82 J | 66.5 | 21.2 J | 1.2 J | 0.988 JN | 1.01 JN | 1 JN | 8.32 J |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/g | | | 6.38 JN | 1.84 JN | 2.29 | 25.6 JN | 7.58 | 0.539 J | 0.960 J | 1.22 | 0.412 | 2.23 |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/g | | | 2.71 JN | 0.739 J | 0.918 | 13.7 | 3.05 | < 0.104 U | 0.264 JN | 0.256 JN | 0.102 J | 0.743 |
| Octachlorochlorodibenzofuran | pg/g | | | 50.8 J | 18.5 J | 25.5 | 289 | 83.9 | 16.8 | 18.7 J | 46.4 JN | 11.3 | 55.2 |
| Octachlorochlorodibenzo-p-dioxin | pg/g | | | 6000 J | 1810 J | 1070 | 8610 J | 2420 | 1120 | 1440 | 2060 | 911 | 3790 |
| Total HpCDD | pg/g | | | 320 J | 109 J | 202 | 2040 | 483 | 102 | 111 J | 210 J | 102 | 293 |
| Total HpCDF | pg/g | | | 90.9 J | 31.3 JN | 46 | 597 | 132 | 16.8 | 30.9 JN | 57.6 JN | 12.5 | 64.6 |
| Total HxCDD | pg/g | | | 73.7 JN | 28.2 JN | 100 | 1500 | 293 | 17.9 | 23.4 JN | 28.0 JN | 15.8 | 86.2 |
| Total HxCDF | pg/g | | | 245 JN | 98.6 JN | 63.5 | 885 JN | 198 | 12.5 | 37.6 JN | 60.4 JN | 10.6 | 77.6 |
| Total PeCDD | pg/g | | | 387 JN | 124 JN | 69.5 | 2160 JN | 225 | 4.54 | 189 JN | 65.3 JN | 3.68 | 44.7 |
| Total PeCDF | pg/g | | | 540 JN | 230 JN | 71.5 | 970 JN | 243 | 12.2 | 62.8 JN | 64.8 JN | 11.8 | 90.8 |
| Total TCDD | pg/g | | | 25.1 JN | 8.17 JN | 33.4 | 512 JN | 114 | 1.39 | 5.06 JN | 5.03 JN | 1.9 | 20.2 |
| Total TCDF | pg/g | | | 965 JN | 402 JN | 59.7 | 849 JN | 235 | 11 | 87.7 JN | 100 JN | 9.89 | 62.5 |
| TCDD TEQ Bird | pg/g | | | 23.1 | 7.12 | 18.1 | 250 | 58.7 | 2.88 | 4.23 | 4.95 | 2.36 | 17.9 |
| TCDD TEQ Fish | pg/g | | | 14.7 | 4.49 | 13.7 | 210 | 44.9 | 1.90 | 2.97 | 3.58 | 1.59 | 12.6 |
| TCDD TEQ HH | pg/g | 4.8 | | 16.6 | 5.11 | 13.1 | 205 | 42.1 | 2.32 | 3.59 | 4.86 | 1.94 | 12.9 |

**Table 4-34**
**Dioxins and Furans Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | SED7.5D | SED7.5E | SED7A | SED7B | SED7B | SED7B | SED7D | SED7E | SED7F | SED7F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Date | 6/9/2017 8:15:00 AM | 6/8/2017 9:15:00 AM | 6/9/2017 11:15:00 AM | 11/13/2013 10:50:00 AM | 11/13/2013 10:50:00 AM | 6/7/2017 12:30:00 PM | 6/9/2017 9:15:00 AM | 6/8/2017 10:30:00 AM | 11/25/2013 12:00:00 PM | 6/8/2017 8:30:00 AM |
| | | | Sample ID | SED7.5D00EN | SED7.5E00EN | SED7A00EN | SED7B00N | SED7B00R | SED7B00EN | SED7D00EN | SED7E00EN | SED7F00N | SED7F00EN |
| | | | Depth | 0 - 0.33 ft | 0 - 0.33 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.33 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.33 ft |
| | | | Type | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | HHRA Screening Levels (a) | | | | | | | | | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/g | | | **93.6** | **66.7** | **20.6** | **3.84 J** | **6.80** | **31.4** | **51** | **61.1** | **1080** | **49.2** |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/g | | | **382** | **244** | **154** | **20.9** | **36.5 J** | **61** | **254** | **204** | **4100 J** | **166** |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/g | | | **12** | **7.79** | **1.44 J** | **0.535 JN** | **0.767 JN** | **1.03 J** | **5.2** | **6.2** | **151 JN** | **5.58** |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/g | | | **18.6** | **12.1** | **1.64 J** | **0.750 JN** | **0.920 JN** | **1.46 J** | **8.71** | **11.4** | **470 JN** | **9.35** |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | **19.6** | **14.5** | **1.99 J** | **0.305 JN** | **0.535 J** | **0.702 JN** | **9.6** | **10.4** | **289** | **10.6** |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/g | | | **20.8** | **14.9** | **1.49 J** | **1.46 JN** | **2.56 JN** | **2.84** | **10** | **12** | **272 JN** | **10.5** |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | **40** | **26.4** | **4.44** | **0.891 JN** | **1.52 JN** | **2.6** | **20.1** | **21.1** | **548** | **19** |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/g | | | **1 J** | **1.19 J** | **0.0765 JN** | **0.0590 J** | **0.0871 JN** | **0.129 J** | **0.961 J** | **1.95** | **24.3 J** | **0.842 JN** |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/g | | | **32.4** | **21.1** | **4.52** | **0.783 J** | **1.25 J** | **1.67 J** | **16.5** | **17.3** | **705 J** | **15.1** |
| 1,2,3,7,8-PeCDF | pg/g | | | **10.1 J** | **7.29 J** | **0.568 J** | **0.233 JN** | **0.278 JN** | **0.627 J** | **4.54 J** | **6.09 J** | **124** | **4.99 J** |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/g | | | **18.4** | **13.5** | **1.08 J** | **0.423 JN** | **0.462 JN** | **0.545 J** | **8.79** | **10.1** | **277 JN** | **9.72** |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/g | | | **29.5** | **20** | **2.41** | **0.509 JN** | **0.806 J** | **4.15** | **13.9** | **18.9** | **285** | **14.8** |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/g | | | **26.3 J** | **20.1 J** | **2.85 JN** | **0.490 JN** | **0.582 JN** | **8.2 J** | **13.7 J** | **22.7 J** | **217** | **14.8 J** |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/g | | | **7.35** | **5.24** | **1.1** | **0.527 JN** | **0.619 JN** | **1.43** | **3.93** | **5.06** | **56.7** | **3.56** |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/g | | | **3.94** | **2.36** | **0.286 JN** | < 0.0194 U | < 0.0227 U | **0.597** | **1.65** | **1.93** | **38.2** | **1.6** |
| Octachlorochlorodibenzofuran | pg/g | | | **129** | **95.7** | **58.1** | **7.01 J** | **16.2** | **35.9** | **87.2** | **82.1** | **1000 JN** | **62.5** |
| Octachlorochlorodibenzo-p-dioxin | pg/g | | | **4570** | **2030** | **4440** | **628** | **927** | **2550** | **4370** | **1570** | **14700** | **1390** |
| Total HpCDD | pg/g | | | **758** | **540** | **443** | **44.7** | **78.8 J** | **125** | **578** | **414** | **7850 J** | **353** |
| Total HpCDF | pg/g | | | **197** | **141** | **55.1** | **11.7 JN** | **20.1 JN** | **69** | **114** | **127** | **2170 JN** | **102** |
| Total HxCDD | pg/g | | | **461** | **294** | **60.4** | **9.90 JN** | **13.6 JN** | **25.8** | **224** | **244** | **5930 JN** | **219** |
| Total HxCDF | pg/g | | | **248** | **186** | **36.6** | **33.1 JN** | **45.2 JN** | **63.9** | **132** | **181** | **2890 JN** | **128** |
| Total PeCDD | pg/g | | | **321** | **217** | **11.7** | **39.6 JN** | **53.3 JN** | **7.83** | **138** | **180** | **6440 JN** | **167** |
| Total PeCDF | pg/g | | | **259** | **209** | **33.6** | **62.5 JN** | **98.3 JN** | **80.6** | **136** | **208** | **2690 JN** | **136** |
| Total TCDD | pg/g | | | **152** | **102** | **5.27** | **1.80 JN** | **2.22 JN** | **3.01** | **61.9** | **87.3** | **1650 JN** | **70.8** |
| Total TCDF | pg/g | | | **212** | **159** | **23.7** | **114 JN** | **163 JN** | **39.1** | **98.6** | **150** | **2240 JN** | **105** |
| TCDD TEQ Bird | pg/g | | | **70.5** | **51.0** | **7.35** | **1.97** | **2.50** | **12.6** | **35.5** | **48.3** | **815** | **36.8** |
| TCDD TEQ Fish | pg/g | | | **55.8** | **40.3** | **5.34** | **1.28** | **1.74** | **7.24** | **27.5** | **35.0** | **713** | **29.2** |
| TCDD TEQ HH | pg/g | 4.8 | | **53.7** | **37.5** | **7.11** | **1.55** | **2.20** | **6.83** | **27.5** | **32.0** | **707** | **26.9** |

**Table 4-34**
**Dioxins and Furans Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | SED7G | SED8A | SED8B | SED8C | SED8C | SED8C | SED9C | WSED1 | WSED1 |
| | | | Sample Date | 1/30/2014 2:30:00 PM | 6/9/2017 10:30:00 AM | 6/9/2017 12:00:00 PM | 11/14/2013 12:36:00 PM | 11/14/2013 12:52:00 PM | 6/7/2017 11:30:00 AM | 11/11/2013 10:43:00 AM | 11/15/2013 11:14:00 AM | 11/15/2013 11:14:00 AM |
| | | | Sample ID | SED7G00N | SED8A00EN | SED8B00EN | SED8C00N | SED8C00R | SED8C00EN | SED9C00N | WSED100N | WSED100R |
| | | | Depth | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.33 ft | 0 - 0.5 ft | 0 - 0.5 ft | 0 - 0.5 ft |
| | | | Type | N | N | N | N | FD | N | N | N | FD |
| Analyte | Unit | HHRA Screening Levels (a) | | | | | | | | | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/g | | | **18.3 JN** | **6.98** | **13.5** | **7.04 JN** | **13.9 JN** | **21.4** | **2.73 J** | **29.0 J** | **11.6 JN** |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/g | | | **48.9** | **61.7** | **85.6** | **36.8 J** | **64.6 J** | **125** | **13.8** | **136 J** | **40.0 J** |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/g | | | **1.77 J** | **0.543 J** | **0.859 J** | **1.03 JN** | **1.31 JN** | **1.77 J** | **0.325 JN** | **2.82 J** | **0.725 JN** |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/g | | | **2.39 J** | **0.705 J** | **1.13 J** | **1.40 JN** | **2.47 JN** | **2.75** | **0.351 JN** | **7.40 J** | **1.34 JN** |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | **2.47 J** | **0.791 J** | **1.24 J** | **0.747 J** | **1.43 J** | **2.57** | **0.393 JN** | **3.67 J** | **0.959 JN** |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/g | | | **3.65 JN** | **0.587 J** | **1.1 J** | **2.65 JN** | **4.43 JN** | **2.82** | **0.555 JN** | **6.20 JN** | **1.81 JN** |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | **4.11 J** | **1.87 J** | **2.76** | **2.09 J** | **3.56 J** | **5.4** | **0.653 JN** | **8.47 J** | **2.09 J** |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/g | | | < 0.297 U | < 0.186 U | **0.0583 JN** | **0.125 J** | **0.131 JN** | < 0.242 U | < 0.0210 U | **0.501 J** | **0.0849 JN** |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/g | | | **6.05** | **1.65 JN** | **2.68** | **1.92 J** | **3.77 J** | **4.83** | **0.878 JN** | **10.2 J** | **2.47 J** |
| 1,2,3,7,8-PeCDF | pg/g | | | **0.972 J** | **0.215 J** | **0.386 J** | **0.533 JN** | **0.699 JN** | **1.29 J** | **0.113 JN** | **2.26 JN** | **0.523 JN** |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/g | | | **6.90 JN** | **0.562 J** | **0.713 J** | **0.924 JN** | **1.55 JN** | **1.71 JN** | **0.509 JN** | **4.53 JN** | **0.758 J** |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/g | | | **3.05 J** | **0.907 JN** | **1.57 J** | **0.904 JN** | **1.46 J** | **4.06** | **0.339 JN** | **4.02 J** | **0.924 JN** |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/g | | | **2.18 J** | **1.23 J** | **2.04 J** | **1.00 JN** | **1.95 JN** | **5.56 J** | **0.345 J** | **4.93 J** | **0.966 J** |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/g | | | **0.900 J** | **0.459 J** | **0.826 JN** | **0.766 JN** | **1.56** | **1.73** | **0.127 JN** | **3.07 J** | **0.699 J** |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/g | | | < 0.520 U | < 0.131 U | **0.207 J** | **0.0502 JN** | **0.578 J** | **0.497** | < 0.0150 U | **1.05 JN** | **0.275 JN** |
| Octachlorochlorodibenzofuran | pg/g | | | **21.8** | **17.7** | **31.1** | **13.0 JN** | **19.2** | **47.2** | **4.21 J** | **39.6 JN** | **14.6 JN** |
| Octachlorochlorodibenzo-p-dioxin | pg/g | | | **341** | **1720** | **2810** | **973 J** | **1810 J** | **3660** | **338** | **3820 J** | **902 J** |
| Total HpCDD | pg/g | | | **101** | **140** | **192** | **81.2 J** | **144 J** | **267** | **32.4 JN** | **278 J** | **94.2 J** |
| Total HpCDF | pg/g | | | **36.9 JN** | **17** | **31.8** | **19.5 JN** | **33.6 JN** | **52.2** | **7.20 JN** | **68.0 J** | **23.2 JN** |
| Total HxCDD | pg/g | | | **49.2 JN** | **21.6** | **33.1** | **19.8 JN** | **35.3 JN** | **62.9** | **7.04 JN** | **88.2 JN** | **21.5 JN** |
| Total HxCDF | pg/g | | | **61.8 JN** | **13.7** | **23.3** | **41.0 JN** | **65.2 JN** | **48.9** | **9.97 JN** | **94.4 JN** | **32.0 JN** |
| Total PeCDD | pg/g | | | **553 JN** | **5.37** | **8.66** | **69.3 JN** | **96.2 JN** | **27.4** | **14.9 JN** | **279 JN** | **54.1 JN** |
| Total PeCDF | pg/g | | | **98.3 JN** | **12.6** | **22.9** | **74.5 JN** | **122 JN** | **57** | **13.7 JN** | **125 JN** | **44.1 JN** |
| Total TCDD | pg/g | | | **9.21 JN** | **0.931** | **4.03** | **5.15 JN** | **10.5 JN** | **12.9** | **1.40 JN** | **35.3 JN** | **4.99 JN** |
| Total TCDF | pg/g | | | **122 JN** | **9.49** | **17.8** | **122 JN** | **200 JN** | **41.7** | **21.3 JN** | **167 JN** | **76.9 JN** |
| TCDD TEQ Bird | pg/g | | | **12.0** | **3.03** | **5.08** | **3.77** | **7.44** | **12.0** | **1.31** | **17.7** | **3.74** |
| TCDD TEQ Fish | pg/g | | | **10.6** | **2.17** | **3.57** | **2.68** | **5.25** | **8.22** | **1.11** | **13.0** | **2.77** |
| TCDD TEQ HH | pg/g | 4.8 | | **10.6** | **2.85** | **4.53** | **3.09** | **5.96** | **8.92** | **1.22** | **14.3** | **3.17** |

**Table 4-34**
**Dioxins and Furans Concentrations in Waterside Investigation Area Surface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | Location ID | WSED2 |
|---|---|---|---|---|
| | | | Sample Date | 11/15/2013 12:13:00 PM |
| | | | Sample ID | WSED200N |
| | | | Depth | 0 - 0.5 ft |
| | | | Type | N |
| Analyte | Unit | HHRA Screening Levels (a) | | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/g | | | **18.7 JN** |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/g | | | **75.2** |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/g | | | **1.58 JN** |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/g | | | **2.54 JN** |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | **1.97 JN** |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/g | | | **3.55 JN** |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/g | | | **3.64 J** |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/g | | | **0.301 JN** |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/g | | | **3.96 J** |
| 1,2,3,7,8-PeCDF | pg/g | | | **1.25 JN** |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/g | | | **1.65 JN** |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/g | | | **1.89 J** |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/g | | | **2.33 JN** |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/g | | | **1.96 JN** |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/g | | | < 0.0415 U |
| Octachlorochlorodibenzofuran | pg/g | | | **23.6** |
| Octachlorochlorodibenzo-p-dioxin | pg/g | | | **1800** |
| Total HpCDD | pg/g | | | **175** |
| Total HpCDF | pg/g | | | **41.7 JN** |
| Total HxCDD | pg/g | | | **38.8 JN** |
| Total HxCDF | pg/g | | | **58.6 JN** |
| Total PeCDD | pg/g | | | **95.9 JN** |
| Total PeCDF | pg/g | | | **93.5 JN** |
| Total TCDD | pg/g | | | **10.4 JN** |
| Total TCDF | pg/g | | | **158 JN** |
| TCDD TEQ Bird | pg/g | | | **7.88** |
| TCDD TEQ Fish | pg/g | | | **5.32** |
| TCDD TEQ HH | pg/g | 4.8 | | **5.87** |

Notes:
Bold values indicate detects. Highlighted values indicate exceedance of the Human Health Risk Assessment (HHRA) screening level.
Italicized values indicate exceedance of the Ecological Risk Assessment (ERA) screening level.
Underlined values indicate exceedance of the BTV Statistic.
EN= Essential Nutrient
AVS = Acid Volatile Sulfide SEM = Simultaneously Extracted Metals
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
N = Normal
FD = Field Duplicate
HHRA and ERA screening values provided for detected compounds or compound sums where applicable
(a) RSL Table, May 2018 Residential Soil [ELCR = 1E-6, HQ=0.1]
pg/g = picograms per gram

# Table 4-35
## Inorganic Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Location ID | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C |
| | | | | | | | | | | | | Sample Date | 6/21/2017 8:20:00 AM | 6/21/2017 8:25:00 AM | 6/21/2017 8:30:00 AM | 6/21/2017 8:35:00 AM | 6/21/2017 8:40:00 AM | 6/21/2017 8:45:00 AM | 6/21/2017 8:47:00 AM | 6/21/2017 8:50:00 AM |
| | | | | | | | | | | | | Sample ID | SED1.5C00BN | SED1.5C00CN | SED1.5C01AN | SED1.5C01BN | SED1.5C01CN | SED1.5C02AN | SED1.5C02AR | SED1.5C02BN |
| | | | | | | | | | | | | Depth | 0.33 - 0.67 ft | 0.67 - 1 ft | 1 - 1.33 ft | 1.33 - 1.67 ft | 1.67 - 2 ft | 2 - 2.33 ft | 2 - 2.33 ft | 2.33 - 2.67 ft |
| | | | | | | | | | | | | Type | N | N | N | N | N | N | FD | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | | | | | | | |
| Total Organic Carbon | mg/kg | LKTOC | T | 7440-44-0 | 63000 | 4200 | 27000 | 20000 | SED6.5E | 16 | 16 | | | | | | | | | |
| Cesium-137 | pCi/g | HASL300,4.5.2.3 | T | 10045-97-3 | 0.474 | 0.0204 | 0.111 | 0.0786 | SED7E | 30 | 65 | | **0.0397** | **0.0593** | **0.045** | **0.0712** | **0.109** | **0.0939** | | **0.0831** |
| Radium-226 | pCi/g | HASL300,4.5.2.3 | T | 13982-63-3 | 2.12 | 0.431 | 1.21 | 1.26 | SED1.5C | 65 | 65 | | **0.994** | **0.836** | **0.882** | **0.933** | **1.22** | **1.19** | | **0.975** |
| Polonium-210 | pCi/g | PO-01-RC MOD | T | 13981-52-7 | 2.89 | 0.259 | 1.27 | 1.21 | SED1.5C | 65 | 65 | | **1.54** | **1.79** | **1.53** | **1.49** | **2.89 J** | **2.60 J** | | **2.12** |
| Aluminum | mg/kg | SW6020A | T | 7429-90-5 | 15000 | 1100 | 8000 | 8100 | SED6.5E | 83 | 83 | | **6300** | **6500** | **6100** | **7200** | **11000** | **7200** | **7900** | **6700** |
| Antimony | mg/kg | SW6020A | T | 7440-36-0 | 22 | 0.049 | 1.1 | 0.5 | SED6.5E | 82 | 83 | | **0.48 J** | **0.55 J** | **0.46 J** | **2.5 J** | **0.50 J** | **0.48 J** | **0.43 J** | **0.58 J** |
| Arsenic | mg/kg | SW6020A | T | 7440-38-2 | 27 | 0.95 | 6.7 | 5.4 | SED7E | 83 | 83 | | **3.9** | **4.1** | **4.0** | **3.7** | **5.1** | **3.3 J** | **3.2 J** | **4.1 J** |
| Barium | mg/kg | SW6020A | T | 7440-39-3 | 220 | 14 | 89 | 92 | SED6.5E | 83 | 83 | | **59** | **63** | **62** | **69** | **93** | **75** | **74** | **82** |
| Beryllium | mg/kg | SW6020A | T | 7440-41-7 | 2.2 | 0.18 | 1.2 | 1.2 | SED7E | 83 | 83 | | **0.90** | **0.97** | **0.94** | **1.0** | **1.4** | **1.1** | **1.2** | **1.0** |
| Cadmium | mg/kg | SW6020A | T | 7440-43-9 | 60 | 0.13 | 2.4 | 1.2 | SED6.5E | 83 | 83 | | **0.93** | **1.0** | **1.1** | **0.86** | **1.2** | **1.2** | **1.3** | **1.5** |
| Calcium | mg/kg | SW6020A | T | 7440-70-2 | 7100 | 320 | 1700 | 1500 | SED7E | 83 | 83 | | **1800** | **1900** | **1800** | **2100** | **2800** | **2500** | **2700** | **2400** |
| Chromium | mg/kg | SW6020A | T | 7440-47-3 | 200 | 5.2 | 50 | 37 | SED5B | 83 | 83 | | **29 J** | **32 J** | **30 J** | **33 J** | **41 J** | **21 J** | **20 J** | **57 J** |
| Cobalt | mg/kg | SW6020A | T | 7440-48-4 | 27 | 2.5 | 12 | 12 | SED1B | 83 | 83 | | **13** | **15** | **15** | **15** | **18** | **8.9 J-** | **8.5 J-** | **11 J-** |
| Copper | mg/kg | SW6020A | T | 7440-50-8 | 200 | 4.8 | 46 | 41 | SED6.5E | 83 | 83 | | **37 J** | **46 J** | **41 J** | **39 J** | **50 J** | **31 J** | **29 J** | **41 J** |
| Iron | mg/kg | SW6020A | T | 7439-89-6 | 33000 | 3300 | 19000 | 18000 | SED5B | 83 | 83 | | **15000** | **17000** | **16000** | **18000** | **25000** | **15000** | **14000** | **17000** |
| Lead | mg/kg | SW6020A | T | 7439-92-1 | 1800 | 6.7 | 120 | 75 | SED6.5E | 83 | 83 | | **58** | **75** | **68** | **72** | **82** | **93** | **90** | **130** |
| Magnesium | mg/kg | SW6020A | T | 7439-95-4 | 4600 | 310 | 1700 | 1500 | SED7E | 83 | 83 | | **2400** | **2600** | **2200** | **2800** | **3300** | **2500 J** | **2700 J** | **2500 J** |
| Manganese | mg/kg | SW6020A | T | 7439-96-5 | 500 | 36 | 230 | 220 | SED5B | 83 | 83 | | **140 J** | **160 J** | **140 J** | **180 J** | **410 J** | **240** | **260** | **200** |
| Nickel | mg/kg | SW6020A | T | 7440-02-0 | 180 | 5.4 | 25 | 20 | SED6.5E | 83 | 83 | | **26** | **30** | **28** | **29** | **35** | **20 J-** | **19 J-** | **25 J-** |
| Potassium | mg/kg | SW6020A | T | 7440-09-7 | 1400 | 120 | 830 | 890 | SED1.5C | 83 | 83 | | **990** | **1100** | **920** | **1200** | **1300** | **1100** | **1200** | **1000** |
| Selenium | mg/kg | SW6020A | T | 7782-49-2 | 2.9 | 0.3 | 1.1 | 0.99 | SED6.5E | 82 | 83 | | **0.71 J** | **0.85 J** | **0.92 J** | **0.82 J** | **1.2 J** | **0.61 J** | **0.65 J** | **0.70 J** |
| Silver | mg/kg | SW6020A | T | 7440-22-4 | 31 | 0.022 | 1.5 | 0.66 | SED6.5E | 83 | 83 | | **0.26** | **0.32** | **0.29** | **0.27** | **0.46** | **0.40** | **0.50** | **0.72** |
| Sodium | mg/kg | SW6020A | T | 7440-23-5 | 570 | 17 | 110 | 81 | SED1.5C | 83 | 83 | | **110** | **100** | **93** | **92** | **110** | **77** | **86** | **86** |
| Thallium | mg/kg | SW6020A | T | 7440-28-0 | 0.69 | 0.037 | 0.23 | 0.2 | SED7E | 83 | 83 | | **0.16** | **0.16** | **0.16** | **0.16** | **0.22** | **0.20** | **0.19** | **0.22** |
| Vanadium | mg/kg | SW6020A | T | 7440-62-2 | 810 | 6.7 | 54 | 34 | SED6.5E | 83 | 83 | | **30** | **33** | **30** | **32** | **43** | **21 J** | **20 J** | **61 J** |
| Zinc | mg/kg | SW6020A | T | 7440-66-6 | 3600 | 22 | 240 | 160 | SED6.5E | 83 | 83 | | **270** | **220** | **210** | **190** | **220** | **160** | **150** | **220** |
| Mercury | mg/kg | SW7471B | T | 7439-97-6 | 2.2 | 0.023 | 0.38 | 0.32 | SED6.5E | 83 | 83 | | **0.14 J** | **0.14 J** | **0.15 J** | **0.18 J** | **0.24 J** | **0.18 J** | **0.19** | **0.23 J** |

**Table 4-35**
**Inorganic Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/21/2017 8:52:00 AM | 6/21/2017 8:55:00 AM | 6/21/2017 8:57:00 AM | 6/21/2017 9:00:00 AM | 6/21/2017 9:05:00 AM | 6/21/2017 9:10:00 AM | 6/21/2017 9:15:00 AM | 6/21/2017 9:20:00 AM | 6/21/2017 9:25:00 AM | 6/21/2017 9:30:00 AM | 6/21/2017 9:35:00 AM | 6/21/2017 9:40:00 AM |
| | | Sample ID | SED1.5C02BR | SED1.5C02CN | SED1.5C02CR | SED1.5C03AN | SED1.5C03BN | SED1.5C03CN | SED1.5C04AN | SED1.5C04BN | SED1.5C04CN | SED1.5C05AN | SED1.5C05BN | SED1.5C05CN |
| | | Depth | 2.33 - 2.67 ft | 2.67 - 3 ft | 2.67 - 3 ft | 3 - 3.33 ft | 3.33 - 3.67 ft | 3.67 - 4 ft | 4 - 4.33 ft | 4.33 - 4.67 ft | 4.67 - 5 ft | 5 - 5.33 ft | 5.33 - 5.67 ft | 5.67 - 6 ft |
| | | Type | FD | N | FD | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | | |
| Total Organic Carbon | mg/kg | | | | | | | | | | | | | |
| Cesium-137 | pCi/g | | | 0.066 | | 0.0905 | 0.095 | 0.120 | 0.107 | 0.100 | 0.0741 | 0.0204 | < 0.050 U | < 0.050 U |
| Radium-226 | pCi/g | | | 1.08 | | 1.15 | 1.13 | 1.26 | 1.32 | 1.41 | 2.12 | 1.63 | 1.28 | 1.37 |
| Polonium-210 | pCi/g | | | 2.18 | | 1.88 J | 2.08 | 2.23 J | 1.50 J | 1.22 | 1.21 J | 1.02 J | 1.00 | 0.976 J |
| Aluminum | mg/kg | | 6800 | 8200 | 7500 | 8000 | 10000 | 9400 | 8100 | 6000 | 1800 | 3700 | 7100 | 6500 |
| Antimony | mg/kg | | 0.63 J | 0.58 J | 0.59 J | 0.63 J | 0.69 J | 0.81 J | 0.69 J | 0.64 J | 0.31 J | 1.7 J | 0.26 J | 0.33 J |
| Arsenic | mg/kg | | 3.7 J | 4.0 J | 3.6 J | 5.6 | 5.4 J | 5.1 J | 5.7 J | 6.9 J | 5.0 J | 8.6 J | 4.4 J | 4.8 J |
| Barium | mg/kg | | 81 | 87 | 85 | 86 | 120 | 98 | 110 | 100 | 42 | 75 | 68 | 69 |
| Beryllium | mg/kg | | 1.2 | 1.2 | 1.2 | 1.2 | 1.4 | 1.3 | 1.2 | 0.91 | 0.51 | 0.85 | 0.92 | 0.94 |
| Cadmium | mg/kg | | 1.4 | 2.0 | 1.7 | 1.7 | 2.3 | 2.3 | 2.2 | 1.9 | 0.30 | 0.39 | 0.34 | 0.42 |
| Calcium | mg/kg | | 2400 | 2800 | 2500 | 2400 | 2600 | 1900 | 2000 | 1500 | 660 | 990 | 1000 | 1100 |
| Chromium | mg/kg | | 38 J | 22 J | 19 J | 39 J | 29 J | 40 | 22 J | 18 J | 11 J | 9.5 J | 8.6 J | 15 J |
| Cobalt | mg/kg | | 9.6 J- | 10 J- | 8.8 J- | 16 | 15 J- | 15 | 11 J- | 11 J- | 5.5 J- | 7.4 J- | 6.3 J- | 7.4 J- |
| Copper | mg/kg | | 35 J | 41 J | 36 J | 51 J | 47 J | 56 J | 37 J | 33 J | 14 J | 24 J | 20 J | 33 J |
| Iron | mg/kg | | 15000 | 17000 | 14000 | 19000 | 20000 | 24000 | 15000 | 11000 | 3800 | 9000 | 11000 | 12000 |
| Lead | mg/kg | | 130 | 120 | 120 | 99 | 190 | 170 | 240 | 190 | 52 | 48 | 35 | 51 |
| Magnesium | mg/kg | | 2400 J | 2900 J | 2500 J | 2800 | 3700 J | 2900 | 2500 J | 2000 J | 410 J | 650 J | 1100 J | 1000 J |
| Manganese | mg/kg | | 200 | 220 | 200 | 150 J | 200 | 220 | 180 | 250 | 160 | 130 | 220 | 190 |
| Nickel | mg/kg | | 21 J- | 26 J- | 21 J- | 36 | 34 J- | 39 | 26 J- | 22 J- | 8.7 J- | 10 J- | 8.2 J- | 8.8 J- |
| Potassium | mg/kg | | 1000 | 1100 | 1000 | 990 | 1400 | 1100 | 1100 | 910 | 250 | 410 | 780 | 710 |
| Selenium | mg/kg | | 0.52 J | 0.73 J | 0.68 J | 1.3 J | 0.91 J | 0.98 | 0.80 J | 0.71 J | 0.39 J | 0.67 J | 0.53 J | 0.70 J |
| Silver | mg/kg | | 0.60 | 0.76 | 0.69 | 0.54 | 1.2 | 0.97 | 0.82 | 0.61 | 0.11 | 0.22 | 0.28 | 0.21 |
| Sodium | mg/kg | | 81 | 94 | 83 | 91 | 100 | 81 | 84 | 71 | 62 | 58 | 64 | 570 |
| Thallium | mg/kg | | 0.24 | 0.21 | 0.21 | 0.19 | 0.24 | 0.20 | 0.22 | 0.18 | 0.070 | 0.12 | 0.17 | 0.17 |
| Vanadium | mg/kg | | 42 J | 24 J | 22 J | 45 | 36 J | 51 | 27 J | 26 J | 23 J | 25 J | 12 J | 23 J |
| Zinc | mg/kg | | 190 | 220 | 190 | 280 | 280 | 300 | 240 | 180 | 46 | 58 | 68 | 100 |
| Mercury | mg/kg | | 0.25 | 0.26 J | 0.24 | 0.22 J+ | 0.36 J | 0.36 J | 0.26 J | 0.12 J | 0.096 | 0.21 | 0.42 | 0.35 |

**Table 4-35**
**Inorganic Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED10B | SED1B | SED2C | SED3C | SED3C | SED4B | SED5B | SED5B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/21/2017 9:45:00 AM | 6/21/2017 9:50:00 AM | 6/21/2017 9:55:00 AM | 6/21/2017 10:00:00 AM | 11/11/2013 1:59:00 PM | 11/6/2013 3:05:00 PM | 11/6/2013 9:54:00 AM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/12/2013 12:16:00 PM | 6/20/2017 7:50:00 AM | 6/20/2017 7:55:00 AM |
| | | Sample ID | SED1.5C06AN | SED1.5C06BN | SED1.5C06CN | SED1.5C07AN | SED10B01N | SED1B01N | SED2C01N | SED3C01N | SED3C01R | SED4B01N | SED5B00BN | SED5B00CN |
| | | Depth | 6 - 6.33 ft | 6.33 - 6.67 ft | 6.67 - 7 ft | 7 - 7.33 ft | 1 - 3 ft | 1 - 3 ft | 1 - 3 ft | 1 - 3 ft | 1 - 3 ft | 1 - 3 ft | 0.33 - 0.67 ft | 0.67 - 1 ft |
| | | Type | N | N | N | N | N | N | N | N | FD | N | N | N |
| Analyte | Unit | | | | | | | | | | | | | |
| Total Organic Carbon | mg/kg | | | | | | **20000** | **55000** | **15000** | **30000 J** | **8400 J** | **19000 J** | | |
| Cesium-137 | pCi/g | | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | | | | | | | **0.0643** | < 0.050 U |
| Radium-226 | pCi/g | | **1.33** | **1.08** | **1.23** | **0.773** | | | | | | | **0.765** | **1.12** |
| Polonium-210 | pCi/g | | **1.08** | **1.06** | **0.847** | **0.602** | | | | | | | **1.89** | **1.26 J** |
| Aluminum | mg/kg | | **7700** | **10000** | **10000** | **8800** | **2200** | **14000** | **8100** | **7100** | **4600** | **4100** | **9200** | **8800** |
| Antimony | mg/kg | | **0.30 J** | **0.28 J** | **0.40 J** | **0.34 J** | **0.15 J-** | < 0.19 U | **0.22 J-** | **0.43 J** | **0.14 J** | **0.14 J-** | **0.88** | **0.36** |
| Arsenic | mg/kg | | **4.5 J** | **3.3 J** | **5.4 J** | **3.0 J** | **1.1 J-** | **1.8** | **2.5** | **2.1 J** | **1.2 J** | **2.5 J-** | **5.5** | **5.5** |
| Barium | mg/kg | | **85** | **96** | **100** | **86** | **27** | **130** | **72** | **79 J** | **42 J** | **76** | **96** | **80** |
| Beryllium | mg/kg | | **1.3** | **1.3** | **1.5** | **1.4** | **0.41** | **1.7** | **0.99** | **0.82** | **0.55** | **0.70** | **1.3** | **1.1** |
| Cadmium | mg/kg | | **0.56** | **0.46** | **0.74** | **0.44** | **0.25** | **0.53** | **0.83** | **1.5 J** | **0.47 J** | **0.72** | **0.69** | **0.68** |
| Calcium | mg/kg | | **1300** | **1400** | **1500** | **1500** | **1100** | **1300** | **1400** | **2300 J** | **880 J** | **1700** | **3600** | **1700** |
| Chromium | mg/kg | | **9.5 J** | **12 J** | **20 J** | **9.0 J** | **12 J+** | **24** | **41 J+** | **30** | **18** | **37 J+** | **41** | **55** |
| Cobalt | mg/kg | | **8.0 J-** | **7.8 J-** | **9.0 J-** | **7.2 J-** | **7.7** | **27** | **11** | **11** | **7.3** | **9.6** | **20** | **14** |
| Copper | mg/kg | | **33 J** | **23 J** | **61 J** | **21 J** | **14** | **18** | **34 J+** | **33 J** | **14 J** | **25** | **57** | **39** |
| Iron | mg/kg | | **13000** | **16000** | **20000** | **15000** | **9000** | **19000** | **21000** | **17000** | **12000** | **13000** | **28000** | **26000** |
| Lead | mg/kg | | **44** | **43** | **68** | **46** | **28** | **15** | **87** | **150 J** | **62 J** | **95** | **49** | **50** |
| Magnesium | mg/kg | | **1400 J** | **1700 J** | **1500 J** | **1500 J** | **1100** | **2600** | **1700** | **2700** | **2100** | **1200** | **3300** | **1800** |
| Manganese | mg/kg | | **310** | **340** | **310** | **330** | **98 J+** | **250** | **200** | **230** | **180** | **160 J+** | **390** | **270** |
| Nickel | mg/kg | | **10 J-** | **10 J-** | **12 J-** | **9.4 J-** | **13** | **32** | **18** | **26 J** | **15 J** | **14** | **36** | **21** |
| Potassium | mg/kg | | **930** | **1200** | **1000** | **1100** | **590** | **980** | **950** | **960** | **1200** | **720** | **1100** | **1100** |
| Selenium | mg/kg | | **0.75 J** | **0.61 J** | **0.82 J** | **0.57 J** | **0.32 J-** | **1.2** | **0.99** | **0.73** | **0.39** | **0.58 J-** | **1.2** | **1.3** |
| Silver | mg/kg | | **0.41** | **0.25** | **0.35** | **0.24** | **0.046 J** | **0.087 J** | **0.81** | **0.61 J** | **0.20 J** | **0.39** | **0.24** | **0.67** |
| Sodium | mg/kg | | **58** | **570** | **61** | **570** | **47** | **67** | **81** | **120** | **60** | **49** | **250** | **110** |
| Thallium | mg/kg | | **0.19** | **0.23** | **0.25** | **0.20** | **0.077** | **0.17** | **0.19** | **0.14** | **0.12** | **0.13** | **0.19** | **0.18** |
| Vanadium | mg/kg | | **13 J** | **17 J** | **30 J** | **14 J** | **10** | **19** | **30** | **28** | **18** | **22** | **40** | **40** |
| Zinc | mg/kg | | **99** | **95** | **200** | **78** | **66 J** | **78** | **110** | **200 J** | **81 J** | **110 J** | **240** | **150** |
| Mercury | mg/kg | | **0.44** | **0.44** | **0.56** | **0.41** | **0.026 J** | **0.064** | **0.18** | **0.16 J** | **0.078 J** | **0.15 J** | **0.23** | **0.32** |

# Table 4-35
## Inorganic Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/20/2017 8:00:00 AM | 6/20/2017 8:02:00 AM | 6/20/2017 8:05:00 AM | 6/20/2017 8:07:00 AM | 6/20/2017 8:10:00 AM | 6/20/2017 8:12:00 AM | 6/20/2017 8:15:00 AM | 6/20/2017 8:20:00 AM | 6/20/2017 8:25:00 AM | 6/20/2017 8:30:00 AM | 6/20/2017 8:35:00 AM | 6/20/2017 8:40:00 AM |
| | | Sample ID | SED5B01AN | SED5B01AR | SED5B01BN | SED5B01BR | SED5B01CN | SED5B01CR | SED5B02AN | SED5B02BN | SED5B02CN | SED5B03AN | SED5B03BN | SED5B03CN |
| | | Depth | 1 - 1.33 ft | 1 - 1.33 ft | 1.33 - 1.67 ft | 1.33 - 1.67 ft | 1.67 - 2 ft | 1.67 - 2 ft | 2 - 2.33 ft | 2.33 - 2.67 ft | 2.67 - 3 ft | 3 - 3.33 ft | 3.33 - 3.67 ft | 3.67 - 4 ft |
| | | Type | N | FD | N | FD | N | FD | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | | |
| Total Organic Carbon | mg/kg | | | | | | | | | | | | | |
| Cesium-137 | pCi/g | | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U |
| Radium-226 | pCi/g | | **1.26** | **1.21** | **1.32** | **1.33** | **1.28** | **1.38** | **1.35** | **1.40** | **1.25** | **1.33** | **1.31** | **1.21** |
| Polonium-210 | pCi/g | | **1.27 J** | **1.17** | **1.45 J** | **1.19 J** | **0.937 J** | **1.13 J** | **1.31 J** | **1.61 J** | **1.15 J** | **1.06 J** | **1.15 J** | **1.34 J** |
| Aluminum | mg/kg | | **13000** | | **13000** | | **12000** | | **12000** | **13000** | **12000** | **13000** | **11000** | **10000** |
| Antimony | mg/kg | | **0.54** | | **0.47** | | **0.41** | | **0.32** | **0.39** | **0.38** | **0.52** | **0.46** | **0.60** |
| Arsenic | mg/kg | | **9.1** | | **7.9** | | **7.4** | | **6.6** | **8.0** | **7.6** | **8.5** | **6.7** | **3.0** |
| Barium | mg/kg | | **140** | | **130** | | **110** | | **86** | **110** | **100** | **110** | **97** | **99** |
| Beryllium | mg/kg | | **1.5** | | **1.5** | | **1.4** | | **1.5** | **1.6** | **1.5** | **1.6** | **1.3** | **1.3** |
| Cadmium | mg/kg | | **1.8** | | **1.4** | | **1.3** | | **0.73** | **1.2** | **1.2** | **1.7** | **1.3** | **1.1** |
| Calcium | mg/kg | | **1500** | | **1500** | | **1500** | | **1400** | **1200** | **1200** | **1200** | **1500** | **1300** |
| Chromium | mg/kg | | **200** | | **200** | | **130** | | **79** | **120** | **110** | **59** | **60** | **31** |
| Cobalt | mg/kg | | **16** | | **15** | | **14** | | **14** | **15** | **15** | **18** | **13** | **10** |
| Copper | mg/kg | | **71** | | **55** | | **60** | | **45** | **55** | **55** | **81** | **68** | **41** |
| Iron | mg/kg | | **32000** | | **30000** | | **29000** | | **33000** | **30000** | **29000** | **32000** | **27000** | **20000** |
| Lead | mg/kg | | **86** | | **80** | | **68** | | **47** | **60** | **57** | **73** | **70** | **69** |
| Magnesium | mg/kg | | **1500** | | **1500** | | **1500** | | **1500** | **1700** | **1500** | **1600** | **1300** | **1400** |
| Manganese | mg/kg | | **300** | | **290** | | **280** | | **260** | **190** | **220** | **270** | **360** | **290** |
| Nickel | mg/kg | | **20** | | **19** | | **19** | | **19** | **21** | **20** | **22** | **16** | **12** |
| Potassium | mg/kg | | **990** | | **980** | | **990** | | **1000** | **1100** | **970** | **1000** | **840** | **850** |
| Selenium | mg/kg | | **1.9** | | **1.8** | | **1.5** | | **1.7** | **2.7** | **2.4** | **1.5** | **1.6** | **0.64** |
| Silver | mg/kg | | **2.9** | | **2.1** | | **1.7** | | **0.82** | **1.5** | **1.4** | **2.0** | **1.6** | **1.1** |
| Sodium | mg/kg | | **92** | | **84** | | **69** | | **52** | **49** | **47** | **57** | **43** | **40** |
| Thallium | mg/kg | | **0.26** | | **0.26** | | **0.22** | | **0.21** | **0.24** | **0.23** | **0.25** | **0.21** | **0.21** |
| Vanadium | mg/kg | | **55** | | **55** | | **47** | | **48** | **51** | **49** | **50** | **40** | **33** |
| Zinc | mg/kg | | **300** | | **230** | | **220** | | **140** | **200** | **190** | **240** | **180** | **100** |
| Mercury | mg/kg | | **0.77** | | **0.69** | | **0.51** | | **0.30** | **0.41** | **0.41** | **0.52** | **0.56** | **0.43** |

**Table 4-35**
**Inorganic Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED6.5E | SED6.5E | SED6B | SED7B | SED7E |
| | | Sample Date | 6/20/2017 8:45:00 AM | 6/20/2017 8:50:00 AM | 6/20/2017 8:55:00 AM | 6/20/2017 9:00:00 AM | 6/20/2017 9:05:00 AM | 6/20/2017 9:10:00 AM | 6/20/2017 9:15:00 AM | 11/25/2013 8:20:00 AM | 11/25/2013 8:25:00 AM | 11/13/2013 12:40:00 PM | 11/13/2013 10:51:00 AM | 6/22/2017 9:05:00 AM |
| | | Sample ID | SED5B04AN | SED5B04BN | SED5B04CN | SED5B05AN | SED5B05BN | SED5B05CN | SED5B06AN | SED6.5E01N | SED6.5E01R | SED6B01N | SED7B01N | SED7E00BN |
| | | Depth | 4 - 4.33 ft | 4.33 - 4.67 ft | 4.67 - 5 ft | 5 - 5.33 ft | 5.33 - 5.67 ft | 5.67 - 6 ft | 6 - 6.33 ft | 1 - 3 ft | 1 - 3 ft | 1 - 3 ft | 1 - 3 ft | 0.33 - 0.67 ft |
| | | Type | N | N | N | N | N | N | N | N | FD | N | N | N |
| Analyte | Unit | | | | | | | | | | | | | |
| Total Organic Carbon | mg/kg | | | | | | | | | **58000** | **63000** | **26000** | **42000** | |
| Cesium-137 | pCi/g | | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | | | | | **0.0477** |
| Radium-226 | pCi/g | | **1.25** | **1.41** | **1.20** | **0.902** | **0.682** | **0.606** | **0.431** | | | | | **1.30** |
| Polonium-210 | pCi/g | | **1.11** | **1.23 J** | **1.00 J** | **0.845** | **0.582** | **0.586** | **0.259 J** | | | | | **1.01** |
| Aluminum | mg/kg | | **9100** | **9700** | **9000** | **12000** | **3700** | **4100** | **2100** | **15000** | **14000** | **8100** | **8100** | **1700** |
| Antimony | mg/kg | | **0.50** | **0.40** | **0.43** | **0.48** | **0.091 J** | **0.11 J** | **0.049 J** | **22 J-** | **19 J-** | **0.46 J-** | **0.33 J-** | **0.45 J** |
| Arsenic | mg/kg | | **6.3** | **5.8** | **5.7** | **6.7** | **1.7** | **1.9** | **0.95** | **13 J-** | **16 J-** | **3.2 J-** | **4.3 J-** | **3.3 J** |
| Barium | mg/kg | | **94** | **96** | **90** | **110** | **40** | **44** | **22** | **210** | **220** | **98** | **100** | **27** |
| Beryllium | mg/kg | | **1.4** | **1.4** | **1.3** | **1.7** | **0.64** | **0.69** | **0.41** | **1.2** | **1.3** | **1.1** | **1.2** | **0.34** |
| Cadmium | mg/kg | | **0.91** | **0.78** | **0.71** | **0.80** | **0.20** | **0.22** | **0.13** | **60 J-** | **55 J-** | **1.3** | **1.0** | **0.58 J** |
| Calcium | mg/kg | | **1300** | **1200** | **1200** | **1400** | **570** | **600** | **320** | **3300** | **3100** | **1600** | **1800** | **1200 J** |
| Chromium | mg/kg | | **25** | **25** | **25** | **27** | **8.4** | **9.7** | **5.2** | **74** | **75** | **110** | **65** | **14** |
| Cobalt | mg/kg | | **14** | **14** | **14** | **18** | **9.3** | **9.2** | **6.1** | **21** | **23** | **11** | **12** | **2.5** |
| Copper | mg/kg | | **79** | **63** | **65** | **74** | **12** | **15** | **4.8** | **200** | **200** | **36** | **41** | **18 J** |
| Iron | mg/kg | | **24000** | **23000** | **22000** | **27000** | **9000** | **9900** | **5500** | **26000** | **26000** | **20000** | **21000** | **3300** |
| Lead | mg/kg | | **72** | **60** | **59** | **64** | **9.7** | **13** | **6.7** | **1800** | **1600** | **61** | **63** | **40** |
| Magnesium | mg/kg | | **1300** | **1400** | **1300** | **1700** | **590** | **640** | **310** | **3900** | **3500** | **1500** | **1300** | **1300 J** |
| Manganese | mg/kg | | **350** | **320** | **360** | **500** | **160** | **170** | **100** | **480** | **450** | **310** | **380** | **36** |
| Nickel | mg/kg | | **17** | **18** | **16** | **21** | **9.2** | **9.3** | **5.4** | **150 J-** | **180 J-** | **16** | **15** | **25 J** |
| Potassium | mg/kg | | **820** | **900** | **820** | **1000** | **350** | **380** | **200** | **1200** | **1100** | **900** | **710** | **200** |
| Selenium | mg/kg | | **0.82** | **1.2** | **1.1** | **1.2** | **0.37** | **0.42** | **0.33 J** | **2.9 J-** | **2.8 J-** | **1.1 J-** | **1.2 J-** | **0.42 J** |
| Silver | mg/kg | | **0.95** | **0.53** | **0.59** | **0.51** | **0.072 J** | **0.080** | **0.022 J** | **31 J-** | **25 J-** | **1.4** | **0.91** | **0.19 J** |
| Sodium | mg/kg | | **38** | **38** | **40** | **51** | **22 J** | **24 J** | **17 J** | **440** | **390** | **72** | **55** | **58 J** |
| Thallium | mg/kg | | **0.20** | **0.20** | **0.18** | **0.23** | **0.073** | **0.080** | **0.042 J** | **0.34 J-** | **0.36 J-** | **0.20** | **0.24** | **0.12** |
| Vanadium | mg/kg | | **34** | **34** | **32** | **38** | **11** | **14** | **6.7** | **590** | **810** | **26** | **31** | **59 J** |
| Zinc | mg/kg | | **180** | **160** | **160** | **190** | **43** | **49** | **22** | **3600** | **3300** | **150 J-** | **130 J-** | **55 J** |
| Mercury | mg/kg | | **0.99** | **1.6** | **0.75** | **0.83** | **0.10** | **0.14** | **0.023** | **2.2 J** | **1.9 J** | **0.36 J-** | **0.37 J-** | **0.11 J** |

**Table 4-35**
**Inorganic Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/22/2017 9:10:00 AM | 6/22/2017 9:15:00 AM | 6/22/2017 9:20:00 AM | 6/22/2017 9:25:00 AM | 6/22/2017 9:30:00 AM | 6/22/2017 9:32:00 AM | 6/22/2017 9:35:00 AM | 6/22/2017 9:37:00 AM | 6/22/2017 9:40:00 AM | 6/22/2017 9:45:00 AM | 6/22/2017 9:50:00 AM | 6/22/2017 9:55:00 AM |
| | | Sample ID | SED7E00CN | SED7E01AN | SED7E01BN | SED7E01CN | SED7E02AN | SED7E02AR | SED7E02BN | SED7E02BR | SED7E02CN | SED7E03AN | SED7E03BN | SED7E03CN |
| | | Depth | 0.67 - 1 ft | 1 - 1.33 ft | 1.33 - 1.67 ft | 1.67 - 2 ft | 2 - 2.33 ft | 2 - 2.33 ft | 2.33 - 2.67 ft | 2.33 - 2.67 ft | 2.67 - 3 ft | 3 - 3.33 ft | 3.33 - 3.67 ft | 3.67 - 4 ft |
| | | Type | N | N | N | N | N | FD | N | FD | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | | |
| Total Organic Carbon | mg/kg | | | | | | | | | | | | | |
| Cesium-137 | pCi/g | | **0.071** | **0.270** | **0.283** | **0.268** | **0.474** | | **0.211** | | **0.120** | **0.121** | **0.0628** | **0.0481** |
| Radium-226 | pCi/g | | **0.816** | **1.52** | **2.01** | **1.34** | **1.29** | | **1.47** | | **1.22** | **1.16** | **1.37** | **1.33** |
| Polonium-210 | pCi/g | | **0.938** | **1.31** | **1.26 J** | **1.41 J** | **1.45 J** | | **1.30** | | **1.52 J** | **1.17** | **1.08** | **0.933** |
| Aluminum | mg/kg | | **2200** | **7300** | **11000** | **11000** | **10000** | **10000** | **9600** | **10000** | **8300** | **9200** | **8300** | **5400** |
| Antimony | mg/kg | | **0.58 J** | **0.89 J** | **0.82 J** | **0.87 J** | **0.71 J** | **0.55 J** | **0.76 J** | **0.70 J** | **0.79 J** | **0.53 J** | **1.0 J** | **1.4 J** |
| Arsenic | mg/kg | | **6.0 J** | **21 J** | **27 J** | **25 J** | **13 J** | **12 J** | **13 J** | **14 J** | **10 J** | **9.5 J** | **11 J** | **13 J** |
| Barium | mg/kg | | **39** | **93** | **110** | **100** | **110** | **110** | **110** | **110** | **98** | **96** | **100** | **100** |
| Beryllium | mg/kg | | **0.40** | **1.6** | **2.2** | **2.0** | **1.6** | **1.7** | **1.5** | **1.7** | **1.3** | **1.5** | **1.4** | **1.1** |
| Cadmium | mg/kg | | **0.75 J** | **1.1 J** | **1.6 J** | **1.4 J** | **1.7 J** | **1.6 J** | **1.8 J** | **1.7 J** | **1.4 J** | **1.3** | **2.0 J** | **1.2 J** |
| Calcium | mg/kg | | **1600 J** | **1800 J** | **1400 J** | **1400 J** | **1400 J** | **1600 J** | **1600 J** | **1700 J** | **1500 J** | **1800 J** | **2000 J** | **1500 J** |
| Chromium | mg/kg | | **11** | **45** | **85** | **87** | **85** | **72** | **99** | **71** | **110** | **69** | **84** | **53** |
| Cobalt | mg/kg | | **2.9** | **11** | **18** | **17** | **13** | **14** | **13** | **13** | **11** | **12** | **12** | **11** |
| Copper | mg/kg | | **33 J** | **63 J** | **71 J** | **66 J** | **53 J** | **51 J** | **64 J** | **65 J** | **47 J** | **53 J** | **60 J** | **44 J** |
| Iron | mg/kg | | **4200** | **16000** | **24000** | **25000** | **26000** | **26000** | **23000** | **26000** | **20000** | **24000** | **22000** | **17000** |
| Lead | mg/kg | | **70** | **93** | **140** | **140** | **110** | **110** | **110** | **130** | **88** | **110** | **120** | **120** |
| Magnesium | mg/kg | | **1500 J** | **1500 J** | **1500 J** | **1600 J** | **1500 J** | **1400 J** | **1700 J** | **1700 J** | **1200 J** | **1500** | **1600 J** | **850 J** |
| Manganese | mg/kg | | **49** | **120** | **200** | **200** | **220** | **200** | **190** | **210** | **160** | **220** | **200** | **210** |
| Nickel | mg/kg | | **26 J** | **33 J** | **33 J** | **30 J** | **23 J** | **22 J** | **31 J** | **27 J** | **25 J** | **21** | **50 J** | **19 J** |
| Potassium | mg/kg | | **210** | **590** | **800** | **840** | **890** | **920** | **790** | **880** | **680** | **780** | **670** | **510** |
| Selenium | mg/kg | | **0.40 J** | **1.5 J** | **2.1 J** | **1.4 J** | **1.2 J** | **1.4 J** | **1.3 J** | **1.7 J** | **0.95 J** | **1.6 J** | **1.5 J** | **1.3 J** |
| Silver | mg/kg | | **0.41 J** | **0.59 J** | **1.3 J** | **1.1 J** | **1.6 J** | **1.6 J** | **2.1 J** | **2.2 J** | **1.4 J** | **1.5 J** | **1.5 J** | **1.3 J** |
| Sodium | mg/kg | | **81 J** | **130 J** | **150 J** | **140 J** | **130 J** | **120 J** | **130 J** | **130 J** | **92 J** | **110 J** | **110 J** | **85 J** |
| Thallium | mg/kg | | **0.14** | **0.53** | **0.69** | **0.62** | **0.39** | **0.39** | **0.42** | **0.44** | **0.29** | **0.32** | **0.33** | **0.35** |
| Vanadium | mg/kg | | **57 J** | **83 J** | **59 J** | **61 J** | **53 J** | **50 J** | **65 J** | **57 J** | **54 J** | **49** | **99 J** | **46 J** |
| Zinc | mg/kg | | **78 J** | **150 J** | **230 J** | **240 J** | **200 J** | **190 J** | **220 J** | **210 J** | **170 J** | **150 J** | **210** | **150 J** |
| Mercury | mg/kg | | **0.11 J** | **0.24 J** | **0.44 J** | **0.32 J** | **0.43 J** | **0.44 J** | **0.54 J** | **0.51 J** | **0.45 J** | **0.38 J** | **0.35 J** | **0.31 J** |

**Inorganic Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/22/2017 10:00:00 AM | 6/22/2017 10:05:00 AM | 6/22/2017 10:10:00 AM | 6/22/2017 10:15:00 AM | 6/22/2017 10:20:00 AM | 6/22/2017 10:25:00 AM | 6/22/2017 10:30:00 AM | 6/22/2017 10:35:00 AM | 6/22/2017 10:40:00 AM | 6/22/2017 10:45:00 AM | 6/22/2017 10:50:00 AM |
| | | Sample ID | SED7E04AN | SED7E04BN | SED7E04CN | SED7E05AN | SED7E05BN | SED7E05CN | SED7E06AN | SED7E06BN | SED7E06CN | SED7E07AN | SED7E07BN |
| | | Depth | 4 - 4.33 ft | 4.33 - 4.67 ft | 4.67 - 5 ft | 5 - 5.33 ft | 5.33 - 5.67 ft | 5.67 - 6 ft | 6 - 6.33 ft | 6.33 - 6.67 ft | 6.67 - 7 ft | 7 - 7.33 ft | 7.33 - 7.67 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | |
| Total Organic Carbon | mg/kg | | | | | | | | | | | | |
| Cesium-137 | pCi/g | | **0.0363** | **0.0442** | < 0.050 U | **0.0331** | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U | < 0.050 U |
| Radium-226 | pCi/g | | **1.09** | **0.828** | **1.27** | **1.42** | **1.30** | **1.34** | **1.41** | **1.26** | **1.18** | **0.905** | **1.10** |
| Polonium-210 | pCi/g | | **1.23** | **0.744** | **1.29 J** | **1.26 J** | **1.11 J** | **1.41 J** | **1.27 J** | **1.05 J** | **0.686 J** | **0.668 J** | **1.08 J** |
| Aluminum | mg/kg | | **6600** | **6400** | **6500** | **9600** | **8200** | **8600** | **9500** | **8700** | **5200** | **7400** | **6000** |
| Antimony | mg/kg | | **0.98 J** | **0.65 J** | **0.79 J** | **0.85 J** | **0.85 J** | **0.85 J** | **0.63 J** | **0.25 J** | **1.3 J** | **0.24 J** | **0.70 J** |
| Arsenic | mg/kg | | **12 J** | **8.0 J** | **12 J** | **8.8 J** | **9.4 J** | **9.2 J** | **7.7 J** | **4.4 J** | **11 J** | **3.3 J** | **8.9 J** |
| Barium | mg/kg | | **110** | **88** | **110** | **120** | **120** | **120** | **110** | **92** | **80** | **82** | **78** |
| Beryllium | mg/kg | | **1.1** | **0.92** | **1.2** | **1.5** | **1.4** | **1.4** | **1.6** | **1.3** | **1.0** | **0.98** | **0.99** |
| Cadmium | mg/kg | | **1.7 J** | **1.3 J** | **1.5 J** | **1.5 J** | **1.2 J** | **1.3 J** | **0.74 J** | **0.25 J** | **0.42 J** | **0.16 J** | **0.79 J** |
| Calcium | mg/kg | | **1600 J** | **7100 J** | **1600 J** | **1800 J** | **1500 J** | **1600 J** | **1200 J** | **880 J** | **1000 J** | **710 J** | **1200 J** |
| Chromium | mg/kg | | **69** | **67** | **140** | **150** | **100** | **72** | **39** | **21** | **23** | **19** | **41** |
| Cobalt | mg/kg | | **10** | **8.6** | **9.4** | **13** | **12** | **13** | **14** | **15** | **11** | **8.8** | **12** |
| Copper | mg/kg | | **53 J** | **49 J** | **48 J** | **46 J** | **45 J** | **48 J** | **55 J** | **18 J** | **26 J** | **17 J** | **40 J** |
| Iron | mg/kg | | **19000** | **17000** | **18000** | **24000** | **20000** | **22000** | **20000** | **17000** | **12000** | **14000** | **16000** |
| Lead | mg/kg | | **110** | **76** | **75** | **81** | **81** | **89** | **85** | **30** | **170** | **27** | **69** |
| Magnesium | mg/kg | | **1100 J** | **4600 J** | **930 J** | **1300 J** | **1100 J** | **1200 J** | **1200 J** | **1200 J** | **760 J** | **950 J** | **930 J** |
| Manganese | mg/kg | | **240** | **250** | **200** | **350** | **220** | **320** | **290** | **300** | **160** | **210** | **280** |
| Nickel | mg/kg | | **19 J** | **21 J** | **15 J** | **16 J** | **17 J** | **17 J** | **18 J** | **17 J** | **14 J** | **11 J** | **14 J** |
| Potassium | mg/kg | | **600** | **540** | **580** | **820** | **720** | **760** | **700** | **610** | **450** | **530** | **570** |
| Selenium | mg/kg | | **1.4 J** | **1.1 J** | **1.1 J** | **1.2 J** | **1.4 J** | **1.3 J** | **1.3 J** | **0.99 J** | **1.3 J** | **0.98 J** | **1.2 J** |
| Silver | mg/kg | | **1.9 J** | **1.6 J** | **2.4 J** | **1.7 J** | **1.2 J** | **1.1 J** | **0.53 J** | **0.13 J** | **0.23 J** | **0.12 J** | **0.66 J** |
| Sodium | mg/kg | | **86 J** | **73 J** | **75 J** | **87 J** | **85 J** | **81 J** | **100 J** | **99 J** | **86 J** | **91 J** | **75 J** |
| Thallium | mg/kg | | **0.33** | **0.20** | **0.35** | **0.29** | **0.28** | **0.29** | **0.24** | **0.20** | **0.27** | **0.16** | **0.22** |
| Vanadium | mg/kg | | **46 J** | **48 J** | **41 J** | **40 J** | **39 J** | **38 J** | **38 J** | **29 J** | **25 J** | **27 J** | **28 J** |
| Zinc | mg/kg | | **180 J** | **160 J** | **160 J** | **160 J** | **160 J** | **160 J** | **140 J** | **51 J** | **81 J** | **41 J** | **120 J** |
| Mercury | mg/kg | | **0.59 J** | **0.50 J** | **0.55 J** | **0.49 J** | **0.37 J** | **0.48 J** | **0.26 J** | **0.16 J** | **0.15 J** | **0.21 J** | **0.47 J** |

**Table 4-35**
**Inorganic Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7E | SED7F | SED8C | SED9C | SED9C | WSED1 | WSED2 |
|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/22/2017 10:55:00 AM | 11/25/2013 12:00:00 PM | 11/14/2013 12:52:00 PM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 12:14:00 PM |
| | | Sample ID | SED7E07CN | SED7F01N | SED8C01N | SED9C01N | SED9C01R | WSED101N | WSED201N |
| | | Depth | 7.67 - 8 ft | 1 - 3 ft | 1 - 3 ft | 1 - 3 ft | 1 - 3 ft | 1 - 3 ft | 1 - 3 ft |
| | | Type | N | N | N | N | FD | N | N |
| Analyte | Unit | | | | | | | | |
| Total Organic Carbon | mg/kg | | | **15000** | **18000** | **9700 J** | **4200 J** | **18000** | **28000** |
| Cesium-137 | pCi/g | | < 0.050 U | | | | | | |
| Radium-226 | pCi/g | | **1.28** | | | | | | |
| Polonium-210 | pCi/g | | **1.04 J** | | | | | | |
| Aluminum | mg/kg | | **7300** | **1100** | **7900** | **4000** | **2500** | **6900** | **5900** |
| Antimony | mg/kg | | **0.45 J** | **0.81 J-** | **0.15 J-** | **0.22 J-** | **0.10 J-** | **0.38 J-** | **0.46 J-** |
| Arsenic | mg/kg | | **5.3 J** | **2.0 J-** | **3.7 J-** | **2.0 J-** | **1.7 J-** | **2.4** | **4.0 J-** |
| Barium | mg/kg | | **83** | **14** | **81** | **49 J+** | **26 J+** | **74** | **82** |
| Beryllium | mg/kg | | **1.2** | **0.18** | **1.0** | **0.62** | **0.37** | **0.89** | **0.82 J** |
| Cadmium | mg/kg | | **0.83 J** | **0.55 J-** | **1.3** | **0.66** | **0.39** | **1.3** | **1.7** |
| Calcium | mg/kg | | **1000 J** | **2200** | **1400 J-** | **800 J-** | **480 J-** | **1600 J** | **1300** |
| Chromium | mg/kg | | **42** | **17** | **60** | **33 J+** | **21 J+** | **30 J+** | **31** |
| Cobalt | mg/kg | | **13** | **3.8** | **11** | **7.3 J** | **3.7 J** | **12** | **11** |
| Copper | mg/kg | | **35 J** | **45** | **41** | **16** | **15** | **39** | **41** |
| Iron | mg/kg | | **18000** | **8500** | **19000** | **11000** | **7300** | **17000** | **16000** |
| Lead | mg/kg | | **48** | **35** | **94** | **98 J** | **57 J** | **130 J** | **160 J** |
| Magnesium | mg/kg | | **1100 J** | **2300** | **1100** | **1300** | **910** | **2200** | **1900** |
| Manganese | mg/kg | | **360** | **83** | **250** | **120** | **73** | **200** | **180** |
| Nickel | mg/kg | | **15 J** | **58 J-** | **16** | **13** | **8.2** | **28** | **46 J-** |
| Potassium | mg/kg | | **670** | **120** | **740** | **550** | **360** | **990** | **980** |
| Selenium | mg/kg | | **0.96 J** | **0.63 J-** | **1.0 J-** | **0.30 J** | < 0.36 U | **0.85 J-** | **0.88 J-** |
| Silver | mg/kg | | **0.63 J** | **0.15 J-** | **1.5** | **0.32** | **0.15** | **0.69 J** | **1.6 J** |
| Sodium | mg/kg | | **80 J** | **55** | **51 J-** | **55** | **32** | **110** | **74** |
| Thallium | mg/kg | | **0.19** | **0.037 J-** | **0.18 J-** | **0.10** | **0.063 J** | **0.14** | **0.17** |
| Vanadium | mg/kg | | **28 J** | **110** | **30** | **20 J+** | **19 J+** | **28** | **91** |
| Zinc | mg/kg | | **110 J** | **100** | **160** | **100 J+** | **65 J+** | **200 J** | **210** |
| Mercury | mg/kg | | **0.31 J** | **0.055 J** | **0.37 J+** | **0.12** | **0.098** | **0.16** | **0.12** |

Notes:
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
N = Normal
FD = Field Duplicate
mg/kg = milligrams per kilogram
pCi/g = picocuries per gram

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Location ID | SED1.5B | SED1.5B | SED1.5B | SED1.5B | SED1.5B | SED1.5B |
| | | | | | | | | | | | | | Sample Date | 11/6/2013 12:13:00 PM | 11/6/2013 12:13:00 PM | 11/6/2013 12:13:00 PM | 11/6/2013 12:13:00 PM | 6/15/2017 10:10:00 AM | 6/15/2017 10:20:00 AM |
| | | | | | | | | | | | | | Sample ID | SED1.5B01N | SED1.5B03N | SED1.5B05N | SED1.5B07N | SED1.5B02FN | SED1.5B04FN |
| | | | | | | | | | | | | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | M8015D | N | TPH | 5860 | 37.6 | 2590 | 2700 | SED7D | 67 | | 67 | | | | | | **1910** | **2380** |
| Gasoline Range Organics (C6-C10) | ug/kg | SW8015B | N | 8006-61-9 | 1500 | 1500 | 1500 | 1500 | SED4.5B | 1 | | 1 | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | SW8015C DRO | N | C10C20 | 740 | 13 | 240 | 220 | SED5B | 68 | | 68 | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | SW8015C DRO | N | C20C36 | 2400 | 68 | 860 | 810 | SED1.5C | 68 | | 68 | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | SW8260B | N | 71-55-6 | | | | | | | | 17 | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | SW8260B | N | 79-34-5 | 2.7 | 2.7 | 2.7 | 2.7 | SED4.5B | 1 | | 17 | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | SW8260B | N | 76-13-1 | | | | | | | | 17 | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | SW8260B | N | 79-00-5 | | | | | | | | 17 | | | | | | | |
| 1,1-Dichloroethane | ug/kg | SW8260B | N | 75-34-3 | | | | | | | | 17 | | | | | | | |
| 1,1-Dichloroethene | ug/kg | SW8260B | N | 75-35-4 | | | | | | | | 17 | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | SW8260B | N | 87-61-6 | | | | | | | | 17 | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | SW8260B | N | 120-82-1 | | | | | | | | 17 | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | SW8260B | N | 96-12-8 | | | | | | | | 17 | | | | | | | |
| 1,2-Dibromoethane | ug/kg | SW8260B | N | 106-93-4 | | | | | | | | 17 | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | SW8260B | N | 95-50-1 | | | | | | | | 17 | | | | | | | |
| 1,2-Dichloroethane | ug/kg | SW8260B | N | 107-06-2 | | | | | | | | 17 | | | | | | | |
| 1,2-Dichloropropane | ug/kg | SW8260B | N | 78-87-5 | | | | | | | | 17 | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | SW8260B | N | 541-73-1 | | | | | | | | 17 | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | SW8260B | N | 106-46-7 | | | | | | | | 17 | | | | | | | |
| 1,4-Dioxane | ug/kg | SW8260B | N | 123-91-1 | | | | | | | | 17 | | | | | | | |
| 2-Butanone | ug/kg | SW8260B | N | 78-93-3 | 17 | 4.9 | 11 | 11 | SED4.5B | 2 | | 17 | | | | | | | |
| 2-Hexanone | ug/kg | SW8260B | N | 591-78-6 | | | | | | | | 17 | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | SW8260B | N | 108-10-1 | | | | | | | | 17 | | | | | | | |
| Acetone | ug/kg | SW8260B | N | 67-64-1 | 86 | 54 | 66 | 57 | SED4.5B | 3 | | 17 | | | | | | | |
| Benzene | ug/kg | SW8260B | N | 71-43-2 | | | | | | | | 17 | | | | | | | |
| Bromochloromethane | ug/kg | SW8260B | N | 74-97-5 | | | | | | | | 17 | | | | | | | |
| Bromodichloromethane | ug/kg | SW8260B | N | 75-27-4 | | | | | | | | 17 | | | | | | | |
| Bromoform | ug/kg | SW8260B | N | 75-25-2 | | | | | | | | 17 | | | | | | | |
| Bromomethane | ug/kg | SW8260B | N | 74-83-9 | | | | | | | | 17 | | | | | | | |
| Carbon Disulfide | ug/kg | SW8260B | N | 75-15-0 | | | | | | | | 17 | | | | | | | |
| Carbon Tetrachloride | ug/kg | SW8260B | N | 56-23-5 | | | | | | | | 17 | | | | | | | |
| Chlorobenzene | ug/kg | SW8260B | N | 108-90-7 | | | | | | | | 17 | | | | | | | |
| Chloroethane | ug/kg | SW8260B | N | 75-00-3 | | | | | | | | 17 | | | | | | | |
| Chloroform | ug/kg | SW8260B | N | 67-66-3 | 1.1 | 0.97 | 1 | 1 | SED6B | 2 | | 17 | | | | | | | |
| Chloromethane | ug/kg | SW8260B | N | 74-87-3 | | | | | | | | 17 | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | SW8260B | N | 156-59-2 | | | | | | | | 17 | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | SW8260B | N | 10061-01-5 | | | | | | | | 17 | | | | | | | |
| Cyclohexane | ug/kg | SW8260B | N | 110-82-7 | | | | | | | | 17 | | | | | | | |
| Dibromochloromethane | ug/kg | SW8260B | N | 124-48-1 | | | | | | | | 17 | | | | | | | |
| Dichlorodifluoromethane | ug/kg | SW8260B | N | 75-71-8 | | | | | | | | 17 | | | | | | | |
| Ethylbenzene | ug/kg | SW8260B | N | 100-41-4 | | | | | | | | 17 | | | | | | | |
| Isopropylbenzene | ug/kg | SW8260B | N | 98-82-8 | | | | | | | | 17 | | | | | | | |
| m, p-Xylene | ug/kg | SW8260B | N | XYLMP | | | | | | | | 17 | | | | | | | |
| Methyl Acetate | ug/kg | SW8260B | N | 79-20-9 | | | | | | | | 17 | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | SW8260B | N | 1634-04-4 | | | | | | | | 17 | | | | | | | |
| Methylcyclohexane | ug/kg | SW8260B | N | 108-87-2 | | | | | | | | 17 | | | | | | | |
| Methylene Chloride | ug/kg | SW8260B | N | 75-09-2 | | | | | | | | 17 | | | | | | | |
| o-Xylene | ug/kg | SW8260B | N | 95-47-6 | | | | | | | | 17 | | | | | | | |
| Styrene | ug/kg | SW8260B | N | 100-42-5 | | | | | | | | 17 | | | | | | | |
| Tetrachloroethylene | ug/kg | SW8260B | N | 127-18-4 | | | | | | | | 17 | | | | | | | |
| Toluene | ug/kg | SW8260B | N | 108-88-3 | | | | | | | | 17 | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | Location ID | SED1.5B | SED1.5B | SED1.5B | SED1.5B | SED1.5B | SED1.5B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample Date | 11/6/2013 12:13:00 PM | 11/6/2013 12:13:00 PM | 11/6/2013 12:13:00 PM | 11/6/2013 12:13:00 PM | 6/15/2017 10:10:00 AM | 6/15/2017 10:20:00 AM |
| | | | | | | | | | | | | | Sample ID | SED1.5B01N | SED1.5B03N | SED1.5B05N | SED1.5B07N | SED1.5B02FN | SED1.5B04FN |
| | | | | | | | | | | | | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | SW8260B | N | 156-60-5 | | | | | | | | 17 | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | SW8260B | N | 10061-02-6 | | | | | | | | 17 | | | | | | | |
| Trichloroethene | ug/kg | SW8260B | N | 79-01-6 | | | | | | | | 17 | | | | | | | |
| Trichlorofluoromethane | ug/kg | SW8260B | N | 75-69-4 | | | | | | | | 17 | | | | | | | |
| Vinyl Chloride | ug/kg | SW8260B | N | 75-01-4 | | | | | | | | 17 | | | | | | | |
| Xylenes (total) | ug/kg | SW8260B | N | 1330-20-7 | | | | | | | | 17 | | | | | | | |
| 1,1'-Biphenyl | ug/kg | SW8270D LL | N | 92-52-4 | 63 | 12 | 38 | 41 | SED6.5E | 5 | | 17 | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | SW8270D LL | N | 95-94-3 | | | | | | | | 17 | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | SW8270D LL | N | 108-60-1 | | | | | | | | 17 | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | SW8270D LL | N | 58-90-2 | | | | | | | | 17 | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | SW8270D LL | N | 95-95-4 | | | | | | | | 17 | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | SW8270D LL | N | 88-06-2 | | | | | | | | 17 | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | SW8270D LL | N | 120-83-2 | | | | | | | | 17 | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | SW8270D LL | N | 105-67-9 | 44 | 22 | 31 | 29 | SED3C | 4 | | 17 | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | SW8270D LL | N | 51-28-5 | | | | | | | | 17 | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | SW8270D LL | N | 121-14-2 | | | | | | | | 17 | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | SW8270D LL | N | 606-20-2 | | | | | | | | 17 | | | | | | | |
| 2-Chloronaphthalene | ug/kg | SW8270D LL | N | 91-58-7 | | | | | | | | 17 | | | | | | | |
| 2-Chlorophenol | ug/kg | SW8270D LL | N | 95-57-8 | | | | | | | | 17 | | | | | | | |
| 2-Methylnaphthalene | ug/kg | SW8270D LL | N | 91-57-6 | 240 | 4.6 | 65 | 51 | SED6.5E | 16 | | 17 | | | | | | | |
| 2-Methylphenol | ug/kg | SW8270D LL | N | 95-48-7 | | | | | | | | 17 | | | | | | | |
| 2-Nitroaniline | ug/kg | SW8270D LL | N | 88-74-4 | | | | | | | | 17 | | | | | | | |
| 2-Nitrophenol | ug/kg | SW8270D LL | N | 88-75-5 | | | | | | | | 17 | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | SW8270D LL | N | 91-94-1 | | | | | | | 1 | 17 | | | | | | | |
| 3-Nitroaniline | ug/kg | SW8270D LL | N | 99-09-2 | | | | | | | | 17 | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | SW8270D LL | N | 534-52-1 | | | | | | | | 17 | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | SW8270D LL | N | 101-55-3 | | | | | | | | 17 | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | SW8270D LL | N | 59-50-7 | | | | | | | | 17 | | | | | | | |
| 4-Chloroaniline | ug/kg | SW8270D LL | N | 106-47-8 | 64 | 13 | 43 | 51 | SED3C | 3 | | 17 | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | SW8270D LL | N | 7005-72-3 | | | | | | | | 17 | | | | | | | |
| 4-Methylphenol | ug/kg | SW8270D LL | N | 106-44-5 | 930 | 26 | 230 | 51 | SED6.5E | 9 | | 17 | | | | | | | |
| 4-Nitroaniline | ug/kg | SW8270D LL | N | 100-01-6 | | | | | | | | 17 | | | | | | | |
| 4-Nitrophenol | ug/kg | SW8270D LL | N | 100-02-7 | | | | | | | | 17 | | | | | | | |
| Acenaphthene | ug/kg | SW8270D LL | N | 83-32-9 | 300 | 0.63 | 49 | 42 | SED7E | 229 | | 310 | | **60 J** | **46 J** | **32 J** | **15 J** | **26 J** | **71** |
| Acenaphthylene | ug/kg | SW8270D LL | N | 208-96-8 | 280 | 1.1 | 79 | 61 | SED5B | 239 | | 310 | | **64 J** | **51 J** | **35 J** | **14 J** | **21 J** | **27 J** |
| Acetophenone | ug/kg | SW8270D LL | N | 98-86-2 | 39 | 11 | 31 | 37 | SED3C WSED1 | 4 | | 17 | | | | | | | |
| Anthracene | ug/kg | SW8270D LL | N | 120-12-7 | 2900 | 1.7 | 120 | 90 | SED7E | 253 | | 310 | | **180** | **120 J** | **100 J** | **36** | **43 J** | **97** |
| Atrazine | ug/kg | SW8270D LL | N | 1912-24-9 | | | | | | | | 17 | | | | | | | |
| Benzaldehyde | ug/kg | SW8270D LL | N | 100-52-7 | 250 | 18 | 100 | 83 | SED6B | 9 | 3 | 17 | | | | | | | |
| Benzo(a)anthracene | ug/kg | SW8270D LL | N | 56-55-3 | 2100 | 1.8 | 290 | 240 | SED1.5C | 263 | | 310 | | **710** | **620** | **600** | **110** | **120** | **200** |
| Benzo(a)pyrene | ug/kg | SW8270D LL | N | 50-32-8 | 1500 | 3.8 | 300 | 260 | SED7E SED1.5C | 258 | | 310 | | **710** | **770** | **590** | **100** | **120** | **180** |
| Benzo(b)fluoranthene | ug/kg | SW8270D LL | N | 205-99-2 | 2100 | 4.9 | 390 | 320 | SED7E SED1.5C | 262 | | 310 | | **1000** | **1300** | **990** | **110** | **170** | **270** |
| Benzo(g,h,i)perylene | ug/kg | SW8270D LL | N | 191-24-2 | 1200 | 2.3 | 290 | 250 | SED7E SED1.5C | 260 | | 310 | | **860** | **870** | **750** | **100** | **100** | **140** |
| Benzo(k)fluoranthene | ug/kg | SW8270D LL | N | 207-08-9 | 780 | 1.5 | 150 | 120 | SED7E | 257 | | 310 | | **510** | **410** | **330** | **72** | **65** | **72** |
| bis-(2-chloroethoxy)methane | ug/kg | SW8270D LL | N | 111-91-1 | | | | | | | | 17 | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | SW8270D LL | N | 111-44-4 | | | | | | | | 17 | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | SW8270D LL | N | 117-81-7 | 4200 | 120 | 990 | 500 | WSED2 | 16 | | 17 | | | | | | | |
| Butylbenzylphthalate | ug/kg | SW8270D LL | N | 85-68-7 | 170 | 10 | 82 | 73 | WSED1 | 4 | | 17 | | | | | | | |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | Location ID | SED1.5B | SED1.5B | SED1.5B | SED1.5B | SED1.5B | SED1.5B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample Date | 11/6/2013 12:13:00 PM | 11/6/2013 12:13:00 PM | 11/6/2013 12:13:00 PM | 11/6/2013 12:13:00 PM | 6/15/2017 10:10:00 AM | 6/15/2017 10:20:00 AM |
| | | | | | | | | | | | | | Sample ID | SED1.5B01N | SED1.5B03N | SED1.5B05N | SED1.5B07N | SED1.5B02FN | SED1.5B04FN |
| | | | | | | | | | | | | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | |
| Caprolactam | ug/kg | SW8270D LL | N | 105-60-2 | | | | | | | | 17 | | | | | | | |
| Carbazole | ug/kg | SW8270D LL | N | 86-74-8 | 120 | 9.8 | 51 | 38 | SED4B | 10 | | 17 | | | | | | | |
| Chrysene | ug/kg | SW8270D LL | N | 218-01-9 | 1900 | 3.3 | 380 | 320 | SED7E | 263 | | 310 | | **1200** | **1300** | **920** | **140** | **150** | **290** |
| Dibenzo(a,h)anthracene | ug/kg | SW8270D LL | N | 53-70-3 | 320 | 2 | 68 | 55 | SED1.5C | 225 | | 310 | | **220** | **180** | **200** | **27** | **19 J** | **37 J** |
| Dibenzofuran | ug/kg | SW8270D LL | N | 132-64-9 | 49 | 15 | 34 | 37 | SED3C | 3 | | 17 | | | | | | | |
| Diethylphthalate | ug/kg | SW8270D LL | N | 84-66-2 | | | | | | | | 17 | | | | | | | |
| Dimethylphthalate | ug/kg | SW8270D LL | N | 131-11-3 | 13 | 13 | 13 | 13 | SED10B | 1 | | 17 | | | | | | | |
| Di-n-butylphthalate | ug/kg | SW8270D LL | N | 84-74-2 | 42 | 42 | 42 | 42 | SED7F | 1 | | 17 | | | | | | | |
| Di-n-octylphthalate | ug/kg | SW8270D LL | N | 117-84-0 | 82 | 32 | 57 | 57 | SED7B | 2 | | 17 | | | | | | | |
| Fluoranthene | ug/kg | SW8270D LL | N | 206-44-0 | 4300 | 0.79 | 600 | 490 | SED7E | 274 | | 310 | | **1600** | **1900** | **1600** | **250** | **250** | **460** |
| Fluorene | ug/kg | SW8270D LL | N | 86-73-7 | 460 | 1.1 | 61 | 53 | SED7E | 238 | | 310 | | **88 J** | **89 J** | **77 J** | **19 J** | **26 J** | **65** |
| Hexachlorobenzene | ug/kg | SW8270D LL | N | 118-74-1 | | | | | | | | 17 | | | | | | | |
| Hexachlorobutadiene | ug/kg | SW8270D LL | N | 87-68-3 | | | | | | | | 17 | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | SW8270D LL | N | 77-47-4 | | | | | | | 1 | 17 | | | | | | | |
| Hexachloroethane | ug/kg | SW8270D LL | N | 67-72-1 | | | | | | | | 17 | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | SW8270D LL | N | 193-39-5 | 1000 | 2.1 | 220 | 180 | SED7E | 259 | | 310 | | **660** | **720** | **530** | **88** | **77** | **110** |
| Isophorone | ug/kg | SW8270D LL | N | 78-59-1 | | | | | | | | 17 | | | | | | | |
| Naphthalene | ug/kg | SW8270D LL | N | 91-20-3 | 240 | 0.77 | 46 | 40 | SED7E | 173 | | 310 | | < 180 U | < 180 U | < 160 U | < 24 U | < 45 U | < 51 U |
| Nitrobenzene | ug/kg | SW8270D LL | N | 98-95-3 | | | | | | | | 17 | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | SW8270D LL | N | 621-64-7 | | | | | | | | 17 | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | SW8270D LL | N | 86-30-6 | | | | | | | | 17 | | | | | | | |
| Pentachlorophenol | ug/kg | SW8270D LL | N | 87-86-5 | | | | | | | | 17 | | | | | | | |
| Phenanthrene | ug/kg | SW8270D LL | N | 85-01-8 | 3800 | 0.84 | 380 | 300 | SED1.5C | 267 | | 310 | | **650** | **690** | **580** | **110** | **170** | **390** |
| Phenol | ug/kg | SW8270D LL | N | 108-95-2 | 89 | 51 | 70 | 70 | SED6.5E | 2 | | 17 | | | | | | | |
| Pyrene | ug/kg | SW8270D LL | N | 129-00-0 | 3600 | 1.2 | 590 | 490 | SED1.5C | 277 | | 310 | | **1200** | **1300** | **1100** | **210** | **280** | **490** |
| BaP-TE | ug/kg | SW8270D LL | N | BAP | 2340 | 0.611 | 443 | 376 | SED1.5C | 265 | | 310 | | **1170** | **1220** | **1010** | **159** | **177** | **276** |
| Total High-molecular-weight PAHs | ug/kg | SW8270D LL | N | TOT-PAH-HMW | 18000 | 2 | 3100 | 2600 | SED7E SED1.5C | 279 | | 310 | | **8700** | **9400** | **7600** | **1200** | **1400** | **2200** |
| Total Low-molecular-weight PAHs | ug/kg | SW8270D LL | N | TOT-PAH-LMW | 5700 | 0.77 | 680 | 570 | SED7E SED1.5C | 271 | | 310 | | **1000** | **1000** | **820** | **190** | **290** | **650** |
| Total PAHs (sum 16) | ug/kg | SW8270D LL | N | TOT-PAH | 24000 | 0.84 | 3800 | 3200 | SED1.5C | 281 | | 310 | | **9700** | **10000** | **8400** | **1400** | **1600** | **2900** |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED1.5B | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C |
| | | Sample Date | 6/15/2017 10:30:00 AM | 6/21/2017 8:20:00 AM | 6/21/2017 8:25:00 AM | 6/21/2017 8:30:00 AM | 6/21/2017 8:35:00 AM | 6/21/2017 8:40:00 AM | 6/21/2017 8:45:00 AM | 6/21/2017 8:47:00 AM | 6/21/2017 8:50:00 AM | 6/21/2017 8:52:00 AM | 6/21/2017 8:55:00 AM |
| | | Sample ID | SED1.5B06FN | SED1.5C00BN | SED1.5C00CN | SED1.5C01AN | SED1.5C01BN | SED1.5C01CN | SED1.5C02AN | SED1.5C02AR | SED1.5C02BN | SED1.5C02BR | SED1.5C02CN |
| | | Depth | 6 - 7 ft | 0.33 - 0.67 ft | 0.67 - 1 ft | 1 - 1.33 ft | 1.33 - 1.67 ft | 1.67 - 2 ft | 2 - 2.33 ft | 2 - 2.33 ft | 2.33 - 2.67 ft | 2.33 - 2.67 ft | 2.67 - 3 ft |
| | | Type | N | N | N | N | N | N | N | FD | N | FD | N |
| Analyte | Unit | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | **2790** | | | | **2590** | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | **73 J** | **85 J** | **76 J** | **84 J** | **77 J** | **71 J** | **71 J** | **93 J** | **120 J** | **150** |
| Oil Range Organics (C20-C36) | mg/kg | | | **700** | **810** | **780** | **950** | **710** | **710** | **640** | **1000** | **1000** | **1300** |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | | |

## Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SED1.5B | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/15/2017 10:30:00 AM | 6/21/2017 8:20:00 AM | 6/21/2017 8:25:00 AM | 6/21/2017 8:30:00 AM | 6/21/2017 8:35:00 AM | 6/21/2017 8:40:00 AM | 6/21/2017 8:45:00 AM | 6/21/2017 8:47:00 AM | 6/21/2017 8:50:00 AM | 6/21/2017 8:52:00 AM | 6/21/2017 8:55:00 AM |
| | | Sample ID | SED1.5B06FN | SED1.5C00BN | SED1.5C00CN | SED1.5C01AN | SED1.5C01BN | SED1.5C01CN | SED1.5C02AN | SED1.5C02AR | SED1.5C02BN | SED1.5C02BR | SED1.5C02CN |
| | | Depth | 6 - 7 ft | 0.33 - 0.67 ft | 0.67 - 1 ft | 1 - 1.33 ft | 1.33 - 1.67 ft | 1.67 - 2 ft | 2 - 2.33 ft | 2 - 2.33 ft | 2.33 - 2.67 ft | 2.33 - 2.67 ft | 2.67 - 3 ft |
| | | Type | N | N | N | N | N | N | N | FD | N | FD | N |
| Analyte | Unit | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | | |
| Acenaphthene | ug/kg | | **24 J** | < 130 U | **51 J** | < 230 U | **68 J** | **26 J** | **95 J** | **8.8 J** | **41 J** | **26 J** | **54 J** |
| Acenaphthylene | ug/kg | | < 50 U | < 130 U | **51 J** | < 230 U | **47 J** | **23 J** | < 100 UJ | **9.2 J** | **44 J** | **14 J** | **44 J** |
| Acetophenone | ug/kg | | | | | | | | | | | | |
| Anthracene | ug/kg | | **41 J** | **120 J** | **150** | **150 J** | **200** | **68** | **160 J** | **23 J** | **130 J** | **62 J** | **150 J** |
| Atrazine | ug/kg | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **100** | **430** | **750** | **670** | **980** | **410** | **750 J** | **140 J** | **630 J** | **250 J** | **960 J** |
| Benzo(a)pyrene | ug/kg | | **120** | **550** | **750** | **720** | **1000** | **410** | **780 J** | **180 J** | **750 J** | **280 J** | **980 J** |
| Benzo(b)fluoranthene | ug/kg | | **140** | **880** | **1100** | **1200** | **1400** | **600** | **1100 J** | **280 J** | **1000 J** | **410 J** | **1300 J** |
| Benzo(g,h,i)perylene | ug/kg | | **130** | **570** | **990** | **930** | **1100** | **510** | **870 J** | **240 J** | **820 J** | **310 J** | **1200 J** |
| Benzo(k)fluoranthene | ug/kg | | **62** | **340** | **400** | **330** | **560** | **230** | **390 J** | **99 J** | **400 J** | **140 J** | **550 J** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED1.5B | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/15/2017 10:30:00 AM | 6/21/2017 8:20:00 AM | 6/21/2017 8:25:00 AM | 6/21/2017 8:30:00 AM | 6/21/2017 8:35:00 AM | 6/21/2017 8:40:00 AM | 6/21/2017 8:45:00 AM | 6/21/2017 8:47:00 AM | 6/21/2017 8:50:00 AM | 6/21/2017 8:52:00 AM | 6/21/2017 8:55:00 AM |
| | | Sample ID | SED1.5B06FN | SED1.5C00BN | SED1.5C00CN | SED1.5C01AN | SED1.5C01BN | SED1.5C01CN | SED1.5C02AN | SED1.5C02AR | SED1.5C02BN | SED1.5C02BR | SED1.5C02CN |
| | | Depth | 6 - 7 ft | 0.33 - 0.67 ft | 0.67 - 1 ft | 1 - 1.33 ft | 1.33 - 1.67 ft | 1.67 - 2 ft | 2 - 2.33 ft | 2 - 2.33 ft | 2.33 - 2.67 ft | 2.33 - 2.67 ft | 2.67 - 3 ft |
| | | Type | N | N | N | N | N | N | N | FD | N | FD | N |
| Analyte | Unit | | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | | |
| Chrysene | ug/kg | | **110** | **690** | **1100** | **1100** | **1300** | **530** | **950 J** | **230 J** | **900 J** | **330 J** | **1300 J** |
| Dibenzo(a,h)anthracene | ug/kg | | < 50 U | < 130 U | **220** | **220 J** | **220** | **120** | **180 J** | **39 J** | **170 J** | **69 J** | **280 J** |
| Dibenzofuran | ug/kg | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | | |
| Fluoranthene | ug/kg | | **200** | **1100** | **1600** | **1500** | **2000** | **790** | **1600 J** | **360 J** | **1300 J** | **590 J** | **1800 J** |
| Fluorene | ug/kg | | **35 J** | < 130 U | **66 J** | < 230 U | **88 J** | **29 J** | **79 J** | **11 J** | **63 J** | **28 J** | **63 J** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **74** | **480** | **780** | **750** | **940** | **410** | **760 J** | **170 J** | **690 J** | **250 J** | **970 J** |
| Isophorone | ug/kg | | | | | | | | | | | | |
| Naphthalene | ug/kg | | < 50 U | < 130 U | < 120 U | < 230 U | < 110 U | < 60 U | < 100 UJ | < 21 UJ | < 110 UJ | **8.4 J** | < 120 UJ |
| Nitrobenzene | ug/kg | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | | |
| Phenanthrene | ug/kg | | **160** | **270** | **710** | **740** | **1000** | **340** | **820 J** | **130 J** | **620 J** | **260 J** | **760 J** |
| Phenol | ug/kg | | | | | | | | | | | | |
| Pyrene | ug/kg | | **290** | **830** | **1600** | **1600** | **1900** | **740** | **1500 J** | **320 J** | **1300 J** | **470 J** | **1800 J** |
| BaP-TE | ug/kg | | **152** | **733** | **1240** | **1210** | **1560** | **675** | **1230** | **279** | **1160** | **442** | **1590** |
| Total High-molecular-weight PAHs | ug/kg | | **1200** | **5900** | **9300** | **9000** | **11000** | **4800** | **8900** | **2100** | **8000** | **3100** | **11000** |
| Total Low-molecular-weight PAHs | ug/kg | | **260** | **390** | **1000** | **890** | **1400** | **490** | **1200** | **180** | **900** | **400** | **1100** |
| Total PAHs (sum 16) | ug/kg | | **1500** | **6300** | **10000** | **9900** | **13000** | **5200** | **10000** | **2200** | **8900** | **3500** | **12000** |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C |
| | | Sample Date | 6/21/2017 8:57:00 AM | 6/21/2017 9:00:00 AM | 6/21/2017 9:05:00 AM | 6/21/2017 9:10:00 AM | 6/21/2017 9:15:00 AM | 6/21/2017 9:20:00 AM | 6/21/2017 9:25:00 AM | 6/21/2017 9:30:00 AM | 6/21/2017 9:35:00 AM | 6/21/2017 9:40:00 AM | 6/21/2017 9:45:00 AM |
| | | Sample ID | SED1.5C02CR | SED1.5C03AN | SED1.5C03BN | SED1.5C03CN | SED1.5C04AN | SED1.5C04BN | SED1.5C04CN | SED1.5C05AN | SED1.5C05BN | SED1.5C05CN | SED1.5C06AN |
| | | Depth | 2.67 - 3 ft | 3 - 3.33 ft | 3.33 - 3.67 ft | 3.67 - 4 ft | 4 - 4.33 ft | 4.33 - 4.67 ft | 4.67 - 5 ft | 5 - 5.33 ft | 5.33 - 5.67 ft | 5.67 - 6 ft | 6 - 6.33 ft |
| | | Type | FD | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | **5010** | | **2890** | | | | | **846** | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | **150** | **300** | **360** | **240 J** | **310** | **280** | **96** | **130 J** | **34** | **40** | **63** |
| Oil Range Organics (C20-C36) | mg/kg | | **960** | **2300** | **2400** | **1300** | **1100** | **950** | **360** | **1300** | **170** | **240** | **370** |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C |
| | | Sample Date | 6/21/2017 8:57:00 AM | 6/21/2017 9:00:00 AM | 6/21/2017 9:05:00 AM | 6/21/2017 9:10:00 AM | 6/21/2017 9:15:00 AM | 6/21/2017 9:20:00 AM | 6/21/2017 9:25:00 AM | 6/21/2017 9:30:00 AM | 6/21/2017 9:35:00 AM | 6/21/2017 9:40:00 AM | 6/21/2017 9:45:00 AM |
| | | Sample ID | SED1.5C02CR | SED1.5C03AN | SED1.5C03BN | SED1.5C03CN | SED1.5C04AN | SED1.5C04BN | SED1.5C04CN | SED1.5C05AN | SED1.5C05BN | SED1.5C05CN | SED1.5C06AN |
| | | Depth | 2.67 - 3 ft | 3 - 3.33 ft | 3.33 - 3.67 ft | 3.67 - 4 ft | 4 - 4.33 ft | 4.33 - 4.67 ft | 4.67 - 5 ft | 5 - 5.33 ft | 5.33 - 5.67 ft | 5.67 - 6 ft | 6 - 6.33 ft |
| | | Type | FD | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | | |
| Acenaphthene | ug/kg | | **20 J** | **77 J** | **44 J** | **4.3 J** | **62** | **60** | **46** | **89** | **28** | **280** | **150** |
| Acenaphthylene | ug/kg | | **30 J** | < 230 U | < 130 U | **5.6 J** | **64** | **44 J** | **15 J** | **38** | **24** | **27** | **91** |
| Acetophenone | ug/kg | | | | | | | | | | | | |
| Anthracene | ug/kg | | **70 J** | **160 J** | **93 J** | **9.3 J** | **190** | **140** | **89** | **160** | **110** | **1100** | **440** |
| Atrazine | ug/kg | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **240 J** | **720 J** | **440** | **65** | **710** | **610** | **230** | **440** | **270** | **2100** | **1300** |
| Benzo(a)pyrene | ug/kg | | **240 J** | **580 J** | **450** | **67** | **690** | **540** | **200** | **380** | **260** | **1500** | **1000** |
| Benzo(b)fluoranthene | ug/kg | | **340 J** | **910 J** | **690** | **97** | **900** | **730** | **260** | **460** | **320** | **2100** | **1200** |
| Benzo(g,h,i)perylene | ug/kg | | **220 J** | **570 J** | **430 J+** | **68** | **710** | **510** | **170** | **320** | **190** | **950** | **640** |
| Benzo(k)fluoranthene | ug/kg | | **130 J** | **440 J** | **270** | **40** | **330** | **260** | **84** | **180** | **94** | **630** | **560** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/21/2017 8:57:00 AM | 6/21/2017 9:00:00 AM | 6/21/2017 9:05:00 AM | 6/21/2017 9:10:00 AM | 6/21/2017 9:15:00 AM | 6/21/2017 9:20:00 AM | 6/21/2017 9:25:00 AM | 6/21/2017 9:30:00 AM | 6/21/2017 9:35:00 AM | 6/21/2017 9:40:00 AM | 6/21/2017 9:45:00 AM |
| | | Sample ID | SED1.5C02CR | SED1.5C03AN | SED1.5C03BN | SED1.5C03CN | SED1.5C04AN | SED1.5C04BN | SED1.5C04CN | SED1.5C05AN | SED1.5C05BN | SED1.5C05CN | SED1.5C06AN |
| | | Depth | 2.67 - 3 ft | 3 - 3.33 ft | 3.33 - 3.67 ft | 3.67 - 4 ft | 4 - 4.33 ft | 4.33 - 4.67 ft | 4.67 - 5 ft | 5 - 5.33 ft | 5.33 - 5.67 ft | 5.67 - 6 ft | 6 - 6.33 ft |
| | | Type | FD | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | | |
| Chrysene | ug/kg | | **330 J** | **990 J** | **630** | **86** | **780** | **740** | **290** | **460** | **290** | **1700** | **1200** |
| Dibenzo(a,h)anthracene | ug/kg | | **58 J** | < 230 UJ | **87 J** | **11** | **180** | **120** | **51** | **92** | **52** | **320** | **210** |
| Dibenzofuran | ug/kg | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | | |
| Fluoranthene | ug/kg | | **680 J** | **1700 J** | **810 J** | **120** | **1300** | **1200** | **420** | **780** | **490** | **4100** | **2700** |
| Fluorene | ug/kg | | **22 J** | **86 J** | < 130 U | **6.1 J** | **84** | **77** | **46** | **83** | **48** | **370** | **260** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **180 J** | **450 J** | **370** | **48** | **560** | **430** | **130** | **290** | **180** | **910** | **630** |
| Isophorone | ug/kg | | | | | | | | | | | | |
| Naphthalene | ug/kg | | < 28 UJ | < 230 UJ | < 130 U | **4.1 J** | **73** | **52** | **50** | **50** | **36** | **110** | **120** |
| Nitrobenzene | ug/kg | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | | |
| Phenanthrene | ug/kg | | **300 J** | **830 J** | **450 J** | **61** | **840** | **790** | **410** | **610** | **330** | **3800** | **2500** |
| Phenol | ug/kg | | | | | | | | | | | | |
| Pyrene | ug/kg | | **450 J** | **1700 J** | **1000 J+** | **130** | **1100** | **1100** | **390** | **760** | **430** | **3600** | **2300** |
| BaP-TE | ug/kg | | **376** | **793** | **690** | **99.5** | **1090** | **840** | **314** | **593** | **390** | **2340** | **1530** |
| Total High-molecular-weight PAHs | ug/kg | | **2900** | **8100** | **5200** | **730** | **7300** | **6200** | **2200** | **4200** | **2600** | **18000** | **12000** |
| Total Low-molecular-weight PAHs | ug/kg | | **440** | **1200** | **590** | **90** | **1300** | **1200** | **660** | **1000** | **580** | **5700** | **3600** |
| Total PAHs (sum 16) | ug/kg | | **3300** | **9200** | **5800** | **820** | **8600** | **7400** | **2900** | **5200** | **3200** | **24000** | **15000** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED1.5C | SED1.5C | SED1.5C | SED10A | SED10A | SED10A | SED10A | SED10B | SED10B | SED10B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/21/2017 9:50:00 AM | 6/21/2017 9:55:00 AM | 6/21/2017 10:00:00 AM | 11/11/2013 1:11:00 PM | 11/11/2013 1:11:00 PM | 11/11/2013 1:11:00 PM | 11/11/2013 1:11:00 PM | 11/11/2013 1:59:00 PM | 11/11/2013 1:59:00 PM | 11/11/2013 1:59:00 PM |
| | | Sample ID | SED1.5C06BN | SED1.5C06CN | SED1.5C07AN | SED10A01N | SED10A03N | SED10A05N | SED10A07N | SED10B01N | SED10B03N | SED10B05N |
| | | Depth | 6.33 - 6.67 ft | 6.67 - 7 ft | 7 - 7.33 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 6 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | **18 J** | **38** | **26** | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | **130** | **300** | **130** | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | < 6.1 U | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | < 6.1 U | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | < 6.1 U | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | < 6.1 U | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | < 6.1 U | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | < 6.1 U | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | < 6.1 U | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | < 6.1 U | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | < 6.1 U | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | < 6.1 U | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | < 6.1 U | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | < 6.1 U | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | < 6.1 U | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | < 6.1 U | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | < 6.1 U | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | < 1200 U | | |
| 2-Butanone | ug/kg | | | | | | | | | < 6.1 U | | |
| 2-Hexanone | ug/kg | | | | | | | | | < 6.1 U | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | < 6.1 U | | |
| Acetone | ug/kg | | | | | | | | | < 25 U | | |
| Benzene | ug/kg | | | | | | | | | < 6.1 U | | |
| Bromochloromethane | ug/kg | | | | | | | | | < 6.1 U | | |
| Bromodichloromethane | ug/kg | | | | | | | | | < 6.1 U | | |
| Bromoform | ug/kg | | | | | | | | | < 6.1 U | | |
| Bromomethane | ug/kg | | | | | | | | | < 6.1 U | | |
| Carbon Disulfide | ug/kg | | | | | | | | | < 6.1 U | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | < 6.1 U | | |
| Chlorobenzene | ug/kg | | | | | | | | | < 6.1 U | | |
| Chloroethane | ug/kg | | | | | | | | | < 6.1 U | | |
| Chloroform | ug/kg | | | | | | | | | < 6.1 U | | |
| Chloromethane | ug/kg | | | | | | | | | < 6.1 U | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | < 6.1 U | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | < 6.1 U | | |
| Cyclohexane | ug/kg | | | | | | | | | < 6.1 U | | |
| Dibromochloromethane | ug/kg | | | | | | | | | < 6.1 U | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | < 6.1 U | | |
| Ethylbenzene | ug/kg | | | | | | | | | < 6.1 U | | |
| Isopropylbenzene | ug/kg | | | | | | | | | < 6.1 U | | |
| m, p-Xylene | ug/kg | | | | | | | | | < 12 U | | |
| Methyl Acetate | ug/kg | | | | | | | | | < 6.1 U | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | < 6.1 U | | |
| Methylcyclohexane | ug/kg | | | | | | | | | < 6.1 U | | |
| Methylene Chloride | ug/kg | | | | | | | | | < 6.1 U | | |
| o-Xylene | ug/kg | | | | | | | | | < 6.1 U | | |
| Styrene | ug/kg | | | | | | | | | < 6.1 U | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | < 6.1 U | | |
| Toluene | ug/kg | | | | | | | | | < 6.1 U | | |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SED1.5C | SED1.5C | SED1.5C | SED10A | SED10A | SED10A | SED10A | SED10B | SED10B | SED10B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/21/2017 9:50:00 AM | 6/21/2017 9:55:00 AM | 6/21/2017 10:00:00 AM | 11/11/2013 1:11:00 PM | 11/11/2013 1:11:00 PM | 11/11/2013 1:11:00 PM | 11/11/2013 1:11:00 PM | 11/11/2013 1:59:00 PM | 11/11/2013 1:59:00 PM | 11/11/2013 1:59:00 PM |
| | | Sample ID | SED1.5C06BN | SED1.5C06CN | SED1.5C07AN | SED10A01N | SED10A03N | SED10A05N | SED10A07N | SED10B01N | SED10B03N | SED10B05N |
| | | Depth | 6.33 - 6.67 ft | 6.67 - 7 ft | 7 - 7.33 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 6 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | < 6.1 U | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | < 6.1 U | | |
| Trichloroethene | ug/kg | | | | | | | | | < 6.1 U | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | < 6.1 U | | |
| Vinyl Chloride | ug/kg | | | | | | | | | < 6.1 U | | |
| Xylenes (total) | ug/kg | | | | | | | | | < 12 U | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | < 110 U | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | < 110 U | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | < 23 U | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | < 110 U | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | < 110 U | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | < 110 U | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | < 23 U | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | < 110 U | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | < 590 U | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | < 110 U | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | < 110 U | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | < 23 U | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | < 110 U | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | **11 J** | | |
| 2-Methylphenol | ug/kg | | | | | | | | | < 110 U | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | < 590 U | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | < 110 U | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | < 110 U | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | < 590 U | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | < 590 U | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | < 110 U | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | < 110 U | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | < 110 U | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | < 110 U | | |
| 4-Methylphenol | ug/kg | | | | | | | | | < 110 U | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | < 590 U | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | < 590 U | | |
| Acenaphthene | ug/kg | | **4.4 J** | **3.3 J** | **15** | < 32 U | < 29 U | < 27 U | < 21 U | **22 J** | **16 J** | **170** |
| Acenaphthylene | ug/kg | | **4.5 J** | **2.4 J** | **11** | < 32 U | < 29 U | < 27 U | < 21 U | **36** | **16 J** | **79** |
| Acetophenone | ug/kg | | | | | | | | | < 110 U | | |
| Anthracene | ug/kg | | **21** | **9.8** | **49** | < 32 U | < 29 U | < 27 U | < 21 U | **90** | **48 J** | **170** |
| Atrazine | ug/kg | | | | | | | | | < 110 U | | |
| Benzaldehyde | ug/kg | | | | | | | | | **18 J** | | |
| Benzo(a)anthracene | ug/kg | | **63** | **32** | **160** | < 32 U | < 29 U | < 27 U | < 21 U | **400** | **280** | **620** |
| Benzo(a)pyrene | ug/kg | | **74** | **32** | **160** | < 32 U | < 29 U | < 27 U | < 21 U | **470** | **330** | **630** |
| Benzo(b)fluoranthene | ug/kg | | **89** | **38** | **200** | < 32 U | < 29 U | < 27 U | < 21 U | **590** | **440** | **820** |
| Benzo(g,h,i)perylene | ug/kg | | **61** | **29** | **130** | < 32 UJ | < 29 UJ | < 27 UJ | < 21 UJ | **390** | **280 J** | **410 J** |
| Benzo(k)fluoranthene | ug/kg | | **25** | **17** | **56** | < 32 U | < 29 U | < 27 U | < 21 U | **200** | **210** | **290** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | < 110 U | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | < 23 U | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | **560** | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | < 110 U | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED1.5C | SED1.5C | SED1.5C | SED10A | SED10A | SED10A | SED10A | SED10B | SED10B | SED10B |
| | | Sample Date | 6/21/2017 9:50:00 AM | 6/21/2017 9:55:00 AM | 6/21/2017 10:00:00 AM | 11/11/2013 1:11:00 PM | 11/11/2013 1:11:00 PM | 11/11/2013 1:11:00 PM | 11/11/2013 1:11:00 PM | 11/11/2013 1:59:00 PM | 11/11/2013 1:59:00 PM | 11/11/2013 1:59:00 PM |
| | | Sample ID | SED1.5C06BN | SED1.5C06CN | SED1.5C07AN | SED10A01N | SED10A03N | SED10A05N | SED10A07N | SED10B01N | SED10B03N | SED10B05N |
| | | Depth | 6.33 - 6.67 ft | 6.67 - 7 ft | 7 - 7.33 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 6 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | < 590 U | | |
| Carbazole | ug/kg | | | | | | | | | **44** | | |
| Chrysene | ug/kg | | **67** | **37** | **160** | < 32 U | < 29 U | < 27 U | < 21 U | **610** | **360** | **730** |
| Dibenzo(a,h)anthracene | ug/kg | | **16** | **7.7** | **36** | < 32 U | < 29 U | < 27 U | < 21 U | **85** | **74** | **110** |
| Dibenzofuran | ug/kg | | | | | | | | | **15 J** | | |
| Diethylphthalate | ug/kg | | | | | | | | | < 110 U | | |
| Dimethylphthalate | ug/kg | | | | | | | | | **13 J** | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | < 110 U | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | < 110 U | | |
| Fluoranthene | ug/kg | | **110** | **54** | **300** | < 32 U | < 29 U | < 27 U | < 21 U | **950** | **600** | **1200** |
| Fluorene | ug/kg | | **7.9** | **4.8 J** | **24** | < 32 U | < 29 U | < 27 U | < 21 U | **36** | **16 J** | **210** |
| Hexachlorobenzene | ug/kg | | | | | | | | | < 23 U | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | < 23 U | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | < 110 U | | |
| Hexachloroethane | ug/kg | | | | | | | | | < 110 U | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **55** | **21** | **110** | < 32 U | < 29 U | < 27 U | < 21 U | **320** | **240** | **320** |
| Isophorone | ug/kg | | | | | | | | | < 110 U | | |
| Naphthalene | ug/kg | | **7.6** | **5.2** | **21** | < 32 U | < 29 U | < 27 U | < 21 U | **12 J** | < 55 U | **33 J** |
| Nitrobenzene | ug/kg | | | | | | | | | < 230 U | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | < 23 U | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | < 110 U | | |
| Pentachlorophenol | ug/kg | | | | | | | | | < 110 U | | |
| Phenanthrene | ug/kg | | **59** | **35** | **180** | < 32 U | < 29 U | < 27 U | < 21 U | **410** | **210** | **1200** |
| Phenol | ug/kg | | | | | | | | | < 23 U | | |
| Pyrene | ug/kg | | **100** | **53** | **280** | < 32 U | < 29 U | < 27 U | < 21 U | **730** | **480** | **1300** |
| BaP-TE | ug/kg | | **111** | **49.0** | **244** | < 32.0 U | < 29.0 U | < 27.0 U | < 21.0 U | **689** | **502** | **920** |
| Total High-molecular-weight PAHs | ug/kg | | **660** | **320** | **1600** | < 32 U | < 29 U | < 27 U | < 21 U | **4700** | **3300** | **6400** |
| Total Low-molecular-weight PAHs | ug/kg | | **100** | **61** | **300** | < 32 U | < 29 U | < 27 U | < 21 U | **610** | **310** | **1900** |
| Total PAHs (sum 16) | ug/kg | | **760** | **380** | **1900** | < 32 U | < 29 U | < 27 U | < 21 U | **5400** | **3600** | **8300** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED10C | SED10C | SED10C | SED10C | SED1A | SED1A | SED1A | SED1A | SED1B | SED1B | SED1B |
| | | Sample Date | 11/11/2013 2:55:00 PM | 11/11/2013 2:55:00 PM | 11/11/2013 2:55:00 PM | 11/11/2013 2:55:00 PM | 11/6/2013 1:42:00 PM | 11/6/2013 1:42:00 PM | 11/6/2013 1:42:00 PM | 11/6/2013 1:42:00 PM | 11/6/2013 3:05:00 PM | 11/6/2013 3:05:00 PM | 11/6/2013 3:05:00 PM |
| | | Sample ID | SED10C01N | SED10C03N | SED10C05N | SED10C07N | SED1A01N | SED1A03N | SED1A05N | SED1A07N | SED1B01N | SED1B03N | SED1B05N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | | |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED10C | SED10C | SED10C | SED10C | SED1A | SED1A | SED1A | SED1A | SED1B | SED1B | SED1B |
| | | Sample Date | 11/11/2013 2:55:00 PM | 11/11/2013 2:55:00 PM | 11/11/2013 2:55:00 PM | 11/11/2013 2:55:00 PM | 11/6/2013 1:42:00 PM | 11/6/2013 1:42:00 PM | 11/6/2013 1:42:00 PM | 11/6/2013 1:42:00 PM | 11/6/2013 3:05:00 PM | 11/6/2013 3:05:00 PM | 11/6/2013 3:05:00 PM |
| | | Sample ID | SED10C01N | SED10C03N | SED10C05N | SED10C07N | SED1A01N | SED1A03N | SED1A05N | SED1A07N | SED1B01N | SED1B03N | SED1B05N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | < 64 U | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | < 64 U | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | < 13 U | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | < 64 U | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | < 64 U | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | < 64 U | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | < 13 U | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | < 64 U | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | < 330 U | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | < 64 U | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | < 64 U | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | < 13 U | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | < 64 U | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | < 13 U | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | < 64 U | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | < 330 U | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | < 64 U | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | < 64 U | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | < 330 U | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | < 330 U | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | < 64 U | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | < 64 U | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | < 64 U | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | < 64 U | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | < 64 U | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | < 330 U | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | < 330 U | | |
| Acenaphthene | ug/kg | | **29 J** | **54** | **170 J** | **140** | **15 J** | **2.2 J** | < 13 U | < 17 U | < 13 U | < 13 U | < 11 U |
| Acenaphthylene | ug/kg | | **24 J** | **37 J** | **130 J** | **100** | **25 J** | **4.1 J** | < 13 U | < 17 U | < 13 U | < 13 U | < 11 U |
| Acetophenone | ug/kg | | | | | | | | | | **11 J** | | |
| Anthracene | ug/kg | | **58** | **110** | **220** | **240** | **58** | **8.4 J** | < 13 U | < 17 U | < 13 U | < 13 U | < 11 U |
| Atrazine | ug/kg | | | | | | | | | | < 64 U | | |
| Benzaldehyde | ug/kg | | | | | | | | | | **83** | | |
| Benzo(a)anthracene | ug/kg | | **280** | **380** | **950** | **1000** | **200** | **40** | **4.0 J** | < 17 U | **6.0 J** | < 13 U | < 11 U |
| Benzo(a)pyrene | ug/kg | | **320** | **380** | **930** | **1100** | **190** | **37** | < 13 U | < 17 U | < 13 U | < 13 U | < 11 U |
| Benzo(b)fluoranthene | ug/kg | | **440** | **470** | **1100** | **1300** | **290** | **48** | **4.9 J** | < 17 U | < 13 U | < 13 U | < 11 U |
| Benzo(g,h,i)perylene | ug/kg | | **260 J** | **260 J** | **600 J** | **660 J** | **140** | **31** | **3.1 J** | < 17 U | < 13 U | < 13 U | < 11 U |
| Benzo(k)fluoranthene | ug/kg | | **210** | **190** | **410** | **500** | **80** | **19** | < 13 U | < 17 U | < 13 U | < 13 U | < 11 U |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | < 64 U | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | < 13 U | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | < 130 U | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | **10 J** | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED10C | SED10C | SED10C | SED10C | SED1A | SED1A | SED1A | SED1A | SED1B | SED1B | SED1B |
| | | Sample Date | 11/11/2013 2:55:00 PM | 11/11/2013 2:55:00 PM | 11/11/2013 2:55:00 PM | 11/11/2013 2:55:00 PM | 11/6/2013 1:42:00 PM | 11/6/2013 1:42:00 PM | 11/6/2013 1:42:00 PM | 11/6/2013 1:42:00 PM | 11/6/2013 3:05:00 PM | 11/6/2013 3:05:00 PM | 11/6/2013 3:05:00 PM |
| | | Sample ID | SED10C01N | SED10C03N | SED10C05N | SED10C07N | SED1A01N | SED1A03N | SED1A05N | SED1A07N | SED1B01N | SED1B03N | SED1B05N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Caprolactam | ug/kg | | | | | | | | | | < 330 U | | |
| Carbazole | ug/kg | | | | | | | | | | < 13 U | | |
| Chrysene | ug/kg | | **380** | **400** | **1100** | **1100** | **250** | **53** | **4.1 J** | < 17 U | **11 J** | < 13 U | < 11 U |
| Dibenzo(a,h)anthracene | ug/kg | | **52 J** | **55** | **190** | **160** | **33** | **7.8 J** | < 13 U | < 17 U | < 13 U | < 13 U | < 11 U |
| Dibenzofuran | ug/kg | | | | | | | | | | < 64 U | | |
| Diethylphthalate | ug/kg | | | | | | | | | | < 64 U | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | < 64 U | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | < 64 U | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | < 64 U | | |
| Fluoranthene | ug/kg | | **640** | **700** | **1600** | **2200** | **450** | **78** | **6.1 J** | **2.6 J** | **9.0 J** | **2.5 J** | < 11 U |
| Fluorene | ug/kg | | **33 J** | **52** | **190** | **150** | **29** | **5.3 J** | < 13 U | < 17 U | < 13 U | < 13 U | < 11 U |
| Hexachlorobenzene | ug/kg | | | | | | | | | | < 13 U | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | < 13 U | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | < 64 U | | |
| Hexachloroethane | ug/kg | | | | | | | | | | < 64 U | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **250** | **220** | **520** | **530** | **130** | **28** | **2.4 J** | < 17 U | < 13 U | < 13 U | < 11 U |
| Isophorone | ug/kg | | | | | | | | | | < 64 U | | |
| Naphthalene | ug/kg | | **12 J** | **22 J** | **60 J** | **52** | < 27 U | < 11 U | < 13 U | < 17 U | < 13 U | < 13 U | < 11 U |
| Nitrobenzene | ug/kg | | | | | | | | | | < 130 U | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | < 13 U | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | < 64 U | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | < 64 U | | |
| Phenanthrene | ug/kg | | **280** | **510** | **1300** | **1400** | **220** | **31** | < 13 U | < 17 U | **4.9 J** | **3.6 J** | < 11 U |
| Phenol | ug/kg | | | | | | | | | | < 13 U | | |
| Pyrene | ug/kg | | **530** | **720** | **1700** | **1900** | **340** | **84** | **6.1 J** | **2.8 J** | **9.7 J** | **2.6 J** | < 11 U |
| BaP-TE | ug/kg | | **471** | **544** | **1380** | **1550** | **286** | **56.6** | **1.13** | < 17.0 U | **0.611** | < 13.0 U | < 11.0 U |
| Total High-molecular-weight PAHs | ug/kg | | **3400** | **3800** | **9100** | **10000** | **2100** | **430** | **31** | **5.4** | **36** | **5.1** | < 11 U |
| Total Low-molecular-weight PAHs | ug/kg | | **440** | **790** | **2100** | **2100** | **350** | **51** | < 13 U | < 17 U | **4.9** | **3.6** | < 11 U |
| Total PAHs (sum 16) | ug/kg | | **3800** | **4600** | **11000** | **13000** | **2500** | **480** | **31** | **5.4** | **41** | **8.7** | < 11 U |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED1B | SED1C | SED1C | SED1C | SED1C | SED2.5B | SED2.5B | SED2.5B | SED2.5B | SED2A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/6/2013 3:05:00 PM | 11/7/2013 10:16:00 AM | 11/7/2013 10:16:00 AM | 11/7/2013 10:16:00 AM | 11/7/2013 10:16:00 AM | 11/7/2013 9:20:00 AM | 11/7/2013 9:20:00 AM | 11/7/2013 9:20:00 AM | 11/7/2013 9:20:00 AM | 11/6/2013 10:45:00 AM |
| | | Sample ID | SED1B07N | SED1C01N | SED1C03N | SED1C05N | SED1C07N | SED2.5B01N | SED2.5B03N | SED2.5B05N | SED2.5B07N | SED2A01N |
| | | Depth | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED1B | SED1C | SED1C | SED1C | SED1C | SED2.5B | SED2.5B | SED2.5B | SED2.5B | SED2A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/6/2013 3:05:00 PM | 11/7/2013 10:16:00 AM | 11/7/2013 10:16:00 AM | 11/7/2013 10:16:00 AM | 11/7/2013 10:16:00 AM | 11/7/2013 9:20:00 AM | 11/7/2013 9:20:00 AM | 11/7/2013 9:20:00 AM | 11/7/2013 9:20:00 AM | 11/6/2013 10:45:00 AM |
| | | Sample ID | SED1B07N | SED1C01N | SED1C03N | SED1C05N | SED1C07N | SED2.5B01N | SED2.5B03N | SED2.5B05N | SED2.5B07N | SED2A01N |
| | | Depth | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | |
| Acenaphthene | ug/kg | | < 5.1 U | **34 J** | **34 J** | **52** | **25 J** | **33 J** | **65 J** | **27 J** | **49 J** | < 15 U |
| Acenaphthylene | ug/kg | | < 5.1 U | **29 J** | **52 J** | **44 J** | **38** | **27 J** | **48 J** | **34** | **57** | < 15 U |
| Acetophenone | ug/kg | | | | | | | | | | | |
| Anthracene | ug/kg | | < 5.1 U | **87 J** | **93** | **71** | **42** | **71 J** | **120** | **39** | **74** | < 15 U |
| Atrazine | ug/kg | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | < 5.1 U | **400** | **260** | **210** | **130** | **330** | **520** | **140** | **210** | < 15 U |
| Benzo(a)pyrene | ug/kg | | < 5.1 U | **430** | **270** | **210** | **140** | **390** | **620** | **150** | **210** | < 15 U |
| Benzo(b)fluoranthene | ug/kg | | < 5.1 U | **610** | **380** | **300** | **190** | **610** | **1000** | **200** | **260** | < 15 U |
| Benzo(g,h,i)perylene | ug/kg | | < 5.1 U | **460** | **240** | **220** | **140** | **420** | **670** | **160** | **230** | < 15 U |
| Benzo(k)fluoranthene | ug/kg | | < 5.1 U | **360** | **140** | **88** | **64** | **220** | **340** | **92** | **130** | < 15 U |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED1B | SED1C | SED1C | SED1C | SED1C | SED2.5B | SED2.5B | SED2.5B | SED2.5B | SED2A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/6/2013 3:05:00 PM | 11/7/2013 10:16:00 AM | 11/7/2013 10:16:00 AM | 11/7/2013 10:16:00 AM | 11/7/2013 10:16:00 AM | 11/7/2013 9:20:00 AM | 11/7/2013 9:20:00 AM | 11/7/2013 9:20:00 AM | 11/7/2013 9:20:00 AM | 11/6/2013 10:45:00 AM |
| | | Sample ID | SED1B07N | SED1C01N | SED1C03N | SED1C05N | SED1C07N | SED2.5B01N | SED2.5B03N | SED2.5B05N | SED2.5B07N | SED2A01N |
| | | Depth | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | |
| Chrysene | ug/kg | | < 5.1 U | **570** | **380** | **300** | **190** | **580** | **930** | **210** | **300** | < 15 U |
| Dibenzo(a,h)anthracene | ug/kg | | < 5.1 U | **100 J** | **44 J** | **45 J** | **31** | **110 J** | **120** | **29 J** | < 53 U | < 15 U |
| Dibenzofuran | ug/kg | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | |
| Fluoranthene | ug/kg | | < 5.1 U | **860** | **620** | **510** | **290** | **920** | **1600** | **300** | **530** | **2.8 J** |
| Fluorene | ug/kg | | < 5.1 U | **47 J** | **65 J** | **68** | **29** | **47 J** | **90 J** | **28 J** | **76** | < 15 U |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | < 5.1 U | **330** | **170** | **150** | **96** | **290** | **530** | **120** | **170** | < 15 U |
| Isophorone | ug/kg | | | | | | | | | | | |
| Naphthalene | ug/kg | | < 5.1 U | < 250 U | < 78 U | < 47 U | < 26 U | < 120 U | < 110 U | < 31 U | < 53 U | < 15 U |
| Nitrobenzene | ug/kg | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | |
| Phenanthrene | ug/kg | | < 5.1 U | **360** | **370** | **330** | **160** | **370** | **710** | **160** | **380** | < 15 U |
| Phenol | ug/kg | | | | | | | | | | | |
| Pyrene | ug/kg | | < 5.1 U | **870** | **630** | **500** | **270** | **740** | **1200** | **290** | **470** | **4.3 J** |
| BaP-TE | ug/kg | | < 5.10 U | **668** | **397** | **322** | **213** | **626** | **949** | **226** | **276** | < 15.0 U |
| Total High-molecular-weight PAHs | ug/kg | | < 5.1 U | **5000** | **3100** | **2500** | **1500** | **4600** | **7500** | **1700** | **2500** | **7.1** |
| Total Low-molecular-weight PAHs | ug/kg | | < 5.1 U | **560** | **610** | **570** | **290** | **550** | **1000** | **290** | **640** | < 15 U |
| Total PAHs (sum 16) | ug/kg | | < 5.1 U | **5500** | **3700** | **3100** | **1800** | **5200** | **8600** | **2000** | **3100** | **7.1** |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED2A | SED2A | SED2A | SED2B | SED2B | SED2B | SED2B | SED2C | SED2C | SED2C | SED2C |
| | | Sample Date | 11/6/2013 10:45:00 AM | 11/6/2013 10:45:00 AM | 11/6/2013 10:45:00 AM | 11/5/2013 2:54:00 PM | 11/5/2013 2:54:00 PM | 11/5/2013 2:54:00 PM | 11/5/2013 2:54:00 PM | 11/6/2013 9:54:00 AM | 11/6/2013 9:54:00 AM | 11/6/2013 9:54:00 AM | 11/6/2013 9:54:00 AM |
| | | Sample ID | SED2A03N | SED2A05N | SED2A07N | SED2B01N | SED2B03N | SED2B05N | SED2B07N | SED2C01N | SED2C03N | SED2C05N | SED2C07N |
| | | Depth | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | < 5.9 U | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | < 5.9 U | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | < 5.9 U | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | < 5.9 U | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | < 5.9 U | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | < 5.9 U | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | < 5.9 U | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | < 5.9 U | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | < 5.9 U | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | < 5.9 U | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | < 5.9 U | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | < 5.9 U | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | < 5.9 U | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | < 5.9 U | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | < 5.9 U | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | < 1200 U | | | |
| 2-Butanone | ug/kg | | | | | | | | | **4.9 J** | | | |
| 2-Hexanone | ug/kg | | | | | | | | | < 5.9 U | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | < 5.9 U | | | |
| Acetone | ug/kg | | | | | | | | | **54** | | | |
| Benzene | ug/kg | | | | | | | | | < 5.9 U | | | |
| Bromochloromethane | ug/kg | | | | | | | | | < 5.9 U | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | < 5.9 U | | | |
| Bromoform | ug/kg | | | | | | | | | < 5.9 U | | | |
| Bromomethane | ug/kg | | | | | | | | | < 5.9 U | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | < 5.9 U | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | < 5.9 U | | | |
| Chlorobenzene | ug/kg | | | | | | | | | < 5.9 U | | | |
| Chloroethane | ug/kg | | | | | | | | | < 5.9 U | | | |
| Chloroform | ug/kg | | | | | | | | | < 5.9 U | | | |
| Chloromethane | ug/kg | | | | | | | | | < 5.9 U | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | < 5.9 U | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | < 5.9 U | | | |
| Cyclohexane | ug/kg | | | | | | | | | < 5.9 U | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | < 5.9 U | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | < 5.9 U | | | |
| Ethylbenzene | ug/kg | | | | | | | | | < 5.9 U | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | < 5.9 U | | | |
| m, p-Xylene | ug/kg | | | | | | | | | < 12 U | | | |
| Methyl Acetate | ug/kg | | | | | | | | | < 5.9 U | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | < 5.9 U | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | < 5.9 U | | | |
| Methylene Chloride | ug/kg | | | | | | | | | < 5.9 U | | | |
| o-Xylene | ug/kg | | | | | | | | | < 5.9 U | | | |
| Styrene | ug/kg | | | | | | | | | < 5.9 U | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | < 5.9 U | | | |
| Toluene | ug/kg | | | | | | | | | < 5.9 U | | | |

| | | Location ID | SED2A | SED2A | SED2A | SED2B | SED2B | SED2B | SED2B | SED2C | SED2C | SED2C | SED2C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/6/2013 10:45:00 AM | 11/6/2013 10:45:00 AM | 11/6/2013 10:45:00 AM | 11/5/2013 2:54:00 PM | 11/5/2013 2:54:00 PM | 11/5/2013 2:54:00 PM | 11/5/2013 2:54:00 PM | 11/6/2013 9:54:00 AM | 11/6/2013 9:54:00 AM | 11/6/2013 9:54:00 AM | 11/6/2013 9:54:00 AM |
| | | Sample ID | SED2A03N | SED2A05N | SED2A07N | SED2B01N | SED2B03N | SED2B05N | SED2B07N | SED2C01N | SED2C03N | SED2C05N | SED2C07N |
| | | Depth | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | < 5.9 U | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | < 5.9 U | | | |
| Trichloroethene | ug/kg | | | | | | | | | < 5.9 U | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | < 5.9 U | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | < 5.9 U | | | |
| Xylenes (total) | ug/kg | | | | | | | | | < 12 U | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | < 480 U | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | < 480 U | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | < 98 U | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | < 480 U | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | < 480 U | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | < 480 U | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | < 98 U | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | < 480 U | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | < 2500 U | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | < 480 U | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | < 480 U | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | < 98 U | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | < 480 U | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | **32 J** | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | < 480 U | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | < 2500 U | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | < 480 U | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | < 480 U | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | < 2500 U | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | < 2500 U | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | < 480 U | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | < 480 U | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | < 480 U | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | < 480 U | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | < 480 U | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | < 2500 U | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | < 2500 U | | | |
| Acenaphthene | ug/kg | | < 14 U | < 12 U | < 8.8 U | < 99 U | < 83 U | **39** | < 27 U | **79 J** | **100** | **55** | **69 J** |
| Acenaphthylene | ug/kg | | < 14 U | < 12 U | < 8.8 U | **66 J** | **45 J** | **39** | **30** | **180** | **180** | **240** | **66 J** |
| Acetophenone | ug/kg | | | | | | | | | < 480 U | | | |
| Anthracene | ug/kg | | < 14 U | < 12 U | < 8.8 U | **140** | **190** | **100** | **170** | **230** | **190** | **180** | **150 J** |
| Atrazine | ug/kg | | | | | | | | | < 480 U | | | |
| Benzaldehyde | ug/kg | | | | | | | | | < 480 UJ | | | |
| Benzo(a)anthracene | ug/kg | | < 14 U | < 12 U | < 8.8 U | **640** | **740** | **330** | **440** | **650** | **420** | **300** | < 200 U |
| Benzo(a)pyrene | ug/kg | | < 14 U | < 12 U | < 8.8 U | **690** | **740** | **290** | **370** | **650** | **370** | **340** | **560** |
| Benzo(b)fluoranthene | ug/kg | | < 14 U | < 12 U | < 8.8 U | **1100** | **1100** | **370** | **430** | **760** | **420** | **390** | **560** |
| Benzo(g,h,i)perylene | ug/kg | | < 14 U | < 12 U | < 8.8 U | **850** | **770** | **250** | **260** | **670** | **360** | **380** | **400** |
| Benzo(k)fluoranthene | ug/kg | | < 14 U | < 12 U | < 8.8 U | **380** | **330** | **110** | **110** | **300** | **140** | **120** | **200** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | < 480 U | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | < 98 U | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | **440 J** | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | < 480 U | | | |

## Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED2A | SED2A | SED2A | SED2B | SED2B | SED2B | SED2B | SED2C | SED2C | SED2C | SED2C |
| | | Sample Date | 11/6/2013 10:45:00 AM | 11/6/2013 10:45:00 AM | 11/6/2013 10:45:00 AM | 11/5/2013 2:54:00 PM | 11/5/2013 2:54:00 PM | 11/5/2013 2:54:00 PM | 11/5/2013 2:54:00 PM | 11/6/2013 9:54:00 AM | 11/6/2013 9:54:00 AM | 11/6/2013 9:54:00 AM | 11/6/2013 9:54:00 AM |
| | | Sample ID | SED2A03N | SED2A05N | SED2A07N | SED2B01N | SED2B03N | SED2B05N | SED2B07N | SED2C01N | SED2C03N | SED2C05N | SED2C07N |
| | | Depth | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | < 2500 U | | | |
| Carbazole | ug/kg | | | | | | | | | < 98 U | | | |
| Chrysene | ug/kg | | < 14 U | < 12 U | < 8.8 U | 980 | 990 | 360 | 440 | 820 | 470 | 440 | < 200 U |
| Dibenzo(a,h)anthracene | ug/kg | | < 14 U | < 12 U | < 8.8 U | 150 | 150 | 93 | 54 | 130 | 82 | 74 | 130 J |
| Dibenzofuran | ug/kg | | | | | | | | | < 480 U | | | |
| Diethylphthalate | ug/kg | | | | | | | | | < 480 U | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | < 480 U | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | < 480 U | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | < 480 U | | | |
| Fluoranthene | ug/kg | | < 14 U | < 12 U | < 8.8 U | 1800 | 2000 | 660 | 870 | 1200 | 840 | 650 | 1400 |
| Fluorene | ug/kg | | < 14 U | < 12 U | < 8.8 U | < 99 U | 97 | 60 | 39 | 89 J | 100 | 80 | 95 J |
| Hexachlorobenzene | ug/kg | | | | | | | | | < 98 U | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | < 98 U | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | < 480 U | | | |
| Hexachloroethane | ug/kg | | | | | | | | | < 480 U | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | < 14 U | < 12 U | < 8.8 U | 630 | 630 | 200 | 210 | 430 | 270 | 250 | 320 |
| Isophorone | ug/kg | | | | | | | | | < 480 U | | | |
| Naphthalene | ug/kg | | < 14 U | < 12 U | < 8.8 U | < 99 U | < 83 U | 46 | < 27 U | < 98 U | < 59 U | < 55 U | < 200 U |
| Nitrobenzene | ug/kg | | | | | | | | | < 980 U | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | < 98 U | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | < 480 U | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | < 480 U | | | |
| Phenanthrene | ug/kg | | < 14 U | < 12 U | < 8.8 U | 460 | 790 | 350 | 420 | 660 | 650 | 400 | 520 |
| Phenol | ug/kg | | | | | | | | | < 98 U | | | |
| Pyrene | ug/kg | | < 14 U | < 12 U | < 8.8 U | 1000 | 1200 | 470 | 670 | 1000 | 810 | 630 | 1200 |
| BaP-TE | ug/kg | | < 14.0 U | < 12.0 U | < 8.80 U | 1080 | 1140 | 474 | 534 | 968 | 565 | 510 | 780 |
| Total High-molecular-weight PAHs | ug/kg | | < 14 U | < 12 U | < 8.8 U | 8200 | 8700 | 3100 | 3900 | 6600 | 4200 | 3600 | 4800 |
| Total Low-molecular-weight PAHs | ug/kg | | < 14 U | < 12 U | < 8.8 U | 670 | 1100 | 630 | 660 | 1200 | 1200 | 960 | 900 |
| Total PAHs (sum 16) | ug/kg | | < 14 U | < 12 U | < 8.8 U | 8900 | 9800 | 3800 | 4500 | 7800 | 5400 | 4500 | 5700 |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED3.5B | SED3.5B | SED3.5B | SED3.5B | SED3A | SED3A | SED3A | SED3A | SED3B | SED3B |
| | | Sample Date | 11/12/2013 11:41:00 AM | 11/12/2013 11:41:00 AM | 11/12/2013 11:41:00 AM | 11/12/2013 11:41:00 AM | 11/7/2013 1:16:00 PM | 11/7/2013 1:16:00 PM | 11/7/2013 1:16:00 PM | 11/7/2013 1:16:00 PM | 11/8/2013 8:47:00 AM | 11/8/2013 8:47:00 AM |
| | | Sample ID | SED3.5B01N | SED3.5B03N | SED3.5B05N | SED3.5B07N | SED3A01N | SED3A03N | SED3A05N | SED3A07N | SED3B01N | SED3B03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED3.5B | SED3.5B | SED3.5B | SED3.5B | SED3A | SED3A | SED3A | SED3A | SED3B | SED3B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/12/2013 11:41:00 AM | 11/12/2013 11:41:00 AM | 11/12/2013 11:41:00 AM | 11/12/2013 11:41:00 AM | 11/7/2013 1:16:00 PM | 11/7/2013 1:16:00 PM | 11/7/2013 1:16:00 PM | 11/7/2013 1:16:00 PM | 11/8/2013 8:47:00 AM | 11/8/2013 8:47:00 AM |
| | | Sample ID | SED3.5B01N | SED3.5B03N | SED3.5B05N | SED3.5B07N | SED3A01N | SED3A03N | SED3A05N | SED3A07N | SED3B01N | SED3B03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | |
| Acenaphthene | ug/kg | | **63** | **1.5 J** | < 4.9 U | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | < 4.3 U |
| Acenaphthylene | ug/kg | | **130** | **3.0 J** | < 4.9 U | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | < 4.3 U |
| Acetophenone | ug/kg | | | | | | | | | | | |
| Anthracene | ug/kg | | **100** | **4.9 J** | < 4.9 U | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | < 4.3 U |
| Atrazine | ug/kg | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **320** | **15** | < 4.9 U | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | < 4.3 U |
| Benzo(a)pyrene | ug/kg | | **340** | **14** | < 4.9 U | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | **170** | < 4.3 U |
| Benzo(b)fluoranthene | ug/kg | | **360** | **20** | < 4.9 U | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | < 4.3 U |
| Benzo(g,h,i)perylene | ug/kg | | **350** | **14** | < 4.9 U | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | < 4.3 U |
| Benzo(k)fluoranthene | ug/kg | | **160** | **7.1** | < 4.9 U | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | < 4.3 U |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED3.5B | SED3.5B | SED3.5B | SED3.5B | SED3A | SED3A | SED3A | SED3A | SED3B | SED3B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/12/2013 11:41:00 AM | 11/12/2013 11:41:00 AM | 11/12/2013 11:41:00 AM | 11/12/2013 11:41:00 AM | 11/7/2013 1:16:00 PM | 11/7/2013 1:16:00 PM | 11/7/2013 1:16:00 PM | 11/7/2013 1:16:00 PM | 11/8/2013 8:47:00 AM | 11/8/2013 8:47:00 AM |
| | | Sample ID | SED3.5B01N | SED3.5B03N | SED3.5B05N | SED3.5B07N | SED3A01N | SED3A03N | SED3A05N | SED3A07N | SED3B01N | SED3B03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | |
| Chrysene | ug/kg | | **380** | **19** | < 4.9 U | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | < 4.3 U |
| Dibenzo(a,h)anthracene | ug/kg | | **54** | **4.5 J** | < 4.9 U | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | < 4.3 U |
| Dibenzofuran | ug/kg | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | |
| Fluoranthene | ug/kg | | **670** | **18** | **1.2 J** | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | < 4.3 U |
| Fluorene | ug/kg | | **57** | **3.0 J** | < 4.9 U | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | < 4.3 U |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **220** | **10** | < 4.9 U | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | < 4.3 U |
| Isophorone | ug/kg | | | | | | | | | | | |
| Naphthalene | ug/kg | | **63** | **6.6** | **0.77 J** | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | < 4.3 U |
| Nitrobenzene | ug/kg | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | |
| Phenanthrene | ug/kg | | **330** | **17** | < 4.9 U | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | < 4.3 U |
| Phenol | ug/kg | | | | | | | | | | | |
| Pyrene | ug/kg | | **900** | **29** | **2.5 J** | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | **2.4 J** |
| BaP-TE | ug/kg | | **486** | **23.1** | < 4.90 U | < 4.40 U | < 7.30 U | < 7.20 U | < 7.00 U | < 6.20 U | **170** | < 4.30 U |
| Total High-molecular-weight PAHs | ug/kg | | **3800** | **150** | **3.7** | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | **170** | **2.4** |
| Total Low-molecular-weight PAHs | ug/kg | | **740** | **36** | **0.77** | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | < 34 U | < 4.3 U |
| Total PAHs (sum 16) | ug/kg | | **4500** | **190** | **4.5** | < 4.4 U | < 7.3 U | < 7.2 U | < 7.0 U | < 6.2 U | **170** | **2.4** |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SED3B | SED3B | SED3C | SED3C | SED3C | SED3C | SED3C | SED3C | SED3C | SED3C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/8/2013 8:47:00 AM | 11/8/2013 8:47:00 AM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM |
| | | Sample ID | SED3B05N | SED3B07N | SED3C01N | SED3C01R | SED3C03N | SED3C03R | SED3C05N | SED3C05R | SED3C07N | SED3C07R |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 1 - 3 ft | 3 - 5 ft | 3 - 5 ft | 5 - 7 ft | 5 - 7 ft | 7 - 9 ft | 7 - 9 ft |
| | | Type | N | N | N | FD | N | FD | N | FD | N | FD |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 1,4-Dioxane | ug/kg | | | | < 9000 U | < 2100 U | | | | | | |
| 2-Butanone | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 2-Hexanone | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Acetone | ug/kg | | | | < 180 U | < 41 U | | | | | | |
| Benzene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Bromochloromethane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Bromodichloromethane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Bromoform | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Bromomethane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Carbon Disulfide | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Chlorobenzene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Chloroethane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Chloroform | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Chloromethane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Cyclohexane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Dibromochloromethane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Ethylbenzene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Isopropylbenzene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| m, p-Xylene | ug/kg | | | | < 90 U | < 21 U | | | | | | |
| Methyl Acetate | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Methylcyclohexane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Methylene Chloride | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| o-Xylene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Styrene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Tetrachloroethylene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Toluene | ug/kg | | | | < 45 U | < 10 U | | | | | | |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SED3B | SED3B | SED3C | SED3C | SED3C | SED3C | SED3C | SED3C | SED3C | SED3C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/8/2013 8:47:00 AM | 11/8/2013 8:47:00 AM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM |
| | | Sample ID | SED3B05N | SED3B07N | SED3C01N | SED3C01R | SED3C03N | SED3C03R | SED3C05N | SED3C05R | SED3C07N | SED3C07R |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 1 - 3 ft | 3 - 5 ft | 3 - 5 ft | 5 - 7 ft | 5 - 7 ft | 7 - 9 ft | 7 - 9 ft |
| | | Type | N | N | N | FD | N | FD | N | FD | N | FD |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Trichloroethene | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Vinyl Chloride | ug/kg | | | | < 45 U | < 10 U | | | | | | |
| Xylenes (total) | ug/kg | | | | < 90 U | < 21 U | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | **41 J** | < 110 U | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | < 49 U | < 23 U | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | < 49 U | < 23 U | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | **44 J** | < 110 U | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | < 1200 U | < 590 U | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | < 49 U | < 23 U | | | | | | |
| 2-Chlorophenol | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | **100** | **4.6 J** | | | | | | |
| 2-Methylphenol | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| 2-Nitroaniline | ug/kg | | | | < 1200 U | < 590 U | | | | | | |
| 2-Nitrophenol | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| 3-Nitroaniline | ug/kg | | | | < 1200 U | < 590 U | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | < 1200 U | < 590 U | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| 4-Chloroaniline | ug/kg | | | | **64 J** | < 110 U | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| 4-Methylphenol | ug/kg | | | | **130 J** | < 110 U | | | | | | |
| 4-Nitroaniline | ug/kg | | | | < 1200 U | < 590 U | | | | | | |
| 4-Nitrophenol | ug/kg | | | | < 1200 U | < 590 U | | | | | | |
| Acenaphthene | ug/kg | | < 4.8 U | < 4.8 U | **100** | **11 J** | **42** | **110** | **50** | **52** | **43** | **47** |
| Acenaphthylene | ug/kg | | < 4.8 U | < 4.8 U | **100** | **23** | **58** | **130** | **74** | **76** | **49** | **60** |
| Acetophenone | ug/kg | | | | **39 J** | < 110 U | | | | | | |
| Anthracene | ug/kg | | < 4.8 U | < 4.8 U | **210** | **28** | **100 J** | **300 J** | **100** | **110** | **56** | **69** |
| Atrazine | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| Benzaldehyde | ug/kg | | | | **240 J** | < 110 UJ | | | | | | |
| Benzo(a)anthracene | ug/kg | | < 4.8 U | < 4.8 U | **590 J** | **73 J** | **260 J** | **560 J** | **220** | **210** | **92** | **130** |
| Benzo(a)pyrene | ug/kg | | < 4.8 U | < 4.8 U | **570 J** | **78 J** | **280 J** | **540 J** | **220** | **220** | **95** | **130** |
| Benzo(b)fluoranthene | ug/kg | | < 4.8 U | < 4.8 U | **760 J** | **84 J** | **370 J** | **620 J** | **270** | **280** | **130** | **150** |
| Benzo(g,h,i)perylene | ug/kg | | < 4.8 U | < 4.8 U | **610 J** | **78 J** | **320** | **500** | **230** | **230** | **100** | **130** |
| Benzo(k)fluoranthene | ug/kg | | < 4.8 U | < 4.8 U | **270 J** | **46 J** | **130** | **220** | **89** | **83** | **38** | **65** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | < 49 U | < 23 U | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | **2300 J** | **120 J** | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | **120 J** | < 110 U | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED3B | SED3B | SED3C | SED3C | SED3C | SED3C | SED3C | SED3C | SED3C | SED3C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/8/2013 8:47:00 AM | 11/8/2013 8:47:00 AM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM |
| | | Sample ID | SED3B05N | SED3B07N | SED3C01N | SED3C01R | SED3C03N | SED3C03R | SED3C05N | SED3C05R | SED3C07N | SED3C07R |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 1 - 3 ft | 3 - 5 ft | 3 - 5 ft | 5 - 7 ft | 5 - 7 ft | 7 - 9 ft | 7 - 9 ft |
| | | Type | N | N | N | FD | N | FD | N | FD | N | FD |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | < 1200 U | < 590 U | | | | | | |
| Carbazole | ug/kg | | | | **110** | **9.8 J** | | | | | | |
| Chrysene | ug/kg | | < 4.8 U | < 4.8 U | **740 J** | **83 J** | **380 J** | **640 J** | **280** | **290** | **120** | **150** |
| Dibenzo(a,h)anthracene | ug/kg | | < 4.8 U | < 4.8 U | **130** | **17 J*** | **51** | **120** | **58** | **39** | **20 J** | **32** |
| Dibenzofuran | ug/kg | | | | **49 J** | < 110 U | | | | | | |
| Diethylphthalate | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| Dimethylphthalate | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | **32 J** | < 110 U* | | | | | | |
| Fluoranthene | ug/kg | | **1.2 J** | < 4.8 U | **1700 J** | **180 J** | **730 J** | **1700 J** | **640** | **630** | **250 J** | **350 J** |
| Fluorene | ug/kg | | < 4.8 U | < 4.8 U | **120** | **12 J** | **59** | **130** | **61** | **63** | **54** | **55** |
| Hexachlorobenzene | ug/kg | | | | < 49 U | < 23 U | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | < 49 U | < 23 U | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| Hexachloroethane | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | < 4.8 U | < 4.8 U | **480 J** | **65 J** | **230 J** | **420 J** | **170** | **170** | **77** | **100** |
| Isophorone | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| Naphthalene | ug/kg | | < 4.8 U | < 4.8 U | **85** | < 23 U | < 27 U | < 50 U | < 25 U | < 26 U | < 25 U | < 24 U |
| Nitrobenzene | ug/kg | | | | < 490 U | < 230 U | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | < 49 U | < 23 U | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| Pentachlorophenol | ug/kg | | | | < 240 U | < 110 U | | | | | | |
| Phenanthrene | ug/kg | | < 4.8 U | < 4.8 U | **830 J** | **89 J** | **320 J** | **890 J** | **360** | **330** | **200 J** | **250 J** |
| Phenol | ug/kg | | | | < 49 U | < 23 U | | | | | | |
| Pyrene | ug/kg | | **2.0 J** | **2.3 J** | **980 J** | **110 J** | **440 J** | **890 J** | **360** | **380** | **160** | **230** |
| BaP-TE | ug/kg | | < 4.80 U | < 4.80 U | **886** | **118** | **419** | **823** | **345** | **326** | **145** | **201** |
| Total High-molecular-weight PAHs | ug/kg | | **3.2** | **2.3** | **6800** | **810** | **3200** | **6200** | **2500** | **2500** | **1100** | **1500** |
| Total Low-molecular-weight PAHs | ug/kg | | < 4.8 U | < 4.8 U | **1400** | **160** | **580** | **1600** | **650** | **630** | **400** | **480** |
| Total PAHs (sum 16) | ug/kg | | **3.2** | **2.3** | **8300** | **980** | **3800** | **7800** | **3200** | **3200** | **1500** | **1900** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED4.5B | SED4.5B | SED4.5B | SED4.5B | SED4A | SED4A | SED4A | SED4A | SED4B | SED4B |
| | | Sample Date | 11/8/2013 10:16:00 AM | 11/8/2013 10:16:00 AM | 11/8/2013 10:16:00 AM | 11/8/2013 10:16:00 AM | 11/12/2013 1:32:00 PM | 11/12/2013 1:32:00 PM | 11/12/2013 1:32:00 PM | 11/12/2013 1:32:00 PM | 11/12/2013 12:16:00 PM | 11/12/2013 12:16:00 PM |
| | | Sample ID | SED4.5B01N | SED4.5B03N | SED4.5B05N | SED4.5B07N | SED4A01N | SED4A03N | SED4A05N | SED4A07N | SED4B01N | SED4B03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | **1500 J** | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | **370** | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | **810** | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | **2.7 J** | | | | | | | | < 7.1 U | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| 1,1,2-Trichloroethane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| 1,1-Dichloroethane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| 1,1-Dichloroethene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| 1,2,3-Trichlorobenzene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| 1,2,4-Trichlorobenzene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| 1,2-Dibromoethane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| 1,2-Dichlorobenzene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| 1,2-Dichloroethane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| 1,2-Dichloropropane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| 1,3-Dichlorobenzene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| 1,4-Dichlorobenzene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| 1,4-Dioxane | ug/kg | | < 1600 U | | | | | | | | < 1400 U | |
| 2-Butanone | ug/kg | | **17** | | | | | | | | < 7.1 U | |
| 2-Hexanone | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| 4-Methyl-2-pentanone | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Acetone | ug/kg | | **86** | | | | | | | | < 29 U | |
| Benzene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Bromochloromethane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Bromodichloromethane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Bromoform | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Bromomethane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Carbon Disulfide | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Carbon Tetrachloride | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Chlorobenzene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Chloroethane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Chloroform | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Chloromethane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| cis-1,2-Dichloroethylene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| cis-1,3-Dichloropropene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Cyclohexane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Dibromochloromethane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Dichlorodifluoromethane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Ethylbenzene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Isopropylbenzene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| m, p-Xylene | ug/kg | | < 16 U | | | | | | | | < 14 U | |
| Methyl Acetate | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Methylcyclohexane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Methylene Chloride | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| o-Xylene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Styrene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Tetrachloroethylene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Toluene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED4.5B | SED4.5B | SED4.5B | SED4.5B | SED4A | SED4A | SED4A | SED4A | SED4B | SED4B |
| | | Sample Date | 11/8/2013 10:16:00 AM | 11/8/2013 10:16:00 AM | 11/8/2013 10:16:00 AM | 11/8/2013 10:16:00 AM | 11/12/2013 1:32:00 PM | 11/12/2013 1:32:00 PM | 11/12/2013 1:32:00 PM | 11/12/2013 1:32:00 PM | 11/12/2013 12:16:00 PM | 11/12/2013 12:16:00 PM |
| | | Sample ID | SED4.5B01N | SED4.5B03N | SED4.5B05N | SED4.5B07N | SED4A01N | SED4A03N | SED4A05N | SED4A07N | SED4B01N | SED4B03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| trans-1,3-Dichloropropene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Trichloroethene | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Trichlorofluoromethane | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Vinyl Chloride | ug/kg | | < 7.8 U | | | | | | | | < 7.1 U | |
| Xylenes (total) | ug/kg | | < 16 U | | | | | | | | < 14 U | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | **12 J** | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | < 130 U | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | < 26 U | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | < 130 U | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | < 130 U | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | < 130 U | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | < 26 U | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | **33 J** | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | < 650 U | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | < 130 U | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | < 130 U | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | < 26 U | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | < 130 U | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | **69** | |
| 2-Methylphenol | ug/kg | | | | | | | | | | < 130 U | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | < 650 U | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | < 130 U | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | < 130 U | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | < 650 U | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | < 650 U | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | < 130 U | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | < 130 U | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | < 130 U | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | < 130 U | |
| 4-Methylphenol | ug/kg | | | | | | | | | | **27 J** | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | < 650 U | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | < 650 U | |
| Acenaphthene | ug/kg | | **56** | **13 J** | < 25 U | < 4.5 U | < 33 U | < 33 U | < 28 U | < 25 U | **170** | **32** |
| Acenaphthylene | ug/kg | | **160** | **37** | < 25 U | < 4.5 U | < 33 U | < 33 U | < 28 U | < 25 U | **140** | **110** |
| Acetophenone | ug/kg | | | | | | | | | | < 130 U | |
| Anthracene | ug/kg | | **120** | **30** | < 25 U | < 4.5 U | < 33 U | < 33 U | < 28 U | < 25 U | **360** | **82** |
| Atrazine | ug/kg | | | | | | | | | | < 130 U | |
| Benzaldehyde | ug/kg | | | | | | | | | | **24 J** | |
| Benzo(a)anthracene | ug/kg | | **330** | **110** | **13 J** | < 4.5 U | < 33 U | < 33 U | < 28 U | < 25 U | **1000** | **220** |
| Benzo(a)pyrene | ug/kg | | **350** | **120** | **11 J** | < 4.5 U | < 33 U | < 33 U | < 28 U | < 25 U | **1000** | **200** |
| Benzo(b)fluoranthene | ug/kg | | **400** | **110** | **27** | < 4.5 U | < 33 U | < 33 U | < 28 U | < 25 U | **1100** | **220** |
| Benzo(g,h,i)perylene | ug/kg | | **360** | **95** | < 25 U | < 4.5 U | < 33 U | < 33 U | < 28 U | < 25 U | **890** | **190** |
| Benzo(k)fluoranthene | ug/kg | | **140** | **120** | < 25 U | < 4.5 U | < 33 U | < 33 U | < 28 U | < 25 U | **470** | **95** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | < 130 U | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | < 26 U | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | **330** | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | < 130 U | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED4.5B | SED4.5B | SED4.5B | SED4.5B | SED4A | SED4A | SED4A | SED4A | SED4B | SED4B |
| | | Sample Date | 11/8/2013 10:16:00 AM | 11/8/2013 10:16:00 AM | 11/8/2013 10:16:00 AM | 11/8/2013 10:16:00 AM | 11/12/2013 1:32:00 PM | 11/12/2013 1:32:00 PM | 11/12/2013 1:32:00 PM | 11/12/2013 1:32:00 PM | 11/12/2013 12:16:00 PM | 11/12/2013 12:16:00 PM |
| | | Sample ID | SED4.5B01N | SED4.5B03N | SED4.5B05N | SED4.5B07N | SED4A01N | SED4A03N | SED4A05N | SED4A07N | SED4B01N | SED4B03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | < 650 U | |
| Carbazole | ug/kg | | | | | | | | | | **120** | |
| Chrysene | ug/kg | | **410** | **160** | **13 J** | < 4.5 U | < 33 U | < 33 U | < 28 U | < 25 U | **1200** | **270** |
| Dibenzo(a,h)anthracene | ug/kg | | **68** | **22 J** | < 25 U | < 4.5 U | < 33 U | < 33 U | < 28 U | < 25 U | **190** | **50** |
| Dibenzofuran | ug/kg | | | | | | | | | | < 130 U | |
| Diethylphthalate | ug/kg | | | | | | | | | | < 130 U | |
| Dimethylphthalate | ug/kg | | | | | | | | | | < 130 U | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | < 130 U | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | < 130 U | |
| Fluoranthene | ug/kg | | **800** | **220** | **16 J** | < 4.5 U | **6.9 J** | < 33 U | < 28 U | < 25 U | **2500** | **500** |
| Fluorene | ug/kg | | **82** | **31** | < 25 U | < 4.5 U | < 33 U | < 33 U | < 28 U | < 25 U | **170** | **52** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | < 26 U | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | < 26 U | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | < 130 U | |
| Hexachloroethane | ug/kg | | | | | | | | | | < 130 U | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **210** | **79** | < 25 U | < 4.5 U | < 33 U | < 33 U | < 28 U | < 25 U | **690** | **120** |
| Isophorone | ug/kg | | | | | | | | | | < 130 U | |
| Naphthalene | ug/kg | | **55** | < 27 U | < 25 U | < 4.5 U | < 33 U | < 33 U | < 28 U | < 25 U | **60** | **32** |
| Nitrobenzene | ug/kg | | | | | | | | | | < 260 U | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | < 26 U | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | < 130 U | |
| Pentachlorophenol | ug/kg | | | | | | | | | | < 130 U | |
| Phenanthrene | ug/kg | | **480** | **130** | **11 J** | **0.84 J** | < 33 U | < 33 U | < 28 U | < 25 U | **1700** | **340** |
| Phenol | ug/kg | | | | | | | | | | < 26 U | |
| Pyrene | ug/kg | | **1000** | **250** | **21 J** | < 4.5 U | < 33 U | < 33 U | < 28 U | < 25 U | **1900** | **550** |
| BaP-TE | ug/kg | | **514** | **173** | **15.0** | < 4.50 U | < 33.0 U | < 33.0 U | < 28.0 U | < 25.0 U | **1470** | **307** |
| Total High-molecular-weight PAHs | ug/kg | | **4100** | **1300** | **100** | < 4.5 U | **6.9** | < 33 U | < 28 U | < 25 U | **11000** | **2400** |
| Total Low-molecular-weight PAHs | ug/kg | | **950** | **240** | **11** | **0.84** | < 33 U | < 33 U | < 28 U | < 25 U | **2600** | **650** |
| Total PAHs (sum 16) | ug/kg | | **5000** | **1500** | **110** | **0.84** | **6.9** | < 33 U | < 28 U | < 25 U | **14000** | **3100** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED4B | SED4B | SED4B | SED4B | SED4B | SED4C | SED4C | SED4C | SED4C | SED4C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/12/2013 12:16:00 PM | 11/12/2013 12:16:00 PM | 6/15/2017 8:40:00 AM | 6/15/2017 8:50:00 AM | 6/15/2017 9:00:00 AM | 11/12/2013 2:09:00 PM | 11/12/2013 2:09:00 PM | 11/12/2013 2:09:00 PM | 11/12/2013 2:09:00 PM | 6/14/2017 1:40:00 PM |
| | | Sample ID | SED4B05N | SED4B07N | SED4B02FN | SED4B04FN | SED4B06FN | SED4C01N | SED4C03N | SED4C05N | SED4C07N | SED4C02FN |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | **2080** | **3500** | **2660** | | | | | **3070** |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | |

| | | Location ID | SED4B | SED4B | SED4B | SED4B | SED4B | SED4C | SED4C | SED4C | SED4C | SED4C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/12/2013 12:16:00 PM | 11/12/2013 12:16:00 PM | 6/15/2017 8:40:00 AM | 6/15/2017 8:50:00 AM | 6/15/2017 9:00:00 AM | 11/12/2013 2:09:00 PM | 11/12/2013 2:09:00 PM | 11/12/2013 2:09:00 PM | 11/12/2013 2:09:00 PM | 6/14/2017 1:40:00 PM |
| | | Sample ID | SED4B05N | SED4B07N | SED4B02FN | SED4B04FN | SED4B06FN | SED4C01N | SED4C03N | SED4C05N | SED4C07N | SED4C02FN |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | |
| Acenaphthene | ug/kg | | **34** | **8.1 J** | **64 J** | **41 J** | **2.8 J** | **23 J** | **35** | **72** | **38** | **61 J** |
| Acenaphthylene | ug/kg | | **100** | **17 J** | **90** | **120** | **9.3** | **40** | **99** | **170** | **91** | **91 J** |
| Acetophenone | ug/kg | | | | | | | | | | | |
| Anthracene | ug/kg | | **100** | **15 J** | **81** | **100** | **7.0** | **42** | **69** | **160** | **81** | **90 J** |
| Atrazine | ug/kg | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **270** | **48** | **180** | **210** | **13** | **140** | **210** | **450** | **240** | **230** |
| Benzo(a)pyrene | ug/kg | | **290** | **50** | **180** | **210** | **14** | **170** | **220** | **510** | **290 *** | **270** |
| Benzo(b)fluoranthene | ug/kg | | **340** | **81** | **210** | **230** | **16** | **220** | **290** | **530** | **330 *** | **370** |
| Benzo(g,h,i)perylene | ug/kg | | **300** | **57** | **150** | **180** | **13** | **150** | **210** | **580** | **280 *** | **290** |
| Benzo(k)fluoranthene | ug/kg | | **110** | **19 J** | **75** | **110** | **6.9** | **57** | **79** | **160** | **130 *** | **110 J** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED4B | SED4B | SED4B | SED4B | SED4B | SED4C | SED4C | SED4C | SED4C | SED4C |
| | | Sample Date | 11/12/2013 12:16:00 PM | 11/12/2013 12:16:00 PM | 6/15/2017 8:40:00 AM | 6/15/2017 8:50:00 AM | 6/15/2017 9:00:00 AM | 11/12/2013 2:09:00 PM | 11/12/2013 2:09:00 PM | 11/12/2013 2:09:00 PM | 11/12/2013 2:09:00 PM | 6/14/2017 1:40:00 PM |
| | | Sample ID | SED4B05N | SED4B07N | SED4B02FN | SED4B04FN | SED4B06FN | SED4C01N | SED4C03N | SED4C05N | SED4C07N | SED4C02FN |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | |
| Chrysene | ug/kg | | **340** | **65** | **210** | **260** | **17** | **190** | **280** | **530** | **370** | **320** |
| Dibenzo(a,h)anthracene | ug/kg | | **58** | **11 J** | **38 J** | **39 J** | **2.7 J** | **36** | **41** | **82** | **54 *** | < 140 U |
| Dibenzofuran | ug/kg | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | |
| Fluoranthene | ug/kg | | **560** | **76** | **450** | **550** | **33** | **250** | **340** | **940** | **510** | **640** |
| Fluorene | ug/kg | | **46** | **8.9 J** | **66 J** | **55 J** | **4.1 J** | **28** | **49** | **79** | **49** | **71 J** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **200** | **46** | **120** | **140** | **9.6** | **120** | **140** | **300** | **180 *** | **210** |
| Isophorone | ug/kg | | | | | | | | | | | |
| Naphthalene | ug/kg | | **60** | **9.4 J** | < 74 U | **34 J** | **3.4 J** | **18 J** | **39** | **75** | **64** | < 140 U |
| Nitrobenzene | ug/kg | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | |
| Phenanthrene | ug/kg | | **310** | **39** | **370** | **370** | **19** | **220** | **270** | **580** | **290** | **330** |
| Phenol | ug/kg | | | | | | | | | | | |
| Pyrene | ug/kg | | **600** | **91** | **410** | **530** | **32** | **370** | **510** | **1600** | **650** | **570** |
| BaP-TE | ug/kg | | **430** | **78.8** | **270** | **308** | **20.6** | **255** | **326** | **722** | **421** | **352** |
| Total High-molecular-weight PAHs | ug/kg | | **3100** | **540** | **2000** | **2500** | **160** | **1700** | **2300** | **5700** | **3000** | **3000** |
| Total Low-molecular-weight PAHs | ug/kg | | **650** | **97** | **670** | **720** | **46** | **370** | **560** | **1100** | **610** | **640** |
| Total PAHs (sum 16) | ug/kg | | **3700** | **640** | **2700** | **3200** | **200** | **2100** | **2900** | **6800** | **3600** | **3700** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED4C | SED4C | SED4C | SED5.5B | SED5.5B | SED5.5B | SED5.5B | SED5A | SED5A | SED5A |
| | | Sample Date | 6/14/2017 1:50:00 PM | 6/14/2017 2:00:00 PM | 6/14/2017 2:10:00 PM | 11/12/2013 2:49:00 PM | 11/12/2013 2:49:00 PM | 11/12/2013 2:49:00 PM | 11/13/2013 2:49:00 PM | 11/8/2013 11:18:00 AM | 11/8/2013 11:18:00 AM | 11/8/2013 11:18:00 AM |
| | | Sample ID | SED4C04FN | SED4C06FN | SED4C08FN | SED5.5B01N | SED5.5B03N | SED5.5B07N | SED5.5B05N | SED5A01N | SED5A03N | SED5A05N |
| | | Depth | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 1 - 3 ft | 3 - 5 ft | 7 - 9 ft | 5 - 7 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | **1970** | **2870** | **2700** | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED4C | SED4C | SED4C | SED5.5B | SED5.5B | SED5.5B | SED5.5B | SED5A | SED5A | SED5A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/14/2017 1:50:00 PM | 6/14/2017 2:00:00 PM | 6/14/2017 2:10:00 PM | 11/12/2013 2:49:00 PM | 11/12/2013 2:49:00 PM | 11/12/2013 2:49:00 PM | 11/13/2013 2:49:00 PM | 11/8/2013 11:18:00 AM | 11/8/2013 11:18:00 AM | 11/8/2013 11:18:00 AM |
| | | Sample ID | SED4C04FN | SED4C06FN | SED4C08FN | SED5.5B01N | SED5.5B03N | SED5.5B07N | SED5.5B05N | SED5A01N | SED5A03N | SED5A05N |
| | | Depth | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 1 - 3 ft | 3 - 5 ft | 7 - 9 ft | 5 - 7 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | |
| Acenaphthene | ug/kg | | **60** | **67 J** | **80** | **29** | **35** | < 23 U | **16 J** | **44** | **40** | **48** |
| Acenaphthylene | ug/kg | | **160** | **210** | **200** | **110** | **95** | < 23 U | **33** | **100** | **98** | **130** |
| Acetophenone | ug/kg | | | | | | | | | | | |
| Anthracene | ug/kg | | **140** | **160** | **180** | **68** | **76** | < 23 U | **47** | **63** | **71** | **110** |
| Atrazine | ug/kg | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **290** | **290** | **410** | **160** | **220** | **19 J** | **130** | **250** | **200** | **240** |
| Benzo(a)pyrene | ug/kg | | **300** | **320** | **500** | **190** | **270 *** | < 23 U | **140** | **270** | **210** | **290** |
| Benzo(b)fluoranthene | ug/kg | | **330** | **380** | **550** | **240** | **250 *** | **18 J** | **180** | **280** | **230** | **290** |
| Benzo(g,h,i)perylene | ug/kg | | **280** | **290** | **560** | **190** | **320 *** | < 23 U | **120** | **290** | **280** | **350** |
| Benzo(k)fluoranthene | ug/kg | | **140** | **140** | **160** | **77** | **130 *** | < 23 U | **49** | **150** | **77** | **140** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED4C | SED4C | SED4C | SED5.5B | SED5.5B | SED5.5B | SED5.5B | SED5A | SED5A | SED5A |
| | | Sample Date | 6/14/2017 1:50:00 PM | 6/14/2017 2:00:00 PM | 6/14/2017 2:10:00 PM | 11/12/2013 2:49:00 PM | 11/12/2013 2:49:00 PM | 11/12/2013 2:49:00 PM | 11/13/2013 2:49:00 PM | 11/8/2013 11:18:00 AM | 11/8/2013 11:18:00 AM | 11/8/2013 11:18:00 AM |
| | | Sample ID | SED4C04FN | SED4C06FN | SED4C08FN | SED5.5B01N | SED5.5B03N | SED5.5B07N | SED5.5B05N | SED5A01N | SED5A03N | SED5A05N |
| | | Depth | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 1 - 3 ft | 3 - 5 ft | 7 - 9 ft | 5 - 7 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | |
| Chrysene | ug/kg | | **380** | **420** | **490** | **240** | **270** | **21 J** | **160** | **350** | **250** | **320** |
| Dibenzo(a,h)anthracene | ug/kg | | **67** | **65 J** | **88** | **33** | **56 *** | < 23 U | **31** | **57** | **46** | **46** |
| Dibenzofuran | ug/kg | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | |
| Fluoranthene | ug/kg | | **810** | **720** | **1200** | **310** | **440** | **19 J** | **260** | **490** | **440** | **620** |
| Fluorene | ug/kg | | **95** | **82** | **98** | **35** | **39** | < 23 U | **21 J** | **59** | **46** | **75** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **190** | **220** | **310** | **150** | **180 *** | < 23 U | **100** | **200** | **150** | **200** |
| Isophorone | ug/kg | | | | | | | | | | | |
| Naphthalene | ug/kg | | **45 J** | **74 J** | **86** | **35** | **41** | < 23 U | **24 J** | **30** | **35** | **77** |
| Nitrobenzene | ug/kg | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | |
| Phenanthrene | ug/kg | | **580** | **450** | **560** | **190** | **250** | **13 J** | **120** | **380** | **270** | **370** |
| Phenol | ug/kg | | | | | | | | | | | |
| Pyrene | ug/kg | | **730** | **730** | **1300** | **380** | **600** | **24** | **190** | **540** | **570** | **740** |
| BaP-TE | ug/kg | | **450** | **476** | **717** | **279** | **393** | **3.72** | **213** | **402** | **315** | **411** |
| Total High-molecular-weight PAHs | ug/kg | | **3500** | **3600** | **5600** | **2000** | **2700** | **100** | **1400** | **2900** | **2500** | **3200** |
| Total Low-molecular-weight PAHs | ug/kg | | **1100** | **1000** | **1200** | **470** | **540** | **13** | **260** | **680** | **560** | **810** |
| Total PAHs (sum 16) | ug/kg | | **4600** | **4600** | **6800** | **2400** | **3300** | **110** | **1600** | **3600** | **3000** | **4000** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED5A | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B |
| | | Sample Date | 11/8/2013 11:18:00 AM | 11/8/2013 12:14:00 PM | 11/8/2013 12:14:00 PM | 11/8/2013 12:14:00 PM | 11/8/2013 12:14:00 PM | 6/19/2017 2:20:00 PM | 6/19/2017 2:30:00 PM | 6/19/2017 2:40:00 PM | 6/20/2017 7:50:00 AM | 6/20/2017 7:55:00 AM |
| | | Sample ID | SED5A07N | SED5B01N | SED5B03N | SED5B05N | SED5B07N | SED5B02FN | SED5B04FN | SED5B06FN | SED5B00BN | SED5B00CN |
| | | Depth | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 0.33 - 0.67 ft | 0.67 - 1 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | **3000** | **1610** | **37.6** | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | **120 J-** | **210 J-** |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | **1200 J-** | **910 J-** |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SED5A | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/8/2013 11:18:00 AM | 11/8/2013 12:14:00 PM | 11/8/2013 12:14:00 PM | 11/8/2013 12:14:00 PM | 11/8/2013 12:14:00 PM | 6/19/2017 2:20:00 PM | 6/19/2017 2:30:00 PM | 6/19/2017 2:40:00 PM | 6/20/2017 7:50:00 AM | 6/20/2017 7:55:00 AM |
| | | Sample ID | SED5A07N | SED5B01N | SED5B03N | SED5B05N | SED5B07N | SED5B02FN | SED5B04FN | SED5B06FN | SED5B00BN | SED5B00CN |
| | | Depth | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 0.33 - 0.67 ft | 0.67 - 1 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | |
| Acenaphthene | ug/kg | | < 4.4 U | **66** | **7.4 J** | < 4.1 U | < 4.2 U | **77** | **50** | < 4.5 U | < 210 U | **34 J** |
| Acenaphthylene | ug/kg | | < 4.4 U | **120** | < 24 U | < 4.1 U | < 4.2 U | **260** | **100** | < 4.5 U | < 210 U | **99** |
| Acetophenone | ug/kg | | | | | | | | | | | |
| Anthracene | ug/kg | | < 4.4 U | **130** | **24** | < 4.1 U | < 4.2 U | **240** | **140** | **1.7 J** | < 210 U | **130** |
| Atrazine | ug/kg | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | < 4.4 U | **370** | **73** | < 4.1 U | < 4.2 U | **380** | **290** | **4.5** | **300** | **280** |
| Benzo(a)pyrene | ug/kg | | < 4.4 U | **350** | **79** | < 4.1 U | < 4.2 U | **380** | **280** | **4.4 J** | **330** | **310** |
| Benzo(b)fluoranthene | ug/kg | | < 4.4 U | **380** | **94** | < 4.1 U | < 4.2 U | **500** | **430** | **6.8** | **620** | **390** |
| Benzo(g,h,i)perylene | ug/kg | | < 4.4 U | **320** | **70** | < 4.1 U | < 4.2 U | **370** | **250** | **3.9 J** | **430** | **290** |
| Benzo(k)fluoranthene | ug/kg | | < 4.4 U | **140** | **46** | < 4.1 U | < 4.2 U | **160** | **140** | **1.5 J** | **220** | **180** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SED5A | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/8/2013 11:18:00 AM | 11/8/2013 12:14:00 PM | 11/8/2013 12:14:00 PM | 11/8/2013 12:14:00 PM | 11/8/2013 12:14:00 PM | 6/19/2017 2:20:00 PM | 6/19/2017 2:30:00 PM | 6/19/2017 2:40:00 PM | 6/20/2017 7:50:00 AM | 6/20/2017 7:55:00 AM |
| | | Sample ID | SED5A07N | SED5B01N | SED5B03N | SED5B05N | SED5B07N | SED5B02FN | SED5B04FN | SED5B06FN | SED5B00BN | SED5B00CN |
| | | Depth | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 0.33 - 0.67 ft | 0.67 - 1 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | |
| Chrysene | ug/kg | | < 4.4 U | **430** | **96** | < 4.1 U | < 4.2 U | **490** | **370** | **4.6** | **520** | **380** |
| Dibenzo(a,h)anthracene | ug/kg | | < 4.4 U | **65** | **12 J** | < 4.1 U | < 4.2 U | **69** | **67** | < 4.5 U | < 210 U | **64** |
| Dibenzofuran | ug/kg | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | |
| Fluoranthene | ug/kg | | < 4.4 U | **790** | **120** | < 4.1 U | **1.4 J** | **710** | **580** | **5.8** | **590** | **510** |
| Fluorene | ug/kg | | < 4.4 U | **58** | **8.5 J** | < 4.1 U | < 4.2 U | **85** | **70** | < 4.5 U | < 210 U | **54** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | < 4.4 U | **240** | **60** | < 4.1 U | < 4.2 U | **250** | **200** | < 4.5 U | **310** | **210** |
| Isophorone | ug/kg | | | | | | | | | | | |
| Naphthalene | ug/kg | | < 4.4 U | **61** | < 24 U | < 4.1 U | < 4.2 U | **69** | **67** | < 4.5 U | < 210 U | **26 J** |
| Nitrobenzene | ug/kg | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | |
| Phenanthrene | ug/kg | | < 4.4 U | **500** | **67** | < 4.1 U | < 4.2 U | **500** | **350** | **4.6** | **270** | **410** |
| Phenol | ug/kg | | | | | | | | | | | |
| Pyrene | ug/kg | | < 4.4 U | **810** | **120** | < 4.1 U | **1.5 J** | **1000** | **600** | **8.9** | **680** | **700** |
| BaP-TE | ug/kg | | < 4.40 U | **516** | **114** | < 4.10 U | < 4.20 U | **564** | **441** | **5.55** | **456** | **464** |
| Total High-molecular-weight PAHs | ug/kg | | < 4.4 U | **3900** | **770** | < 4.1 U | **2.9** | **4300** | **3200** | **40** | **4000** | **3300** |
| Total Low-molecular-weight PAHs | ug/kg | | < 4.4 U | **940** | **110** | < 4.1 U | < 4.2 U | **1200** | **780** | **6.3** | **270** | **750** |
| Total PAHs (sum 16) | ug/kg | | < 4.4 U | **4800** | **880** | < 4.1 U | **2.9** | **5500** | **4000** | **47** | **4300** | **4100** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/20/2017 8:00:00 AM | 6/20/2017 8:05:00 AM | 6/20/2017 8:10:00 AM | 6/20/2017 8:15:00 AM | 6/20/2017 8:20:00 AM | 6/20/2017 8:25:00 AM | 6/20/2017 8:30:00 AM | 6/20/2017 8:35:00 AM | 6/20/2017 8:40:00 AM | 6/20/2017 8:45:00 AM | 6/20/2017 8:50:00 AM |
| | | Sample ID | SED5B01AN | SED5B01BN | SED5B01CN | SED5B02AN | SED5B02BN | SED5B02CN | SED5B03AN | SED5B03BN | SED5B03CN | SED5B04AN | SED5B04BN |
| | | Depth | 1 - 1.33 ft | 1.33 - 1.67 ft | 1.67 - 2 ft | 2 - 2.33 ft | 2.33 - 2.67 ft | 2.67 - 3 ft | 3 - 3.33 ft | 3.33 - 3.67 ft | 3.67 - 4 ft | 4 - 4.33 ft | 4.33 - 4.67 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | **3970** | | | | | | | **2940** | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | **370 J-** | **590 J-** | **540 J-** | **290 J-** | **550 J-** | **690 J-** | **600 J-** | **450 J-** | **740 J-** | **510 J-** | **320 J-** |
| Oil Range Organics (C20-C36) | mg/kg | | **1000 J-** | **1500 J-** | **1200 J-** | **760 J-** | **1300 J-** | **1700 J-** | **1900 J-** | **1200 J-** | **2200 J-** | **1400 J-** | **1300 J-** |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | | |

Table 4-36
VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
Benning Road Facility RI/FS Project
3400 Benning Road, NE
Washington, DC 20019

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B |
| | | Sample Date | 6/20/2017 8:00:00 AM | 6/20/2017 8:05:00 AM | 6/20/2017 8:10:00 AM | 6/20/2017 8:15:00 AM | 6/20/2017 8:20:00 AM | 6/20/2017 8:25:00 AM | 6/20/2017 8:30:00 AM | 6/20/2017 8:35:00 AM | 6/20/2017 8:40:00 AM | 6/20/2017 8:45:00 AM | 6/20/2017 8:50:00 AM |
| | | Sample ID | SED5B01AN | SED5B01BN | SED5B01CN | SED5B02AN | SED5B02BN | SED5B02CN | SED5B03AN | SED5B03BN | SED5B03CN | SED5B04AN | SED5B04BN |
| | | Depth | 1 - 1.33 ft | 1.33 - 1.67 ft | 1.67 - 2 ft | 2 - 2.33 ft | 2.33 - 2.67 ft | 2.67 - 3 ft | 3 - 3.33 ft | 3.33 - 3.67 ft | 3.67 - 4 ft | 4 - 4.33 ft | 4.33 - 4.67 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | | |
| Acenaphthene | ug/kg | | < 60 U | **75** | **67** | **38** | **72** | **72** | **95** | **60** | **81** | **64** | **37** |
| Acenaphthylene | ug/kg | | **280** | **230** | **190** | **160** | **260** | **230** | **190** | **160** | **170** | **120** | **88** |
| Acetophenone | ug/kg | | | | | | | | | | | | |
| Anthracene | ug/kg | | **240** | **200** | **190** | **120** | **210** | **180** | **230** | **140** | **200** | **140** | **110** |
| Atrazine | ug/kg | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **400** | **310** | **300** | **220** | **350** | **350** | **380** | **260** | **400** | **280** | **240** |
| Benzo(a)pyrene | ug/kg | | **390** | **310** | **300** | **240** | **340** | **350** | **420** | **310** | **450** | **300** | **250** |
| Benzo(b)fluoranthene | ug/kg | | **520** | **390** | **400** | **310** | **450** | **400** | **490** | **410** | **520** | **350** | **320** |
| Benzo(g,h,i)perylene | ug/kg | | **380** | **300** | **280** | **250** | **350** | **350** | **460** | **310** | **430** | **270** | **230** |
| Benzo(k)fluoranthene | ug/kg | | **230** | **170** | **140** | **110** | **140** | **190** | **190** | **130** | **150** | **160** | **120** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/20/2017 8:00:00 AM | 6/20/2017 8:05:00 AM | 6/20/2017 8:10:00 AM | 6/20/2017 8:15:00 AM | 6/20/2017 8:20:00 AM | 6/20/2017 8:25:00 AM | 6/20/2017 8:30:00 AM | 6/20/2017 8:35:00 AM | 6/20/2017 8:40:00 AM | 6/20/2017 8:45:00 AM | 6/20/2017 8:50:00 AM |
| | | Sample ID | SED5B01AN | SED5B01BN | SED5B01CN | SED5B02AN | SED5B02BN | SED5B02CN | SED5B03AN | SED5B03BN | SED5B03CN | SED5B04AN | SED5B04BN |
| | | Depth | 1 - 1.33 ft | 1.33 - 1.67 ft | 1.67 - 2 ft | 2 - 2.33 ft | 2.33 - 2.67 ft | 2.67 - 3 ft | 3 - 3.33 ft | 3.33 - 3.67 ft | 3.67 - 4 ft | 4 - 4.33 ft | 4.33 - 4.67 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | | |
| Chrysene | ug/kg | | **550** | **440** | **390** | **300** | **460** | **430** | **440** | **330** | **420** | **330** | **270** |
| Dibenzo(a,h)anthracene | ug/kg | | **79** | **66** | **68** | **44** | **64** | **69** | **70** | **51** | < 26 U | < 25 U | **37** |
| Dibenzofuran | ug/kg | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | | |
| Fluoranthene | ug/kg | | **800** | **640** | **600** | **420** | **700** | **700** | **900** | **450** | **940** | **610** | **470** |
| Fluorene | ug/kg | | **88** | **59** | **58** | **39** | **80** | **66** | **100** | **61** | **93** | **50** | **40** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **270** | **210** | **200** | **170** | **240** | **230** | **280** | **190** | **250** | **170** | **140** |
| Isophorone | ug/kg | | | | | | | | | | | | |
| Naphthalene | ug/kg | | **74** | **58** | **51** | **44** | **57** | **59** | **67** | **64** | **87** | **68** | **55** |
| Nitrobenzene | ug/kg | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | | |
| Phenanthrene | ug/kg | | **650** | **470** | **400** | **260** | **460** | **450** | **590** | **330** | **560** | **350** | **280** |
| Phenol | ug/kg | | | | | | | | | | | | |
| Pyrene | ug/kg | | **1100** | **770** | **690** | **510** | **930** | **920** | **1100** | **660** | **1300** | **680** | **560** |
| BaP-TE | ug/kg | | **591** | **469** | **460** | **355** | **510** | **519** | **607** | **449** | **569** | **382** | **358** |
| Total High-molecular-weight PAHs | ug/kg | | **4700** | **3600** | **3400** | **2600** | **4000** | **4000** | **4700** | **3100** | **4900** | **3200** | **2600** |
| Total Low-molecular-weight PAHs | ug/kg | | **1300** | **1100** | **960** | **660** | **1100** | **1100** | **1300** | **820** | **1200** | **790** | **610** |
| Total PAHs (sum 16) | ug/kg | | **6100** | **4700** | **4300** | **3200** | **5200** | **5000** | **6000** | **3900** | **6100** | **3900** | **3200** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED5B | SED5B | SED5B | SED5B | SED5B | SED5C | SED5C | SED5C | SED5C | SED5C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/20/2017 8:55:00 AM | 6/20/2017 9:00:00 AM | 6/20/2017 9:05:00 AM | 6/20/2017 9:10:00 AM | 6/20/2017 9:15:00 AM | 11/11/2013 8:37:00 AM | 11/11/2013 8:37:00 AM | 11/11/2013 8:37:00 AM | 11/11/2013 8:37:00 AM | 6/14/2017 11:25:00 AM |
| | | Sample ID | SED5B04CN | SED5B05AN | SED5B05BN | SED5B05CN | SED5B06AN | SED5C01N | SED5C03N | SED5C05N | SED5C07N | SED5C02FN |
| | | Depth | 4.67 - 5 ft | 5 - 5.33 ft | 5.33 - 5.67 ft | 5.67 - 6 ft | 6 - 6.33 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | **2250** |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | **300 J-** | **260 J-** | **28 J-** | **32 J-** | **13 J-** | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | **940 J-** | **770 J-** | **160 J-** | **140 J-** | **68 J-** | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED5B | SED5B | SED5B | SED5B | SED5B | SED5C | SED5C | SED5C | SED5C | SED5C |
| | | Sample Date | 6/20/2017 8:55:00 AM | 6/20/2017 9:00:00 AM | 6/20/2017 9:05:00 AM | 6/20/2017 9:10:00 AM | 6/20/2017 9:15:00 AM | 11/11/2013 8:37:00 AM | 11/11/2013 8:37:00 AM | 11/11/2013 8:37:00 AM | 11/11/2013 8:37:00 AM | 6/14/2017 11:25:00 AM |
| | | Sample ID | SED5B04CN | SED5B05AN | SED5B05BN | SED5B05CN | SED5B06AN | SED5C01N | SED5C03N | SED5C05N | SED5C07N | SED5C02FN |
| | | Depth | 4.67 - 5 ft | 5 - 5.33 ft | 5.33 - 5.67 ft | 5.67 - 6 ft | 6 - 6.33 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | < 130 U |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | < 130 U |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | < 26 U |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | < 130 U |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | < 130 U |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | < 130 U |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | < 26 U |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | < 130 U |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | < 1300 U |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | < 130 U |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | < 130 U |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | < 26 U |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | < 130 U |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | **38** |
| 2-Methylphenol | ug/kg | | | | | | | | | | | < 130 U |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | < 670 U |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | < 130 U |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | < 130 U |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | < 670 U |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | < 670 U |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | < 130 U |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | < 130 U |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | < 130 U |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | < 130 U |
| 4-Methylphenol | ug/kg | | | | | | | | | | | < 130 U |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | < 670 U |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | < 670 U |
| Acenaphthene | ug/kg | | **36** | **21** | < 4.7 U | < 4.8 U | < 4.5 U | **67** | **50** | **25 J** | **6.8 J** | **27** |
| Acenaphthylene | ug/kg | | **79** | **57** | **2.8 J** | **2.3 J** | < 4.5 U | **140** | **190** | **41** | **19 J** | **100** |
| Acetophenone | ug/kg | | | | | | | | | | | < 260 U |
| Anthracene | ug/kg | | **96** | **79** | **4.0 J** | **4.3 J** | < 4.5 U | **130** | **130** | **43** | **24 J** | **63** |
| Atrazine | ug/kg | | | | | | | | | | | < 260 U |
| Benzaldehyde | ug/kg | | | | | | | | | | | < 260 U |
| Benzo(a)anthracene | ug/kg | | **220** | **190** | **12** | **12** | **4.0 J** | **270** | **370** | **150** | **69** | **150** |
| Benzo(a)pyrene | ug/kg | | **220** | **190** | **12** | **10** | **3.8 J** | **290** | **400** | **170** | **84** | **170** |
| Benzo(b)fluoranthene | ug/kg | | **320** | **270** | **16** | **14** | **5.3** | **340** | **430** | **240** | **90** | **180** |
| Benzo(g,h,i)perylene | ug/kg | | **200** | **160** | **9.2** | **7.6** | **3.1 J** | **280** | **410** | **110 J** | **72** | **140** |
| Benzo(k)fluoranthene | ug/kg | | **120** | **87** | **5.1** | **5.2** | **1.9 J** | **110** | **170** | **84** | **37** | **79** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | < 130 U |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | < 26 U |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | **320** |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | < 130 U |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED5B | SED5B | SED5B | SED5B | SED5B | SED5C | SED5C | SED5C | SED5C | SED5C |
| | | Sample Date | 6/20/2017 8:55:00 AM | 6/20/2017 9:00:00 AM | 6/20/2017 9:05:00 AM | 6/20/2017 9:10:00 AM | 6/20/2017 9:15:00 AM | 11/11/2013 8:37:00 AM | 11/11/2013 8:37:00 AM | 11/11/2013 8:37:00 AM | 11/11/2013 8:37:00 AM | 6/14/2017 11:25:00 AM |
| | | Sample ID | SED5B04CN | SED5B05AN | SED5B05BN | SED5B05CN | SED5B06AN | SED5C01N | SED5C03N | SED5C05N | SED5C07N | SED5C02FN |
| | | Depth | 4.67 - 5 ft | 5 - 5.33 ft | 5.33 - 5.67 ft | 5.67 - 6 ft | 6 - 6.33 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | < 670 U |
| Carbazole | ug/kg | | | | | | | | | | | < 26 U |
| Chrysene | ug/kg | | **270** | **230** | **14** | **16** | **4.7** | **340** | **440** | **200** | **90** | **200** |
| Dibenzo(a,h)anthracene | ug/kg | | **46** | **39** | **2.4 J** | < 4.8 U | < 4.5 U | **54** | **83** | **24 J** | **22 J** | < 26 U |
| Dibenzofuran | ug/kg | | | | | | | | | | | < 130 U |
| Diethylphthalate | ug/kg | | | | | | | | | | | < 130 U |
| Dimethylphthalate | ug/kg | | | | | | | | | | | < 130 U |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | < 130 U |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | < 130 U |
| Fluoranthene | ug/kg | | **430** | **340** | **17** | **13** | **3.9 J** | **510** | **640** | **330** | **130** | **350** |
| Fluorene | ug/kg | | **32** | **33** | < 4.7 U | **2.0 J** | < 4.5 U | **65** | **61** | **35** | **11 J** | **40** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | < 26 U |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | < 26 U |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | < 130 U |
| Hexachloroethane | ug/kg | | | | | | | | | | | < 130 U |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **140** | **120** | **7.6** | **7.1** | **2.4 J** | **200** | **280** | **93** | **62** | **110** |
| Isophorone | ug/kg | | | | | | | | | | | < 130 U |
| Naphthalene | ug/kg | | **56** | **39** | **2.8 J** | **2.3 J** | < 4.5 U | < 43 U | < 62 U | < 38 U | < 26 U | **25 J** |
| Nitrobenzene | ug/kg | | | | | | | | | | | < 260 U |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | < 26 U |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | < 130 U |
| Pentachlorophenol | ug/kg | | | | | | | | | | | < 670 U |
| Phenanthrene | ug/kg | | **260** | **200** | **11** | **13** | **3.3 J** | **400** | **350** | **160** | **62** | **220** |
| Phenol | ug/kg | | | | | | | | | | | < 130 U |
| Pyrene | ug/kg | | **460** | **360** | **23** | **22** | **8.2** | **600** | **750** | **380** | **110** | **350** |
| BaP-TE | ug/kg | | **335** | **288** | **18.0** | **13.4** | **4.99** | **426** | **593** | **243** | **129** | **215** |
| Total High-molecular-weight PAHs | ug/kg | | **2400** | **2000** | **120** | **110** | **37** | **3000** | **4000** | **1800** | **770** | **1700** |
| Total Low-molecular-weight PAHs | ug/kg | | **560** | **430** | **21** | **24** | **3.3** | **800** | **780** | **300** | **120** | **480** |
| Total PAHs (sum 16) | ug/kg | | **3000** | **2400** | **140** | **130** | **41** | **3800** | **4800** | **2100** | **890** | **2200** |

## Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Analyte | Unit | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED5C | SED5C | SED5C | SED6.5D | SED6.5D | SED6.5D | SED6.5D | SED6.5D | SED6.5D | SED6.5D |
| | | Sample Date | 6/14/2017 11:35:00 AM | 6/14/2017 11:45:00 AM | 6/14/2017 11:55:00 AM | 11/25/2013 8:10:00 AM | 11/25/2013 8:10:00 AM | 1/29/2014 12:35:00 PM | 1/29/2014 12:35:00 PM | 6/27/2017 10:10:00 AM | 6/27/2017 10:20:00 AM | 6/27/2017 10:30:00 AM |
| | | Sample ID | SED5C04FN | SED5C06FN | SED5C08FN | SED6.5D01N | SED6.5D03N | SED6.5D05N | SED6.5D07N | SED6.5D02FN | SED6.5D04FN | SED6.5D06FN |
| | | Depth | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 1 - 3 ft | 3 - 4 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | **3740** | **4320** | **1610** | | | | | **1510** | **383** | **134** |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SED5C | SED5C | SED5C | SED6.5D | SED6.5D | SED6.5D | SED6.5D | SED6.5D | SED6.5D | SED6.5D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/14/2017 11:35:00 AM | 6/14/2017 11:45:00 AM | 6/14/2017 11:55:00 AM | 11/25/2013 8:10:00 AM | 11/25/2013 8:10:00 AM | 1/29/2014 12:35:00 PM | 1/29/2014 12:35:00 PM | 6/27/2017 10:10:00 AM | 6/27/2017 10:20:00 AM | 6/27/2017 10:30:00 AM |
| | | Sample ID | SED5C04FN | SED5C06FN | SED5C08FN | SED6.5D01N | SED6.5D03N | SED6.5D05N | SED6.5D07N | SED6.5D02FN | SED6.5D04FN | SED6.5D06FN |
| | | Depth | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 1 - 3 ft | 3 - 4 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | |
| Acenaphthene | ug/kg | | **39** | **49 J** | **9.6 J** | < 26 U | < 88 U | **3.6 J** | < 31 U | **5.4 J** | **2.5 J** | < 5.3 U |
| Acenaphthylene | ug/kg | | **140** | **99** | **28** | **20 J** | **71 J** | **4.7 J** | < 31 U | **15** | **3.8 J** | < 5.3 U |
| Acetophenone | ug/kg | | | | | | | | | | | |
| Anthracene | ug/kg | | **100** | **91** | **38** | < 26 U | **75 J** | **6.2 J** | < 31 U | **17** | **5.6 J** | < 5.3 U |
| Atrazine | ug/kg | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **240** | **260** | **130** | **72** | **160** | **11 J** | < 31 U | **41** | **17** | < 5.3 U |
| Benzo(a)pyrene | ug/kg | | **280** | **290** | **140** | **63** | **150** | **8.8 J** | < 31 U | **38** | **19** | < 5.3 U |
| Benzo(b)fluoranthene | ug/kg | | **320** | **390** | **180** | **93** | **220** | **10 J** | < 31 U | **52** | **21** | < 5.3 U |
| Benzo(g,h,i)perylene | ug/kg | | **300** | **290** | **110** | **48** | **150** | **5.9 J** | < 31 U | **45** | **19** | < 5.3 U |
| Benzo(k)fluoranthene | ug/kg | | **100** | **120** | **67** | **32** | **80 J** | **5.5 J** | < 31 U | **17** | **11** | < 5.3 U |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | |

## Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SED5C | SED5C | SED5C | SED6.5D | SED6.5D | SED6.5D | SED6.5D | SED6.5D | SED6.5D | SED6.5D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/14/2017 11:35:00 AM | 6/14/2017 11:45:00 AM | 6/14/2017 11:55:00 AM | 11/25/2013 8:10:00 AM | 11/25/2013 8:10:00 AM | 1/29/2014 12:35:00 PM | 1/29/2014 12:35:00 PM | 6/27/2017 10:10:00 AM | 6/27/2017 10:20:00 AM | 6/27/2017 10:30:00 AM |
| | | Sample ID | SED5C04FN | SED5C06FN | SED5C08FN | SED6.5D01N | SED6.5D03N | SED6.5D05N | SED6.5D07N | SED6.5D02FN | SED6.5D04FN | SED6.5D06FN |
| | | Depth | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 1 - 3 ft | 3 - 4 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | |
| Chrysene | ug/kg | | **290** | **340** | **160** | **96** | **230** | **9.0 J** | < 31 U | **56** | **24** | < 5.3 U |
| Dibenzo(a,h)anthracene | ug/kg | | **55** | **72** | **32** | **11 J** | **29 J** | < 27 U | < 31 U | **11** | < 6.4 U | < 5.3 U |
| Dibenzofuran | ug/kg | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | |
| Fluoranthene | ug/kg | | **540** | **590** | **280** | **170** | **350** | < 27 U | < 31 U | **76** | **38** | **4.6 J** |
| Fluorene | ug/kg | | **44** | **80** | **16 J** | **21 J** | **71 J** | **4.2 J** | < 31 U | **9.9** | **4.1 J** | < 5.3 U |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **190** | **210** | **95** | **40** | **98** | **6.8 J** | < 31 U | **32** | **16** | < 5.3 U |
| Isophorone | ug/kg | | | | | | | | | | | |
| Naphthalene | ug/kg | | **40** | **61** | **19 J** | **11 J** | **37 J** | < 27 U | < 31 U | **12** | **3.9 J** | < 5.3 U |
| Nitrobenzene | ug/kg | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | |
| Phenanthrene | ug/kg | | **260** | **270** | **120** | **64** | **180** | < 27 U | < 31 U | **39** | **15** | **2.4 J** |
| Phenol | ug/kg | | | | | | | | | | | |
| Pyrene | ug/kg | | **630** | **590** | **220** | **170** | **390** | **17 J** | < 31 U | **75** | **29** | **2.8 J** |
| BaP-TE | ug/kg | | **411** | **450** | **213** | **94.9** | **228** | **11.6** | < 31.0 U | **61.7** | **24.5** | < 5.30 U |
| Total High-molecular-weight PAHs | ug/kg | | **2900** | **3200** | **1400** | **800** | **1900** | **74** | < 31 U | **440** | **190** | **7.4** |
| Total Low-molecular-weight PAHs | ug/kg | | **620** | **650** | **230** | **120** | **430** | **19** | < 31 U | **98** | **35** | **2.4** |
| Total PAHs (sum 16) | ug/kg | | **3600** | **3800** | **1600** | **910** | **2300** | **93** | < 31 U | **540** | **230** | **9.8** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED6.5D | SED6.5E | SED6.5E | SED6.5E | SED6.5E | SED6.5E | SED6A | SED6A | SED6A | SED6B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/27/2017 10:40:00 AM | 11/25/2013 8:20:00 AM | 11/25/2013 8:25:00 AM | 11/25/2013 8:20:00 AM | 11/25/2013 8:20:00 AM | 11/25/2013 8:20:00 AM | 11/13/2013 1:40:00 PM | 11/13/2013 1:40:00 PM | 11/13/2013 1:40:00 PM | 11/13/2013 12:40:00 PM |
| | | Sample ID | SED6.5D08FN | SED6.5E01N | SED6.5E01R | SED6.5E03N | SED6.5E05N | SED6.5E07N | SED6A01N | SED6A03N | SED6A05N | SED6B01N |
| | | Depth | 8 - 9 ft | 1 - 3 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 8 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 1 - 3 ft |
| | | Type | N | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | **77.8** | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 1,1,2-Trichloroethane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 1,1-Dichloroethane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 1,1-Dichloroethene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 1,2,3-Trichlorobenzene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 1,2,4-Trichlorobenzene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 1,2-Dibromoethane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 1,2-Dichlorobenzene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 1,2-Dichloroethane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 1,2-Dichloropropane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 1,3-Dichlorobenzene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 1,4-Dichlorobenzene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 1,4-Dioxane | ug/kg | | | < 2000 U | < 2000 U | | | | | | | < 1600 U |
| 2-Butanone | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 2-Hexanone | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| 4-Methyl-2-pentanone | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Acetone | ug/kg | | | < 39 U | < 40 U | | | | | | | < 32 U |
| Benzene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Bromochloromethane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Bromodichloromethane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Bromoform | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Bromomethane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Carbon Disulfide | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Carbon Tetrachloride | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Chlorobenzene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Chloroethane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Chloroform | ug/kg | | | < 9.8 U | < 10 U | | | | | | | **1.1 J** |
| Chloromethane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| cis-1,2-Dichloroethylene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| cis-1,3-Dichloropropene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Cyclohexane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Dibromochloromethane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Dichlorodifluoromethane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Ethylbenzene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Isopropylbenzene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| m, p-Xylene | ug/kg | | | < 20 U | < 20 U | | | | | | | < 16 U |
| Methyl Acetate | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Methylcyclohexane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Methylene Chloride | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| o-Xylene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Styrene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Tetrachloroethylene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Toluene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |

Table 4-36
VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
Benning Road Facility RI/FS Project
3400 Benning Road, NE
Washington, DC 20019

| | | Location ID | SED6.5D | SED6.5E | SED6.5E | SED6.5E | SED6.5E | SED6.5E | SED6A | SED6A | SED6A | SED6B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/27/2017 10:40:00 AM | 11/25/2013 8:20:00 AM | 11/25/2013 8:25:00 AM | 11/25/2013 8:20:00 AM | 11/25/2013 8:20:00 AM | 11/25/2013 8:20:00 AM | 11/13/2013 1:40:00 PM | 11/13/2013 1:40:00 PM | 11/13/2013 1:40:00 PM | 11/13/2013 12:40:00 PM |
| | | Sample ID | SED6.5D08FN | SED6.5E01N | SED6.5E01R | SED6.5E03N | SED6.5E05N | SED6.5E07N | SED6A01N | SED6A03N | SED6A05N | SED6B01N |
| | | Depth | 8 - 9 ft | 1 - 3 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 8 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 1 - 3 ft |
| | | Type | N | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| trans-1,3-Dichloropropene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Trichloroethene | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Trichlorofluoromethane | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Vinyl Chloride | ug/kg | | | < 9.8 U | < 10 U | | | | | | | < 8.1 U |
| Xylenes (total) | ug/kg | | | < 20 U | < 20 U | | | | | | | < 16 U |
| 1,1'-Biphenyl | ug/kg | | | **54 J** | **63 J** | | | | | | | < 270 U |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | < 36 U | < 71 U | | | | | | | < 54 U |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| 2,4,5-Trichlorophenol | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| 2,4,6-Trichlorophenol | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| 2,4-Dichlorophenol | ug/kg | | | < 36 U | < 71 U | | | | | | | < 54 U |
| 2,4-Dimethylphenol | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| 2,4-Dinitrophenol | ug/kg | | | < 910 U | < 1800 U | | | | | | | < 1400 U |
| 2,4-Dinitrotoluene | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| 2,6-Dinitrotoluene | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| 2-Chloronaphthalene | ug/kg | | | < 36 U | < 71 U | | | | | | | < 54 U |
| 2-Chlorophenol | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| 2-Methylnaphthalene | ug/kg | | | **160** | **240** | | | | | | | **98** |
| 2-Methylphenol | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| 2-Nitroaniline | ug/kg | | | < 910 U | < 1800 U | | | | | | | < 1400 U |
| 2-Nitrophenol | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| 3,3'-Dichlorobenzidine | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| 3-Nitroaniline | ug/kg | | | < 910 U | < 1800 U | | | | | | | < 1400 U |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | < 910 U | < 1800 U | | | | | | | < 1400 U |
| 4-Bromophenyl-phenylether | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| 4-Chloro-3-methylphenol | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| 4-Chloroaniline | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| 4-Chlorophenyl-phenylether | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| 4-Methylphenol | ug/kg | | | **530** | **930** | | | | | | | **43 J** |
| 4-Nitroaniline | ug/kg | | | < 910 U | < 1800 U | | | | | | | < 1400 U |
| 4-Nitrophenol | ug/kg | | | < 910 U | < 1800 U | | | | | | | < 1400 U |
| Acenaphthene | ug/kg | | < 5.3 U | **29 J** | **64 J** | **62** | **38** | **7.5 J** | **15 J** | **180** | < 33 U | **85** |
| Acenaphthylene | ug/kg | | < 5.3 U | **36** | **86** | **57** | **140** | **28** | **32** | **270** | < 33 U | **170** |
| Acetophenone | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| Anthracene | ug/kg | | **2.1 J** | **34 J** | < 71 U | **76** | **94** | **22 J** | **30** | **390** | **4.0 J** | **180** |
| Atrazine | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| Benzaldehyde | ug/kg | | | **88 J** | < 350 UJ | | | | | | | **250 J** |
| Benzo(a)anthracene | ug/kg | | **5.6** | **94** | **200** | **230** | **280** | **71** | **53** | **630** | **11 J** | **340** |
| Benzo(a)pyrene | ug/kg | | **5.2 J** | **92** | **120** | **240** | **290** | **63** | **61** | **730** | **12 J** | **370** |
| Benzo(b)fluoranthene | ug/kg | | **7.4** | **130** | **290** | **270** | **360** | **88** | **69** | **730** | **12 J** | **470** |
| Benzo(g,h,i)perylene | ug/kg | | **4.8 J** | **62** | **100** | **190** | **330** | **67** | **63** | **1100** | **13 J** | **370 J** |
| Benzo(k)fluoranthene | ug/kg | | **2.6 J** | **46** | **86** | **140** | **110** | **49** | **23 J** | **260** | < 33 U | **120** |
| bis-(2-chloroethoxy)methane | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| bis-(2-Chloroethyl)ether | ug/kg | | | < 36 U | < 71 U | | | | | | | < 54 U |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | **1100 J** | **1900 J** | | | | | | | **150 J** |
| Butylbenzylphthalate | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED6.5D | SED6.5E | SED6.5E | SED6.5E | SED6.5E | SED6.5E | SED6A | SED6A | SED6A | SED6B |
| | | Sample Date | 6/27/2017 10:40:00 AM | 11/25/2013 8:20:00 AM | 11/25/2013 8:25:00 AM | 11/25/2013 8:20:00 AM | 11/25/2013 8:20:00 AM | 11/25/2013 8:20:00 AM | 11/13/2013 1:40:00 PM | 11/13/2013 1:40:00 PM | 11/13/2013 1:40:00 PM | 11/13/2013 12:40:00 PM |
| | | Sample ID | SED6.5D08FN | SED6.5E01N | SED6.5E01R | SED6.5E03N | SED6.5E05N | SED6.5E07N | SED6A01N | SED6A03N | SED6A05N | SED6B01N |
| | | Depth | 8 - 9 ft | 1 - 3 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 8 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 1 - 3 ft |
| | | Type | N | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | < 910 U | < 1800 U | | | | | | | < 1400 U |
| Carbazole | ug/kg | | | < 36 U | < 71 U | | | | | | | **33 J** |
| Chrysene | ug/kg | | **7.7** | **190 J** | **510 J** | **280** | **380** | **92** | **68** | **730** | **13 J** | **470** |
| Dibenzo(a,h)anthracene | ug/kg | | < 5.3 U | < 36 U | < 71 U | **43** | **63** | < 27 U | **10 J** | **130** | < 33 U | **77** |
| Dibenzofuran | ug/kg | | | < 180 U | < 350 U | | | | | | | **37 J** |
| Diethylphthalate | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| Dimethylphthalate | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| Di-n-butylphthalate | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| Di-n-octylphthalate | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| Fluoranthene | ug/kg | | **9.5** | **300 J** | **820 J** | **390** | **570** | **130** | **140** | **1900** | **20 J** | **900** |
| Fluorene | ug/kg | | < 5.3 U | **49** | **130** | **39** | **59** | **17 J** | **18 J** | **180** | < 33 U | **74** |
| Hexachlorobenzene | ug/kg | | | < 36 U | < 71 U | | | | | | | < 54 U |
| Hexachlorobutadiene | ug/kg | | | < 36 U | < 71 U | | | | | | | < 54 U |
| Hexachlorocyclo-pentadiene | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| Hexachloroethane | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **5.9** | **45** | **78** | **190** | **200** | **50** | **45** | **540** | **9.6 J** | **270** |
| Isophorone | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| Naphthalene | ug/kg | | < 5.3 U | **79** | **130** | **56** | **72** | **16 J** | **7.9 J** | **130** | < 33 U | **68** |
| Nitrobenzene | ug/kg | | | < 360 U | < 710 U | | | | | | | < 540 U |
| N-Nitroso-di-n-propylamine | ug/kg | | | < 36 U | < 71 U | | | | | | | < 54 U |
| N-Nitrosodiphenylamine | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| Pentachlorophenol | ug/kg | | | < 180 U | < 350 U | | | | | | | < 270 U |
| Phenanthrene | ug/kg | | **5.0 J** | **250 J** | **480 J** | **240** | **280** | **67** | **84** | **1000** | **7.5 J** | **470** |
| Phenol | ug/kg | | | **51** | **89** | | | | | | | < 54 U |
| Pyrene | ug/kg | | **8.1** | **330 J** | **710 J** | **460** | **690** | **140** | **120** | **1900** | **16 J** | **700** |
| BaP-TE | ug/kg | | **7.12** | **120** | **178** | **354** | **438** | **84.5** | **88.0** | **1050** | **15.3** | **557** |
| Total High-molecular-weight PAHs | ug/kg | | **57** | **1300** | **2900** | **2400** | **3300** | **750** | **650** | **8700** | **110** | **4100** |
| Total Low-molecular-weight PAHs | ug/kg | | **7.1** | **480** | **890** | **530** | **680** | **160** | **190** | **2200** | **12** | **1000** |
| Total PAHs (sum 16) | ug/kg | | **64** | **1800** | **3800** | **3000** | **4000** | **910** | **840** | **11000** | **120** | **5100** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED6B | SED6B | SED6B | SED6C | SED6C | SED6C | SED6C | SED6C | SED7.5D | SED7.5D |
| | | Sample Date | 11/13/2013 12:40:00 PM | 11/13/2013 12:40:00 PM | 11/13/2013 12:40:00 PM | 11/14/2013 1:34:00 PM | 11/14/2013 1:34:00 PM | 11/14/2013 1:34:00 PM | 11/14/2013 1:34:00 PM | 11/14/2013 1:34:00 PM | 11/25/2013 7:30:00 AM | 11/25/2013 7:30:00 AM |
| | | Sample ID | SED6B03N | SED6B05N | SED6B07N | SED6C01N | SED6C 2' | SED6C03N | SED6C05N | SED6C07N | SED7.5D01N | SED7.5D03N |
| | | Depth | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 2 - 2.5 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | < 9.6 U | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | < 9.6 U | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | < 9.6 U | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | < 9.6 U | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | < 9.6 U | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | < 9.6 U | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | < 9.6 U | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | < 9.6 U | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | < 9.6 U | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | < 9.6 U | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | < 9.6 U | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | < 9.6 U | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | < 9.6 U | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | < 9.6 U | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | < 9.6 U | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | < 1900 U | | | | | |
| 2-Butanone | ug/kg | | | | | | < 9.6 U | | | | | |
| 2-Hexanone | ug/kg | | | | | | < 9.6 U | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | < 9.6 U | | | | | |
| Acetone | ug/kg | | | | | | < 39 U | | | | | |
| Benzene | ug/kg | | | | | | < 9.6 U | | | | | |
| Bromochloromethane | ug/kg | | | | | | < 9.6 U | | | | | |
| Bromodichloromethane | ug/kg | | | | | | < 9.6 U | | | | | |
| Bromoform | ug/kg | | | | | | < 9.6 U | | | | | |
| Bromomethane | ug/kg | | | | | | < 9.6 U | | | | | |
| Carbon Disulfide | ug/kg | | | | | | < 9.6 U | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | < 9.6 U | | | | | |
| Chlorobenzene | ug/kg | | | | | | < 9.6 U | | | | | |
| Chloroethane | ug/kg | | | | | | < 9.6 U | | | | | |
| Chloroform | ug/kg | | | | | | < 9.6 U | | | | | |
| Chloromethane | ug/kg | | | | | | < 9.6 U | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | < 9.6 U | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | < 9.6 U | | | | | |
| Cyclohexane | ug/kg | | | | | | < 9.6 U | | | | | |
| Dibromochloromethane | ug/kg | | | | | | < 9.6 U | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | < 9.6 U | | | | | |
| Ethylbenzene | ug/kg | | | | | | < 9.6 U | | | | | |
| Isopropylbenzene | ug/kg | | | | | | < 9.6 U | | | | | |
| m, p-Xylene | ug/kg | | | | | | < 19 U | | | | | |
| Methyl Acetate | ug/kg | | | | | | < 9.6 U | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | < 9.6 U | | | | | |
| Methylcyclohexane | ug/kg | | | | | | < 9.6 U | | | | | |
| Methylene Chloride | ug/kg | | | | | | < 9.6 U | | | | | |
| o-Xylene | ug/kg | | | | | | < 9.6 U | | | | | |
| Styrene | ug/kg | | | | | | < 9.6 U | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | < 9.6 U | | | | | |
| Toluene | ug/kg | | | | | | < 9.6 U | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED6B | SED6B | SED6B | SED6C | SED6C | SED6C | SED6C | SED6C | SED7.5D | SED7.5D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/13/2013 12:40:00 PM | 11/13/2013 12:40:00 PM | 11/13/2013 12:40:00 PM | 11/14/2013 1:34:00 PM | 11/14/2013 1:34:00 PM | 11/14/2013 1:34:00 PM | 11/14/2013 1:34:00 PM | 11/14/2013 1:34:00 PM | 11/25/2013 7:30:00 AM | 11/25/2013 7:30:00 AM |
| | | Sample ID | SED6B03N | SED6B05N | SED6B07N | SED6C01N | SED6C 2' | SED6C03N | SED6C05N | SED6C07N | SED7.5D01N | SED7.5D03N |
| | | Depth | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 2 - 2.5 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | < 9.6 U | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | < 9.6 U | | | | | |
| Trichloroethene | ug/kg | | | | | | < 9.6 U | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | < 9.6 U | | | | | |
| Vinyl Chloride | ug/kg | | | | | | < 9.6 U | | | | | |
| Xylenes (total) | ug/kg | | | | | | < 19 U | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | |
| Acenaphthene | ug/kg | | **55** | **5.0 J** | < 28 U | **18 J** | | **56** | **7.9 J** | < 31 U | **44 J** | **47 J** |
| Acenaphthylene | ug/kg | | **100** | **12 J** | < 28 U | **40 J** | | **190** | **25 J** | < 31 U | **56 J** | **81 J** |
| Acetophenone | ug/kg | | | | | | | | | | | |
| Anthracene | ug/kg | | **140** | **16 J** | **2.8 J** | **57** | | **150** | **30** | < 31 U | **80** | **94 J** |
| Atrazine | ug/kg | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **290** | **57** | **6.9 J** | **320** | | **470** | **93** | < 31 U | **170** | **210** |
| Benzo(a)pyrene | ug/kg | | **320** | **57** | < 28 U | **450** | | **470** | **89** | < 31 U | **160** | **230** |
| Benzo(b)fluoranthene | ug/kg | | **340** | **69** | **10 J** | **700** | | **530** | **150** | < 31 U | **280** | **370** |
| Benzo(g,h,i)perylene | ug/kg | | **300** | **44** | **8.2 J** | **520** | | **340** | **97** | < 31 U | **170** | **230** |
| Benzo(k)fluoranthene | ug/kg | | **150** | **22** | < 28 U | **320** | | **200** | **64** | < 31 U | **72** | **110 J** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED6B | SED6B | SED6B | SED6C | SED6C | SED6C | SED6C | SED6C | SED7.5D | SED7.5D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/13/2013 12:40:00 PM | 11/13/2013 12:40:00 PM | 11/13/2013 12:40:00 PM | 11/14/2013 1:34:00 PM | 11/14/2013 1:34:00 PM | 11/14/2013 1:34:00 PM | 11/14/2013 1:34:00 PM | 11/14/2013 1:34:00 PM | 11/25/2013 7:30:00 AM | 11/25/2013 7:30:00 AM |
| | | Sample ID | SED6B03N | SED6B05N | SED6B07N | SED6C01N | SED6C 2' | SED6C03N | SED6C05N | SED6C07N | SED7.5D01N | SED7.5D03N |
| | | Depth | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 2 - 2.5 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | |
| Chrysene | ug/kg | | **360** | **71** | **7.3 J** | **630** | | **640** | **140** | < 31 U | **260** | **340** |
| Dibenzo(a,h)anthracene | ug/kg | | **57** | **12 J** | < 28 U | **120** | | **70** | **39** | < 31 U | **38 J** | **53 J** |
| Dibenzofuran | ug/kg | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | |
| Fluoranthene | ug/kg | | **700** | **130** | **16 J** | **850** | | **1000** | **190** | < 31 U | **340** | **450** |
| Fluorene | ug/kg | | **59** | **6.8 J** | < 28 U | **22 J** | | **110** | **15 J** | < 31 U | **88** | **75 J** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **210** | **39** | **7.3 J** | **460** | | **260** | **85** | < 31 U | **110** | **180** |
| Isophorone | ug/kg | | | | | | | | | | | |
| Naphthalene | ug/kg | | **54** | **6.7 J** | < 28 U | **13 J** | | **75** | **16 J** | < 31 U | **69** | **78 J** |
| Nitrobenzene | ug/kg | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | |
| Phenanthrene | ug/kg | | **330** | **40** | **8.6 J** | **240** | | **680** | **82** | < 31 U | **280** | **360** |
| Phenol | ug/kg | | | | | | | | | | | |
| Pyrene | ug/kg | | **620** | **100** | **15 J** | **680** | | **1200** | **220** | < 31 U | **370** | **510** |
| BaP-TE | ug/kg | | **463** | **85.8** | **2.43** | **722** | | **669** | **162** | < 31.0 U | **255** | **360** |
| Total High-molecular-weight PAHs | ug/kg | | **3300** | **600** | **71** | **5100** | | **5200** | **1200** | < 31 U | **2000** | **2700** |
| Total Low-molecular-weight PAHs | ug/kg | | **740** | **87** | **11** | **390** | | **1300** | **180** | < 31 U | **620** | **740** |
| Total PAHs (sum 16) | ug/kg | | **4100** | **690** | **82** | **5400** | | **6400** | **1300** | < 31 U | **2600** | **3400** |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED7.5D | SED7.5E | SED7.5E | SED7.5E | SED7.5E | SED7A | SED7A | SED7A | SED7A | SED7B |
| | | Sample Date | 11/25/2013 7:30:00 AM | 11/25/2013 10:30:00 AM | 11/25/2013 10:30:00 AM | 11/25/2013 10:30:00 AM | 11/25/2013 10:30:00 AM | 11/13/2013 11:52:00 AM | 11/13/2013 11:52:00 AM | 11/13/2013 11:52:00 AM | 11/13/2013 11:52:00 AM | 11/13/2013 10:51:00 AM |
| | | Sample ID | SED7.5D05N | SED7.5E01N | SED7.5E03N | SED7.5E05N | SED7.5E07N | SED7A01N | SED7A03N | SED7A05N | SED7A07N | SED7B01N |
| | | Depth | 5 - 6.8 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | < 8.2 U |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | < 8.2 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | < 8.2 U |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | < 8.2 U |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | < 8.2 U |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | < 8.2 U |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | < 8.2 U |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | < 8.2 U |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | < 8.2 U |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | < 8.2 U |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | < 8.2 U |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | < 8.2 U |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | < 8.2 U |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | < 8.2 U |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | < 8.2 U |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | < 1600 U |
| 2-Butanone | ug/kg | | | | | | | | | | | < 8.2 U |
| 2-Hexanone | ug/kg | | | | | | | | | | | < 8.2 U |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | < 8.2 U |
| Acetone | ug/kg | | | | | | | | | | | < 33 U |
| Benzene | ug/kg | | | | | | | | | | | < 8.2 U |
| Bromochloromethane | ug/kg | | | | | | | | | | | < 8.2 U |
| Bromodichloromethane | ug/kg | | | | | | | | | | | < 8.2 U |
| Bromoform | ug/kg | | | | | | | | | | | < 8.2 U |
| Bromomethane | ug/kg | | | | | | | | | | | < 8.2 U |
| Carbon Disulfide | ug/kg | | | | | | | | | | | < 8.2 U |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | < 8.2 U |
| Chlorobenzene | ug/kg | | | | | | | | | | | < 8.2 U |
| Chloroethane | ug/kg | | | | | | | | | | | < 8.2 U |
| Chloroform | ug/kg | | | | | | | | | | | **0.97 J** |
| Chloromethane | ug/kg | | | | | | | | | | | < 8.2 U |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | < 8.2 U |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | < 8.2 U |
| Cyclohexane | ug/kg | | | | | | | | | | | < 8.2 U |
| Dibromochloromethane | ug/kg | | | | | | | | | | | < 8.2 U |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | < 8.2 U |
| Ethylbenzene | ug/kg | | | | | | | | | | | < 8.2 U |
| Isopropylbenzene | ug/kg | | | | | | | | | | | < 8.2 U |
| m, p-Xylene | ug/kg | | | | | | | | | | | < 16 U |
| Methyl Acetate | ug/kg | | | | | | | | | | | < 8.2 U |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | < 8.2 U |
| Methylcyclohexane | ug/kg | | | | | | | | | | | < 8.2 U |
| Methylene Chloride | ug/kg | | | | | | | | | | | < 8.2 U |
| o-Xylene | ug/kg | | | | | | | | | | | < 8.2 U |
| Styrene | ug/kg | | | | | | | | | | | < 8.2 U |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | < 8.2 U |
| Toluene | ug/kg | | | | | | | | | | | < 8.2 U |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SED7.5D | SED7.5E | SED7.5E | SED7.5E | SED7.5E | SED7A | SED7A | SED7A | SED7A | SED7B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/25/2013 7:30:00 AM | 11/25/2013 10:30:00 AM | 11/25/2013 10:30:00 AM | 11/25/2013 10:30:00 AM | 11/25/2013 10:30:00 AM | 11/13/2013 11:52:00 AM | 11/13/2013 11:52:00 AM | 11/13/2013 11:52:00 AM | 11/13/2013 11:52:00 AM | 11/13/2013 10:51:00 AM |
| | | Sample ID | SED7.5D05N | SED7.5E01N | SED7.5E03N | SED7.5E05N | SED7.5E07N | SED7A01N | SED7A03N | SED7A05N | SED7A07N | SED7B01N |
| | | Depth | 5 - 6.8 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | < 8.2 U |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | < 8.2 U |
| Trichloroethene | ug/kg | | | | | | | | | | | < 8.2 U |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | < 8.2 U |
| Vinyl Chloride | ug/kg | | | | | | | | | | | < 8.2 U |
| Xylenes (total) | ug/kg | | | | | | | | | | | < 16 U |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | < 130 U |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | < 130 U |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | < 27 U |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | < 130 U |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | < 130 U |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | < 130 U |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | < 27 U |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | **22 J** |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | < 680 U |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | < 130 U |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | < 130 U |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | < 27 U |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | < 130 U |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | **45** |
| 2-Methylphenol | ug/kg | | | | | | | | | | | < 130 U |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | < 680 U |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | < 130 U |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | < 130 U |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | < 680 U |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | < 680 U |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | < 130 U |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | < 130 U |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | < 130 U |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | < 130 U |
| 4-Methylphenol | ug/kg | | | | | | | | | | | **26 J** |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | < 680 U |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | < 680 U |
| Acenaphthene | ug/kg | | **69 J** | **24 J** | **25 J** | **16 J** | **8.4 J** | **94** | **88** | **58** | **83** | **28** |
| Acenaphthylene | ug/kg | | **110 J** | **15 J** | **19 J** | **72** | **15 J** | **190** | **200** | **90** | **96** | **68** |
| Acetophenone | ug/kg | | | | | | | | | | | < 130 U |
| Anthracene | ug/kg | | **110 J** | **18 J** | **37** | **51** | **9.9 J** | **200** | **210** | **100** | **140** | **51** |
| Atrazine | ug/kg | | | | | | | | | | | < 130 U |
| Benzaldehyde | ug/kg | | | | | | | | | | | R |
| Benzo(a)anthracene | ug/kg | | **300** | **65** | **98** | **160** | **38** | **310** | **380** | **170** | **270** | **180** |
| Benzo(a)pyrene | ug/kg | | **320** | **54** | **88** | **150** | **33** | **310** | **460** | **210** | **260** | **210** |
| Benzo(b)fluoranthene | ug/kg | | **430** | **87** | **140** | **200** | **57** | **370** | **460** | **250** | **340** | **260** |
| Benzo(g,h,i)perylene | ug/kg | | **280** | **59** | **83** | **140** | **41** | **320** | **590** | **280** | **230** | **170** |
| Benzo(k)fluoranthene | ug/kg | | **190** | **46** | **60** | **74** | **24 J** | **160** | **190** | **100** | **120** | **64** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | < 130 U |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | < 27 U |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | **150 J** |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | < 130 U |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7.5D | SED7.5E | SED7.5E | SED7.5E | SED7.5E | SED7A | SED7A | SED7A | SED7A | SED7B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/25/2013 7:30:00 AM | 11/25/2013 10:30:00 AM | 11/25/2013 10:30:00 AM | 11/25/2013 10:30:00 AM | 11/25/2013 10:30:00 AM | 11/13/2013 11:52:00 AM | 11/13/2013 11:52:00 AM | 11/13/2013 11:52:00 AM | 11/13/2013 11:52:00 AM | 11/13/2013 10:51:00 AM |
| | | Sample ID | SED7.5D05N | SED7.5E01N | SED7.5E03N | SED7.5E05N | SED7.5E07N | SED7A01N | SED7A03N | SED7A05N | SED7A07N | SED7B01N |
| | | Depth | 5 - 6.8 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | < 680 U |
| Carbazole | ug/kg | | | | | | | | | | | < 27 U |
| Chrysene | ug/kg | | **400** | **110** | **170** | **230** | **53** | **440** | **480** | **250** | **380** | **260** |
| Dibenzo(a,h)anthracene | ug/kg | | **58 J** | < 28 U | **35** | **33** | < 28 U | **62** | **77** | **42** | **66** | **31** |
| Dibenzofuran | ug/kg | | | | | | | | | | | < 130 U |
| Diethylphthalate | ug/kg | | | | | | | | | | | < 130 U |
| Dimethylphthalate | ug/kg | | | | | | | | | | | < 130 U |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | < 130 U |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | **82 J** |
| Fluoranthene | ug/kg | | **520** | **150** | **260** | **330** | **74** | **820** | **1000** | **480** | **760** | **340** |
| Fluorene | ug/kg | | **84 J** | **29** | **46** | **22 J** | < 28 U | **110** | **95** | **70** | **120** | **41** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | < 27 U |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | < 27 U |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | < 130 U |
| Hexachloroethane | ug/kg | | | | | | | | | | | < 130 U |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **210** | **47** | **72** | **92** | **24 J** | **240** | **340** | **170** | **180** | **120** |
| Isophorone | ug/kg | | | | | | | | | | | < 130 U |
| Naphthalene | ug/kg | | **61 J** | **28** | **47** | **32** | **7.8 J** | **56** | **68** | **60** | **83** | **38** |
| Nitrobenzene | ug/kg | | | | | | | | | | | < 270 U |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | < 27 U |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | < 130 U |
| Pentachlorophenol | ug/kg | | | | | | | | | | | < 130 U |
| Phenanthrene | ug/kg | | **370** | **82** | **160** | **170** | **51** | **580** | **490** | **280** | **580** | **250** |
| Phenol | ug/kg | | | | | | | | | | | < 27 U |
| Pyrene | ug/kg | | **620** | **150** | **240** | **420** | **95** | **660** | **1100** | **420** | **600** | **460** |
| BaP-TE | ug/kg | | **474** | **74.5** | **155** | **229** | **45.2** | **466** | **657** | **312** | **407** | **298** |
| Total High-molecular-weight PAHs | ug/kg | | **3300** | **770** | **1200** | **1800** | **440** | **3700** | **5100** | **2400** | **3200** | **2100** |
| Total Low-molecular-weight PAHs | ug/kg | | **800** | **200** | **330** | **360** | **92** | **1200** | **1200** | **660** | **1100** | **480** |
| Total PAHs (sum 16) | ug/kg | | **4100** | **960** | **1600** | **2200** | **530** | **4900** | **6200** | **3000** | **4300** | **2600** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED7B | SED7B | SED7B | SED7D | SED7D | SED7D | SED7D | SED7D | SED7D | SED7D |
| | | Sample Date | 11/13/2013 10:51:00 AM | 11/13/2013 10:51:00 AM | 11/13/2013 10:51:00 AM | 11/25/2013 8:05:00 AM | 11/25/2013 8:05:00 AM | 11/25/2013 8:05:00 AM | 11/25/2013 8:05:00 AM | 6/27/2017 12:00:00 PM | 6/27/2017 12:10:00 PM | 6/27/2017 12:20:00 PM |
| | | Sample ID | SED7B03N | SED7B05N | SED7B07N | SED7D01N | SED7D03N | SED7D05N | SED7D07N | SED7D02FN | SED7D04FN | SED7D06FN |
| | | Depth | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | **2890** | **5860** | **3040** |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED7B | SED7B | SED7B | SED7D | SED7D | SED7D | SED7D | SED7D | SED7D | SED7D |
| | | Sample Date | 11/13/2013 10:51:00 AM | 11/13/2013 10:51:00 AM | 11/13/2013 10:51:00 AM | 11/25/2013 8:05:00 AM | 11/25/2013 8:05:00 AM | 11/25/2013 8:05:00 AM | 11/25/2013 8:05:00 AM | 6/27/2017 12:00:00 PM | 6/27/2017 12:10:00 PM | 6/27/2017 12:20:00 PM |
| | | Sample ID | SED7B03N | SED7B05N | SED7B07N | SED7D01N | SED7D03N | SED7D05N | SED7D07N | SED7D02FN | SED7D04FN | SED7D06FN |
| | | Depth | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | |
| Acenaphthene | ug/kg | | **1.4 J** | < 6.3 U | < 27 U | **50 J** | **47 J** | **76 J** | **81 J** | **6.5 J** | **42** | **24** |
| Acenaphthylene | ug/kg | | **3.2 J** | < 6.3 U | < 27 U | **63 J** | **99** | **170** | **210** | **34** | **99** | **92** |
| Acetophenone | ug/kg | | | | | | | | | | | |
| Anthracene | ug/kg | | **5.5** | < 6.3 U | < 27 U | **120 J** | **130** | **190** | **190** | **31** | **100** | **81** |
| Atrazine | ug/kg | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **25** | **1.8 J** | < 27 U | **280** | **320** | **420** | **380** | **93** | **170** | **170** |
| Benzo(a)pyrene | ug/kg | | **31** | < 6.3 U | < 27 U | **270** | **350** | **490** | **400** | **110** | **160** | **190** |
| Benzo(b)fluoranthene | ug/kg | | **37** | **6.9** | < 27 U | **510** | **530** | **660** | **490** | **150** | **240** | **230** |
| Benzo(g,h,i)perylene | ug/kg | | **32** | **2.3 J** | < 27 U | **270** | **330** | **430** | **380** | **110** | **160** | **190** |
| Benzo(k)fluoranthene | ug/kg | | **14** | **1.6 J** | < 27 U | **140** | **190** | **220** | **210** | **57** | **40** | **75** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7B | SED7B | SED7B | SED7D | SED7D | SED7D | SED7D | SED7D | SED7D | SED7D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/13/2013 10:51:00 AM | 11/13/2013 10:51:00 AM | 11/13/2013 10:51:00 AM | 11/25/2013 8:05:00 AM | 11/25/2013 8:05:00 AM | 11/25/2013 8:05:00 AM | 11/25/2013 8:05:00 AM | 6/27/2017 12:00:00 PM | 6/27/2017 12:10:00 PM | 6/27/2017 12:20:00 PM |
| | | Sample ID | SED7B03N | SED7B05N | SED7B07N | SED7D01N | SED7D03N | SED7D05N | SED7D07N | SED7D02FN | SED7D04FN | SED7D06FN |
| | | Depth | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | |
| Chrysene | ug/kg | | **33** | **3.3 J** | < 27 U | **450** | **480** | **610** | **500** | **140** | **220** | **220** |
| Dibenzo(a,h)anthracene | ug/kg | | **5.9** | < 6.3 U | < 27 U | **62 J** | **83 J** | **90 J** | **76 J** | **25** | **41** | **45** |
| Dibenzofuran | ug/kg | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | |
| Fluoranthene | ug/kg | | **41** | **2.8 J** | **3.2 J** | **690** | **620** | **820** | **740** | **190** | **430** | **460** |
| Fluorene | ug/kg | | **2.6 J** | < 6.3 U | < 27 U | **110 J** | **59 J** | **87 J** | **92 J** | **18** | **66** | **31** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **20** | **2.1 J** | < 27 U | **200** | **230** | **310** | **260** | **85** | **120** | **130** |
| Isophorone | ug/kg | | | | | | | | | | | |
| Naphthalene | ug/kg | | **3.9 J** | < 6.3 U | < 27 U | **110 J** | **65 J** | **78 J** | **87 J** | **20** | **50** | **42** |
| Nitrobenzene | ug/kg | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | |
| Phenanthrene | ug/kg | | **21** | **2.4 J** | < 27 U | **440** | **360** | **510** | **510** | **90** | **330** | **230** |
| Phenol | ug/kg | | | | | | | | | | | |
| Pyrene | ug/kg | | **54** | **5.2 J** | **2.8 J** | **620** | **670** | **940** | **840** | **180** | **350** | **380** |
| BaP-TE | ug/kg | | **45.3** | **1.10** | < 27.0 U | **433** | **543** | **722** | **592** | **169** | **255** | **289** |
| Total High-molecular-weight PAHs | ug/kg | | **290** | **26** | **6.0** | **3500** | **3800** | **5000** | **4300** | **1100** | **1900** | **2100** |
| Total Low-molecular-weight PAHs | ug/kg | | **38** | **2.4** | < 27 U | **890** | **760** | **1100** | **1200** | **200** | **690** | **500** |
| Total PAHs (sum 16) | ug/kg | | **330** | **28** | **6.0** | **4400** | **4600** | **6100** | **5400** | **1300** | **2600** | **2600** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7D | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/27/2017 12:30:00 PM | 11/25/2013 10:00:00 AM | 11/25/2013 10:00:00 AM | 11/25/2013 10:00:00 AM | 6/22/2017 9:05:00 AM | 6/22/2017 9:10:00 AM | 6/22/2017 9:15:00 AM | 6/22/2017 9:20:00 AM | 6/22/2017 9:25:00 AM | 6/22/2017 9:30:00 AM |
| | | Sample ID | SED7D08FN | SED7E01N | SED7E03N | SED7E05N | SED7E00BN | SED7E00CN | SED7E01AN | SED7E01BN | SED7E01CN | SED7E02AN |
| | | Depth | 8 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 6 ft | 0.33 - 0.67 ft | 0.67 - 1 ft | 1 - 1.33 ft | 1.33 - 1.67 ft | 1.67 - 2 ft | 2 - 2.33 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | **1090** | | | | | | | | **3120** | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | **180 J** | **170 J** | **210 J** | **360** | **270 J** | **420** |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | **820** | **890** | **950** | **940** | **810** | **890** |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7D | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/27/2017 12:30:00 PM | 11/25/2013 10:00:00 AM | 11/25/2013 10:00:00 AM | 11/25/2013 10:00:00 AM | 6/22/2017 9:05:00 AM | 6/22/2017 9:10:00 AM | 6/22/2017 9:15:00 AM | 6/22/2017 9:20:00 AM | 6/22/2017 9:25:00 AM | 6/22/2017 9:30:00 AM |
| | | Sample ID | SED7D08FN | SED7E01N | SED7E03N | SED7E05N | SED7E00BN | SED7E00CN | SED7E01AN | SED7E01BN | SED7E01CN | SED7E02AN |
| | | Depth | 8 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 6 ft | 0.33 - 0.67 ft | 0.67 - 1 ft | 1 - 1.33 ft | 1.33 - 1.67 ft | 1.67 - 2 ft | 2 - 2.33 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | |
| Acenaphthene | ug/kg | | **11** | **240** | **52 J** | **70 J** | **19 J** | **8.7 J** | **90** | < 30 U | < 29 U | < 30 U |
| Acenaphthylene | ug/kg | | **31** | **40 J** | **84 J** | **120 J** | < 44 U | **9.1 J** | **24 J** | **37** | **21 J** | **36** |
| Acetophenone | ug/kg | | | | | | | | | | | |
| Anthracene | ug/kg | | **38** | **400** | **110 J** | **130 J** | **54** | **20 J** | **210** | **36** | **24 J** | **37** |
| Atrazine | ug/kg | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **120** | **1500** | **240** | **280** | **200** | **73** | **490** | **82** | **50** | **80 J** |
| Benzo(a)pyrene | ug/kg | | **120** | **1500** | **270** | **330** | **190** | **65** | **420** | **87** | **52** | **91 J** |
| Benzo(b)fluoranthene | ug/kg | | **160** | **2100** | **400** | **410** | **280** | **100** | **560** | **120** | **79** | **130 J** |
| Benzo(g,h,i)perylene | ug/kg | | **110** | **1200** | **270** | **320** | **180** | **57** | **300** | **81** | **54** | **91 J** |
| Benzo(k)fluoranthene | ug/kg | | **64** | **780** | **140 J** | **230** | **95** | **43** | **220** | **48** | **31** | **32** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7D | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/27/2017 12:30:00 PM | 11/25/2013 10:00:00 AM | 11/25/2013 10:00:00 AM | 11/25/2013 10:00:00 AM | 6/22/2017 9:05:00 AM | 6/22/2017 9:10:00 AM | 6/22/2017 9:15:00 AM | 6/22/2017 9:20:00 AM | 6/22/2017 9:25:00 AM | 6/22/2017 9:30:00 AM |
| | | Sample ID | SED7D08FN | SED7E01N | SED7E03N | SED7E05N | SED7E00BN | SED7E00CN | SED7E01AN | SED7E01BN | SED7E01CN | SED7E02AN |
| | | Depth | 8 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 6 ft | 0.33 - 0.67 ft | 0.67 - 1 ft | 1 - 1.33 ft | 1.33 - 1.67 ft | 1.67 - 2 ft | 2 - 2.33 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | |
| Chrysene | ug/kg | | **140** | **1900** | **400** | **440** | **240** | **100** | **540** | **120** | **80** | **120 J** |
| Dibenzo(a,h)anthracene | ug/kg | | **23** | **230** | **61 J** | **60 J** | **47** | **11 J** | **78** | < 30 U | **12 J** | **17 J** |
| Dibenzofuran | ug/kg | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | |
| Fluoranthene | ug/kg | | **260** | **4300** | **540** | **550** | **330** | **140** | **1200** | **140** | **83** | **140 J** |
| Fluorene | ug/kg | | **19** | **210** | **62 J** | **63 J** | **18 J** | **13 J** | **97** | **14 J** | **13 J** | **17 J** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **92** | **1000** | **200** | **230** | **130** | **46** | **250** | **54** | **38** | **58 J** |
| Isophorone | ug/kg | | | | | | | | | | | |
| Naphthalene | ug/kg | | **26** | **110 J** | **67 J** | **60 J** | < 44 U | **11 J** | **50** | **21 J** | **16 J** | **20 J** |
| Nitrobenzene | ug/kg | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | |
| Phenanthrene | ug/kg | | **110** | **3000** | **320** | **370** | **210** | **87** | **1100** | **100** | **67** | **100 J** |
| Phenol | ug/kg | | | | | | | | | | | |
| Pyrene | ug/kg | | **160** | **3200** | **580** | **690** | **400** | **170** | **1100** | **190** | **120** | **190 J** |
| BaP-TE | ug/kg | | **181** | **2200** | **417** | **485** | **299** | **98.4** | **631** | **113** | **81.1** | **135** |
| Total High-molecular-weight PAHs | ug/kg | | **1200** | **18000** | **3100** | **3500** | **2100** | **810** | **5200** | **920** | **600** | **950** |
| Total Low-molecular-weight PAHs | ug/kg | | **240** | **4000** | **700** | **810** | **300** | **150** | **1600** | **210** | **140** | **210** |
| Total PAHs (sum 16) | ug/kg | | **1500** | **22000** | **3800** | **4400** | **2400** | **950** | **6700** | **1100** | **740** | **1200** |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/22/2017 9:32:00 AM | 6/22/2017 9:35:00 AM | 6/22/2017 9:37:00 AM | 6/22/2017 9:40:00 AM | 6/22/2017 9:45:00 AM | 6/22/2017 9:50:00 AM | 6/22/2017 9:55:00 AM | 6/22/2017 10:00:00 AM | 6/22/2017 10:05:00 AM | 6/22/2017 10:10:00 AM |
| | | Sample ID | SED7E02AR | SED7E02BN | SED7E02BR | SED7E02CN | SED7E03AN | SED7E03BN | SED7E03CN | SED7E04AN | SED7E04BN | SED7E04CN |
| | | Depth | 2 - 2.33 ft | 2.33 - 2.67 ft | 2.33 - 2.67 ft | 2.67 - 3 ft | 3 - 3.33 ft | 3.33 - 3.67 ft | 3.67 - 4 ft | 4 - 4.33 ft | 4.33 - 4.67 ft | 4.67 - 5 ft |
| | | Type | FD | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | **5080** | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | **340** | **280 J** | **400** | **160** | **360** | **370** | **330** | **270 J** | **330** | **410** |
| Oil Range Organics (C20-C36) | mg/kg | | **800** | **800** | **970** | **370** | **750** | **750** | **790** | **680** | **870** | **1000** |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E |
| | | Sample Date | 6/22/2017 9:32:00 AM | 6/22/2017 9:35:00 AM | 6/22/2017 9:37:00 AM | 6/22/2017 9:40:00 AM | 6/22/2017 9:45:00 AM | 6/22/2017 9:50:00 AM | 6/22/2017 9:55:00 AM | 6/22/2017 10:00:00 AM | 6/22/2017 10:05:00 AM | 6/22/2017 10:10:00 AM |
| | | Sample ID | SED7E02AR | SED7E02BN | SED7E02BR | SED7E02CN | SED7E03AN | SED7E03BN | SED7E03CN | SED7E04AN | SED7E04BN | SED7E04CN |
| | | Depth | 2 - 2.33 ft | 2.33 - 2.67 ft | 2.33 - 2.67 ft | 2.67 - 3 ft | 3 - 3.33 ft | 3.33 - 3.67 ft | 3.67 - 4 ft | 4 - 4.33 ft | 4.33 - 4.67 ft | 4.67 - 5 ft |
| | | Type | FD | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | |
| Acenaphthene | ug/kg | | **24** | < 29 U | **20 J** | **26** | < 22 U | **26** | **55** | **210** | **21** | **12 J** |
| Acenaphthylene | ug/kg | | **46** | **67** | **58** | **69** | **67** | **68** | **43** | **180** | **43** | **43** |
| Acetophenone | ug/kg | | | | | | | | | | | |
| Anthracene | ug/kg | | **67** | **97** | **87** | **65** | **81** | **67** | **90** | **560** | **51** | **36** |
| Atrazine | ug/kg | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **180 J** | **160** | **180** | **190** | **240** | **210 J** | **240** | **800** | **150** | **74** |
| Benzo(a)pyrene | ug/kg | | **220 J** | **180** | **240** | **210** | **280** | **200** | **220** | **330** | **140** | **77** |
| Benzo(b)fluoranthene | ug/kg | | **300 J** | **240** | **330** | **280** | **360** | **260 J** | **300** | **600** | **190** | **110** |
| Benzo(g,h,i)perylene | ug/kg | | **270 J** | **170** | **270** | **220** | **290** | **210 J** | **210** | **400** | **150** | **110** |
| Benzo(k)fluoranthene | ug/kg | | **90** | **79** | **100** | **81** | **170** | **85** | **74** | **220** | **43** | **20** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/22/2017 9:32:00 AM | 6/22/2017 9:35:00 AM | 6/22/2017 9:37:00 AM | 6/22/2017 9:40:00 AM | 6/22/2017 9:45:00 AM | 6/22/2017 9:50:00 AM | 6/22/2017 9:55:00 AM | 6/22/2017 10:00:00 AM | 6/22/2017 10:05:00 AM | 6/22/2017 10:10:00 AM |
| | | Sample ID | SED7E02AR | SED7E02BN | SED7E02BR | SED7E02CN | SED7E03AN | SED7E03BN | SED7E03CN | SED7E04AN | SED7E04BN | SED7E04CN |
| | | Depth | 2 - 2.33 ft | 2.33 - 2.67 ft | 2.33 - 2.67 ft | 2.67 - 3 ft | 3 - 3.33 ft | 3.33 - 3.67 ft | 3.67 - 4 ft | 4 - 4.33 ft | 4.33 - 4.67 ft | 4.67 - 5 ft |
| | | Type | FD | N | FD | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | |
| Chrysene | ug/kg | | **230 J** | **240** | **270** | **240** | **340** | **240 J** | **290** | **710** | **190** | **110** |
| Dibenzo(a,h)anthracene | ug/kg | | **50** | **38** | **67** | **53** | **75** | **49 J** | **52** | **100** | **27** | **22** |
| Dibenzofuran | ug/kg | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | |
| Fluoranthene | ug/kg | | **310 J** | **300** | **350** | **390** | **470 J-** | **350** | **430** | **1500** | **330** | **160** |
| Fluorene | ug/kg | | **45** | **32** | **35** | **41** | **55** | **39** | **44** | **290** | **25** | **21** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **190 J** | **120** | **180** | **170** | **230** | **150** | **160** | **360** | **120** | **71** |
| Isophorone | ug/kg | | | | | | | | | | | |
| Naphthalene | ug/kg | | **26** | **32** | **32** | **32** | **25** | **42** | **34** | **79** | **19** | **24** |
| Nitrobenzene | ug/kg | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | |
| Phenanthrene | ug/kg | | **200 J** | **210** | **230** | **230** | **240** | **220 J** | **290** | **1800** | **180** | **100** |
| Phenol | ug/kg | | | | | | | | | | | |
| Pyrene | ug/kg | | **410 J** | **350** | **420** | **380** | **500 J** | **470 J** | **420** | **1300** | **290** | **160** |
| BaP-TE | ug/kg | | **338** | **271** | **377** | **328** | **440** | **312** | **343** | **609** | **214** | **125** |
| Total High-molecular-weight PAHs | ug/kg | | **2300** | **1900** | **2400** | **2200** | **3000** | **2200** | **2400** | **6300** | **1600** | **910** |
| Total Low-molecular-weight PAHs | ug/kg | | **410** | **440** | **460** | **460** | **470** | **460** | **560** | **3100** | **340** | **240** |
| Total PAHs (sum 16) | ug/kg | | **2700** | **2300** | **2900** | **2700** | **3400** | **2700** | **3000** | **9400** | **2000** | **1200** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/22/2017 10:15:00 AM | 6/22/2017 10:20:00 AM | 6/22/2017 10:25:00 AM | 6/22/2017 10:30:00 AM | 6/22/2017 10:35:00 AM | 6/22/2017 10:40:00 AM | 6/22/2017 10:45:00 AM | 6/22/2017 10:50:00 AM | 6/22/2017 10:55:00 AM | 11/25/2013 12:00:00 PM |
| | | Sample ID | SED7E05AN | SED7E05BN | SED7E05CN | SED7E06AN | SED7E06BN | SED7E06CN | SED7E07AN | SED7E07BN | SED7E07CN | SED7F01N |
| | | Depth | 5 - 5.33 ft | 5.33 - 5.67 ft | 5.67 - 6 ft | 6 - 6.33 ft | 6.33 - 6.67 ft | 6.67 - 7 ft | 7 - 7.33 ft | 7.33 - 7.67 ft | 7.67 - 8 ft | 1 - 3 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | **611** | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | **200 J** | **240 J** | **330** | **65** | **51** | **140** | **62** | **230** | **140** | |
| Oil Range Organics (C20-C36) | mg/kg | | **520** | **650** | **1000** | **230** | **150** | **420** | **170** | **670** | **430** | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/22/2017 10:15:00 AM | 6/22/2017 10:20:00 AM | 6/22/2017 10:25:00 AM | 6/22/2017 10:30:00 AM | 6/22/2017 10:35:00 AM | 6/22/2017 10:40:00 AM | 6/22/2017 10:45:00 AM | 6/22/2017 10:50:00 AM | 6/22/2017 10:55:00 AM | 11/25/2013 12:00:00 PM |
| | | Sample ID | SED7E05AN | SED7E05BN | SED7E05CN | SED7E06AN | SED7E06BN | SED7E06CN | SED7E07AN | SED7E07BN | SED7E07CN | SED7F01N |
| | | Depth | 5 - 5.33 ft | 5.33 - 5.67 ft | 5.67 - 6 ft | 6 - 6.33 ft | 6.33 - 6.67 ft | 6.67 - 7 ft | 7 - 7.33 ft | 7.33 - 7.67 ft | 7.67 - 8 ft | 1 - 3 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | < 200 U |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | < 200 U |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | < 41 U |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | < 200 U |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | < 200 U |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | < 200 U |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | < 41 U |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | < 200 U |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | < 1000 U |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | < 200 U |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | < 200 U |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | < 41 U |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | < 200 U |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | **17 J** |
| 2-Methylphenol | ug/kg | | | | | | | | | | | < 200 U |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | < 1000 U |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | < 200 U |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | < 200 U |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | < 1000 U |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | < 1000 U |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | < 200 U |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | < 200 U |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | < 200 U |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | < 200 U |
| 4-Methylphenol | ug/kg | | | | | | | | | | | < 200 U |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | < 1000 U |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | < 1000 U |
| Acenaphthene | ug/kg | | **18 J** | **23** | **21** | **8.9 J** | **4.1 J** | **300** | **2.7 J** | **21** | **5.9** | < 41 U |
| Acenaphthylene | ug/kg | | **57** | **65** | **120** | **34** | **3.9 J** | **43** | **5.7** | **45** | **21** | **18 J** |
| Acetophenone | ug/kg | | | | | | | | | | | < 200 U |
| Anthracene | ug/kg | | **51** | **67** | **100** | **37** | **5.3 J** | **2900** | **11** | **58** | **24** | **42** |
| Atrazine | ug/kg | | | | | | | | | | | < 200 U |
| Benzaldehyde | ug/kg | | | | | | | | | | | < 200 UJ |
| Benzo(a)anthracene | ug/kg | | **110** | **160** | **220** | **85** | **20** | **710** | **28** | **160** | **74** | **180** |
| Benzo(a)pyrene | ug/kg | | **120** | **150** | **240** | **83** | **20** | **520** | **26** | **180** | **80** | **180** |
| Benzo(b)fluoranthene | ug/kg | | **150** | **180** | **290** | **120** | **26** | **560** | **35** | **230** | **110** | **210** |
| Benzo(g,h,i)perylene | ug/kg | | **150** | **180** | **290** | **110** | **23** | **370** | **23** | **190** | **79** | **150** |
| Benzo(k)fluoranthene | ug/kg | | **50** | **80** | **94** | **34** | **9.3** | **280** | **11** | **84** | **27** | **120** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | < 200 U |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | < 41 U |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | **920** |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | < 200 U |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7F |
| | | Sample Date | 6/22/2017 10:15:00 AM | 6/22/2017 10:20:00 AM | 6/22/2017 10:25:00 AM | 6/22/2017 10:30:00 AM | 6/22/2017 10:35:00 AM | 6/22/2017 10:40:00 AM | 6/22/2017 10:45:00 AM | 6/22/2017 10:50:00 AM | 6/22/2017 10:55:00 AM | 11/25/2013 12:00:00 PM |
| | | Sample ID | SED7E05AN | SED7E05BN | SED7E05CN | SED7E06AN | SED7E06BN | SED7E06CN | SED7E07AN | SED7E07BN | SED7E07CN | SED7F01N |
| | | Depth | 5 - 5.33 ft | 5.33 - 5.67 ft | 5.67 - 6 ft | 6 - 6.33 ft | 6.33 - 6.67 ft | 6.67 - 7 ft | 7 - 7.33 ft | 7.33 - 7.67 ft | 7.67 - 8 ft | 1 - 3 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | < 1000 U |
| Carbazole | ug/kg | | | | | | | | | | | **42** |
| Chrysene | ug/kg | | **150** | **190** | **280** | **110** | **25** | **670** | **34** | **210** | **91** | **270** |
| Dibenzo(a,h)anthracene | ug/kg | | **14 J** | **30** | **44** | **23** | **4.0 J** | **110** | **5.4** | **43** | **17** | < 41 U |
| Dibenzofuran | ug/kg | | | | | | | | | | | < 200 U |
| Diethylphthalate | ug/kg | | | | | | | | | | | < 200 U |
| Dimethylphthalate | ug/kg | | | | | | | | | | | < 200 U |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | **42 J** |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | < 200 U |
| Fluoranthene | ug/kg | | **210** | **270** | **410** | **170** | **33** | **1400** | **51** | **320** | **140** | **430** |
| Fluorene | ug/kg | | **23** | **29** | **41** | **15** | **3.6 J** | **460** | **4.5** | **25** | **9.9** | **20 J** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | < 41 U |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | < 41 U |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | < 200 U |
| Hexachloroethane | ug/kg | | | | | | | | | | | < 200 U |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **99** | **130** | **220** | **85** | **17** | **340** | **17** | **140** | **61** | **130** |
| Isophorone | ug/kg | | | | | | | | | | | < 200 U |
| Naphthalene | ug/kg | | **33** | **28** | **45** | **17** | **3.5 J** | **240** | **4.8** | **36** | **13** | < 41 U |
| Nitrobenzene | ug/kg | | | | | | | | | | | < 410 U |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | < 41 U |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | < 200 U |
| Pentachlorophenol | ug/kg | | | | | | | | | | | < 200 U |
| Phenanthrene | ug/kg | | **120** | **150** | **220** | **75** | **19** | **1800** | **24** | **160** | **63** | **200** |
| Phenol | ug/kg | | | | | | | | | | | < 41 U |
| Pyrene | ug/kg | | **240** | **310** | **460** | **170** | **36** | **1200** | **59** | **420** | **160** | **340** |
| BaP-TE | ug/kg | | **171** | **228** | **358** | **135** | **30.4** | **794** | **39.5** | **277** | **122** | **233** |
| Total High-molecular-weight PAHs | ug/kg | | **1300** | **1700** | **2500** | **990** | **210** | **6200** | **290** | **2000** | **840** | **2000** |
| Total Low-molecular-weight PAHs | ug/kg | | **300** | **360** | **550** | **190** | **39** | **5700** | **53** | **350** | **140** | **280** |
| Total PAHs (sum 16) | ug/kg | | **1600** | **2000** | **3100** | **1200** | **250** | **12000** | **340** | **2300** | **980** | **2300** |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED7F | SED7F | SED7F | SED7F | SED7G | SED7G | SED7G | SED7G | SED7G | SED8.5B | SED8.5B |
| | | Sample Date | 12/3/2013 1:30:00 PM | 1/29/2014 1:30:00 PM | 1/29/2014 1:30:00 PM | 1/29/2014 1:30:00 PM | 1/30/2014 3:00:00 PM | 1/30/2014 3:00:00 PM | 1/30/2014 3:00:00 PM | 1/30/2014 3:00:00 PM | 1/30/2014 3:00:00 PM | 11/13/2013 8:37:00 AM | 11/13/2013 8:37:00 AM |
| | | Sample ID | SED7F01N2 | SED7F03N | SED7F05N | SED7F07N | SED7G01N | SED7G01R | SED7G03N | SED7G05N | SED7G07N | SED8.5B01N | SED8.5B03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | < 6.5 U | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | < 6.5 U | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | < 6.5 U | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | < 6.5 U | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | < 6.5 U | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | < 6.5 U | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | < 6.5 U | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | < 6.5 U | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | < 6.5 U | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | < 6.5 U | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | < 6.5 U | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | < 6.5 U | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | < 6.5 U | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | < 6.5 U | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | < 6.5 U | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | < 1300 U | | | | | | | | | | |
| 2-Butanone | ug/kg | | < 6.5 U | | | | | | | | | | |
| 2-Hexanone | ug/kg | | < 6.5 U | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | < 6.5 U | | | | | | | | | | |
| Acetone | ug/kg | | < 26 U | | | | | | | | | | |
| Benzene | ug/kg | | < 6.5 U | | | | | | | | | | |
| Bromochloromethane | ug/kg | | < 6.5 U | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | < 6.5 U | | | | | | | | | | |
| Bromoform | ug/kg | | < 6.5 U | | | | | | | | | | |
| Bromomethane | ug/kg | | < 6.5 U | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | < 6.5 U | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | < 6.5 U | | | | | | | | | | |
| Chlorobenzene | ug/kg | | < 6.5 U | | | | | | | | | | |
| Chloroethane | ug/kg | | < 6.5 U | | | | | | | | | | |
| Chloroform | ug/kg | | < 6.5 U | | | | | | | | | | |
| Chloromethane | ug/kg | | < 6.5 U | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | < 6.5 U | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | < 6.5 U | | | | | | | | | | |
| Cyclohexane | ug/kg | | < 6.5 U | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | < 6.5 U | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | < 6.5 U | | | | | | | | | | |
| Ethylbenzene | ug/kg | | < 6.5 U | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | < 6.5 U | | | | | | | | | | |
| m, p-Xylene | ug/kg | | < 13 U | | | | | | | | | | |
| Methyl Acetate | ug/kg | | < 6.5 U | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | < 6.5 U | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | < 6.5 U | | | | | | | | | | |
| Methylene Chloride | ug/kg | | < 6.5 U | | | | | | | | | | |
| o-Xylene | ug/kg | | < 6.5 U | | | | | | | | | | |
| Styrene | ug/kg | | < 6.5 U | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | < 6.5 U | | | | | | | | | | |
| Toluene | ug/kg | | < 6.5 U | | | | | | | | | | |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SED7F | SED7F | SED7F | SED7F | SED7G | SED7G | SED7G | SED7G | SED7G | SED8.5B | SED8.5B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 12/3/2013 1:30:00 PM | 1/29/2014 1:30:00 PM | 1/29/2014 1:30:00 PM | 1/29/2014 1:30:00 PM | 1/30/2014 3:00:00 PM | 1/30/2014 3:00:00 PM | 1/30/2014 3:00:00 PM | 1/30/2014 3:00:00 PM | 1/30/2014 3:00:00 PM | 11/13/2013 8:37:00 AM | 11/13/2013 8:37:00 AM |
| | | Sample ID | SED7F01N2 | SED7F03N | SED7F05N | SED7F07N | SED7G01N | SED7G01R | SED7G03N | SED7G05N | SED7G07N | SED8.5B01N | SED8.5B03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | < 6.5 U | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | < 6.5 U | | | | | | | | | | |
| Trichloroethene | ug/kg | | < 6.5 U | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | < 6.5 U | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | < 6.5 U | | | | | | | | | | |
| Xylenes (total) | ug/kg | | < 13 U | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | | |
| Acenaphthene | ug/kg | | | **54 J** | **11 J** | < 26 U | **3.0 J** | < 23 U | < 25 U | < 20 U | < 4.6 U | **15 J** | < 4.2 U |
| Acenaphthylene | ug/kg | | | **72** | **43 J** | < 26 U | < 24 U | < 23 U | < 25 U | < 20 U | < 4.6 U | **20 J** | < 4.2 U |
| Acetophenone | ug/kg | | | | | | | | | | | | |
| Anthracene | ug/kg | | | **140 J** | **46 J** | **6.6 J** | < 24 U | < 23 U | < 25 U | < 20 U | < 4.6 U | **48** | < 4.2 U |
| Atrazine | ug/kg | | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | | **340 J** | **120** | **22 J** | **10 J** | < 23 U | < 25 U | < 20 U | < 4.6 U | **180** | < 4.2 U |
| Benzo(a)pyrene | ug/kg | | | **300 J** | **120** | **20 J** | **12 J** | < 23 U | < 25 U | < 20 U | < 4.6 U | **220** | < 4.2 U |
| Benzo(b)fluoranthene | ug/kg | | | **300 J** | **150** | **17 J** | **10 J** | < 23 U | < 25 U | < 20 U | < 4.6 U | **370** | < 4.2 U |
| Benzo(g,h,i)perylene | ug/kg | | | **220 J** | **120** | **15 J** | **11 J** | < 23 U | < 25 U | < 20 U | < 4.6 U | **270** | < 4.2 U |
| Benzo(k)fluoranthene | ug/kg | | | **170 J** | **57** | **18 J** | **4.9 J** | < 23 U | < 25 U | < 20 U | < 4.6 U | **110** | < 4.2 U |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED7F | SED7F | SED7F | SED7F | SED7G | SED7G | SED7G | SED7G | SED7G | SED8.5B | SED8.5B |
| | | Sample Date | 12/3/2013 1:30:00 PM | 1/29/2014 1:30:00 PM | 1/29/2014 1:30:00 PM | 1/29/2014 1:30:00 PM | 1/30/2014 3:00:00 PM | 1/30/2014 3:00:00 PM | 1/30/2014 3:00:00 PM | 1/30/2014 3:00:00 PM | 1/30/2014 3:00:00 PM | 11/13/2013 8:37:00 AM | 11/13/2013 8:37:00 AM |
| | | Sample ID | SED7F01N2 | SED7F03N | SED7F05N | SED7F07N | SED7G01N | SED7G01R | SED7G03N | SED7G05N | SED7G07N | SED8.5B01N | SED8.5B03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | FD | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | | |
| Chrysene | ug/kg | | | **340 J** | **150** | **26** | **11 J** | < 23 U | < 25 U | < 20 U | < 4.6 U | **360** | < 4.2 U |
| Dibenzo(a,h)anthracene | ug/kg | | | **62** | **31 J** | **4.2 J** | < 24 U | < 23 U | < 25 U | < 20 U | < 4.6 U | **40** | < 4.2 U |
| Dibenzofuran | ug/kg | | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | | |
| Fluoranthene | ug/kg | | | **620 J** | **220** | **30** | < 24 U | < 23 U | < 25 U | < 20 U | < 4.6 U | **430** | **3.9 J** |
| Fluorene | ug/kg | | | **58 J** | **26 J** | < 26 U | < 24 U | < 23 U | < 25 U | < 20 U | < 4.6 U | **17 J** | < 4.2 U |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | | **180 J** | **87** | **14 J** | **8.0 J** | < 23 U | < 25 U | < 20 U | < 4.6 U | **220** | < 4.2 U |
| Isophorone | ug/kg | | | | | | | | | | | | |
| Naphthalene | ug/kg | | | **61 J** | < 52 U | < 26 U | < 24 U | < 23 U | < 25 U | < 20 U | < 4.6 U | < 27 U | < 4.2 U |
| Nitrobenzene | ug/kg | | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | | |
| Phenanthrene | ug/kg | | | **410 J** | **87** | < 26 U | < 24 U | < 23 U | < 25 U | < 20 U | < 4.6 U | **210** | **3.2 J** |
| Phenol | ug/kg | | | | | | | | | | | | |
| Pyrene | ug/kg | | | **650 J** | **280** | **39** | **18 J** | < 23 U | < 25 U | < 20 U | < 4.6 U | **450** | **5.4** |
| BaP-TE | ug/kg | | | **446** | **187** | **29.7** | **14.9** | < 23.0 U | < 25.0 U | < 20.0 U | < 4.60 U | **338** | < 4.20 U |
| Total High-molecular-weight PAHs | ug/kg | | | **3200** | **1300** | **210** | **85** | < 23 U | < 25 U | < 20 U | < 4.6 U | **2700** | **9.3** |
| Total Low-molecular-weight PAHs | ug/kg | | | **800** | **210** | **6.6** | **3.0** | < 23 U | < 25 U | < 20 U | < 4.6 U | **310** | **3.2** |
| Total PAHs (sum 16) | ug/kg | | | **4000** | **1500** | **210** | **88** | < 23 U | < 25 U | < 20 U | < 4.6 U | **3000** | **13** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED8.5B | SED8.5B | SED8A | SED8A | SED8A | SED8A | SED8B | SED8B | SED8B | SED8B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/13/2013 8:37:00 AM | 11/13/2013 8:37:00 AM | 11/13/2013 10:06:00 AM | 11/13/2013 10:06:00 AM | 11/13/2013 10:06:00 AM | 11/13/2013 10:06:00 AM | 11/13/2013 9:18:00 AM | 11/13/2013 9:18:00 AM | 11/13/2013 9:18:00 AM | 11/13/2013 9:18:00 AM |
| | | Sample ID | SED8.5B05N | SED8.5B07N | SED8A01N | SED8A03N | SED8A05N | SED8A07N | SED8B01N | SED8B03N | SED8B05N | SED8B07N |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED8.5B | SED8.5B | SED8A | SED8A | SED8A | SED8A | SED8B | SED8B | SED8B | SED8B |
| | | Sample Date | 11/13/2013 8:37:00 AM | 11/13/2013 8:37:00 AM | 11/13/2013 10:06:00 AM | 11/13/2013 10:06:00 AM | 11/13/2013 10:06:00 AM | 11/13/2013 10:06:00 AM | 11/13/2013 9:18:00 AM | 11/13/2013 9:18:00 AM | 11/13/2013 9:18:00 AM | 11/13/2013 9:18:00 AM |
| | | Sample ID | SED8.5B05N | SED8.5B07N | SED8A01N | SED8A03N | SED8A05N | SED8A07N | SED8B01N | SED8B03N | SED8B05N | SED8B07N |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | |
| Acenaphthene | ug/kg | | **0.63 J** | < 4.2 U | **40 J** | **26** | **1.0 J** | < 4.8 U | **65** | **49 J** | < 6.6 U | < 4.5 U |
| Acenaphthylene | ug/kg | | **1.5 J** | < 4.2 U | **73** | **75** | **1.1 J** | < 4.8 U | **60 J** | **84** | < 6.6 U | < 4.5 U |
| Acetophenone | ug/kg | | | | | | | | | | | |
| Anthracene | ug/kg | | **2.1 J** | < 4.2 U | **100** | **77** | **4.4** | < 4.8 U | **180** | **120** | < 6.6 U | < 4.5 U |
| Atrazine | ug/kg | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **5.6** | < 4.2 U | **360** | **190** | **11** | < 4.8 U | **760** | **360** | **4.0 J** | < 4.5 U |
| Benzo(a)pyrene | ug/kg | | **7.4** | < 4.2 U | **350** | **230 *** | **9.2** | < 4.8 U | **900** | **360** | < 6.6 U | < 4.5 U |
| Benzo(b)fluoranthene | ug/kg | | **12** | < 4.2 U | **340** | **220 *** | **11** | < 4.8 U | **1100** | **440** | **8.1** | < 4.5 U |
| Benzo(g,h,i)perylene | ug/kg | | **7.5** | < 4.2 U | **320** | **210 *** | **6.9** | < 4.8 U | **950** | **390** | < 6.6 U | < 4.5 U |
| Benzo(k)fluoranthene | ug/kg | | **3.6 J** | < 4.2 U | **380** | **99 *** | **5.6** | < 4.8 U | **530** | **220** | **2.7 J** | < 4.5 U |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED8.5B | SED8.5B | SED8A | SED8A | SED8A | SED8A | SED8B | SED8B | SED8B | SED8B |
| | | Sample Date | 11/13/2013 8:37:00 AM | 11/13/2013 8:37:00 AM | 11/13/2013 10:06:00 AM | 11/13/2013 10:06:00 AM | 11/13/2013 10:06:00 AM | 11/13/2013 10:06:00 AM | 11/13/2013 9:18:00 AM | 11/13/2013 9:18:00 AM | 11/13/2013 9:18:00 AM | 11/13/2013 9:18:00 AM |
| | | Sample ID | SED8.5B05N | SED8.5B07N | SED8A01N | SED8A03N | SED8A05N | SED8A07N | SED8B01N | SED8B03N | SED8B05N | SED8B07N |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | |
| Chrysene | ug/kg | | **8.2** | < 4.2 U | **540** | **250** | **10** | < 4.8 U | **1100** | **460** | **3.8 J** | < 4.5 U |
| Dibenzo(a,h)anthracene | ug/kg | | **2.4 J** | < 4.2 U | **85** | **38 *** | **2.0 J** | < 4.8 U | **150** | **78** | < 6.6 U | < 4.5 U |
| Dibenzofuran | ug/kg | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | |
| Fluoranthene | ug/kg | | **9.8** | < 4.2 U | **740** | **330** | **17** | < 4.8 U | **1800** | **720** | **4.1 J** | < 4.5 U |
| Fluorene | ug/kg | | **1.1 J** | < 4.2 U | **55** | **39** | **1.6 J** | < 4.8 U | **67** | **68** | < 6.6 U | < 4.5 U |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **6.3** | < 4.2 U | **290** | **140 *** | **7.2** | < 4.8 U | **700** | **260** | < 6.6 U | < 4.5 U |
| Isophorone | ug/kg | | | | | | | | | | | |
| Naphthalene | ug/kg | | < 4.3 U | < 4.2 U | **20 J** | **36** | **1.4 J** | < 4.8 U | **16 J** | **30 J** | < 6.6 U | < 4.5 U |
| Nitrobenzene | ug/kg | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | |
| Phenanthrene | ug/kg | | **8.0** | < 4.2 U | **410** | **160** | **11** | **1.4 J** | **830** | **470** | **3.5 J** | < 4.5 U |
| Phenol | ug/kg | | | | | | | | | | | |
| Pyrene | ug/kg | | **13** | < 4.2 U | **730** | **470** | **19** | < 4.8 U | **1600** | **720** | **6.5 J** | < 4.5 U |
| BaP-TE | ug/kg | | **12.2** | < 4.20 U | **538** | **324** | **14.2** | < 4.80 U | **1310** | **547** | **1.24** | < 4.50 U |
| Total High-molecular-weight PAHs | ug/kg | | **76** | < 4.2 U | **4100** | **2200** | **99** | < 4.8 U | **9600** | **4000** | **29** | < 4.5 U |
| Total Low-molecular-weight PAHs | ug/kg | | **13** | < 4.2 U | **700** | **410** | **21** | **1.4** | **1200** | **820** | **3.5** | < 4.5 U |
| Total PAHs (sum 16) | ug/kg | | **89** | < 4.2 U | **4800** | **2600** | **120** | **1.4** | **11000** | **4800** | **33** | < 4.5 U |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED8C | SED8C | SED8C | SED8C | SED9.5B | SED9.5B | SED9.5B | SED9.5B | SED9A | SED9A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/14/2013 12:52:00 PM | 11/14/2013 12:52:00 PM | 11/14/2013 12:52:00 PM | 11/14/2013 12:52:00 PM | 11/11/2013 12:09:00 PM | 11/11/2013 12:09:00 PM | 11/11/2013 12:09:00 PM | 11/11/2013 12:09:00 PM | 11/11/2013 9:45:00 AM | 11/11/2013 9:45:00 AM |
| | | Sample ID | SED8C01N | SED8C03N | SED8C05N | SED8C07N | SED9.5B01N | SED9.5B03N | SED9.5B05N | SED9.5B07N | SED9A01N | SED9A03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | < 7.5 U | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | < 7.5 U | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | < 7.5 U | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | < 7.5 U | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | < 7.5 U | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | < 7.5 U | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | < 7.5 U | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | < 7.5 U | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | < 7.5 U | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | < 7.5 U | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | < 7.5 U | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | < 7.5 U | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | < 7.5 U | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | < 7.5 U | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | < 7.5 U | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | < 1500 U | | | | | | | | | |
| 2-Butanone | ug/kg | | < 7.5 U | | | | | | | | | |
| 2-Hexanone | ug/kg | | < 7.5 U | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | < 7.5 U | | | | | | | | | |
| Acetone | ug/kg | | < 30 U | | | | | | | | | |
| Benzene | ug/kg | | < 7.5 U | | | | | | | | | |
| Bromochloromethane | ug/kg | | < 7.5 U | | | | | | | | | |
| Bromodichloromethane | ug/kg | | < 7.5 U | | | | | | | | | |
| Bromoform | ug/kg | | < 7.5 U | | | | | | | | | |
| Bromomethane | ug/kg | | < 7.5 U | | | | | | | | | |
| Carbon Disulfide | ug/kg | | < 7.5 U | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | < 7.5 U | | | | | | | | | |
| Chlorobenzene | ug/kg | | < 7.5 U | | | | | | | | | |
| Chloroethane | ug/kg | | < 7.5 U | | | | | | | | | |
| Chloroform | ug/kg | | < 7.5 U | | | | | | | | | |
| Chloromethane | ug/kg | | < 7.5 U | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | < 7.5 U | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | < 7.5 U | | | | | | | | | |
| Cyclohexane | ug/kg | | < 7.5 U | | | | | | | | | |
| Dibromochloromethane | ug/kg | | < 7.5 U | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | < 7.5 U | | | | | | | | | |
| Ethylbenzene | ug/kg | | < 7.5 U | | | | | | | | | |
| Isopropylbenzene | ug/kg | | < 7.5 U | | | | | | | | | |
| m, p-Xylene | ug/kg | | < 15 U | | | | | | | | | |
| Methyl Acetate | ug/kg | | < 7.5 U | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | < 7.5 U | | | | | | | | | |
| Methylcyclohexane | ug/kg | | < 7.5 U | | | | | | | | | |
| Methylene Chloride | ug/kg | | < 7.5 U | | | | | | | | | |
| o-Xylene | ug/kg | | < 7.5 U | | | | | | | | | |
| Styrene | ug/kg | | < 7.5 U | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | < 7.5 U | | | | | | | | | |
| Toluene | ug/kg | | < 7.5 U | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED8C | SED8C | SED8C | SED8C | SED9.5B | SED9.5B | SED9.5B | SED9.5B | SED9A | SED9A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/14/2013 12:52:00 PM | 11/14/2013 12:52:00 PM | 11/14/2013 12:52:00 PM | 11/14/2013 12:52:00 PM | 11/11/2013 12:09:00 PM | 11/11/2013 12:09:00 PM | 11/11/2013 12:09:00 PM | 11/11/2013 12:09:00 PM | 11/11/2013 9:45:00 AM | 11/11/2013 9:45:00 AM |
| | | Sample ID | SED8C01N | SED8C03N | SED8C05N | SED8C07N | SED9.5B01N | SED9.5B03N | SED9.5B05N | SED9.5B07N | SED9A01N | SED9A03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | < 7.5 U | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | < 7.5 U | | | | | | | | | |
| Trichloroethene | ug/kg | | < 7.5 U | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | < 7.5 U | | | | | | | | | |
| Vinyl Chloride | ug/kg | | < 7.5 U | | | | | | | | | |
| Xylenes (total) | ug/kg | | < 15 U | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | < 130 U | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | < 130 U | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | < 27 U | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | < 130 U | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | < 130 U | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | < 130 U | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | < 27 U | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | **24 J** | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | < 670 U | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | < 130 U | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | < 130 U | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | < 27 U | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | < 130 U | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | **78** | | | | | | | | | |
| 2-Methylphenol | ug/kg | | < 130 U | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | < 670 U | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | < 130 U | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | < 130 U | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | < 670 U | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | < 670 U | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | < 130 U | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | < 130 U | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | **51 J** | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | < 130 U | | | | | | | | | |
| 4-Methylphenol | ug/kg | | **32 J** | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | < 670 U | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | < 670 U | | | | | | | | | |
| Acenaphthene | ug/kg | | **77** | **32 J** | **25 J** | < 30 UJ | **20 J** | **28 J** | **55** | **120** | **45** | < 4.4 U |
| Acenaphthylene | ug/kg | | **120** | **110 J** | **41 J** | < 30 UJ | **18 J** | **26 J** | **54** | **88** | **150** | < 4.4 U |
| Acetophenone | ug/kg | | < 130 U | | | | | | | | | |
| Anthracene | ug/kg | | **130** | **62 J** | **67 J** | **18 J** | **36** | **50 J** | **89** | **90** | **160** | < 4.4 U |
| Atrazine | ug/kg | | < 130 U | | | | | | | | | |
| Benzaldehyde | ug/kg | | **86 J** | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **540** | **230 J** | **230 J** | **48 J** | **110** | **150** | **380** | **290** | **340** | < 4.4 U |
| Benzo(a)pyrene | ug/kg | | **220** | **240 J** | **200 J** | < 30 UJ | **120** | **170** | **430** | **300** | **400** | < 4.4 U |
| Benzo(b)fluoranthene | ug/kg | | **440** | **260 J** | **260 J** | < 30 UJ | **140** | **240** | **520** | **350** | **430** | < 4.4 U |
| Benzo(g,h,i)perylene | ug/kg | | **230** | **210 J** | **170 J** | **30 J** | **75** | **150 J** | **290 J** | **220 J** | **430** | < 4.4 U |
| Benzo(k)fluoranthene | ug/kg | | **530** | **100 J** | **88 J** | < 30 UJ | **54** | **65** | **180** | **130** | **170** | < 4.4 U |
| bis-(2-chloroethoxy)methane | ug/kg | | < 130 U | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | < 27 U | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | **1200** | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | < 130 U | | | | | | | | | |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SED8C | SED8C | SED8C | SED8C | SED9.5B | SED9.5B | SED9.5B | SED9.5B | SED9A | SED9A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/14/2013 12:52:00 PM | 11/14/2013 12:52:00 PM | 11/14/2013 12:52:00 PM | 11/14/2013 12:52:00 PM | 11/11/2013 12:09:00 PM | 11/11/2013 12:09:00 PM | 11/11/2013 12:09:00 PM | 11/11/2013 12:09:00 PM | 11/11/2013 9:45:00 AM | 11/11/2013 9:45:00 AM |
| | | Sample ID | SED8C01N | SED8C03N | SED8C05N | SED8C07N | SED9.5B01N | SED9.5B03N | SED9.5B05N | SED9.5B07N | SED9A01N | SED9A03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | < 670 U | | | | | | | | | |
| Carbazole | ug/kg | | **32** | | | | | | | | | |
| Chrysene | ug/kg | | **780** | **310 J** | **280 J** | **46 J** | **150** | **190** | **440** | **360** | **400** | < 4.4 U |
| Dibenzo(a,h)anthracene | ug/kg | | < 27 U | **48 J** | **49 J** | < 30 UJ | < 24 U | **45 J** | **79** | **73** | **71** | < 4.4 U |
| Dibenzofuran | ug/kg | | < 130 U | | | | | | | | | |
| Diethylphthalate | ug/kg | | < 130 U | | | | | | | | | |
| Dimethylphthalate | ug/kg | | < 130 U | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | < 130 U | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | < 130 U | | | | | | | | | |
| Fluoranthene | ug/kg | | **1300** | **500 J** | **430 J** | **85 J** | **200** | **260** | **680** | **670** | **710** | **0.79 J** |
| Fluorene | ug/kg | | **89** | **45 J** | **27 J** | < 30 UJ | **15 J** | **30 J** | **63** | **140** | **51** | < 4.4 U |
| Hexachlorobenzene | ug/kg | | < 27 U | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | < 27 U | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | < 130 U | | | | | | | | | |
| Hexachloroethane | ug/kg | | < 130 U | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **230** | **150 J** | **150 J** | **28 J** | **73** | **99** | **250** | **180** | **290** | < 4.4 U |
| Isophorone | ug/kg | | < 130 U | | | | | | | | | |
| Naphthalene | ug/kg | | **55** | **32 J** | **31 J** | < 30 UJ | < 24 U | < 52 U | < 46 U | < 53 U | < 51 U | < 4.4 U |
| Nitrobenzene | ug/kg | | < 260 U | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | < 27 U | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | < 130 U | | | | | | | | | |
| Pentachlorophenol | ug/kg | | < 130 U | | | | | | | | | |
| Phenanthrene | ug/kg | | **840** | **300 J** | **260 J** | **49 J** | **160** | **200** | **470** | **680** | **320** | **1.2 J** |
| Phenol | ug/kg | | < 27 U | | | | | | | | | |
| Pyrene | ug/kg | | **1300** | **590 J** | **420 J** | **97 J** | **210** | **320** | **750** | **730** | **770** | **1.2 J** |
| BaP-TE | ug/kg | | **347** | **353** | **314** | **7.65** | **153** | **265** | **626** | **457** | **579** | < 4.40 U |
| Total High-molecular-weight PAHs | ug/kg | | **5600** | **2600** | **2300** | **330** | **1100** | **1700** | **4000** | **3300** | **4000** | **2.0** |
| Total Low-molecular-weight PAHs | ug/kg | | **1300** | **580** | **450** | **67** | **250** | **330** | **730** | **1100** | **730** | **1.2** |
| Total PAHs (sum 16) | ug/kg | | **6900** | **3200** | **2700** | **400** | **1400** | **2000** | **4700** | **4400** | **4700** | **3.2** |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SED9A | SED9B | SED9B | SED9B | SED9C | SED9C | SED9C | SED9C | SED9C | SEDREF01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/11/2013 9:45:00 AM | 11/11/2013 11:18:00 AM | 11/11/2013 11:18:00 AM | 11/11/2013 11:18:00 AM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 6/19/2017 12:40:00 PM |
| | | Sample ID | SED9A05N | SED9B01N | SED9B03N | SED9B05N | SED9C01N | SED9C01R | SED9C03N | SED9C05N | SED9C07N | SEDREF0102N |
| | | Depth | 5 - 7 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 1 - 3 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft |
| | | Type | N | N | N | N | N | FD | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | | | | | | | | | | **1050** |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 1,4-Dioxane | ug/kg | | | | | | < 1300 U | < 1200 U | | | | |
| 2-Butanone | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 2-Hexanone | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Acetone | ug/kg | | | | | | **57** | < 25 U | | | | |
| Benzene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Bromochloromethane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Bromodichloromethane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Bromoform | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Bromomethane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Carbon Disulfide | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Chlorobenzene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Chloroethane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Chloroform | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Chloromethane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Cyclohexane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Dibromochloromethane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Ethylbenzene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Isopropylbenzene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| m, p-Xylene | ug/kg | | | | | | < 13 U | < 12 U | | | | |
| Methyl Acetate | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Methylcyclohexane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Methylene Chloride | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| o-Xylene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Styrene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Tetrachloroethylene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Toluene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |

| | | Location ID | SED9A | SED9B | SED9B | SED9B | SED9C | SED9C | SED9C | SED9C | SED9C | SEDREF01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/11/2013 9:45:00 AM | 11/11/2013 11:18:00 AM | 11/11/2013 11:18:00 AM | 11/11/2013 11:18:00 AM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 6/19/2017 12:40:00 PM |
| | | Sample ID | SED9A05N | SED9B01N | SED9B03N | SED9B05N | SED9C01N | SED9C01R | SED9C03N | SED9C05N | SED9C07N | SEDREF0102N |
| | | Depth | 5 - 7 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 1 - 3 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft |
| | | Type | N | N | N | N | N | FD | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Trichloroethene | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Vinyl Chloride | ug/kg | | | | | | < 6.6 U | < 6.2 U | | | | |
| Xylenes (total) | ug/kg | | | | | | < 13 U | < 12 U | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | < 26 U | < 25 U | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | < 26 U | < 25 U | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | < 660 U | < 630 U | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | < 26 U | < 25 U | | | | |
| 2-Chlorophenol | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | **11 J** | **20 J** | | | | |
| 2-Methylphenol | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 2-Nitroaniline | ug/kg | | | | | | < 660 U | < 630 U | | | | |
| 2-Nitrophenol | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 3-Nitroaniline | ug/kg | | | | | | < 660 U | < 630 U | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | < 660 U | < 630 U | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 4-Chloroaniline | ug/kg | | | | | | < 130 U | **13 J** | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 4-Methylphenol | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| 4-Nitroaniline | ug/kg | | | | | | < 660 U | < 630 U | | | | |
| 4-Nitrophenol | ug/kg | | | | | | < 660 U | < 630 U | | | | |
| Acenaphthene | ug/kg | | < 4.4 U | **32 J** | **17 J** | < 4.2 U | **12 J** | < 25 U | **83** | **110** | **38** | **42 J** |
| Acenaphthylene | ug/kg | | < 4.4 U | **53 J** | **61** | < 4.2 U | **29** | **32** | **140** | **110** | **100** | **32 J** |
| Acetophenone | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| Anthracene | ug/kg | | < 4.4 U | **63** | **48** | < 4.2 U | **37** | **30** | **160** | **110** | **82** | **100** |
| Atrazine | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| Benzaldehyde | ug/kg | | | | | | R | R | | | | |
| Benzo(a)anthracene | ug/kg | | < 4.4 U | **310** | **120** | < 4.2 U | **92** | **100** | **520** | **280** | **180** | **320** |
| Benzo(a)pyrene | ug/kg | | < 4.4 U | **420** | **130** | < 4.2 U | **120** | **110** | **520** | **290** | **200** | **310** |
| Benzo(b)fluoranthene | ug/kg | | < 4.4 U | **600** | **170** | < 4.2 U | **80** | **140** | **590** | **350** | **220** | **460** |
| Benzo(g,h,i)perylene | ug/kg | | < 4.4 U | **450** | **110** | < 4.2 U | **93** | **110** | **400** | **270** | **180** | **270** |
| Benzo(k)fluoranthene | ug/kg | | < 4.4 U | **250** | **51** | < 4.2 U | **120** | **60** | **230** | **130** | **94** | **170** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | < 26 U | < 25 U | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | **440** | **430** | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | < 130 U | **26 J** | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED9A | SED9B | SED9B | SED9B | SED9C | SED9C | SED9C | SED9C | SED9C | SEDREF01 |
| | | Sample Date | 11/11/2013 9:45:00 AM | 11/11/2013 11:18:00 AM | 11/11/2013 11:18:00 AM | 11/11/2013 11:18:00 AM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 6/19/2017 12:40:00 PM |
| | | Sample ID | SED9A05N | SED9B01N | SED9B03N | SED9B05N | SED9C01N | SED9C01R | SED9C03N | SED9C05N | SED9C07N | SEDREF0102N |
| | | Depth | 5 - 7 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 1 - 3 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft |
| | | Type | N | N | N | N | N | FD | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | < 660 U | < 630 U | | | | |
| Carbazole | ug/kg | | | | | | **13 J** | < 25 U | | | | |
| Chrysene | ug/kg | | < 4.4 U | **590** | **170** | < 4.2 U | **140** | **150** | **670** | **440** | **240** | **390** |
| Dibenzo(a,h)anthracene | ug/kg | | < 4.4 U | **73** | **27** | < 4.2 U | **20 J** | **28** | **110** | **58** | **45** | **55** |
| Dibenzofuran | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| Diethylphthalate | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| Dimethylphthalate | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| Fluoranthene | ug/kg | | < 4.4 U | **770** | **240** | **2.4 J** | **130** | **140** | **970** | **650** | **370** | **550** |
| Fluorene | ug/kg | | < 4.4 U | **34 J** | **16 J** | < 4.2 U | < 26 U | **9.6 J** | **100** | **160** | **43** | **30 J** |
| Hexachlorobenzene | ug/kg | | | | | | < 26 U | < 25 U | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | < 26 U | < 25 U | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| Hexachloroethane | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | < 4.4 U | **350** | **85** | < 4.2 U | **83** | **77** | **320** | **190** | **120** | **200** |
| Isophorone | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| Naphthalene | ug/kg | | < 4.4 U | < 60 U | < 23 U | < 4.2 U | < 26 U | < 25 U | < 31 U | < 39 U | < 29 U | < 45 U |
| Nitrobenzene | ug/kg | | | | | | < 260 U | < 250 U | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | < 26 U | < 25 U | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| Pentachlorophenol | ug/kg | | | | | | < 130 U | < 120 U | | | | |
| Phenanthrene | ug/kg | | < 4.4 U | **310** | **140** | **2.4 J** | **130** | **130** | **850** | **830** | **330** | **460** |
| Phenol | ug/kg | | | | | | < 26 U | < 25 U | | | | |
| Pyrene | ug/kg | | < 4.4 U | **710** | **270** | **3.2 J** | **230** | **220** | **1000** | **720** | **440** | **720** |
| BaP-TE | ug/kg | | < 4.40 U | **622** | **195** | < 4.20 U | **167** | **170** | **776** | **432** | **298** | **465** |
| Total High-molecular-weight PAHs | ug/kg | | < 4.4 U | **4500** | **1400** | **5.6** | **1100** | **1100** | **5300** | **3400** | **2100** | **3400** |
| Total Low-molecular-weight PAHs | ug/kg | | < 4.4 U | **490** | **280** | **2.4** | **210** | **200** | **1300** | **1300** | **590** | **660** |
| Total PAHs (sum 16) | ug/kg | | < 4.4 U | **5000** | **1700** | **8.0** | **1300** | **1300** | **6700** | **4700** | **2700** | **4100** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SEDREF01 | SEDREF02 | SEDREF02 | SEDREF02 | SEDREF02 | SEDREF03 | SEDREF03 | SEDREF03 | SEDREF03 | SEDREF03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/19/2017 12:50:00 PM | 6/15/2017 11:55:00 AM | 6/15/2017 11:57:00 AM | 6/15/2017 12:05:00 PM | 6/15/2017 12:15:00 PM | 6/15/2017 2:10:00 PM | 6/15/2017 2:20:00 PM | 6/15/2017 2:30:00 PM | 6/15/2017 2:32:00 PM | 6/15/2017 2:40:00 PM |
| | | Sample ID | SEDREF0104N | SEDREF0202N | SEDREF0202R | SEDREF0204N | SEDREF0206N | SEDREF0302N | SEDREF0304N | SEDREF0306N | SEDREF0306R | SEDREF0308N |
| | | Depth | 4 - 5 ft | 2 - 3 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 6 - 7 ft | 8 - 9 ft |
| | | Type | N | N | FD | N | N | N | N | N | FD | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | **1240** | **5060** | **4770** | **3660** | **2320** | **2000** | **1070** | **360** | **228** | **188** |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SEDREF01 | SEDREF02 | SEDREF02 | SEDREF02 | SEDREF02 | SEDREF03 | SEDREF03 | SEDREF03 | SEDREF03 | SEDREF03 |
| | | Sample Date | 6/19/2017 12:50:00 PM | 6/15/2017 11:55:00 AM | 6/15/2017 11:57:00 AM | 6/15/2017 12:05:00 PM | 6/15/2017 12:15:00 PM | 6/15/2017 2:10:00 PM | 6/15/2017 2:20:00 PM | 6/15/2017 2:30:00 PM | 6/15/2017 2:32:00 PM | 6/15/2017 2:40:00 PM |
| | | Sample ID | SEDREF0104N | SEDREF0202N | SEDREF0202R | SEDREF0204N | SEDREF0206N | SEDREF0302N | SEDREF0304N | SEDREF0306N | SEDREF0306R | SEDREF0308N |
| | | Depth | 4 - 5 ft | 2 - 3 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 6 - 7 ft | 8 - 9 ft |
| | | Type | N | N | FD | N | N | N | N | N | FD | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | |
| Acenaphthene | ug/kg | | **51** | < 58 U | **27 J** | **41 J** | **22 J** | **22 J** | **15** | < 13 U | < 12 U | < 13 U |
| Acenaphthylene | ug/kg | | **94** | **23 J** | **31 J** | **29 J** | **14 J** | **27** | **16** | < 13 U | < 12 U | < 13 U |
| Acetophenone | ug/kg | | | | | | | | | | | |
| Anthracene | ug/kg | | **150** | **47 J** | **63** | **63** | **43** | **34** | **49** | **7.8 J** | **4.3 J** | < 13 U |
| Atrazine | ug/kg | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **420** | **340** | **280** | **190** | **130** | **170** | **170** | **41** | **21** | < 13 U |
| Benzo(a)pyrene | ug/kg | | **400** | **340** | **300** | **200** | **120** | **160** | **190** | **46** | **22** | < 13 U |
| Benzo(b)fluoranthene | ug/kg | | **510** | **500** | **490** | **280** | **140** | **190** | **240** | **45** | **24** | < 13 U |
| Benzo(g,h,i)perylene | ug/kg | | **300** | **350** | **350** | **210** | **110** | **160** | **150** | **33** | **18** | < 13 U |
| Benzo(k)fluoranthene | ug/kg | | **180** | **180** | **140** | **76** | **66** | **78** | **79** | **25** | **12** | < 13 U |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SEDREF01 | SEDREF02 | SEDREF02 | SEDREF02 | SEDREF02 | SEDREF03 | SEDREF03 | SEDREF03 | SEDREF03 | SEDREF03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/19/2017 12:50:00 PM | 6/15/2017 11:55:00 AM | 6/15/2017 11:57:00 AM | 6/15/2017 12:05:00 PM | 6/15/2017 12:15:00 PM | 6/15/2017 2:10:00 PM | 6/15/2017 2:20:00 PM | 6/15/2017 2:30:00 PM | 6/15/2017 2:32:00 PM | 6/15/2017 2:40:00 PM |
| | | Sample ID | SEDREF0104N | SEDREF0202N | SEDREF0202R | SEDREF0204N | SEDREF0206N | SEDREF0302N | SEDREF0304N | SEDREF0306N | SEDREF0306R | SEDREF0308N |
| | | Depth | 4 - 5 ft | 2 - 3 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 6 - 7 ft | 8 - 9 ft |
| | | Type | N | N | FD | N | N | N | N | N | FD | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | |
| Chrysene | ug/kg | | **470** | **450** | **400** | **240** | **140** | **210** | **230** | **46** | **28** | < 13 U |
| Dibenzo(a,h)anthracene | ug/kg | | **77** | **76** | **67** | **42 J** | < 25 U | **39** | **47** | **11 J** | **6.7 J** | < 13 U |
| Dibenzofuran | ug/kg | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | |
| Fluoranthene | ug/kg | | **800** | **600** | **530** | **420** | **200** | **190** | **280** | **57** | **30** | < 13 U |
| Fluorene | ug/kg | | **56** | **33 J** | **38 J** | **54** | < 25 U | **23 J** | **29** | < 13 U | < 12 U | < 13 U |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **260** | **280** | **230** | **140** | **88** | **120** | **140** | **25** | **16** | < 13 U |
| Isophorone | ug/kg | | | | | | | | | | | |
| Naphthalene | ug/kg | | **46** | < 58 U | < 58 U | **18 J** | **12 J** | **15 J** | **24** | < 13 U | < 12 U | < 13 U |
| Nitrobenzene | ug/kg | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | |
| Phenanthrene | ug/kg | | **580** | **270** | **250** | **320** | **150 J** | **160** | **140** | **22** | **13** | < 13 U |
| Phenol | ug/kg | | | | | | | | | | | |
| Pyrene | ug/kg | | **870** | **660** | **610** | **500** | **300** | **340** | **350** | **73 J** | **39 J** | < 13 U |
| BaP-TE | ug/kg | | **598** | **530** | **469** | **304** | **157** | **248** | **293** | **68.4** | **34.9** | < 13.0 U |
| Total High-molecular-weight PAHs | ug/kg | | **4300** | **3800** | **3400** | **2300** | **1300** | **1700** | **1900** | **400** | **220** | < 13 U |
| Total Low-molecular-weight PAHs | ug/kg | | **980** | **370** | **410** | **530** | **240** | **280** | **270** | **30** | **17** | < 13 U |
| Total PAHs (sum 16) | ug/kg | | **5300** | **4100** | **3800** | **2800** | **1500** | **1900** | **2100** | **430** | **230** | < 13 U |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SEDREF04 | SEDREF04 | SEDREF04 | SEDREF04 | SEDREF04 | SEDREF05 | SEDREF05 | SEDREF05 | SEDREF05 | SEDREF05 |
| | | Sample Date | 6/16/2017 8:40:00 AM | 6/16/2017 8:50:00 AM | 6/16/2017 8:52:00 AM | 6/16/2017 9:00:00 AM | 6/16/2017 9:10:00 AM | 6/16/2017 10:25:00 AM | 6/16/2017 10:35:00 AM | 6/16/2017 10:37:00 AM | 6/16/2017 10:45:00 AM | 6/16/2017 10:55:00 AM |
| | | Sample ID | SEDREF0402N | SEDREF0404N | SEDREF0404R | SEDREF0406N | SEDREF0408N | SEDREF0502N | SEDREF0504N | SEDREF0504R | SEDREF0506N | SEDREF0508N |
| | | Depth | 2 - 3 ft | 4 - 5 ft | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 2 - 3 ft | 4 - 5 ft | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft |
| | | Type | N | N | FD | N | N | N | N | FD | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | **1490** | **1880** | **2580** | **3240 J+** | **4660** | **2330** | **3380** | **3670** | **834** | **549** |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SEDREF04 | SEDREF04 | SEDREF04 | SEDREF04 | SEDREF04 | SEDREF05 | SEDREF05 | SEDREF05 | SEDREF05 | SEDREF05 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/16/2017 8:40:00 AM | 6/16/2017 8:50:00 AM | 6/16/2017 8:52:00 AM | 6/16/2017 9:00:00 AM | 6/16/2017 9:10:00 AM | 6/16/2017 10:25:00 AM | 6/16/2017 10:35:00 AM | 6/16/2017 10:37:00 AM | 6/16/2017 10:45:00 AM | 6/16/2017 10:55:00 AM |
| | | Sample ID | SEDREF0402N | SEDREF0404N | SEDREF0404R | SEDREF0406N | SEDREF0408N | SEDREF0502N | SEDREF0504N | SEDREF0504R | SEDREF0506N | SEDREF0508N |
| | | Depth | 2 - 3 ft | 4 - 5 ft | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 2 - 3 ft | 4 - 5 ft | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft |
| | | Type | N | N | FD | N | N | N | N | FD | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | |
| Acenaphthene | ug/kg | | **24** | **60** | **49** | **39 J** | **17** | **64** | **46 J** | **48** | **27** | **11** |
| Acenaphthylene | ug/kg | | **29** | **95** | **86** | **170** | **41** | **250** | **97** | **150** | **35** | **19** |
| Acetophenone | ug/kg | | | | | | | | | | | |
| Anthracene | ug/kg | | **59** | **110** | **130** | **160** | **41** | **230** | **99** | **140** | **73** | **44** |
| Atrazine | ug/kg | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **160** | **270** | **450** | **320** | **110** | **600** | **380** | **500** | **260** | **190** |
| Benzo(a)pyrene | ug/kg | | **170** | **260** | **430** | **380** | **120** | **540** | **370** | **490** | **220** | **180** |
| Benzo(b)fluoranthene | ug/kg | | **240** | **290 J** | **550 J** | **430** | **170** | **570** | **470** | **640** | **280** | **200** |
| Benzo(g,h,i)perylene | ug/kg | | **180** | **270** | **360** | **330 J** | **120** | **460** | **330** | **480** | **190** | **130** |
| Benzo(k)fluoranthene | ug/kg | | **84** | **130** | **170** | **200** | **44** | **320** | **250** | **200** | **120** | **76** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SEDREF04 | SEDREF04 | SEDREF04 | SEDREF04 | SEDREF04 | SEDREF05 | SEDREF05 | SEDREF05 | SEDREF05 | SEDREF05 |
| | | Sample Date | 6/16/2017 8:40:00 AM | 6/16/2017 8:50:00 AM | 6/16/2017 8:52:00 AM | 6/16/2017 9:00:00 AM | 6/16/2017 9:10:00 AM | 6/16/2017 10:25:00 AM | 6/16/2017 10:35:00 AM | 6/16/2017 10:37:00 AM | 6/16/2017 10:45:00 AM | 6/16/2017 10:55:00 AM |
| | | Sample ID | SEDREF0402N | SEDREF0404N | SEDREF0404R | SEDREF0406N | SEDREF0408N | SEDREF0502N | SEDREF0504N | SEDREF0504R | SEDREF0506N | SEDREF0508N |
| | | Depth | 2 - 3 ft | 4 - 5 ft | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 2 - 3 ft | 4 - 5 ft | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft |
| | | Type | N | N | FD | N | N | N | N | FD | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | |
| Chrysene | ug/kg | | **220** | **320** | **470** | **400** | **130** | **680** | **450** | **570** | **260** | **210** |
| Dibenzo(a,h)anthracene | ug/kg | | **41** | **55 J** | **88** | **82** | **32** | **130** | **77** | **100** | **58** | **40** |
| Dibenzofuran | ug/kg | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | |
| Fluoranthene | ug/kg | | **220** | **490** | **820** | **590** | **240** | **960** | **680** | **800** | **480** | **310** |
| Fluorene | ug/kg | | < 22 U | **46 J** | **52** | **52 J** | **23** | **120** | **60** | **71** | **40** | **23** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **130** | **190 J** | **320 J** | **260** | **94** | **370** | **260** | **340** | **170** | **110** |
| Isophorone | ug/kg | | | | | | | | | | | |
| Naphthalene | ug/kg | | **16 J** | **31 J** | **23** | **53** | **22** | **71** | **50 J** | **82** | **37** | **15** |
| Nitrobenzene | ug/kg | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | |
| Phenanthrene | ug/kg | | **190** | **340** | **440** | **380** | **120** | **650** | **320** | **390** | **250** | **140** |
| Phenol | ug/kg | | | | | | | | | | | |
| Pyrene | ug/kg | | **300** | **470** | **670** | **720** | **210** | **1300** | **680** | **980** | **400** | **310** |
| BaP-TE | ug/kg | | **265** | **392** | **652** | **565** | **190** | **828** | **561** | **741** | **350** | **271** |
| Total High-molecular-weight PAHs | ug/kg | | **1700** | **2700** | **4300** | **3700** | **1300** | **5900** | **3900** | **5100** | **2400** | **1800** |
| Total Low-molecular-weight PAHs | ug/kg | | **320** | **680** | **780** | **850** | **260** | **1400** | **670** | **880** | **460** | **250** |
| Total PAHs (sum 16) | ug/kg | | **2100** | **3400** | **5100** | **4600** | **1500** | **7300** | **4600** | **6000** | **2900** | **2000** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SEDREF06 | SEDREF06 | SEDREF06 | SEDREF06 | SEDREF07 | SEDREF07 | SEDREF07 | SEDREF07 | SEDREF08 | SEDREF08 |
| | | Sample Date | 6/16/2017 12:10:00 PM | 6/16/2017 12:20:00 PM | 6/16/2017 12:30:00 PM | 6/16/2017 12:40:00 PM | 6/16/2017 1:40:00 PM | 6/16/2017 1:50:00 PM | 6/16/2017 2:00:00 PM | 6/16/2017 2:10:00 PM | 6/19/2017 10:20:00 AM | 6/19/2017 10:30:00 AM |
| | | Sample ID | SEDREF0602N | SEDREF0604N | SEDREF0606N | SEDREF0608N | SEDREF0702N | SEDREF0704N | SEDREF0706N | SEDREF0708N | SEDREF0802N | SEDREF0804N |
| | | Depth | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 2 - 3 ft | 4 - 5 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | **4380** | **2510** | **4320** | **3210** | **3100** | **3030** | **2140** | **4630** | **4250** | **3500** |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | | | | | | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,1-Dichloroethene | ug/kg | | | | | | | | | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | | | | | | | | |
| 1,2-Dibromoethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,2-Dichloroethane | ug/kg | | | | | | | | | | | |
| 1,2-Dichloropropane | ug/kg | | | | | | | | | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | | | | | | | | |
| 1,4-Dioxane | ug/kg | | | | | | | | | | | |
| 2-Butanone | ug/kg | | | | | | | | | | | |
| 2-Hexanone | ug/kg | | | | | | | | | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | | | | | | | | |
| Acetone | ug/kg | | | | | | | | | | | |
| Benzene | ug/kg | | | | | | | | | | | |
| Bromochloromethane | ug/kg | | | | | | | | | | | |
| Bromodichloromethane | ug/kg | | | | | | | | | | | |
| Bromoform | ug/kg | | | | | | | | | | | |
| Bromomethane | ug/kg | | | | | | | | | | | |
| Carbon Disulfide | ug/kg | | | | | | | | | | | |
| Carbon Tetrachloride | ug/kg | | | | | | | | | | | |
| Chlorobenzene | ug/kg | | | | | | | | | | | |
| Chloroethane | ug/kg | | | | | | | | | | | |
| Chloroform | ug/kg | | | | | | | | | | | |
| Chloromethane | ug/kg | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | | | | | | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Cyclohexane | ug/kg | | | | | | | | | | | |
| Dibromochloromethane | ug/kg | | | | | | | | | | | |
| Dichlorodifluoromethane | ug/kg | | | | | | | | | | | |
| Ethylbenzene | ug/kg | | | | | | | | | | | |
| Isopropylbenzene | ug/kg | | | | | | | | | | | |
| m, p-Xylene | ug/kg | | | | | | | | | | | |
| Methyl Acetate | ug/kg | | | | | | | | | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | | | | | | | | |
| Methylcyclohexane | ug/kg | | | | | | | | | | | |
| Methylene Chloride | ug/kg | | | | | | | | | | | |
| o-Xylene | ug/kg | | | | | | | | | | | |
| Styrene | ug/kg | | | | | | | | | | | |
| Tetrachloroethylene | ug/kg | | | | | | | | | | | |
| Toluene | ug/kg | | | | | | | | | | | |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SEDREF06 | SEDREF06 | SEDREF06 | SEDREF06 | SEDREF07 | SEDREF07 | SEDREF07 | SEDREF07 | SEDREF08 | SEDREF08 |
| | | Sample Date | 6/16/2017 12:10:00 PM | 6/16/2017 12:20:00 PM | 6/16/2017 12:30:00 PM | 6/16/2017 12:40:00 PM | 6/16/2017 1:40:00 PM | 6/16/2017 1:50:00 PM | 6/16/2017 2:00:00 PM | 6/16/2017 2:10:00 PM | 6/19/2017 10:20:00 AM | 6/19/2017 10:30:00 AM |
| | | Sample ID | SEDREF0602N | SEDREF0604N | SEDREF0606N | SEDREF0608N | SEDREF0702N | SEDREF0704N | SEDREF0706N | SEDREF0708N | SEDREF0802N | SEDREF0804N |
| | | Depth | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 2 - 3 ft | 4 - 5 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | | | | | | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | | | | | | | | |
| Trichloroethene | ug/kg | | | | | | | | | | | |
| Trichlorofluoromethane | ug/kg | | | | | | | | | | | |
| Vinyl Chloride | ug/kg | | | | | | | | | | | |
| Xylenes (total) | ug/kg | | | | | | | | | | | |
| 1,1'-Biphenyl | ug/kg | | | | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | | | | | | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dichlorophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dimethylphenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrophenol | ug/kg | | | | | | | | | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | | | | | | | | |
| 2-Chloronaphthalene | ug/kg | | | | | | | | | | | |
| 2-Chlorophenol | ug/kg | | | | | | | | | | | |
| 2-Methylnaphthalene | ug/kg | | | | | | | | | | | |
| 2-Methylphenol | ug/kg | | | | | | | | | | | |
| 2-Nitroaniline | ug/kg | | | | | | | | | | | |
| 2-Nitrophenol | ug/kg | | | | | | | | | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | | | | | | | | |
| 3-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | | | | | | | | |
| 4-Chloroaniline | ug/kg | | | | | | | | | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | | | | | | | | |
| 4-Methylphenol | ug/kg | | | | | | | | | | | |
| 4-Nitroaniline | ug/kg | | | | | | | | | | | |
| 4-Nitrophenol | ug/kg | | | | | | | | | | | |
| Acenaphthene | ug/kg | | **92** | **60** | **68** | **68** | **83 J** | **87 J** | **46** | **75** | **120 J** | **66** |
| Acenaphthylene | ug/kg | | **160** | **200** | **180** | **120** | **64 J** | **80 J** | **120** | **250** | **170** | **170** |
| Acetophenone | ug/kg | | | | | | | | | | | |
| Anthracene | ug/kg | | **180** | **130** | **170** | **130** | **130** | **170** | **120** | **210** | **220** | **170** |
| Atrazine | ug/kg | | | | | | | | | | | |
| Benzaldehyde | ug/kg | | | | | | | | | | | |
| Benzo(a)anthracene | ug/kg | | **370** | **410** | **460** | **380** | **710** | **720** | **260** | **500** | **400** | **350** |
| Benzo(a)pyrene | ug/kg | | **370** | **380** | **540** | **390** | **850** | **810** | **260** | **700** | **400** | **340** |
| Benzo(b)fluoranthene | ug/kg | | **440** | **430** | **630** | **520** | **1400** | **1300** | **320** | **800** | **450** | **400** |
| Benzo(g,h,i)perylene | ug/kg | | **390** | **400** | **700** | **380** | **1000** | **910** | **290** | **850** | **460** | **390** |
| Benzo(k)fluoranthene | ug/kg | | **150** | **210** | **250** | **170** | **480** | **520** | **110** | **270** | **200** | **130** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | | | | | | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | | | | | | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | | | | | | | | |
| Butylbenzylphthalate | ug/kg | | | | | | | | | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SEDREF06 | SEDREF06 | SEDREF06 | SEDREF06 | SEDREF07 | SEDREF07 | SEDREF07 | SEDREF07 | SEDREF08 | SEDREF08 |
| | | Sample Date | 6/16/2017 12:10:00 PM | 6/16/2017 12:20:00 PM | 6/16/2017 12:30:00 PM | 6/16/2017 12:40:00 PM | 6/16/2017 1:40:00 PM | 6/16/2017 1:50:00 PM | 6/16/2017 2:00:00 PM | 6/16/2017 2:10:00 PM | 6/19/2017 10:20:00 AM | 6/19/2017 10:30:00 AM |
| | | Sample ID | SEDREF0602N | SEDREF0604N | SEDREF0606N | SEDREF0608N | SEDREF0702N | SEDREF0704N | SEDREF0706N | SEDREF0708N | SEDREF0802N | SEDREF0804N |
| | | Depth | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 2 - 3 ft | 4 - 5 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | | | | | | | | |
| Carbazole | ug/kg | | | | | | | | | | | |
| Chrysene | ug/kg | | **400** | **470** | **530** | **450** | **1100** | **1100** | **320** | **670** | **490** | **450** |
| Dibenzo(a,h)anthracene | ug/kg | | < 59 U | **88** | **120** | **100** | **200** | **180** | **52** | **140** | < 130 U | **81** |
| Dibenzofuran | ug/kg | | | | | | | | | | | |
| Diethylphthalate | ug/kg | | | | | | | | | | | |
| Dimethylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-butylphthalate | ug/kg | | | | | | | | | | | |
| Di-n-octylphthalate | ug/kg | | | | | | | | | | | |
| Fluoranthene | ug/kg | | **530** | **540** | **740** | **620** | **1800** | **1800** | **440** | **960** | **780** | **570** |
| Fluorene | ug/kg | | **120** | **82** | **83** | **76** | **100 J** | **70 J** | **51** | **120** | **140** | **75** |
| Hexachlorobenzene | ug/kg | | | | | | | | | | | |
| Hexachlorobutadiene | ug/kg | | | | | | | | | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | | | | | | | | |
| Hexachloroethane | ug/kg | | | | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **260** | **250** | **420** | **300** | **830** | **740** | **210** | **560** | **320** | **300** |
| Isophorone | ug/kg | | | | | | | | | | | |
| Naphthalene | ug/kg | | **70** | **71** | **93** | **84** | < 110 U | < 110 U | **40** | **150** | **71 J** | **58** |
| Nitrobenzene | ug/kg | | | | | | | | | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | | | | | | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | | | | | | | | |
| Pentachlorophenol | ug/kg | | | | | | | | | | | |
| Phenanthrene | ug/kg | | **460** | **380** | **360** | **350** | **720** | **720** | **270** | **510** | **750** | **390** |
| Phenol | ug/kg | | | | | | | | | | | |
| Pyrene | ug/kg | | **740** | **730** | **1200** | **670** | **1500** | **1400** | **500** | **1100** | **940** | **810** |
| BaP-TE | ug/kg | | **479** | **580** | **814** | **612** | **1350** | **1270** | **392** | **1030** | **519** | **528** |
| Total High-molecular-weight PAHs | ug/kg | | **3700** | **3900** | **5600** | **4000** | **9900** | **9500** | **2800** | **6600** | **4400** | **3800** |
| Total Low-molecular-weight PAHs | ug/kg | | **1100** | **920** | **950** | **830** | **1100** | **1100** | **650** | **1300** | **1500** | **930** |
| Total PAHs (sum 16) | ug/kg | | **4700** | **4800** | **6500** | **4800** | **11000** | **11000** | **3400** | **7900** | **5900** | **4800** |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SEDREF08 | SEDREF08 | WSED1 | WSED1 | WSED1 | WSED1 | WSED2 | WSED2 | WSED2 | WSED2 |
| | | Sample Date | 6/19/2017 10:40:00 AM | 6/19/2017 10:50:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 12:14:00 PM | 11/15/2013 12:14:00 PM | 11/15/2013 12:14:00 PM | 11/15/2013 12:14:00 PM |
| | | Sample ID | SEDREF0806N | SEDREF0808N | WSED101N | WSED103N | WSED105N | WSED107N | WSED201N | WSED203N | WSED205N | WSED207N |
| | | Depth | 6 - 7 ft | 8 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | | **3560** | **4060** | | | | | | | | |
| Gasoline Range Organics (C6-C10) | ug/kg | | | | | | | | | | | |
| Diesel Range Organics (C10-C20) | mg/kg | | | | | | | | | | | |
| Oil Range Organics (C20-C36) | mg/kg | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 1,1,2,2-Tetrachloroethane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 1,1,2-Trichloroethane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 1,1-Dichloroethane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 1,1-Dichloroethene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 1,2,3-Trichlorobenzene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 1,2,4-Trichlorobenzene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 1,2-Dibromo-3-chloropropane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 1,2-Dibromoethane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 1,2-Dichlorobenzene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 1,2-Dichloroethane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 1,2-Dichloropropane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 1,3-Dichlorobenzene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 1,4-Dichlorobenzene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 1,4-Dioxane | ug/kg | | | | < 1400 U | | | | < 1400 U | | | |
| 2-Butanone | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 2-Hexanone | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| 4-Methyl-2-pentanone | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Acetone | ug/kg | | | | < 27 U | | | | < 28 U | | | |
| Benzene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Bromochloromethane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Bromodichloromethane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Bromoform | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Bromomethane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Carbon Disulfide | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Carbon Tetrachloride | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Chlorobenzene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Chloroethane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Chloroform | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Chloromethane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| cis-1,2-Dichloroethylene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| cis-1,3-Dichloropropene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Cyclohexane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Dibromochloromethane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Dichlorodifluoromethane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Ethylbenzene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Isopropylbenzene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| m, p-Xylene | ug/kg | | | | < 14 U | | | | < 14 U | | | |
| Methyl Acetate | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Methylcyclohexane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Methylene Chloride | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| o-Xylene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Styrene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Tetrachloroethylene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Toluene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |

# Table 4-36
## VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SEDREF08 | SEDREF08 | WSED1 | WSED1 | WSED1 | WSED1 | WSED2 | WSED2 | WSED2 | WSED2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/19/2017 10:40:00 AM | 6/19/2017 10:50:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 12:14:00 PM | 11/15/2013 12:14:00 PM | 11/15/2013 12:14:00 PM | 11/15/2013 12:14:00 PM |
| | | Sample ID | SEDREF0806N | SEDREF0808N | WSED101N | WSED103N | WSED105N | WSED107N | WSED201N | WSED203N | WSED205N | WSED207N |
| | | Depth | 6 - 7 ft | 8 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| trans-1,2-Dichloroethene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| trans-1,3-Dichloropropene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Trichloroethene | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Trichlorofluoromethane | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Vinyl Chloride | ug/kg | | | | < 6.8 U | | | | < 7.0 U | | | |
| Xylenes (total) | ug/kg | | | | < 14 U | | | | < 14 U | | | |
| 1,1'-Biphenyl | ug/kg | | | | **21 J** | | | | < 250 U | | | |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | | | | < 230 U | | | | < 250 UJ | | | |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | | | | < 47 UJ | | | | < 51 U | | | |
| 2,3,4,6-Tetrachlorophenol | ug/kg | | | | < 230 U | | | | < 250 UJ | | | |
| 2,4,5-Trichlorophenol | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| 2,4,6-Trichlorophenol | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| 2,4-Dichlorophenol | ug/kg | | | | < 47 U | | | | < 51 U | | | |
| 2,4-Dimethylphenol | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| 2,4-Dinitrophenol | ug/kg | | | | < 1200 UJ | | | | < 1300 UJ | | | |
| 2,4-Dinitrotoluene | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| 2,6-Dinitrotoluene | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| 2-Chloronaphthalene | ug/kg | | | | < 47 U | | | | < 51 U | | | |
| 2-Chlorophenol | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| 2-Methylnaphthalene | ug/kg | | | | **59** | | | | **56** | | | |
| 2-Methylphenol | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| 2-Nitroaniline | ug/kg | | | | < 1200 U | | | | < 1300 U | | | |
| 2-Nitrophenol | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| 3,3'-Dichlorobenzidine | ug/kg | | | | R | | | | < 250 U | | | |
| 3-Nitroaniline | ug/kg | | | | < 1200 U | | | | < 1300 U | | | |
| 4,6-Dinitro-2-methylphenol | ug/kg | | | | < 1200 U | | | | < 1300 U | | | |
| 4-Bromophenyl-phenylether | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| 4-Chloro-3-methylphenol | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| 4-Chloroaniline | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| 4-Chlorophenyl-phenylether | ug/kg | | | | < 230 U | | | | < 250 UJ | | | |
| 4-Methylphenol | ug/kg | | | | **300** | | | | **51 J** | | | |
| 4-Nitroaniline | ug/kg | | | | < 1200 U | | | | < 1300 U | | | |
| 4-Nitrophenol | ug/kg | | | | < 1200 U | | | | < 1300 U | | | |
| Acenaphthene | ug/kg | | **70** | **100** | **25 J** | **46 J** | < 50 U | **22 J** | **76** | **83** | **50 J** | **77** |
| Acenaphthylene | ug/kg | | **200** | **270** | **32 J** | **32 J** | **32 J** | **32 J** | **76** | **96** | **62** | **92** |
| Acetophenone | ug/kg | | | | **39 J** | | | | **35 J** | | | |
| Anthracene | ug/kg | | **170** | **270** | **67** | **98** | **49 J** | **44 J** | **170** | **100** | **110** | **150** |
| Atrazine | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| Benzaldehyde | ug/kg | | | | **60 J** | | | | **62 J** | | | |
| Benzo(a)anthracene | ug/kg | | **510** | **560** | **290 J** | **410** | **220** | **180** | **420** | **360** | **320** | **490** |
| Benzo(a)pyrene | ug/kg | | **530** | **670** | **280 J** | **320** | **220 J** | **170 J** | **380** | **370** | **300** | **440** |
| Benzo(b)fluoranthene | ug/kg | | **650** | **850** | **420 J** | **440** | **380 J** | **240 J** | **530** | **430** | **390** | **540** |
| Benzo(g,h,i)perylene | ug/kg | | **650** | **690** | **100 J** | **120** | **86 J** | **58 J** | **380** | **310** | **300** | **450** |
| Benzo(k)fluoranthene | ug/kg | | **210** | **330** | **180 J** | **160** | **120 J** | **110 J** | **180** | **200** | **200** | **230** |
| bis-(2-chloroethoxy)methane | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| bis-(2-Chloroethyl)ether | ug/kg | | | | < 47 U | | | | < 51 U | | | |
| bis-(2-Ethylhexyl)phthalate | ug/kg | | | | **1300 J** | | | | **4200 J** | | | |
| Butylbenzylphthalate | ug/kg | | | | **170 J** | | | | < 250 UJ | | | |

**Table 4-36**
**VOCs, SVOCs, and TPH Fractions Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SEDREF08 | SEDREF08 | WSED1 | WSED1 | WSED1 | WSED1 | WSED2 | WSED2 | WSED2 | WSED2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/19/2017 10:40:00 AM | 6/19/2017 10:50:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 12:14:00 PM | 11/15/2013 12:14:00 PM | 11/15/2013 12:14:00 PM | 11/15/2013 12:14:00 PM |
| | | Sample ID | SEDREF0806N | SEDREF0808N | WSED101N | WSED103N | WSED105N | WSED107N | WSED201N | WSED203N | WSED205N | WSED207N |
| | | Depth | 6 - 7 ft | 8 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | | | |
| Caprolactam | ug/kg | | | | < 1200 U | | | | < 1300 UJ | | | |
| Carbazole | ug/kg | | | | **26 J** | | | | **79** | | | |
| Chrysene | ug/kg | | **600** | **690** | **420 J** | **460** | **320** | **260** | **570** | **480** | **450** | **640** |
| Dibenzo(a,h)anthracene | ug/kg | | **140** | **110** | **28 J** | **24 J** | < 50 U | < 52 U | **71** | **88** | **53** | **95** |
| Dibenzofuran | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| Diethylphthalate | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| Dimethylphthalate | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| Di-n-butylphthalate | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| Di-n-octylphthalate | ug/kg | | | | < 230 U | | | | < 250 UJ | | | |
| Fluoranthene | ug/kg | | **810** | **980** | **760 J** | **940** | **510** | **430** | **860** | **750** | **760** | **1000** |
| Fluorene | ug/kg | | **110** | **130** | **56** | **53** | **48 J** | **45 J** | **100** | **110** | **68** | **110** |
| Hexachlorobenzene | ug/kg | | | | < 47 U | | | | < 51 U | | | |
| Hexachlorobutadiene | ug/kg | | | | < 47 U | | | | < 51 UJ | | | |
| Hexachlorocyclo-pentadiene | ug/kg | | | | R | | | | < 250 UJ | | | |
| Hexachloroethane | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| Indeno(1,2,3-cd)pyrene | ug/kg | | **450** | **410** | **110 J** | **120** | **80 J** | **61 J** | **270** | **230** | **210** | **270** |
| Isophorone | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| Naphthalene | ug/kg | | **85** | **170** | **31 J** | **15 J** | **19 J** | **18 J** | **44 J** | **39 J** | **33 J** | **63** |
| Nitrobenzene | ug/kg | | | | < 470 U | | | | < 510 U | | | |
| N-Nitroso-di-n-propylamine | ug/kg | | | | < 47 U | | | | < 51 U | | | |
| N-Nitrosodiphenylamine | ug/kg | | | | < 230 U | | | | < 250 U | | | |
| Pentachlorophenol | ug/kg | | | | < 230 UJ | | | | < 250 UJ | | | |
| Phenanthrene | ug/kg | | **470** | **640** | **350 J** | **490** | **230** | **240** | **780** | **670** | **540** | **720** |
| Phenol | ug/kg | | | | < 47 U | | | | < 51 U | | | |
| Pyrene | ug/kg | | **1100** | **1700** | **570 J** | **740** | **410** | **370** | **1000** | **830** | **730** | **1100** |
| BaP-TE | ug/kg | | **834** | **966** | **392** | **443** | **290** | **219** | **575** | **562** | **447** | **668** |
| Total High-molecular-weight PAHs | ug/kg | | **5700** | **7000** | **3200** | **3700** | **2300** | **1900** | **4700** | **4000** | **3700** | **5300** |
| Total Low-molecular-weight PAHs | ug/kg | | **1100** | **1600** | **560** | **730** | **380** | **400** | **1200** | **1100** | **860** | **1200** |
| Total PAHs (sum 16) | ug/kg | | **6800** | **8600** | **3700** | **4500** | **2700** | **2300** | **5900** | **5100** | **4600** | **6500** |

Notes:
Bold values indicate detects.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
N = Normal
FD = Field Duplicate
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram

# Table 4-37
## PCB Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | Location ID | SED1.5B | SED1.5B |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Sample Date | 11/6/2013 12:13:00 PM | 11/6/2013 12:13:00 PM |
| | | | | | | | | | | | | Sample ID | SED1.5B01N | SED1.5B03N |
| | | | | | | | | | | | | Depth | 1 - 3 ft | 3 - 5 ft |
| | | | | | | | | | | | | Type | N | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| Aroclor-1016 | ug/kg | SW8082A LL | N | 12674-11-2 | | | | | | | 310 | | < 3.7 U | < 3.6 U |
| Aroclor-1221 | ug/kg | SW8082A LL | N | 11104-28-2 | | | | | | | 310 | | < 3.7 U | < 3.6 U |
| Aroclor-1232 | ug/kg | SW8082A LL | N | 11141-16-5 | | | | | | | 310 | | < 3.7 U | < 3.6 U |
| Aroclor-1242 | ug/kg | SW8082A LL | N | 53469-21-9 | | | | | | | 310 | | < 3.7 U | < 3.6 U |
| Aroclor-1248 | ug/kg | SW8082A LL | N | 12672-29-6 | 4700 | 2.1 | 230 | 120 | WSED2 | 138 | 310 | | **86 J** | **82 J** |
| Aroclor-1254 | ug/kg | SW8082A LL | N | 11097-69-1 | 310 | 2.3 | 100 | 84 | SED7E | 69 | 310 | | < 3.7 U | < 3.6 U |
| Aroclor-1260 | ug/kg | SW8082A LL | N | 11096-82-5 | 1600 | 0.98 | 120 | 51 | WSED2 | 231 | 310 | | **50 J** | **47 J** |
| Aroclor-1262 | ug/kg | SW8082A LL | N | 37324-23-5 | | | | | | | 310 | | < 3.7 U | < 3.6 U |
| Aroclor-1268 | ug/kg | SW8082A LL | N | 11100-14-4 | 42 | 1.5 | 14 | 10 | SEDREF06 | 27 | 310 | | < 3.7 U | < 3.6 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | SW8082A LL | N | TOT-PCB-ARO-C | 6300 | 0.98 | 290 | 140 | WSED2 | 235 | 310 | | **140** | **130** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED1.5B | SED1.5B | SED1.5B | SED1.5B | SED1.5B | SED1.5C |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/6/2013 12:13:00 PM | 11/6/2013 12:13:00 PM | 6/15/2017 10:10:00 AM | 6/15/2017 10:20:00 AM | 6/15/2017 10:30:00 AM | 6/21/2017 8:20:00 AM |
| | | Sample ID | SED1.5B05N | SED1.5B07N | SED1.5B02FN | SED1.5B04FN | SED1.5B06FN | SED1.5C00BN |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 0.33 - 0.67 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.3 U | < 3.0 U | < 2.8 U | < 3.2 U | < 3.1 U | < 3.2 U |
| Aroclor-1221 | ug/kg | | < 3.3 U | < 3.0 U | < 2.8 U | < 3.2 U | < 3.1 U | < 3.2 U |
| Aroclor-1232 | ug/kg | | < 3.3 U | < 3.0 U | < 2.8 U | < 3.2 U | < 3.1 U | < 3.2 U |
| Aroclor-1242 | ug/kg | | < 3.3 U | < 3.0 U | < 2.8 U | < 3.2 U | < 3.1 U | < 3.2 U |
| Aroclor-1248 | ug/kg | | **150 J** | **120 J** | **92 J+** | **77 J+** | **71 J+** | **41 J+** |
| Aroclor-1254 | ug/kg | | < 3.3 U | < 3.0 U | **58 J+** | **64 J+** | **54 J+** | **76 J+** |
| Aroclor-1260 | ug/kg | | **73 J** | **53 J** | **32 J+** | **35 J+** | **29 J+** | **30 J+** |
| Aroclor-1262 | ug/kg | | < 3.3 U | < 3.0 U | < 2.8 U | < 3.2 U | < 3.1 U | < 3.2 U |
| Aroclor-1268 | ug/kg | | < 3.3 U | < 3.0 U | < 2.8 U | < 3.2 U | < 3.1 U | < 3.2 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **220** | **170** | **180** | **180** | **150** | **150** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C |
|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/21/2017 8:25:00 AM | 6/21/2017 8:30:00 AM | 6/21/2017 8:35:00 AM | 6/21/2017 8:40:00 AM | 6/21/2017 8:45:00 AM | 6/21/2017 8:47:00 AM | 6/21/2017 8:50:00 AM |
| | | Sample ID | SED1.5C00CN | SED1.5C01AN | SED1.5C01BN | SED1.5C01CN | SED1.5C02AN | SED1.5C02AR | SED1.5C02BN |
| | | Depth | 0.67 - 1 ft | 1 - 1.33 ft | 1.33 - 1.67 ft | 1.67 - 2 ft | 2 - 2.33 ft | 2 - 2.33 ft | 2.33 - 2.67 ft |
| | | Type | N | N | N | N | N | FD | N |
| Analyte | Unit | | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.6 U | < 3.5 U | < 3.4 U | < 3.7 U | < 3.2 U | < 3.3 U | < 3.5 U |
| Aroclor-1221 | ug/kg | | < 3.6 U | < 3.5 U | < 3.4 U | < 3.7 U | < 3.2 U | < 3.3 U | < 3.5 U |
| Aroclor-1232 | ug/kg | | < 3.6 U | < 3.5 U | < 3.4 U | < 3.7 U | < 3.2 U | < 3.3 U | < 3.5 U |
| Aroclor-1242 | ug/kg | | < 3.6 U | < 3.5 U | < 3.4 U | < 3.7 U | < 3.2 U | < 3.3 U | < 3.5 U |
| Aroclor-1248 | ug/kg | | **72 J+** | **82 J+** | **63 J+** | **62 J+** | **59 J** | **23 J** | **78 J** |
| Aroclor-1254 | ug/kg | | **72 J+** | **57 J+** | **84 J+** | **62 J+** | **71 J** | **39 J** | **120 J** |
| Aroclor-1260 | ug/kg | | **35 J+** | **27 J+** | **34 J+** | **40 J+** | **42 J** | **16 J** | **56 J** |
| Aroclor-1262 | ug/kg | | < 3.6 U | < 3.5 U | < 3.4 U | < 3.7 U | < 3.2 U | < 3.3 U | < 3.5 U |
| Aroclor-1268 | ug/kg | | < 3.6 U | < 3.5 U | < 3.4 U | < 3.7 U | < 3.2 U | < 3.3 U | < 3.5 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **180** | **170** | **180** | **160** | **170** | **78** | **250** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C |
| | | Sample Date | 6/21/2017 8:52:00 AM | 6/21/2017 8:55:00 AM | 6/21/2017 8:57:00 AM | 6/21/2017 9:00:00 AM | 6/21/2017 9:05:00 AM | 6/21/2017 9:10:00 AM | 6/21/2017 9:15:00 AM |
| | | Sample ID | SED1.5C02BR | SED1.5C02CN | SED1.5C02CR | SED1.5C03AN | SED1.5C03BN | SED1.5C03CN | SED1.5C04AN |
| | | Depth | 2.33 - 2.67 ft | 2.67 - 3 ft | 2.67 - 3 ft | 3 - 3.33 ft | 3.33 - 3.67 ft | 3.67 - 4 ft | 4 - 4.33 ft |
| | | Type | FD | N | FD | N | N | N | N |
| Analyte | Unit | | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.4 U | < 3.7 U | < 3.4 U | < 3.5 U | < 4.1 U | < 3.4 U | < 3.3 U |
| Aroclor-1221 | ug/kg | | < 3.4 U | < 3.7 U | < 3.4 U | < 3.5 U | < 4.1 U | < 3.4 U | < 3.3 U |
| Aroclor-1232 | ug/kg | | < 3.4 U | < 3.7 U | < 3.4 U | < 3.5 U | < 4.1 U | < 3.4 U | < 3.3 U |
| Aroclor-1242 | ug/kg | | < 3.4 U | < 3.7 U | < 3.4 U | < 3.5 U | < 4.1 U | < 3.4 U | < 3.3 U |
| Aroclor-1248 | ug/kg | | **24 J** | **79 J** | **32 J** | **120 J+** | **130 J+** | **51 J+** | **210 J+** |
| Aroclor-1254 | ug/kg | | **48 J** | **85 J** | **50 J** | **120 J+** | **150 J+** | **66 J+** | **240 J+** |
| Aroclor-1260 | ug/kg | | **17 J** | **47 J** | **19 J** | **61 J+** | **81 J+** | **34 J+** | **100 J+** |
| Aroclor-1262 | ug/kg | | < 3.4 U | < 3.7 U | < 3.4 U | < 3.5 U | < 4.1 U | < 3.4 U | < 3.3 U |
| Aroclor-1268 | ug/kg | | < 3.4 U | < 3.7 U | < 3.4 U | < 3.5 U | < 4.1 U | < 3.4 U | < 3.3 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **89** | **210** | **100** | **300** | **360** | **150** | **550** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C | SED1.5C |
|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/21/2017 9:20:00 AM | 6/21/2017 9:25:00 AM | 6/21/2017 9:30:00 AM | 6/21/2017 9:35:00 AM | 6/21/2017 9:40:00 AM | 6/21/2017 9:45:00 AM | 6/21/2017 9:50:00 AM |
| | | Sample ID | SED1.5C04BN | SED1.5C04CN | SED1.5C05AN | SED1.5C05BN | SED1.5C05CN | SED1.5C06AN | SED1.5C06BN |
| | | Depth | 4.33 - 4.67 ft | 4.67 - 5 ft | 5 - 5.33 ft | 5.33 - 5.67 ft | 5.67 - 6 ft | 6 - 6.33 ft | 6.33 - 6.67 ft |
| | | Type | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.2 U | < 3.0 U | < 3.0 U | < 3.1 U | < 3.2 U | < 2.9 U | < 3.2 U |
| Aroclor-1221 | ug/kg | | < 3.2 U | < 3.0 U | < 3.0 U | < 3.1 U | < 3.2 U | < 2.9 U | < 3.2 U |
| Aroclor-1232 | ug/kg | | < 3.2 U | < 3.0 U | < 3.0 U | < 3.1 U | < 3.2 U | < 2.9 U | < 3.2 U |
| Aroclor-1242 | ug/kg | | < 3.2 U | < 3.0 U | < 3.0 U | < 3.1 U | < 3.2 U | < 2.9 U | < 3.2 U |
| Aroclor-1248 | ug/kg | | **210 J+** | **88 J+** | **22 J+** | **5.5 J+** | **2.1 J+** | < 2.9 U | < 3.2 U |
| Aroclor-1254 | ug/kg | | **230 J+** | **81 J+** | **34 J+** | **6.5 J+** | **4.6 J+** | **2.3 J** | < 3.2 U |
| Aroclor-1260 | ug/kg | | **89 J+** | **38 J+** | **17 J+** | **4.4 J+** | **4.4 J+** | **2.4 J** | < 3.2 U |
| Aroclor-1262 | ug/kg | | < 3.2 U | < 3.0 U | < 3.0 U | < 3.1 U | < 3.2 U | < 2.9 U | < 3.2 U |
| Aroclor-1268 | ug/kg | | < 3.2 U | < 3.0 U | < 3.0 U | < 3.1 U | < 3.2 U | < 2.9 U | < 3.2 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **530** | **210** | **73** | **16** | **11** | **4.7** | < 3.2 U |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED1.5C | SED1.5C | SED10A | SED10A | SED10A | SED10A |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/21/2017 9:55:00 AM | 6/21/2017 10:00:00 AM | 11/11/2013 1:11:00 PM | 11/11/2013 1:11:00 PM | 11/11/2013 1:11:00 PM | 11/11/2013 1:11:00 PM |
| | | Sample ID | SED1.5C06CN | SED1.5C07AN | SED10A01N | SED10A03N | SED10A05N | SED10A07N |
| | | Depth | 6.67 - 7 ft | 7 - 7.33 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.3 U | < 3.0 U | < 8.1 U | < 7.3 U | < 6.8 U | < 5.2 U |
| Aroclor-1221 | ug/kg | | < 3.3 U | < 3.0 U | < 8.1 U | < 7.3 U | < 6.8 U | < 5.2 U |
| Aroclor-1232 | ug/kg | | < 3.3 U | < 3.0 U | < 8.1 U | < 7.3 U | < 6.8 U | < 5.2 U |
| Aroclor-1242 | ug/kg | | < 3.3 U | < 3.0 U | < 8.1 U | < 7.3 U | < 6.8 U | < 5.2 U |
| Aroclor-1248 | ug/kg | | < 3.3 U | < 3.0 U | < 8.1 U | < 7.3 U | < 6.8 U | < 5.2 U |
| Aroclor-1254 | ug/kg | | < 3.3 U | < 3.0 U | < 8.1 U | < 7.3 U | < 6.8 U | < 5.2 U |
| Aroclor-1260 | ug/kg | | < 3.3 U | < 3.0 U | < 8.1 U | < 7.3 U | < 6.8 U | < 5.2 U |
| Aroclor-1262 | ug/kg | | < 3.3 U | < 3.0 U | < 8.1 U | < 7.3 U | < 6.8 U | < 5.2 U |
| Aroclor-1268 | ug/kg | | < 3.3 U | < 3.0 U | < 8.1 U | < 7.3 U | < 6.8 U | < 5.2 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | < 3.3 U | < 3 U | < 8.1 U | < 7.3 U | < 6.8 U | < 5.2 U |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED10B | SED10B | SED10B | SED10C | SED10C | SED10C | SED10C |
|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/11/2013 1:59:00 PM | 11/11/2013 1:59:00 PM | 11/11/2013 1:59:00 PM | 11/11/2013 2:55:00 PM | 11/11/2013 2:55:00 PM | 11/11/2013 2:55:00 PM | 11/11/2013 2:55:00 PM |
| | | Sample ID | SED10B01N | SED10B03N | SED10B05N | SED10C01N | SED10C03N | SED10C05N | SED10C07N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 6 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | |
| Aroclor-1016 | ug/kg | | < 5.8 U | < 6.8 U | < 6.2 U | < 6.7 U | < 5.7 U | < 5.7 U | < 6.2 U |
| Aroclor-1221 | ug/kg | | < 5.8 U | < 6.8 U | < 6.2 U | < 6.7 U | < 5.7 U | < 5.7 U | < 6.2 U |
| Aroclor-1232 | ug/kg | | < 5.8 U | < 6.8 U | < 6.2 U | < 6.7 U | < 5.7 U | < 5.7 U | < 6.2 U |
| Aroclor-1242 | ug/kg | | < 5.8 U | < 6.8 U | < 6.2 U | < 6.7 U | < 5.7 U | < 5.7 U | < 6.2 U |
| Aroclor-1248 | ug/kg | | **94 J** | **37 J** | < 6.2 U | < 6.7 U | **400 J** | **100 J** | < 6.2 U |
| Aroclor-1254 | ug/kg | | < 5.8 U | < 6.8 U | < 6.2 U | < 6.7 U | < 5.7 U | < 5.7 U | < 6.2 U |
| Aroclor-1260 | ug/kg | | **29 J** | **31 J** | **120 J** | **93** | **140 J** | **68 J** | **79** |
| Aroclor-1262 | ug/kg | | < 5.8 U | < 6.8 U | < 6.2 U | < 6.7 U | < 5.7 U | < 5.7 U | < 6.2 U |
| Aroclor-1268 | ug/kg | | < 5.8 U | < 6.8 U | < 6.2 U | < 6.7 U | < 5.7 U | < 5.7 U | < 6.2 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **120** | **68** | **120** | **93** | **540** | **170** | **79** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED1A | SED1A | SED1A | SED1A | SED1B | SED1B | SED1B |
|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/6/2013 1:42:00 PM | 11/6/2013 1:42:00 PM | 11/6/2013 1:42:00 PM | 11/6/2013 1:42:00 PM | 11/6/2013 3:05:00 PM | 11/6/2013 3:05:00 PM | 11/6/2013 3:05:00 PM |
| | | Sample ID | SED1A01N | SED1A03N | SED1A05N | SED1A07N | SED1B01N | SED1B03N | SED1B05N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft |
| | | Type | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | |
| Aroclor-1016 | ug/kg | | < 6.8 U | < 6.7 U | < 8.2 U | < 10 U | < 8.1 U | < 8.0 U | < 7.0 U |
| Aroclor-1221 | ug/kg | | < 6.8 U | < 6.7 U | < 8.2 U | < 10 U | < 8.1 U | < 8.0 U | < 7.0 U |
| Aroclor-1232 | ug/kg | | < 6.8 U | < 6.7 U | < 8.2 U | < 10 U | < 8.1 U | < 8.0 U | < 7.0 U |
| Aroclor-1242 | ug/kg | | < 6.8 U | < 6.7 U | < 8.2 U | < 10 U | < 8.1 U | < 8.0 U | < 7.0 U |
| Aroclor-1248 | ug/kg | | **5.6 J** | < 6.7 U | < 8.2 U | < 10 U | < 8.1 U | < 8.0 U | < 7.0 U |
| Aroclor-1254 | ug/kg | | < 6.8 U | < 6.7 U | < 8.2 U | < 10 U | < 8.1 U | < 8.0 U | < 7.0 U |
| Aroclor-1260 | ug/kg | | **2.5 J** | < 6.7 U | < 8.2 U | < 10 U | < 8.1 U | < 8.0 U | < 7.0 U |
| Aroclor-1262 | ug/kg | | < 6.8 U | < 6.7 U | < 8.2 U | < 10 U | < 8.1 U | < 8.0 U | < 7.0 U |
| Aroclor-1268 | ug/kg | | < 6.8 U | < 6.7 U | < 8.2 U | < 10 U | < 8.1 U | < 8.0 U | < 7.0 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **8.1** | < 6.7 U | < 8.2 U | < 10 U | < 8.1 U | < 8.0 U | < 7.0 U |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED1B | SED1C | SED1C | SED1C | SED1C | SED2.5B |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/6/2013 3:05:00 PM | 11/7/2013 10:16:00 AM | 11/7/2013 10:16:00 AM | 11/7/2013 10:16:00 AM | 11/7/2013 10:16:00 AM | 11/7/2013 9:20:00 AM |
| | | Sample ID | SED1B07N | SED1C01N | SED1C03N | SED1C05N | SED1C07N | SED2.5B01N |
| | | Depth | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 6.3 U | < 7.7 U | < 9.8 U | < 5.9 U | < 6.4 U | < 7.6 U |
| Aroclor-1221 | ug/kg | | < 6.3 U | < 7.7 U | < 9.8 U | < 5.9 U | < 6.4 U | < 7.6 U |
| Aroclor-1232 | ug/kg | | < 6.3 U | < 7.7 U | < 9.8 U | < 5.9 U | < 6.4 U | < 7.6 U |
| Aroclor-1242 | ug/kg | | < 6.3 U | < 7.7 U | < 9.8 U | < 5.9 U | < 6.4 U | < 7.6 U |
| Aroclor-1248 | ug/kg | | < 6.3 U | **330 J** | **460 J** | **400 J** | **600 J** | **87 J** |
| Aroclor-1254 | ug/kg | | < 6.3 U | < 7.7 U | < 9.8 U | < 5.9 U | < 6.4 U | < 7.6 U |
| Aroclor-1260 | ug/kg | | < 6.3 U | **100 J** | **200 J** | **150 J** | **170 J** | **43 J** |
| Aroclor-1262 | ug/kg | | < 6.3 U | < 7.7 U | < 9.8 U | < 5.9 U | < 6.4 U | < 7.6 U |
| Aroclor-1268 | ug/kg | | < 6.3 U | < 7.7 U | < 9.8 U | < 5.9 U | < 6.4 U | < 7.6 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | < 6.3 U | **430** | **660** | **550** | **770** | **130** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED2.5B | SED2.5B | SED2.5B | SED2A | SED2A | SED2A | SED2A |
|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/7/2013 9:20:00 AM | 11/7/2013 9:20:00 AM | 11/7/2013 9:20:00 AM | 11/6/2013 10:45:00 AM | 11/6/2013 10:45:00 AM | 11/6/2013 10:45:00 AM | 11/6/2013 10:45:00 AM |
| | | Sample ID | SED2.5B03N | SED2.5B05N | SED2.5B07N | SED2A01N | SED2A03N | SED2A05N | SED2A07N |
| | | Depth | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | |
| Aroclor-1016 | ug/kg | | < 6.6 U | < 7.8 U | < 6.6 U | < 4.7 U | < 4.3 U | < 3.8 U | < 2.7 U |
| Aroclor-1221 | ug/kg | | < 6.6 U | < 7.8 U | < 6.6 U | < 4.7 U | < 4.3 U | < 3.8 U | < 2.7 U |
| Aroclor-1232 | ug/kg | | < 6.6 U | < 7.8 U | < 6.6 U | < 4.7 U | < 4.3 U | < 3.8 U | < 2.7 U |
| Aroclor-1242 | ug/kg | | < 6.6 U | < 7.8 U | < 6.6 U | < 4.7 U | < 4.3 U | < 3.8 U | < 2.7 U |
| Aroclor-1248 | ug/kg | | **120 J** | **750 J** | **350 J** | < 4.7 U | < 4.3 U | < 3.8 U | < 2.7 U |
| Aroclor-1254 | ug/kg | | < 6.6 U | < 7.8 U | < 6.6 U | < 4.7 U | < 4.3 U | < 3.8 U | < 2.7 U |
| Aroclor-1260 | ug/kg | | **54 J** | **250 J** | **130 J** | < 4.7 U | < 4.3 U | < 3.8 U | < 2.7 U |
| Aroclor-1262 | ug/kg | | < 6.6 U | < 7.8 U | < 6.6 U | < 4.7 U | < 4.3 U | < 3.8 U | < 2.7 U |
| Aroclor-1268 | ug/kg | | < 6.6 U | < 7.8 U | < 6.6 U | < 4.7 U | < 4.3 U | < 3.8 U | < 2.7 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **170** | **1000** | **480** | < 4.7 U | < 4.3 U | < 3.8 U | < 2.7 U |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED2B | SED2B | SED2B | SED2B | SED2C | SED2C |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/5/2013 2:54:00 PM | 11/5/2013 2:54:00 PM | 11/5/2013 2:54:00 PM | 11/5/2013 2:54:00 PM | 11/6/2013 9:54:00 AM | 11/6/2013 9:54:00 AM |
| | | Sample ID | SED2B01N | SED2B03N | SED2B05N | SED2B07N | SED2C01N | SED2C03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 4.1 U | < 3.4 U | < 3.2 U | < 3.3 U | < 3.1 U | < 3.7 U |
| Aroclor-1221 | ug/kg | | < 4.1 U | < 3.4 U | < 3.2 U | < 3.3 U | < 3.1 U | < 3.7 U |
| Aroclor-1232 | ug/kg | | < 4.1 U | < 3.4 U | < 3.2 U | < 3.3 U | < 3.1 U | < 3.7 U |
| Aroclor-1242 | ug/kg | | < 4.1 U | < 3.4 U | < 3.2 U | < 3.3 U | < 3.1 U | < 3.7 U |
| Aroclor-1248 | ug/kg | | **57 J** | **59 J** | **15 J** | < 3.3 U | **200 J** | **220 J** |
| Aroclor-1254 | ug/kg | | < 4.1 U | < 3.4 U | < 3.2 U | < 3.3 U | < 3.1 U | < 3.7 U |
| Aroclor-1260 | ug/kg | | **40 J** | **48 J** | **7.4 J** | < 3.3 U | **260 J** | **250 J** |
| Aroclor-1262 | ug/kg | | < 4.1 U | < 3.4 U | < 3.2 U | < 3.3 U | < 3.1 U | < 3.7 U |
| Aroclor-1268 | ug/kg | | < 4.1 U | < 3.4 U | < 3.2 U | < 3.3 U | < 3.1 U | < 3.7 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **97** | **110** | **22** | < 3.3 U | **460** | **470** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED2C | SED2C | SED3.5B | SED3.5B | SED3.5B | SED3.5B |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/6/2013 9:54:00 AM | 11/6/2013 9:54:00 AM | 11/12/2013 11:41:00 AM | 11/12/2013 11:41:00 AM | 11/12/2013 11:41:00 AM | 11/12/2013 11:41:00 AM |
| | | Sample ID | SED2C05N | SED2C07N | SED3.5B01N | SED3.5B03N | SED3.5B05N | SED3.5B07N |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.4 U | < 3.1 U | < 6.7 U | < 6.7 U | < 6.2 U | < 5.5 U |
| Aroclor-1221 | ug/kg | | < 3.4 U | < 3.1 U | < 6.7 U | < 6.7 U | < 6.2 U | < 5.5 U |
| Aroclor-1232 | ug/kg | | < 3.4 U | < 3.1 U | < 6.7 U | < 6.7 U | < 6.2 U | < 5.5 U |
| Aroclor-1242 | ug/kg | | < 3.4 U | < 3.1 U | < 6.7 U | < 6.7 U | < 6.2 U | < 5.5 U |
| Aroclor-1248 | ug/kg | | **230 J** | **15 J** | < 6.7 U | < 6.7 U | < 6.2 U | < 5.5 U |
| Aroclor-1254 | ug/kg | | < 3.4 U | < 3.1 U | < 6.7 U | < 6.7 U | < 6.2 U | < 5.5 U |
| Aroclor-1260 | ug/kg | | **220 J** | **6.3 J** | **28 J** | < 6.7 U | < 6.2 U | < 5.5 U |
| Aroclor-1262 | ug/kg | | < 3.4 U | < 3.1 U | < 6.7 U | < 6.7 U | < 6.2 U | < 5.5 U |
| Aroclor-1268 | ug/kg | | < 3.4 U | < 3.1 U | < 6.7 U | < 6.7 U | < 6.2 U | < 5.5 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **450** | **21** | **28** | < 6.7 U | < 6.2 U | < 5.5 U |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED3A | SED3A | SED3A | SED3A | SED3B | SED3B | SED3B |
|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/7/2013 1:16:00 PM | 11/7/2013 1:16:00 PM | 11/7/2013 1:16:00 PM | 11/7/2013 1:16:00 PM | 11/8/2013 8:47:00 AM | 11/8/2013 8:47:00 AM | 11/8/2013 8:47:00 AM |
| | | Sample ID | SED3A01N | SED3A03N | SED3A05N | SED3A07N | SED3B01N | SED3B03N | SED3B05N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft |
| | | Type | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | |
| Aroclor-1016 | ug/kg | | < 9.0 U | < 9.0 U | < 8.7 U | < 7.7 U | < 8.5 U | < 5.3 U | < 5.9 U |
| Aroclor-1221 | ug/kg | | < 9.0 U | < 9.0 U | < 8.7 U | < 7.7 U | < 8.5 U | < 5.3 U | < 5.9 U |
| Aroclor-1232 | ug/kg | | < 9.0 U | < 9.0 U | < 8.7 U | < 7.7 U | < 8.5 U | < 5.3 U | < 5.9 U |
| Aroclor-1242 | ug/kg | | < 9.0 U | < 9.0 U | < 8.7 U | < 7.7 U | < 8.5 U | < 5.3 U | < 5.9 U |
| Aroclor-1248 | ug/kg | | < 9.0 U | < 9.0 U | < 8.7 U | < 7.7 U | < 8.5 U | < 5.3 U | < 5.9 U |
| Aroclor-1254 | ug/kg | | < 9.0 U | < 9.0 U | < 8.7 U | < 7.7 U | < 8.5 U | < 5.3 U | < 5.9 U |
| Aroclor-1260 | ug/kg | | < 9.0 U | < 9.0 U | < 8.7 U | < 7.7 U | **1.4 J** | < 5.3 U | < 5.9 U |
| Aroclor-1262 | ug/kg | | < 9.0 U | < 9.0 U | < 8.7 U | < 7.7 U | < 8.5 U | < 5.3 U | < 5.9 U |
| Aroclor-1268 | ug/kg | | < 9.0 U | < 9.0 U | < 8.7 U | < 7.7 U | < 8.5 U | < 5.3 U | < 5.9 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | < 9.0 U | < 9.0 U | < 8.7 U | < 7.7 U | **1.4** | < 5.3 U | < 5.9 U |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED3B | SED3C | SED3C | SED3C | SED3C | SED3C |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/8/2013 8:47:00 AM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM |
| | | Sample ID | SED3B07N | SED3C01N | SED3C01R | SED3C03N | SED3C03R | SED3C05N |
| | | Depth | 7 - 9 ft | 1 - 3 ft | 1 - 3 ft | 3 - 5 ft | 3 - 5 ft | 5 - 7 ft |
| | | Type | N | N | FD | N | FD | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 6.0 U | < 6.1 U | < 5.7 U | < 6.8 U | < 6.2 U | < 6.2 U |
| Aroclor-1221 | ug/kg | | < 6.0 U | < 6.1 U | < 5.7 U | < 6.8 U | < 6.2 U | < 6.2 U |
| Aroclor-1232 | ug/kg | | < 6.0 U | < 6.1 U | < 5.7 U | < 6.8 U | < 6.2 U | < 6.2 U |
| Aroclor-1242 | ug/kg | | < 6.0 U | < 6.1 U | < 5.7 U | < 6.8 U | < 6.2 U | < 6.2 U |
| Aroclor-1248 | ug/kg | | < 6.0 U | **290 J** | **120 J** | **460 J** | **390 J** | **390 J** |
| Aroclor-1254 | ug/kg | | < 6.0 U | < 6.1 U | < 5.7 U | < 6.8 U | < 6.2 U | < 6.2 U |
| Aroclor-1260 | ug/kg | | **9.6** | **140 J** | **50 J** | **210 J** | **180 J** | **170 J** |
| Aroclor-1262 | ug/kg | | < 6.0 U | < 6.1 U | < 5.7 U | < 6.8 U | < 6.2 U | < 6.2 U |
| Aroclor-1268 | ug/kg | | < 6.0 U | < 6.1 U | < 5.7 U | < 6.8 U | < 6.2 U | < 6.2 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **9.6** | **430** | **170** | **670** | **570** | **560** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED3C | SED3C | SED3C | SED4.5B | SED4.5B | SED4.5B |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/7/2013 12:14:00 PM | 11/8/2013 10:16:00 AM | 11/8/2013 10:16:00 AM | 11/8/2013 10:16:00 AM |
| | | Sample ID | SED3C05R | SED3C07N | SED3C07R | SED4.5B01N | SED4.5B03N | SED4.5B05N |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft |
| | | Type | FD | N | FD | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 6.5 U | < 6.1 U | < 5.9 U | < 6.6 U | < 6.8 U | < 6.2 U |
| Aroclor-1221 | ug/kg | | < 6.5 U | < 6.1 U | < 5.9 U | < 6.6 U | < 6.8 U | < 6.2 U |
| Aroclor-1232 | ug/kg | | < 6.5 U | < 6.1 U | < 5.9 U | < 6.6 U | < 6.8 U | < 6.2 U |
| Aroclor-1242 | ug/kg | | < 6.5 U | < 6.1 U | < 5.9 U | < 6.6 U | < 6.8 U | < 6.2 U |
| Aroclor-1248 | ug/kg | | **440 J** | **1200 J** | **860 J** | **110 J** | **3.2 J** | < 6.2 U |
| Aroclor-1254 | ug/kg | | < 6.5 U | < 6.1 U | < 5.9 U | < 6.6 U | < 6.8 U | < 6.2 U |
| Aroclor-1260 | ug/kg | | **160 J** | **280 J** | **180 J** | **56 J** | **4.0 J** | **1.0 J** |
| Aroclor-1262 | ug/kg | | < 6.5 U | < 6.1 U | < 5.9 U | < 6.6 U | < 6.8 U | < 6.2 U |
| Aroclor-1268 | ug/kg | | < 6.5 U | < 6.1 U | < 5.9 U | < 6.6 U | < 6.8 U | < 6.2 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **600** | **1500** | **1000** | **170** | **7.2** | **1.0** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED4.5B | SED4A | SED4A | SED4A | SED4A | SED4B |
| | | Sample Date | 11/8/2013 10:16:00 AM | 11/12/2013 1:32:00 PM | 11/12/2013 1:32:00 PM | 11/12/2013 1:32:00 PM | 11/12/2013 1:32:00 PM | 11/12/2013 12:16:00 PM |
| | | Sample ID | SED4.5B07N | SED4A01N | SED4A03N | SED4A05N | SED4A07N | SED4B01N |
| | | Depth | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 5.6 U | < 8.2 U | < 8.1 U | < 7.0 U | < 6.3 U | < 6.4 U |
| Aroclor-1221 | ug/kg | | < 5.6 U | < 8.2 U | < 8.1 U | < 7.0 U | < 6.3 U | < 6.4 U |
| Aroclor-1232 | ug/kg | | < 5.6 U | < 8.2 U | < 8.1 U | < 7.0 U | < 6.3 U | < 6.4 U |
| Aroclor-1242 | ug/kg | | < 5.6 U | < 8.2 U | < 8.1 U | < 7.0 U | < 6.3 U | < 6.4 U |
| Aroclor-1248 | ug/kg | | < 5.6 U | < 8.2 U | < 8.1 U | < 7.0 U | < 6.3 U | **240 J** |
| Aroclor-1254 | ug/kg | | < 5.6 U | < 8.2 U | < 8.1 U | < 7.0 U | < 6.3 U | < 6.4 U |
| Aroclor-1260 | ug/kg | | < 5.6 U | < 8.2 U | < 8.1 U | < 7.0 U | < 6.3 U | **86 J** |
| Aroclor-1262 | ug/kg | | < 5.6 U | < 8.2 U | < 8.1 U | < 7.0 U | < 6.3 U | < 6.4 U |
| Aroclor-1268 | ug/kg | | < 5.6 U | < 8.2 U | < 8.1 U | < 7.0 U | < 6.3 U | < 6.4 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | < 5.6 U | < 8.2 U | < 8.1 U | < 7.0 U | < 6.3 U | **330** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED4B | SED4B | SED4B | SED4B | SED4B | SED4B |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/12/2013 12:16:00 PM | 11/12/2013 12:16:00 PM | 11/12/2013 12:16:00 PM | 6/15/2017 8:40:00 AM | 6/15/2017 8:50:00 AM | 6/15/2017 9:00:00 AM |
| | | Sample ID | SED4B03N | SED4B05N | SED4B07N | SED4B02FN | SED4B04FN | SED4B06FN |
| | | Depth | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 6.4 U | < 6.2 U | < 6.1 U | < 3.0 U | < 3.1 U | < 2.8 U |
| Aroclor-1221 | ug/kg | | < 6.4 U | < 6.2 U | < 6.1 U | < 3.0 U | < 3.1 U | < 2.8 U |
| Aroclor-1232 | ug/kg | | < 6.4 U | < 6.2 U | < 6.1 U | < 3.0 U | < 3.1 U | < 2.8 U |
| Aroclor-1242 | ug/kg | | < 6.4 U | < 6.2 U | < 6.1 U | < 3.0 U | < 3.1 U | < 2.8 U |
| Aroclor-1248 | ug/kg | | < 6.4 U | < 6.2 U | < 6.1 U | **14 J+** | **73 J+** | < 2.8 U |
| Aroclor-1254 | ug/kg | | < 6.4 U | < 6.2 U | < 6.1 U | **58 J+** | **44 J+** | < 2.8 U |
| Aroclor-1260 | ug/kg | | **38 J** | **30 J** | **6.3** | **26 J+** | **23 J+** | < 2.8 U |
| Aroclor-1262 | ug/kg | | < 6.4 U | < 6.2 U | < 6.1 U | < 3.0 U | < 3.1 U | < 2.8 U |
| Aroclor-1268 | ug/kg | | < 6.4 U | < 6.2 U | < 6.1 U | < 3.0 U | < 3.1 U | < 2.8 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **38** | **30** | **6.3** | **98** | **140** | < 2.8 U |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED4C | SED4C | SED4C | SED4C | SED4C | SED4C |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/12/2013 2:09:00 PM | 11/12/2013 2:09:00 PM | 11/12/2013 2:09:00 PM | 11/12/2013 2:09:00 PM | 6/14/2017 1:40:00 PM | 6/14/2017 1:50:00 PM |
| | | Sample ID | SED4C01N | SED4C03N | SED4C05N | SED4C07N | SED4C02FN | SED4C04FN |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 6.9 U | < 6.5 U | < 6.4 U | < 6.1 U | < 3.5 U | < 3.4 U |
| Aroclor-1221 | ug/kg | | < 6.9 U | < 6.5 U | < 6.4 U | < 6.1 U | < 3.5 U | < 3.4 U |
| Aroclor-1232 | ug/kg | | < 6.9 U | < 6.5 U | < 6.4 U | < 6.1 U | < 3.5 U | < 3.4 U |
| Aroclor-1242 | ug/kg | | < 6.9 U | < 6.5 U | < 6.4 U | < 6.1 U | < 3.5 U | < 3.4 U |
| Aroclor-1248 | ug/kg | | **590 J** | < 6.5 U | < 6.4 U | < 6.1 U | **110 J+** | **21 J+** |
| Aroclor-1254 | ug/kg | | < 6.9 U | < 6.5 U | < 6.4 U | < 6.1 U | **94 J+** | **77 J+** |
| Aroclor-1260 | ug/kg | | **210 J** | **48 J** | **25 J** | **16 J** | **61 J+** | **58 J+** |
| Aroclor-1262 | ug/kg | | < 6.9 U | < 6.5 U | < 6.4 U | < 6.1 U | < 3.5 U | < 3.4 U |
| Aroclor-1268 | ug/kg | | < 6.9 U | < 6.5 U | < 6.4 U | < 6.1 U | < 3.5 U | < 3.4 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **800** | **48** | **25** | **16** | **270** | **160** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED4C | SED4C | SED5.5B | SED5.5B | SED5.5B | SED5.5B |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/14/2017 2:00:00 PM | 6/14/2017 2:10:00 PM | 11/12/2013 2:49:00 PM | 11/12/2013 2:49:00 PM | 11/12/2013 2:49:00 PM | 11/13/2013 2:49:00 PM |
| | | Sample ID | SED4C06FN | SED4C08FN | SED5.5B01N | SED5.5B03N | SED5.5B07N | SED5.5B05N |
| | | Depth | 6 - 7 ft | 8 - 9 ft | 1 - 3 ft | 3 - 5 ft | 7 - 9 ft | 5 - 7 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.3 U | < 3.1 U | < 6.4 U | < 6.4 U | < 5.8 U | < 6.5 U |
| Aroclor-1221 | ug/kg | | < 3.3 U | < 3.1 U | < 6.4 U | < 6.4 U | < 5.8 U | < 6.5 U |
| Aroclor-1232 | ug/kg | | < 3.3 U | < 3.1 U | < 6.4 U | < 6.4 U | < 5.8 U | < 6.5 U |
| Aroclor-1242 | ug/kg | | < 3.3 U | < 3.1 U | < 6.4 U | < 6.4 U | < 5.8 U | < 6.5 U |
| Aroclor-1248 | ug/kg | | < 3.3 U | < 3.1 U | < 6.4 U | < 6.4 U | < 5.8 U | < 6.5 U |
| Aroclor-1254 | ug/kg | | < 3.3 U | < 3.1 U | < 6.4 U | < 6.4 U | < 5.8 U | < 6.5 U |
| Aroclor-1260 | ug/kg | | **17** | < 3.1 U | **41 J** | **43 J** | < 5.8 U | **3.3 J** |
| Aroclor-1262 | ug/kg | | < 3.3 U | < 3.1 U | < 6.4 U | < 6.4 U | < 5.8 U | < 6.5 U |
| Aroclor-1268 | ug/kg | | < 3.3 U | < 3.1 U | < 6.4 U | < 6.4 U | < 5.8 U | < 6.5 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **17** | < 3.1 U | **41** | **43** | < 5.8 U | **3.3** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED5A | SED5A | SED5A | SED5A | SED5B | SED5B |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/8/2013 11:18:00 AM | 11/8/2013 11:18:00 AM | 11/8/2013 11:18:00 AM | 11/8/2013 11:18:00 AM | 11/8/2013 12:14:00 PM | 11/8/2013 12:14:00 PM |
| | | Sample ID | SED5A01N | SED5A03N | SED5A05N | SED5A07N | SED5B01N | SED5B03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 6.5 U | < 6.4 U | < 6.2 U | < 5.5 U | < 6.2 U | < 6.0 U |
| Aroclor-1221 | ug/kg | | < 6.5 U | < 6.4 U | < 6.2 U | < 5.5 U | < 6.2 U | < 6.0 U |
| Aroclor-1232 | ug/kg | | < 6.5 U | < 6.4 U | < 6.2 U | < 5.5 U | < 6.2 U | < 6.0 U |
| Aroclor-1242 | ug/kg | | < 6.5 U | < 6.4 U | < 6.2 U | < 5.5 U | < 6.2 U | < 6.0 U |
| Aroclor-1248 | ug/kg | | **290 J** | **30 J** | **12 J** | < 5.5 U | **99 J** | < 6.0 U |
| Aroclor-1254 | ug/kg | | < 6.5 U | < 6.4 U | < 6.2 U | < 5.5 U | < 6.2 U | < 6.0 U |
| Aroclor-1260 | ug/kg | | **190 J** | **26 J** | **27 J** | < 5.5 U | **66 J** | **3.1 J** |
| Aroclor-1262 | ug/kg | | < 6.5 U | < 6.4 U | < 6.2 U | < 5.5 U | < 6.2 U | < 6.0 U |
| Aroclor-1268 | ug/kg | | < 6.5 U | < 6.4 U | < 6.2 U | < 5.5 U | < 6.2 U | < 6.0 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **480** | **56** | **39** | < 5.5 U | **170** | **3.1** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/8/2013 12:14:00 PM | 11/8/2013 12:14:00 PM | 6/19/2017 2:20:00 PM | 6/19/2017 2:30:00 PM | 6/19/2017 2:40:00 PM | 6/20/2017 7:50:00 AM |
| | | Sample ID | SED5B05N | SED5B07N | SED5B02FN | SED5B04FN | SED5B06FN | SED5B00BN |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 0.33 - 0.67 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 5.1 U | < 5.2 U | < 3.3 UJ | < 3.1 UJ | < 2.8 U | < 5.1 U |
| Aroclor-1221 | ug/kg | | < 5.1 U | < 5.2 U | < 3.3 UJ | < 3.1 UJ | < 2.8 U | < 5.1 U |
| Aroclor-1232 | ug/kg | | < 5.1 U | < 5.2 U | < 3.3 UJ | < 3.1 UJ | < 2.8 U | < 5.1 U |
| Aroclor-1242 | ug/kg | | < 5.1 U | < 5.2 U | < 3.3 UJ | < 3.1 UJ | < 2.8 U | < 5.1 U |
| Aroclor-1248 | ug/kg | | < 5.1 U | < 5.2 U | < 3.3 UJ | < 3.1 UJ | < 2.8 U | **82 J+** |
| Aroclor-1254 | ug/kg | | < 5.1 U | < 5.2 U | < 3.3 UJ | < 3.1 UJ | < 2.8 U | **69 J+** |
| Aroclor-1260 | ug/kg | | < 5.1 U | < 5.2 U | **27 J+** | **14 J+** | < 2.8 U | **49 J+** |
| Aroclor-1262 | ug/kg | | < 5.1 U | < 5.2 U | < 3.3 U | < 3.1 U | < 2.8 U | < 5.1 U |
| Aroclor-1268 | ug/kg | | < 5.1 U | < 5.2 U | **5.7 J+** | **9.6 J+** | < 2.8 U | < 5.1 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | < 5.1 U | < 5.2 U | **33** | **24** | < 2.8 U | **200** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B |
|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/20/2017 7:55:00 AM | 6/20/2017 8:00:00 AM | 6/20/2017 8:05:00 AM | 6/20/2017 8:10:00 AM | 6/20/2017 8:15:00 AM | 6/20/2017 8:20:00 AM | 6/20/2017 8:25:00 AM |
| | | Sample ID | SED5B00CN | SED5B01AN | SED5B01BN | SED5B01CN | SED5B02AN | SED5B02BN | SED5B02CN |
| | | Depth | 0.67 - 1 ft | 1 - 1.33 ft | 1.33 - 1.67 ft | 1.67 - 2 ft | 2 - 2.33 ft | 2.33 - 2.67 ft | 2.67 - 3 ft |
| | | Type | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.4 U | < 3.7 U | < 3.5 U | < 3.3 U | < 3.1 U | < 3.2 U | < 3.3 U |
| Aroclor-1221 | ug/kg | | < 3.4 U | < 3.7 U | < 3.5 U | < 3.3 U | < 3.1 U | < 3.2 U | < 3.3 U |
| Aroclor-1232 | ug/kg | | < 3.4 U | < 3.7 U | < 3.5 U | < 3.3 U | < 3.1 U | < 3.2 U | < 3.3 U |
| Aroclor-1242 | ug/kg | | < 3.4 U | < 3.7 U | < 3.5 U | < 3.3 U | < 3.1 U | < 3.2 U | < 3.3 U |
| Aroclor-1248 | ug/kg | | **25** | **46** | < 3.5 U | < 3.3 U | < 3.1 U | < 3.2 U | < 3.3 U |
| Aroclor-1254 | ug/kg | | < 3.4 U | < 3.7 U | < 3.5 U | < 3.3 U | < 3.1 U | < 3.2 U | < 3.3 U |
| Aroclor-1260 | ug/kg | | **72** | **120 J+** | **85** | **58 J+** | **28** | **26 J+** | **43 J+** |
| Aroclor-1262 | ug/kg | | < 3.4 U | < 3.7 U | < 3.5 U | < 3.3 U | < 3.1 U | < 3.2 U | < 3.3 U |
| Aroclor-1268 | ug/kg | | < 3.4 U | **20 J+** | < 3.5 U | **9.8 J+** | < 3.1 U | **5.1 J+** | **10 J+** |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **97** | **190** | **85** | **68** | **28** | **31** | **53** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B | SED5B |
|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/20/2017 8:30:00 AM | 6/20/2017 8:35:00 AM | 6/20/2017 8:40:00 AM | 6/20/2017 8:45:00 AM | 6/20/2017 8:50:00 AM | 6/20/2017 8:55:00 AM | 6/20/2017 9:00:00 AM |
| | | Sample ID | SED5B03AN | SED5B03BN | SED5B03CN | SED5B04AN | SED5B04BN | SED5B04CN | SED5B05AN |
| | | Depth | 3 - 3.33 ft | 3.33 - 3.67 ft | 3.67 - 4 ft | 4 - 4.33 ft | 4.33 - 4.67 ft | 4.67 - 5 ft | 5 - 5.33 ft |
| | | Type | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.4 U | < 3.2 U | < 3.2 U | < 3.2 U | < 3.1 U | < 3.2 U | < 3.1 U |
| Aroclor-1221 | ug/kg | | < 3.4 U | < 3.2 U | < 3.2 U | < 3.2 U | < 3.1 U | < 3.2 U | < 3.1 U |
| Aroclor-1232 | ug/kg | | < 3.4 U | < 3.2 U | < 3.2 U | < 3.2 U | < 3.1 U | < 3.2 U | < 3.1 U |
| Aroclor-1242 | ug/kg | | < 3.4 U | < 3.2 U | < 3.2 U | < 3.2 U | < 3.1 U | < 3.2 U | < 3.1 U |
| Aroclor-1248 | ug/kg | | < 3.4 U | < 3.2 U | < 3.2 U | < 3.2 U | < 3.1 U | < 3.2 U | < 3.1 U |
| Aroclor-1254 | ug/kg | | < 3.4 U | < 3.2 U | < 3.2 U | < 3.2 U | < 3.1 U | < 3.2 U | < 3.1 U |
| Aroclor-1260 | ug/kg | | **35 J+** | **45 J+** | **33 J+** | **25 J+** | **16 J+** | **14 J+** | < 3.1 U |
| Aroclor-1262 | ug/kg | | < 3.4 U | < 3.2 U | < 3.2 U | < 3.2 U | < 3.1 U | < 3.2 U | < 3.1 U |
| Aroclor-1268 | ug/kg | | **8.0 J+** | **9.5 J+** | **12 J+** | **14 J+** | **9.5 J+** | **10 J+** | < 3.1 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **43** | **55** | **45** | **39** | **26** | **24** | < 3.1 U |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED5B | SED5B | SED5B | SED5C | SED5C | SED5C |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/20/2017 9:05:00 AM | 6/20/2017 9:10:00 AM | 6/20/2017 9:15:00 AM | 11/11/2013 8:37:00 AM | 11/11/2013 8:37:00 AM | 11/11/2013 8:37:00 AM |
| | | Sample ID | SED5B05BN | SED5B05CN | SED5B06AN | SED5C01N | SED5C03N | SED5C05N |
| | | Depth | 5.33 - 5.67 ft | 5.67 - 6 ft | 6 - 6.33 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.0 U | < 3.0 U | < 2.8 U | < 6.7 U | < 6.8 U | < 6.6 U |
| Aroclor-1221 | ug/kg | | < 3.0 U | < 3.0 U | < 2.8 U | < 6.7 U | < 6.8 U | < 6.6 U |
| Aroclor-1232 | ug/kg | | < 3.0 U | < 3.0 U | < 2.8 U | < 6.7 U | < 6.8 U | < 6.6 U |
| Aroclor-1242 | ug/kg | | < 3.0 U | < 3.0 U | < 2.8 U | < 6.7 U | < 6.8 U | < 6.6 U |
| Aroclor-1248 | ug/kg | | < 3.0 U | < 3.0 U | < 2.8 U | < 6.7 U | < 6.8 U | **3.1 J** |
| Aroclor-1254 | ug/kg | | < 3.0 U | < 3.0 U | < 2.8 U | < 6.7 U | < 6.8 U | < 6.6 U |
| Aroclor-1260 | ug/kg | | < 3.0 U | < 3.0 U | < 2.8 U | **120 J** | **43 J** | **5.4 J** |
| Aroclor-1262 | ug/kg | | < 3.0 U | < 3.0 U | < 2.8 U | < 6.7 U | < 6.8 U | < 6.6 U |
| Aroclor-1268 | ug/kg | | < 3.0 U | < 3.0 U | < 2.8 U | < 6.7 U | < 6.8 U | < 6.6 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | < 3 U | < 3 U | < 2.8 U | **120** | **43** | **8.5** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED5C | SED5C | SED5C | SED5C | SED5C | SED6.5D |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/11/2013 8:37:00 AM | 6/14/2017 11:25:00 AM | 6/14/2017 11:35:00 AM | 6/14/2017 11:45:00 AM | 6/14/2017 11:55:00 AM | 11/25/2013 8:10:00 AM |
| | | Sample ID | SED5C07N | SED5C02FN | SED5C04FN | SED5C06FN | SED5C08FN | SED6.5D01N |
| | | Depth | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 1 - 3 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 6.5 U | < 3.3 U | < 3.3 U | < 3.3 U | < 3.1 U | < 6.4 U |
| Aroclor-1221 | ug/kg | | < 6.5 U | < 3.3 U | < 3.3 U | < 3.3 U | < 3.1 U | < 6.4 U |
| Aroclor-1232 | ug/kg | | < 6.5 U | < 3.3 U | < 3.3 U | < 3.3 U | < 3.1 U | < 6.4 U |
| Aroclor-1242 | ug/kg | | < 6.5 U | < 3.3 U | < 3.3 U | < 3.3 U | < 3.1 U | < 6.4 U |
| Aroclor-1248 | ug/kg | | < 6.5 U | < 3.3 U | < 3.3 U | < 3.3 U | < 3.1 U | < 6.4 U |
| Aroclor-1254 | ug/kg | | < 6.5 U | **50 J+** | < 3.3 U | < 3.3 U | < 3.1 U | < 6.4 U |
| Aroclor-1260 | ug/kg | | **3.6 J** | **51 J+** | **5.5** | < 3.3 U | < 3.1 U | **70** |
| Aroclor-1262 | ug/kg | | < 6.5 U | < 3.3 U | < 3.3 U | < 3.3 U | < 3.1 U | < 6.4 U |
| Aroclor-1268 | ug/kg | | < 6.5 U | < 3.3 U | < 3.3 U | < 3.3 U | < 3.1 U | < 6.4 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **3.6** | **100** | **5.5** | < 3.3 U | < 3.1 U | **70** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED6.5D | SED6.5D | SED6.5D | SED6.5D | SED6.5D | SED6.5D |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/25/2013 8:10:00 AM | 1/29/2014 12:35:00 PM | 1/29/2014 12:35:00 PM | 6/27/2017 10:10:00 AM | 6/27/2017 10:20:00 AM | 6/27/2017 10:30:00 AM |
| | | Sample ID | SED6.5D03N | SED6.5D05N | SED6.5D07N | SED6.5D02FN | SED6.5D04FN | SED6.5D06FN |
| | | Depth | 3 - 4 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 7.3 U | < 6.7 U | < 7.7 U | < 3.4 U | < 4.0 U | < 3.2 U |
| Aroclor-1221 | ug/kg | | < 7.3 U | < 6.7 U | < 7.7 U | < 3.4 U | < 4.0 U | < 3.2 U |
| Aroclor-1232 | ug/kg | | < 7.3 U | < 6.7 U | < 7.7 U | < 3.4 U | < 4.0 U | < 3.2 U |
| Aroclor-1242 | ug/kg | | < 7.3 U | < 6.7 U | < 7.7 U | < 3.4 U | < 4.0 U | < 3.2 U |
| Aroclor-1248 | ug/kg | | **310 J** | < 6.7 U | < 7.7 U | < 3.4 U | < 4.0 U | < 3.2 U |
| Aroclor-1254 | ug/kg | | < 7.3 U | < 6.7 U | < 7.7 U | **21 J+** | **3.4 J+** | < 3.2 U |
| Aroclor-1260 | ug/kg | | **380 J** | < 6.7 U | < 7.7 U | **22 J+** | **4.1 J+** | < 3.2 U |
| Aroclor-1262 | ug/kg | | < 7.3 U | < 6.7 U | < 7.7 U | < 3.4 U | < 4.0 U | < 3.2 U |
| Aroclor-1268 | ug/kg | | < 7.3 U | < 6.7 U | < 7.7 U | < 3.4 U | < 4.0 U | < 3.2 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **690** | < 6.7 U | < 7.7 U | **43** | **7.5** | < 3.2 U |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED6.5D | SED6.5E | SED6.5E | SED6.5E | SED6.5E | SED6.5E |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/27/2017 10:40:00 AM | 11/25/2013 8:20:00 AM | 11/25/2013 8:25:00 AM | 11/25/2013 8:20:00 AM | 11/25/2013 8:20:00 AM | 11/25/2013 8:20:00 AM |
| | | Sample ID | SED6.5D08FN | SED6.5E01N | SED6.5E01R | SED6.5E03N | SED6.5E05N | SED6.5E07N |
| | | Depth | 8 - 9 ft | 1 - 3 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 8 ft |
| | | Type | N | N | FD | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.3 U | < 8.9 U | < 8.9 U | < 5.7 U | < 6.8 U | < 6.7 U |
| Aroclor-1221 | ug/kg | | < 3.3 U | < 8.9 U | < 8.9 U | < 5.7 U | < 6.8 U | < 6.7 U |
| Aroclor-1232 | ug/kg | | < 3.3 U | < 8.9 U | < 8.9 U | < 5.7 U | < 6.8 U | < 6.7 U |
| Aroclor-1242 | ug/kg | | < 3.3 U | < 8.9 U | < 8.9 U | < 5.7 U | < 6.8 U | < 6.7 U |
| Aroclor-1248 | ug/kg | | < 3.3 U | **950 J** | **890 J** | **180 J** | **38 J** | **27 J** |
| Aroclor-1254 | ug/kg | | < 3.3 U | < 8.9 U | < 8.9 U | < 5.7 U | < 6.8 U | < 6.7 U |
| Aroclor-1260 | ug/kg | | < 3.3 U | **470 J** | **430 J** | **140 J** | **29 J** | **17 J** |
| Aroclor-1262 | ug/kg | | < 3.3 U | < 8.9 U | < 8.9 U | < 5.7 U | < 6.8 U | < 6.7 U |
| Aroclor-1268 | ug/kg | | < 3.3 U | < 8.9 U | < 8.9 U | < 5.7 U | < 6.8 U | < 6.7 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | < 3.3 U | **1400** | **1300** | **320** | **67** | **44** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED6A | SED6A | SED6A | SED6B | SED6B | SED6B |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/13/2013 1:40:00 PM | 11/13/2013 1:40:00 PM | 11/13/2013 1:40:00 PM | 11/13/2013 12:40:00 PM | 11/13/2013 12:40:00 PM | 11/13/2013 12:40:00 PM |
| | | Sample ID | SED6A01N | SED6A03N | SED6A05N | SED6B01N | SED6B03N | SED6B05N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 6.1 U | < 6.2 U | < 8.1 U | < 6.8 U | < 6.4 U | < 5.5 U |
| Aroclor-1221 | ug/kg | | < 6.1 U | < 6.2 U | < 8.1 U | < 6.8 U | < 6.4 U | < 5.5 U |
| Aroclor-1232 | ug/kg | | < 6.1 U | < 6.2 U | < 8.1 U | < 6.8 U | < 6.4 U | < 5.5 U |
| Aroclor-1242 | ug/kg | | < 6.1 U | < 6.2 U | < 8.1 U | < 6.8 U | < 6.4 U | < 5.5 U |
| Aroclor-1248 | ug/kg | | < 6.1 U | < 6.2 U | < 8.1 U | < 6.8 U | < 6.4 U | < 5.5 U |
| Aroclor-1254 | ug/kg | | < 6.1 U | < 6.2 U | < 8.1 U | < 6.8 U | < 6.4 U | < 5.5 U |
| Aroclor-1260 | ug/kg | | **38 J** | **29 J** | < 8.1 U | **58 J** | **12 J** | **1.2 J** |
| Aroclor-1262 | ug/kg | | < 6.1 U | < 6.2 U | < 8.1 U | < 6.8 U | < 6.4 U | < 5.5 U |
| Aroclor-1268 | ug/kg | | < 6.1 U | < 6.2 U | < 8.1 U | < 6.8 U | < 6.4 U | < 5.5 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **38** | **29** | < 8.1 U | **58** | **12** | **1.2** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED6B | SED6C | SED6C | SED6C | SED6C | SED7.5D |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/13/2013 12:40:00 PM | 11/14/2013 1:34:00 PM | 11/14/2013 1:34:00 PM | 11/14/2013 1:34:00 PM | 11/14/2013 1:34:00 PM | 11/25/2013 7:30:00 AM |
| | | Sample ID | SED6B07N | SED6C01N | SED6C03N | SED6C05N | SED6C07N | SED7.5D01N |
| | | Depth | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 7.0 U | < 7.1 U | < 6.7 U | < 6.7 U | < 7.7 U | < 8.3 U |
| Aroclor-1221 | ug/kg | | < 7.0 U | < 7.1 U | < 6.7 U | < 6.7 U | < 7.7 U | < 8.3 U |
| Aroclor-1232 | ug/kg | | < 7.0 U | < 7.1 U | < 6.7 U | < 6.7 U | < 7.7 U | < 8.3 U |
| Aroclor-1242 | ug/kg | | < 7.0 U | < 7.1 U | < 6.7 U | < 6.7 U | < 7.7 U | < 8.3 U |
| Aroclor-1248 | ug/kg | | < 7.0 U | **160 J** | < 6.7 U | < 6.7 U | < 7.7 U | **320 J** |
| Aroclor-1254 | ug/kg | | < 7.0 U | < 7.1 U | < 6.7 U | < 6.7 U | < 7.7 U | < 8.3 U |
| Aroclor-1260 | ug/kg | | < 7.0 U | **230 J** | < 6.7 U | < 6.7 U | < 7.7 U | **520 J** |
| Aroclor-1262 | ug/kg | | < 7.0 U | < 7.1 U | < 6.7 U | < 6.7 U | < 7.7 U | < 8.3 U |
| Aroclor-1268 | ug/kg | | < 7.0 U | < 7.1 U | < 6.7 U | < 6.7 U | < 7.7 U | < 8.3 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | < 7.0 U | **390** | < 6.7 U | < 6.7 U | < 7.7 U | **840** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7.5D | SED7.5D | SED7.5E | SED7.5E | SED7.5E | SED7.5E |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/25/2013 7:30:00 AM | 11/25/2013 7:30:00 AM | 11/25/2013 10:30:00 AM | 11/25/2013 10:30:00 AM | 11/25/2013 10:30:00 AM | 11/25/2013 10:30:00 AM |
| | | Sample ID | SED7.5D03N | SED7.5D05N | SED7.5E01N | SED7.5E03N | SED7.5E05N | SED7.5E07N |
| | | Depth | 3 - 5 ft | 5 - 6.8 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 7.8 U | < 7.2 U | < 6.9 U | < 7.3 U | < 7.6 U | < 6.9 U |
| Aroclor-1221 | ug/kg | | < 7.8 U | < 7.2 U | < 6.9 U | < 7.3 U | < 7.6 U | < 6.9 U |
| Aroclor-1232 | ug/kg | | < 7.8 U | < 7.2 U | < 6.9 U | < 7.3 U | < 7.6 U | < 6.9 U |
| Aroclor-1242 | ug/kg | | < 7.8 U | < 7.2 U | < 6.9 U | < 7.3 U | < 7.6 U | < 6.9 U |
| Aroclor-1248 | ug/kg | | **390 J** | **190 J** | **270 J** | **300 J** | **16 J** | **5.4 J** |
| Aroclor-1254 | ug/kg | | < 7.8 U | < 7.2 U | < 6.9 U | < 7.3 U | < 7.6 U | < 6.9 U |
| Aroclor-1260 | ug/kg | | **610 J** | **250 J** | **400 J** | **570 J** | **25 J** | **8.5 J** |
| Aroclor-1262 | ug/kg | | < 7.8 U | < 7.2 U | < 6.9 U | < 7.3 U | < 7.6 U | < 6.9 U |
| Aroclor-1268 | ug/kg | | < 7.8 U | < 7.2 U | < 6.9 U | < 7.3 U | < 7.6 U | < 6.9 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **1000** | **440** | **670** | **870** | **41** | **14** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7A | SED7A | SED7A | SED7A | SED7B | SED7B |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/13/2013 11:52:00 AM | 11/13/2013 11:52:00 AM | 11/13/2013 11:52:00 AM | 11/13/2013 11:52:00 AM | 11/13/2013 10:51:00 AM | 11/13/2013 10:51:00 AM |
| | | Sample ID | SED7A01N | SED7A03N | SED7A05N | SED7A07N | SED7B01N | SED7B03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 6.6 U | < 6.5 U | < 6.7 U | < 6.9 U | < 6.7 U | < 6.4 U |
| Aroclor-1221 | ug/kg | | < 6.6 U | < 6.5 U | < 6.7 U | < 6.9 U | < 6.7 U | < 6.4 U |
| Aroclor-1232 | ug/kg | | < 6.6 U | < 6.5 U | < 6.7 U | < 6.9 U | < 6.7 U | < 6.4 U |
| Aroclor-1242 | ug/kg | | < 6.6 U | < 6.5 U | < 6.7 U | < 6.9 U | < 6.7 U | < 6.4 U |
| Aroclor-1248 | ug/kg | | < 6.6 U | < 6.5 U | < 6.7 U | < 6.9 U | < 6.7 U | < 6.4 U |
| Aroclor-1254 | ug/kg | | < 6.6 U | < 6.5 U | < 6.7 U | < 6.9 U | < 6.7 U | < 6.4 U |
| Aroclor-1260 | ug/kg | | **38 J** | **37 J** | **18 J** | **6.7 J** | **120 J** | **2.0 J** |
| Aroclor-1262 | ug/kg | | < 6.6 U | < 6.5 U | < 6.7 U | < 6.9 U | < 6.7 U | < 6.4 U |
| Aroclor-1268 | ug/kg | | < 6.6 U | < 6.5 U | < 6.7 U | < 6.9 U | < 6.7 U | < 6.4 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **38** | **37** | **18** | **6.7** | **120** | **2.0** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7B | SED7B | SED7D | SED7D | SED7D | SED7D |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/13/2013 10:51:00 AM | 11/13/2013 10:51:00 AM | 11/25/2013 8:05:00 AM | 11/25/2013 8:05:00 AM | 11/25/2013 8:05:00 AM | 11/25/2013 8:05:00 AM |
| | | Sample ID | SED7B05N | SED7B07N | SED7D01N | SED7D03N | SED7D05N | SED7D07N |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 7.8 U | < 6.8 U | < 7.8 U | < 7.8 U | < 7.9 U | < 7.7 U |
| Aroclor-1221 | ug/kg | | < 7.8 U | < 6.8 U | < 7.8 U | < 7.8 U | < 7.9 U | < 7.7 U |
| Aroclor-1232 | ug/kg | | < 7.8 U | < 6.8 U | < 7.8 U | < 7.8 U | < 7.9 U | < 7.7 U |
| Aroclor-1242 | ug/kg | | < 7.8 U | < 6.8 U | < 7.8 U | < 7.8 U | < 7.9 U | < 7.7 U |
| Aroclor-1248 | ug/kg | | < 7.8 U | < 6.8 U | **490 J** | **490 J** | **270 J** | **230 J** |
| Aroclor-1254 | ug/kg | | < 7.8 U | < 6.8 U | < 7.8 U | < 7.8 U | < 7.9 U | < 7.7 U |
| Aroclor-1260 | ug/kg | | < 7.8 U | < 6.8 U | **800 J** | **610 J** | **370 J** | **320 J** |
| Aroclor-1262 | ug/kg | | < 7.8 U | < 6.8 U | < 7.8 U | < 7.8 U | < 7.9 U | < 7.7 U |
| Aroclor-1268 | ug/kg | | < 7.8 U | < 6.8 U | < 7.8 U | < 7.8 U | < 7.9 U | < 7.7 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | < 7.8 U | < 6.8 U | **1300** | **1100** | **640** | **550** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7D | SED7D | SED7D | SED7D | SED7E | SED7E |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/27/2017 12:00:00 PM | 6/27/2017 12:10:00 PM | 6/27/2017 12:20:00 PM | 6/27/2017 12:30:00 PM | 11/25/2013 10:00:00 AM | 11/25/2013 10:00:00 AM |
| | | Sample ID | SED7D02FN | SED7D04FN | SED7D06FN | SED7D08FN | SED7E01N | SED7E03N |
| | | Depth | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.5 U | < 3.5 U | < 3.2 U | < 3.1 U | < 6.5 U | < 7.4 U |
| Aroclor-1221 | ug/kg | | < 3.5 U | < 3.5 U | < 3.2 U | < 3.1 U | < 6.5 U | < 7.4 U |
| Aroclor-1232 | ug/kg | | < 3.5 U | < 3.5 U | < 3.2 U | < 3.1 U | < 6.5 U | < 7.4 U |
| Aroclor-1242 | ug/kg | | < 3.5 U | < 3.5 U | < 3.2 U | < 3.1 U | < 6.5 U | < 7.4 U |
| Aroclor-1248 | ug/kg | | **450 J+** | < 3.5 U | < 3.2 U | < 3.1 U | **240 J** | **700 J** |
| Aroclor-1254 | ug/kg | | **250 J+** | **280 J+** | < 3.2 U | < 3.1 U | < 6.5 U | < 7.4 U |
| Aroclor-1260 | ug/kg | | **340 J+** | **300 J+** | **42 J+** | **2.5 J+** | **270 J** | **810 J** |
| Aroclor-1262 | ug/kg | | < 3.5 U | < 3.5 U | < 3.2 U | < 3.1 U | < 6.5 U | < 7.4 U |
| Aroclor-1268 | ug/kg | | < 3.5 U | < 3.5 U | < 3.2 U | **2.8 J+** | < 6.5 U | < 7.4 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **1000** | **580** | **42** | **5.3** | **510** | **1500** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/25/2013 10:00:00 AM | 6/22/2017 9:05:00 AM | 6/22/2017 9:10:00 AM | 6/22/2017 9:15:00 AM | 6/22/2017 9:20:00 AM | 6/22/2017 9:25:00 AM |
| | | Sample ID | SED7E05N | SED7E00BN | SED7E00CN | SED7E01AN | SED7E01BN | SED7E01CN |
| | | Depth | 5 - 6 ft | 0.33 - 0.67 ft | 0.67 - 1 ft | 1 - 1.33 ft | 1.33 - 1.67 ft | 1.67 - 2 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 7.8 U | < 2.7 UJ | < 2.8 UJ | < 3.1 UJ | < 3.8 UJ | < 3.6 UJ |
| Aroclor-1221 | ug/kg | | < 7.8 U | < 2.7 U | < 2.8 U | < 3.1 U | < 3.8 U | < 3.6 U |
| Aroclor-1232 | ug/kg | | < 7.8 U | < 2.7 U | < 2.8 U | < 3.1 U | < 3.8 U | < 3.6 U |
| Aroclor-1242 | ug/kg | | < 7.8 U | < 2.7 U | < 2.8 U | < 3.1 U | < 3.8 U | < 3.6 U |
| Aroclor-1248 | ug/kg | | **470 J** | **140 J+** | **150 J+** | **120 J+** | **120 J+** | **230 J+** |
| Aroclor-1254 | ug/kg | | < 7.8 U | **190 J** | **230 J** | **190 J** | **190 J** | **310 J** |
| Aroclor-1260 | ug/kg | | **480 J** | **320 J+** | **400 J+** | **400 J+** | **390 J+** | **550 J+** |
| Aroclor-1262 | ug/kg | | < 7.8 U | < 2.7 U | < 2.8 U | < 3.1 U | < 3.8 U | < 3.6 U |
| Aroclor-1268 | ug/kg | | < 7.8 U | < 2.7 U | < 2.8 U | < 3.1 U | < 3.8 U | < 3.6 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **950** | **650** | **780** | **710** | **700** | **1100** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E |
|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/22/2017 9:30:00 AM | 6/22/2017 9:32:00 AM | 6/22/2017 9:35:00 AM | 6/22/2017 9:37:00 AM | 6/22/2017 9:40:00 AM | 6/22/2017 9:45:00 AM | 6/22/2017 9:50:00 AM |
| | | Sample ID | SED7E02AN | SED7E02AR | SED7E02BN | SED7E02BR | SED7E02CN | SED7E03AN | SED7E03BN |
| | | Depth | 2 - 2.33 ft | 2 - 2.33 ft | 2.33 - 2.67 ft | 2.33 - 2.67 ft | 2.67 - 3 ft | 3 - 3.33 ft | 3.33 - 3.67 ft |
| | | Type | N | FD | N | FD | N | N | N |
| Analyte | Unit | | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.8 UJ | < 3.6 U | < 3.6 UJ | < 3.7 U | < 3.4 UJ | < 3.5 UJ | < 3.4 U |
| Aroclor-1221 | ug/kg | | < 3.8 U | < 3.6 U | < 3.6 U | < 3.7 U | < 3.4 U | < 3.5 U | < 3.4 U |
| Aroclor-1232 | ug/kg | | < 3.8 U | < 3.6 U | < 3.6 U | < 3.7 U | < 3.4 U | < 3.5 U | < 3.4 U |
| Aroclor-1242 | ug/kg | | < 3.8 U | < 3.6 U | < 3.6 U | < 3.7 U | < 3.4 U | < 3.5 U | < 3.4 U |
| Aroclor-1248 | ug/kg | | **79 J** | < 3.6 UJ | **170 J** | < 3.7 UJ | **52 J+** | < 3.5 U | < 3.4 U |
| Aroclor-1254 | ug/kg | | **120 J** | **140 J** | **230 J** | **220 J** | **86 J** | **120 J** | **89 J** |
| Aroclor-1260 | ug/kg | | **200 J+** | **230 J+** | **370 J+** | **360 J+** | **140 J+** | **230 J+** | **180 J+** |
| Aroclor-1262 | ug/kg | | < 3.8 U | < 3.6 U | < 3.6 U | < 3.7 U | < 3.4 U | < 3.5 U | < 3.4 U |
| Aroclor-1268 | ug/kg | | < 3.8 U | < 3.6 U | < 3.6 U | < 3.7 U | < 3.4 U | < 3.5 U | < 3.4 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **400** | **370** | **770** | **580** | **280** | **350** | **270** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/22/2017 9:55:00 AM | 6/22/2017 10:00:00 AM | 6/22/2017 10:05:00 AM | 6/22/2017 10:10:00 AM | 6/22/2017 10:15:00 AM | 6/22/2017 10:20:00 AM |
| | | Sample ID | SED7E03CN | SED7E04AN | SED7E04BN | SED7E04CN | SED7E05AN | SED7E05BN |
| | | Depth | 3.67 - 4 ft | 4 - 4.33 ft | 4.33 - 4.67 ft | 4.67 - 5 ft | 5 - 5.33 ft | 5.33 - 5.67 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.0 UJ | < 3.5 UJ | < 3.2 UJ | < 3.2 UJ | < 3.6 UJ | < 3.4 UJ |
| Aroclor-1221 | ug/kg | | < 3.0 U | < 3.5 UJ | < 3.2 U | < 3.2 U | < 3.6 U | < 3.4 U |
| Aroclor-1232 | ug/kg | | < 3.0 U | < 3.5 UJ | < 3.2 U | < 3.2 U | < 3.6 U | < 3.4 U |
| Aroclor-1242 | ug/kg | | < 3.0 U | < 3.5 UJ | < 3.2 U | < 3.2 U | < 3.6 U | < 3.4 U |
| Aroclor-1248 | ug/kg | | **74 J+** | < 3.5 UJ | < 3.2 U | < 3.2 U | < 3.6 U | < 3.4 U |
| Aroclor-1254 | ug/kg | | **110 J** | **230 J** | **200 J** | **110 J** | < 3.6 UJ | **45 J** |
| Aroclor-1260 | ug/kg | | **160 J+** | **210 J+** | **270 J+** | **170 J+** | **380** | **67 J+** |
| Aroclor-1262 | ug/kg | | < 3.0 U | < 3.5 UJ | < 3.2 U | < 3.2 U | < 3.6 U | < 3.4 U |
| Aroclor-1268 | ug/kg | | < 3.0 U | < 3.5 UJ | < 3.2 U | < 3.2 U | < 3.6 U | < 3.4 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **340** | **440** | **470** | **280** | **380** | **110** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7E | SED7E | SED7E | SED7E | SED7E | SED7E |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/22/2017 10:25:00 AM | 6/22/2017 10:30:00 AM | 6/22/2017 10:35:00 AM | 6/22/2017 10:40:00 AM | 6/22/2017 10:45:00 AM | 6/22/2017 10:50:00 AM |
| | | Sample ID | SED7E05CN | SED7E06AN | SED7E06BN | SED7E06CN | SED7E07AN | SED7E07BN |
| | | Depth | 5.67 - 6 ft | 6 - 6.33 ft | 6.33 - 6.67 ft | 6.67 - 7 ft | 7 - 7.33 ft | 7.33 - 7.67 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.5 UJ | < 3.5 UJ | < 3.3 UJ | < 3.3 UJ | < 2.7 U | < 3.0 U |
| Aroclor-1221 | ug/kg | | < 3.5 UJ | < 3.5 U | < 3.3 UJ | < 3.3 UJ | < 2.7 U | < 3.0 U |
| Aroclor-1232 | ug/kg | | < 3.5 UJ | < 3.5 U | < 3.3 UJ | < 3.3 UJ | < 2.7 U | < 3.0 U |
| Aroclor-1242 | ug/kg | | < 3.5 UJ | < 3.5 U | < 3.3 UJ | < 3.3 UJ | < 2.7 U | < 3.0 U |
| Aroclor-1248 | ug/kg | | < 3.5 UJ | < 3.5 U | < 3.3 UJ | < 3.3 UJ | < 2.7 U | < 3.0 U |
| Aroclor-1254 | ug/kg | | **48 J** | **9.2 J** | **2.3 J** | **20 J** | **6.3 J** | **31 J** |
| Aroclor-1260 | ug/kg | | **56 J+** | **11 J+** | **2.4 J** | **17 J+** | **5.6 J+** | **31 J+** |
| Aroclor-1262 | ug/kg | | < 3.5 UJ | < 3.5 U | < 3.3 UJ | < 3.3 UJ | < 2.7 U | < 3.0 U |
| Aroclor-1268 | ug/kg | | < 3.5 UJ | < 3.5 U | < 3.3 UJ | < 3.3 UJ | < 2.7 U | < 3.0 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **100** | **20** | **4.7** | **37** | **12** | **62** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7E | SED7F | SED7F | SED7F | SED7F | SED7G |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/22/2017 10:55:00 AM | 11/25/2013 12:00:00 PM | 1/29/2014 1:30:00 PM | 1/29/2014 1:30:00 PM | 1/29/2014 1:30:00 PM | 1/30/2014 3:00:00 PM |
| | | Sample ID | SED7E07CN | SED7F01N | SED7F03N | SED7F05N | SED7F07N | SED7G01N |
| | | Depth | 7.67 - 8 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.1 U | < 5.1 U | < 5.4 U | < 6.5 U | < 6.4 U | < 5.8 U |
| Aroclor-1221 | ug/kg | | < 3.1 U | < 5.1 U | < 5.4 U | < 6.5 U | < 6.4 U | < 5.8 U |
| Aroclor-1232 | ug/kg | | < 3.1 U | < 5.1 U | < 5.4 U | < 6.5 U | < 6.4 U | < 5.8 U |
| Aroclor-1242 | ug/kg | | < 3.1 U | < 5.1 U | < 5.4 U | < 6.5 U | < 6.4 U | < 5.8 U |
| Aroclor-1248 | ug/kg | | < 3.1 U | **180 J** | **32 J** | **4.4 J** | < 6.4 U | **3.1 J** |
| Aroclor-1254 | ug/kg | | **19 J** | < 5.1 U | < 5.4 U | < 6.5 U | < 6.4 U | < 5.8 U |
| Aroclor-1260 | ug/kg | | **20 J+** | **230 J** | **18 J** | **8.7 J** | < 6.4 U | **4.1 J** |
| Aroclor-1262 | ug/kg | | < 3.1 U | < 5.1 U | < 5.4 U | < 6.5 U | < 6.4 U | < 5.8 U |
| Aroclor-1268 | ug/kg | | < 3.1 U | < 5.1 U | < 5.4 U | < 6.5 U | < 6.4 U | < 5.8 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **39** | **410** | **50** | **13** | < 6.4 U | **7.2** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7G | SED7G | SED7G | SED7G | SED8.5B | SED8.5B |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 1/30/2014 3:00:00 PM | 1/30/2014 3:00:00 PM | 1/30/2014 3:00:00 PM | 1/30/2014 3:00:00 PM | 11/13/2013 8:37:00 AM | 11/13/2013 8:37:00 AM |
| | | Sample ID | SED7G01R | SED7G03N | SED7G05N | SED7G07N | SED8.5B01N | SED8.5B03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | FD | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 5.7 U | < 6.1 U | < 5.1 U | < 5.7 U | < 6.8 U | < 5.2 U |
| Aroclor-1221 | ug/kg | | < 5.7 U | < 6.1 U | < 5.1 U | < 5.7 U | < 6.8 U | < 5.2 U |
| Aroclor-1232 | ug/kg | | < 5.7 U | < 6.1 U | < 5.1 U | < 5.7 U | < 6.8 U | < 5.2 U |
| Aroclor-1242 | ug/kg | | < 5.7 U | < 6.1 U | < 5.1 U | < 5.7 U | < 6.8 U | < 5.2 U |
| Aroclor-1248 | ug/kg | | **9.1 J** | < 6.1 U | < 5.1 U | < 5.7 U | **59 J** | **2.3 J** |
| Aroclor-1254 | ug/kg | | < 5.7 U | < 6.1 U | < 5.1 U | < 5.7 U | < 6.8 U | < 5.2 U |
| Aroclor-1260 | ug/kg | | **13 J** | < 6.1 U | < 5.1 U | < 5.7 U | **28 J** | < 5.2 U |
| Aroclor-1262 | ug/kg | | < 5.7 U | < 6.1 U | < 5.1 U | < 5.7 U | < 6.8 U | < 5.2 U |
| Aroclor-1268 | ug/kg | | < 5.7 U | < 6.1 U | < 5.1 U | < 5.7 U | < 6.8 U | < 5.2 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **22** | < 6.1 U | < 5.1 U | < 5.7 U | **87** | **2.3** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED8.5B | SED8.5B | SED8A | SED8A | SED8A | SED8A |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/13/2013 8:37:00 AM | 11/13/2013 8:37:00 AM | 11/13/2013 10:06:00 AM | 11/13/2013 10:06:00 AM | 11/13/2013 10:06:00 AM | 11/13/2013 10:06:00 AM |
| | | Sample ID | SED8.5B05N | SED8.5B07N | SED8A01N | SED8A03N | SED8A05N | SED8A07N |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 5.3 U | < 5.3 U | < 6.3 U | < 5.6 U | < 5.3 U | < 5.9 U |
| Aroclor-1221 | ug/kg | | < 5.3 U | < 5.3 U | < 6.3 U | < 5.6 U | < 5.3 U | < 5.9 U |
| Aroclor-1232 | ug/kg | | < 5.3 U | < 5.3 U | < 6.3 U | < 5.6 U | < 5.3 U | < 5.9 U |
| Aroclor-1242 | ug/kg | | < 5.3 U | < 5.3 U | < 6.3 U | < 5.6 U | < 5.3 U | < 5.9 U |
| Aroclor-1248 | ug/kg | | < 5.3 U | < 5.3 U | **160 J** | < 5.6 U | < 5.3 U | < 5.9 U |
| Aroclor-1254 | ug/kg | | < 5.3 U | < 5.3 U | < 6.3 U | < 5.6 U | < 5.3 U | < 5.9 U |
| Aroclor-1260 | ug/kg | | **0.98 J** | < 5.3 U | **77 J** | **6.9 J** | < 5.3 U | < 5.9 U |
| Aroclor-1262 | ug/kg | | < 5.3 U | < 5.3 U | < 6.3 U | < 5.6 U | < 5.3 U | < 5.9 U |
| Aroclor-1268 | ug/kg | | < 5.3 U | < 5.3 U | < 6.3 U | < 5.6 U | < 5.3 U | < 5.9 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **0.98** | < 5.3 U | **240** | **6.9** | < 5.3 U | < 5.9 U |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED8B | SED8B | SED8B | SED8B | SED8C | SED8C |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/13/2013 9:18:00 AM | 11/13/2013 9:18:00 AM | 11/13/2013 9:18:00 AM | 11/13/2013 9:18:00 AM | 11/14/2013 12:52:00 PM | 11/14/2013 12:52:00 PM |
| | | Sample ID | SED8B01N | SED8B03N | SED8B05N | SED8B07N | SED8C01N | SED8C03N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 7.6 U | < 6.3 U | < 8.3 U | < 5.6 U | < 6.6 U | < 6.1 U |
| Aroclor-1221 | ug/kg | | < 7.6 U | < 6.3 U | < 8.3 U | < 5.6 U | < 6.6 U | < 6.1 U |
| Aroclor-1232 | ug/kg | | < 7.6 U | < 6.3 U | < 8.3 U | < 5.6 U | < 6.6 U | < 6.1 U |
| Aroclor-1242 | ug/kg | | < 7.6 U | < 6.3 U | < 8.3 U | < 5.6 U | < 6.6 U | < 6.1 U |
| Aroclor-1248 | ug/kg | | **56 J** | **120 J** | < 8.3 U | < 5.6 U | < 6.6 U | < 6.1 U |
| Aroclor-1254 | ug/kg | | < 7.6 U | < 6.3 U | < 8.3 U | < 5.6 U | < 6.6 U | < 6.1 U |
| Aroclor-1260 | ug/kg | | **24 J** | **45 J** | < 8.3 U | < 5.6 U | **310 J** | **77 J** |
| Aroclor-1262 | ug/kg | | < 7.6 U | < 6.3 U | < 8.3 U | < 5.6 U | < 6.6 U | < 6.1 U |
| Aroclor-1268 | ug/kg | | < 7.6 U | < 6.3 U | < 8.3 U | < 5.6 U | < 6.6 U | < 6.1 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **80** | **170** | < 8.3 U | < 5.6 U | **310** | **77** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED8C | SED8C | SED9.5B | SED9.5B | SED9.5B | SED9.5B |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/14/2013 12:52:00 PM | 11/14/2013 12:52:00 PM | 11/11/2013 12:09:00 PM | 11/11/2013 12:09:00 PM | 11/11/2013 12:09:00 PM | 11/11/2013 12:09:00 PM |
| | | Sample ID | SED8C05N | SED8C07N | SED9.5B01N | SED9.5B03N | SED9.5B05N | SED9.5B07N |
| | | Depth | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 6.6 U | < 7.5 U | < 6.1 U | < 6.5 U | < 5.8 U | < 6.6 U |
| Aroclor-1221 | ug/kg | | < 6.6 U | < 7.5 U | < 6.1 U | < 6.5 U | < 5.8 U | < 6.6 U |
| Aroclor-1232 | ug/kg | | < 6.6 U | < 7.5 U | < 6.1 U | < 6.5 U | < 5.8 U | < 6.6 U |
| Aroclor-1242 | ug/kg | | < 6.6 U | < 7.5 U | < 6.1 U | < 6.5 U | < 5.8 U | < 6.6 U |
| Aroclor-1248 | ug/kg | | < 6.6 U | < 7.5 U | **180 J** | **260 J** | < 5.8 U | < 6.6 U |
| Aroclor-1254 | ug/kg | | < 6.6 U | < 7.5 U | < 6.1 U | < 6.5 U | < 5.8 U | < 6.6 U |
| Aroclor-1260 | ug/kg | | **3.3 J** | < 7.5 U | **73 J** | **190 J** | **180 J** | **150 J** |
| Aroclor-1262 | ug/kg | | < 6.6 U | < 7.5 U | < 6.1 U | < 6.5 U | < 5.8 U | < 6.6 U |
| Aroclor-1268 | ug/kg | | < 6.6 U | < 7.5 U | < 6.1 U | < 6.5 U | < 5.8 U | < 6.6 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **3.3** | < 7.5 U | **250** | **450** | **180** | **150** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED9A | SED9A | SED9A | SED9B | SED9B | SED9B |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/11/2013 9:45:00 AM | 11/11/2013 9:45:00 AM | 11/11/2013 9:45:00 AM | 11/11/2013 11:18:00 AM | 11/11/2013 11:18:00 AM | 11/11/2013 11:18:00 AM |
| | | Sample ID | SED9A01N | SED9A03N | SED9A05N | SED9B01N | SED9B03N | SED9B05N |
| | | Depth | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 6.6 U | < 5.5 U | < 0.54 U | < 7.4 U | < 5.7 U | < 0.53 U |
| Aroclor-1221 | ug/kg | | < 6.6 U | < 5.5 U | < 0.54 U | < 7.4 U | < 5.7 U | < 0.53 U |
| Aroclor-1232 | ug/kg | | < 6.6 U | < 5.5 U | < 0.54 U | < 7.4 U | < 5.7 U | < 0.53 U |
| Aroclor-1242 | ug/kg | | < 6.6 U | < 5.5 U | < 0.54 U | < 7.4 U | < 5.7 U | < 0.53 U |
| Aroclor-1248 | ug/kg | | < 6.6 U | < 5.5 U | < 0.54 U | **140 J** | **41 J** | < 0.53 U |
| Aroclor-1254 | ug/kg | | < 6.6 U | < 5.5 U | < 0.54 U | < 7.4 U | < 5.7 U | < 0.53 U |
| Aroclor-1260 | ug/kg | | **11 J** | < 5.5 U | < 0.54 U | **55 J** | **11 J** | **14** |
| Aroclor-1262 | ug/kg | | < 6.6 U | < 5.5 U | < 0.54 U | < 7.4 U | < 5.7 U | < 0.53 U |
| Aroclor-1268 | ug/kg | | < 6.6 U | < 5.5 U | < 0.54 U | < 7.4 U | < 5.7 U | < 0.53 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **11** | < 5.5 U | < 0.54 U | **200** | **52** | **14** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED9C | SED9C | SED9C | SED9C | SED9C | SEDREF01 |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 11/11/2013 10:34:00 AM | 6/19/2017 12:40:00 PM |
| | | Sample ID | SED9C01N | SED9C01R | SED9C03N | SED9C05N | SED9C07N | SEDREF0102N |
| | | Depth | 1 - 3 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 2 - 3 ft |
| | | Type | N | FD | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 6.5 U | < 6.1 U | < 6.6 U | < 7.0 U | < 5.8 U | < 2.8 U |
| Aroclor-1221 | ug/kg | | < 6.5 U | < 6.1 U | < 6.6 U | < 7.0 U | < 5.8 U | < 2.8 U |
| Aroclor-1232 | ug/kg | | < 6.5 U | < 6.1 U | < 6.6 U | < 7.0 U | < 5.8 U | < 2.8 UJ |
| Aroclor-1242 | ug/kg | | < 6.5 U | < 6.1 U | < 6.6 U | < 7.0 U | < 5.8 U | < 2.8 UJ |
| Aroclor-1248 | ug/kg | | **370 J** | **230 J** | **330 J** | **370 J** | < 5.8 U | **110 J+** |
| Aroclor-1254 | ug/kg | | < 6.5 U | < 6.1 U | < 6.6 U | < 7.0 U | < 5.8 U | **94 J+** |
| Aroclor-1260 | ug/kg | | **120 J** | **74 J** | **200 J** | **250 J** | **57 J** | **45 J+** |
| Aroclor-1262 | ug/kg | | < 6.5 U | < 6.1 U | < 6.6 U | < 7.0 U | < 5.8 U | < 2.8 UJ |
| Aroclor-1268 | ug/kg | | < 6.5 U | < 6.1 U | < 6.6 U | < 7.0 U | < 5.8 U | < 2.8 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **490** | **300** | **530** | **620** | **57** | **250** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SEDREF01 | SEDREF02 | SEDREF02 | SEDREF02 | SEDREF02 | SEDREF03 |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/19/2017 12:50:00 PM | 6/15/2017 11:55:00 AM | 6/15/2017 11:57:00 AM | 6/15/2017 12:05:00 PM | 6/15/2017 12:15:00 PM | 6/15/2017 2:10:00 PM |
| | | Sample ID | SEDREF0104N | SEDREF0202N | SEDREF0202R | SEDREF0204N | SEDREF0206N | SEDREF0302N |
| | | Depth | 4 - 5 ft | 2 - 3 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 2 - 3 ft |
| | | Type | N | N | FD | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.0 U | < 3.7 U | < 3.6 U | < 3.1 U | < 3.1 U | < 3.2 U |
| Aroclor-1221 | ug/kg | | < 3.0 U | < 3.7 U | < 3.6 U | < 3.1 U | < 3.1 U | < 3.2 U |
| Aroclor-1232 | ug/kg | | < 3.0 UJ | < 3.7 U | < 3.6 U | < 3.1 U | < 3.1 U | < 3.2 U |
| Aroclor-1242 | ug/kg | | < 3.0 UJ | < 3.7 U | < 3.6 U | < 3.1 U | < 3.1 U | < 3.2 U |
| Aroclor-1248 | ug/kg | | < 3.0 U | **44 J+** | **65 J+** | **130 J+** | **140 J+** | **160 J+** |
| Aroclor-1254 | ug/kg | | < 3.0 U | **100 J+** | **120 J+** | **99 J+** | **91 J+** | **130 J+** |
| Aroclor-1260 | ug/kg | | **12 J+** | **44 J+** | **52 J+** | **42 J+** | **48 J+** | **93 J+** |
| Aroclor-1262 | ug/kg | | < 3.0 UJ | < 3.7 U | < 3.6 U | < 3.1 U | < 3.1 U | < 3.2 U |
| Aroclor-1268 | ug/kg | | **1.5 J+** | < 3.7 U | < 3.6 U | < 3.1 U | < 3.1 U | < 3.2 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **14** | **190** | **240** | **270** | **280** | **380** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SEDREF03 | SEDREF03 | SEDREF03 | SEDREF03 | SEDREF04 | SEDREF04 | SEDREF04 |
|---|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/15/2017 2:20:00 PM | 6/15/2017 2:30:00 PM | 6/15/2017 2:32:00 PM | 6/15/2017 2:40:00 PM | 6/16/2017 8:40:00 AM | 6/16/2017 8:50:00 AM | 6/16/2017 8:52:00 AM |
| | | Sample ID | SEDREF0304N | SEDREF0306N | SEDREF0306R | SEDREF0308N | SEDREF0402N | SEDREF0404N | SEDREF0404R |
| | | Depth | 4 - 5 ft | 6 - 7 ft | 6 - 7 ft | 8 - 9 ft | 2 - 3 ft | 4 - 5 ft | 4 - 5 ft |
| | | Type | N | N | FD | N | N | N | FD |
| Analyte | Unit | | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.1 U | < 4.0 U | < 7.4 U | < 8.3 U | < 2.8 U | < 3.5 U | < 3.4 U |
| Aroclor-1221 | ug/kg | | < 3.1 U | < 4.0 U | < 7.4 U | < 8.3 U | < 2.8 U | < 3.5 U | < 3.4 U |
| Aroclor-1232 | ug/kg | | < 3.1 U | < 4.0 U | < 7.4 U | < 8.3 U | < 2.8 U | < 3.5 U | < 3.4 U |
| Aroclor-1242 | ug/kg | | < 3.1 U | < 4.0 U | < 7.4 U | < 8.3 U | < 2.8 U | < 3.5 U | < 3.4 U |
| Aroclor-1248 | ug/kg | | **8.4 J+** | < 4.0 U | < 7.4 U | < 8.3 U | **660 J+** | < 3.5 U | < 3.4 U |
| Aroclor-1254 | ug/kg | | **8.9 J+** | < 4.0 U | < 7.4 U | < 8.3 U | **210 J+** | **210 J+** | **200 J+** |
| Aroclor-1260 | ug/kg | | **3.8 J+** | < 4.0 U | < 7.4 U | < 8.3 U | **190 J+** | **300 J+** | **230 J+** |
| Aroclor-1262 | ug/kg | | < 3.1 U | < 4.0 U | < 7.4 U | < 8.3 U | < 2.8 U | < 3.5 U | < 3.4 U |
| Aroclor-1268 | ug/kg | | < 3.1 U | < 4.0 U | < 7.4 U | < 8.3 U | < 2.8 U | < 3.5 U | < 3.4 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **21** | < 4 U | < 7.4 U | < 8.3 U | **1100** | **510** | **430** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SEDREF04 | SEDREF04 | SEDREF05 | SEDREF05 | SEDREF05 | SEDREF05 |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/16/2017 9:00:00 AM | 6/16/2017 9:10:00 AM | 6/16/2017 10:25:00 AM | 6/16/2017 10:35:00 AM | 6/16/2017 10:37:00 AM | 6/16/2017 10:45:00 AM |
| | | Sample ID | SEDREF0406N | SEDREF0408N | SEDREF0502N | SEDREF0504N | SEDREF0504R | SEDREF0506N |
| | | Depth | 6 - 7 ft | 8 - 9 ft | 2 - 3 ft | 4 - 5 ft | 4 - 5 ft | 6 - 7 ft |
| | | Type | N | N | N | N | FD | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.3 U | < 3.2 U | < 3.3 U | < 3.6 U | < 3.3 U | < 3.3 U |
| Aroclor-1221 | ug/kg | | < 3.3 U | < 3.2 U | < 3.3 U | < 3.6 U | < 3.3 U | < 3.3 U |
| Aroclor-1232 | ug/kg | | < 3.3 U | < 3.2 U | < 3.3 U | < 3.6 U | < 3.3 U | < 3.3 U |
| Aroclor-1242 | ug/kg | | < 3.3 U | < 3.2 U | < 3.3 U | < 3.6 U | < 3.3 U | < 3.3 U |
| Aroclor-1248 | ug/kg | | < 3.3 U | < 3.2 U | < 3.3 U | < 3.6 U | < 3.3 U | < 3.3 U |
| Aroclor-1254 | ug/kg | | < 3.3 U | < 3.2 U | **42 J+** | < 3.6 U | < 3.3 U | < 3.3 U |
| Aroclor-1260 | ug/kg | | **66 J+** | **23 J+** | **65 J+** | < 3.6 U | < 3.3 U | **10 J+** |
| Aroclor-1262 | ug/kg | | < 3.3 U | < 3.2 U | < 3.3 U | < 3.6 U | < 3.3 U | < 3.3 U |
| Aroclor-1268 | ug/kg | | **10 J+** | **25 J+** | < 3.3 U | < 3.6 U | < 3.3 U | **6.4 J+** |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **76** | **48** | **110** | < 3.6 U | < 3.3 U | **16** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SEDREF05 | SEDREF06 | SEDREF06 | SEDREF06 | SEDREF06 | SEDREF07 |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/16/2017 10:55:00 AM | 6/16/2017 12:10:00 PM | 6/16/2017 12:20:00 PM | 6/16/2017 12:30:00 PM | 6/16/2017 12:40:00 PM | 6/16/2017 1:40:00 PM |
| | | Sample ID | SEDREF0508N | SEDREF0602N | SEDREF0604N | SEDREF0606N | SEDREF0608N | SEDREF0702N |
| | | Depth | 8 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 2 - 3 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.2 U | < 3.7 U | < 3.4 U | < 3.5 U | < 3.4 U | < 3.5 U |
| Aroclor-1221 | ug/kg | | < 3.2 U | < 3.7 U | < 3.4 U | < 3.5 U | < 3.4 U | < 3.5 U |
| Aroclor-1232 | ug/kg | | < 3.2 U | < 3.7 U | < 3.4 U | < 3.5 U | < 3.4 U | < 3.5 U |
| Aroclor-1242 | ug/kg | | < 3.2 U | < 3.7 U | < 3.4 U | < 3.5 U | < 3.4 U | < 3.5 U |
| Aroclor-1248 | ug/kg | | < 3.2 U | < 3.7 U | < 3.4 U | < 3.5 U | < 3.4 U | **92** |
| Aroclor-1254 | ug/kg | | < 3.2 U | < 3.7 U | < 3.4 U | < 3.5 U | < 3.4 U | < 3.5 U |
| Aroclor-1260 | ug/kg | | < 3.2 U | **690 J+** | **72 J+** | **26 J** | **36 J+** | **50 J+** |
| Aroclor-1262 | ug/kg | | < 3.2 U | < 3.7 U | < 3.4 U | < 3.5 U | < 3.4 U | < 3.5 U |
| Aroclor-1268 | ug/kg | | < 3.2 U | **42 J** | **7.2 J+** | < 3.5 U | **22 J+** | **8.8 J+** |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | < 3.2 U | **730** | **79** | **26** | **58** | **150** |

**Table 4-37**
**PCB Concentrations in Waterside Investigation Area Subsurface Sediment**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SEDREF07 | SEDREF07 | SEDREF07 | SEDREF08 | SEDREF08 | SEDREF08 |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/16/2017 1:50:00 PM | 6/16/2017 2:00:00 PM | 6/16/2017 2:10:00 PM | 6/19/2017 10:20:00 AM | 6/19/2017 10:30:00 AM | 6/19/2017 10:40:00 AM |
| | | Sample ID | SEDREF0704N | SEDREF0706N | SEDREF0708N | SEDREF0802N | SEDREF0804N | SEDREF0806N |
| | | Depth | 4 - 5 ft | 6 - 7 ft | 8 - 9 ft | 2 - 3 ft | 4 - 5 ft | 6 - 7 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.3 U | < 3.4 U | < 3.5 U | < 4.0 U | < 3.6 U | < 3.3 U |
| Aroclor-1221 | ug/kg | | < 3.3 U | < 3.4 U | < 3.5 U | < 4.0 U | < 3.6 U | < 3.3 U |
| Aroclor-1232 | ug/kg | | < 3.3 U | < 3.4 U | < 3.5 U | < 4.0 UJ | < 3.6 UJ | < 3.3 UJ |
| Aroclor-1242 | ug/kg | | < 3.3 U | < 3.4 U | < 3.5 U | < 4.0 UJ | < 3.6 UJ | < 3.3 UJ |
| Aroclor-1248 | ug/kg | | **93** | < 3.4 U | < 3.5 U | < 4.0 U | < 3.6 U | < 3.3 U |
| Aroclor-1254 | ug/kg | | < 3.3 U | < 3.4 U | < 3.5 U | < 4.0 U | < 3.6 U | < 3.3 U |
| Aroclor-1260 | ug/kg | | **48** | **61 J+** | < 3.5 U | **450 J+** | **130 J+** | < 3.3 U |
| Aroclor-1262 | ug/kg | | < 3.3 U | < 3.4 U | < 3.5 U | < 4.0 UJ | < 3.6 UJ | < 3.3 UJ |
| Aroclor-1268 | ug/kg | | < 3.3 U | **7.8 J+** | **32** | **33 J+** | **12 J+** | **12 J+** |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **140** | **69** | **32** | **480** | **140** | **12** |

# Table 4-37
## PCB Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | SEDREF08 | WSED1 | WSED1 | WSED1 | WSED1 | WSED2 |
|---|---|---|---|---|---|---|---|---|
| | | Sample Date | 6/19/2017 10:50:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 11:16:00 AM | 11/15/2013 12:14:00 PM |
| | | Sample ID | SEDREF0808N | WSED101N | WSED103N | WSED105N | WSED107N | WSED201N |
| | | Depth | 8 - 9 ft | 1 - 3 ft | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft | 1 - 3 ft |
| | | Type | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | |
| Aroclor-1016 | ug/kg | | < 3.3 U | < 5.9 UJ | < 6.3 U | < 6.2 U | < 6.5 UJ | < 6.3 U |
| Aroclor-1221 | ug/kg | | < 3.3 U | < 5.9 UJ | < 6.3 U | < 6.2 U | < 6.5 UJ | < 6.3 U |
| Aroclor-1232 | ug/kg | | < 3.3 UJ | < 5.9 UJ | < 6.3 U | < 6.2 U | < 6.5 UJ | < 6.3 U |
| Aroclor-1242 | ug/kg | | < 3.3 UJ | < 5.9 UJ | < 6.3 U | < 6.2 U | < 6.5 UJ | < 6.3 U |
| Aroclor-1248 | ug/kg | | < 3.3 U | **62 J** | **66 J** | **160 J** | **110 J** | **260 J** |
| Aroclor-1254 | ug/kg | | < 3.3 U | < 5.9 UJ | < 6.3 U | < 6.2 U | < 6.5 UJ | < 6.3 U |
| Aroclor-1260 | ug/kg | | < 3.3 U | **54 J** | **51 J** | **120 J** | **45 J** | **170 J** |
| Aroclor-1262 | ug/kg | | < 3.3 UJ | < 5.9 UJ | < 6.3 U | < 6.2 U | < 6.5 UJ | < 6.3 U |
| Aroclor-1268 | ug/kg | | **22 J+** | < 5.9 UJ | < 6.3 U | < 6.2 U | < 6.5 UJ | < 6.3 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **22** | **120** | **120** | **280** | **160** | **430** |

## Table 4-37
## PCB Concentrations in Waterside Investigation Area Subsurface Sediment
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | Location ID | WSED2 | WSED2 | WSED2 |
|---|---|---|---|---|---|
| | | Sample Date | 11/15/2013 12:14:00 PM | 11/15/2013 12:14:00 PM | 11/15/2013 12:14:00 PM |
| | | Sample ID | WSED203N | WSED205N | WSED207N |
| | | Depth | 3 - 5 ft | 5 - 7 ft | 7 - 9 ft |
| | | Type | N | N | N |
| Analyte | Unit | | | | |
| Aroclor-1016 | ug/kg | | < 6.6 U | < 6.5 U | < 120 U |
| Aroclor-1221 | ug/kg | | < 6.6 U | < 6.5 U | < 120 U |
| Aroclor-1232 | ug/kg | | < 6.6 U | < 6.5 U | < 120 U |
| Aroclor-1242 | ug/kg | | < 6.6 U | < 6.5 U | < 120 U |
| Aroclor-1248 | ug/kg | | **770 J** | **230 J** | **4700 J** |
| Aroclor-1254 | ug/kg | | < 6.6 U | < 6.5 U | < 120 U |
| Aroclor-1260 | ug/kg | | **260 J** | **100 J** | **1600 J** |
| Aroclor-1262 | ug/kg | | < 6.6 U | < 6.5 U | < 120 U |
| Aroclor-1268 | ug/kg | | < 6.6 U | < 6.5 U | < 120 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | | **1000** | **330** | **6300** |

Notes:
Bold values indicate detects.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
N = Normal
FD = Field Duplicate
ug/kg = micrograms per kilogram

# Table 4-38
## Pore Water Analysis in Waterside Investigation Area Sediment Results
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | Location ID | SED6.5D | SED6.5E | SED6A | SED6B | SED6C | SED7.5D | SED7.5E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample ID | PW6.5D00EN | PW6.5E00EN | PW6A00EN | PW6B00EN | PW6C00EN | PW7.5D00EN | PW7.5E00EN |
| | | | | | | | | | | | | | Sample Date | 7/26/2017 9:50:00 AM | 7/26/2017 8:50:00 AM | 7/26/2017 9:20:00 AM | 7/26/2017 9:10:00 AM | 7/26/2017 8:00:00 AM | 7/26/2017 9:30:00 AM | 7/26/2017 8:40:00 AM |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N |
| 1-Methylnaphthalene | ug/l | D7363-13 | D | 90-12-0 | | | | | | | | 15 | | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U |
| 2-Methylnaphthalene | ug/l | D7363-13 | D | 91-57-6 | | | | | | | | 15 | | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U |
| Acenaphthene | ug/l | D7363-13 | D | 83-32-9 | 0.15 | 0.15 | 0.15 | 0.15 | SED7B | 1 | | 15 | | < 1.6 U | < 1.6 U | < 1.6 U | < 1.6 U | < 1.6 U | < 1.6 U | < 1.6 U |
| Acenaphthylene | ug/l | D7363-13 | D | 208-96-8 | | | | | | | | 15 | | < 9 U | < 9 U | < 9 U | < 9 U | < 9 U | < 9 U | < 9 U |
| Anthracene | ug/l | D7363-13 | D | 120-12-7 | | | | | | | | 15 | | < 0.61 U | < 0.61 U | < 0.61 U | < 0.61 U | < 0.61 U | < 0.61 U | < 0.61 U |
| Benzo(a)anthracene | ug/l | D7363-13 | D | 56-55-3 | | | | | | | | 15 | | < 0.066 U | < 0.066 U | < 0.066 U | < 0.066 U | < 0.066 U | < 0.066 U | < 0.066 U |
| Benzo(a)pyrene | ug/l | D7363-13 | D | 50-32-8 | | | | | | | | 15 | | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U |
| Benzo(b,k)fluoranthene | ug/l | D7363-13 | D | BKBFLANTH | | | | | | | | 15 | | < 0.019 U | < 0.019 U | < 0.019 U | < 0.019 U | < 0.019 U | < 0.019 U | < 0.019 U |
| Benzo(e)pyrene | ug/l | D7363-13 | D | 192-97-2 | | | | | | | | 15 | | < 0.028 U | < 0.028 U | < 0.028 U | < 0.028 U | < 0.028 U | < 0.028 U | < 0.028 U |
| Benzo(g,h,i)perylene | ug/l | D7363-13 | D | 191-24-2 | | | | | | | | 15 | | < 0.013 U | < 0.013 U | < 0.013 U | < 0.013 U | < 0.013 U | < 0.013 U | < 0.013 U |
| C1-Chrysenes | ug/l | D7363-13 | D | 218-01-9C1 | | | | | | | | 15 | | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U |
| C1-Fluorenes | ug/l | D7363-13 | D | FLRC1 | 0.88 | 0.17 | 0.44 | 0.26 | SED7B | 3 | | 15 | | < 0.41 U | **0.26 JN** | < 0.41 U | < 0.41 U | < 0.41 U | < 0.41 U | < 0.41 U |
| C1-Phenanthrene/anthracenes | ug/l | D7363-13 | D | PATAC1 | 0.19 | 0.03 | 0.11 | 0.11 | SED7B | 2 | | 15 | | < 0.22 U | **0.03 JN** | < 0.22 U | < 0.22 U | < 0.22 U | < 0.22 U | < 0.22 U |
| C1-Pyrene/fluoranthenes | ug/l | D7363-13 | D | PFLAC1 | | | | | | | | 15 | | < 0.14 U | < 0.14 U | < 0.14 U | < 0.14 U | < 0.14 U | < 0.14 U | < 0.14 U |
| C2-Chrysenes | ug/l | D7363-13 | D | 218-01-9C2 | | | | | | | | 15 | | < 0.014 U | < 0.014 U | < 0.014 U | < 0.014 U | < 0.014 U | < 0.014 U | < 0.014 U |
| C2-Fluorenes | ug/l | D7363-13 | D | FLRC2 | 0.68 | 0.29 | 0.49 | 0.49 | SED7B | 2 | | 15 | | < 0.16 U | **0.29 JN** | < 0.16 U | < 0.16 U | < 0.16 U | < 0.16 U | < 0.16 U |
| C2-Naphthalenes | ug/l | D7363-13 | D | NPHC2 | 1.48 | 0.15 | 0.392 | 0.175 | SED7B | 6 | | 15 | | < 0.89 U | **0.2 JN** | < 0.89 U | < 0.89 U | < 0.89 U | **0.17 JN** | < 0.89 U |
| C2-Phenanthrene/anthracenes | ug/l | D7363-13 | D | PATAC2 | 0.23 | 0.06 | 0.13 | 0.1 | SED7B | 3 | | 15 | | < 0.09 U | **0.1 JN** | < 0.09 U | < 0.09 U | < 0.09 U | < 0.09 U | < 0.09 U |
| C3-Chrysenes | ug/l | D7363-13 | D | 218-01-9C3 | | | | | | | | 15 | | < 0.005 U | < 0.005 U | < 0.005 U | < 0.005 U | < 0.005 U | < 0.005 U | < 0.005 U |
| C3-Fluorenes | ug/l | D7363-13 | D | FLRC3 | | | | | | | | 15 | | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U |
| C3-Naphthalenes | ug/l | D7363-13 | D | NPHC3 | 4.06 | 0.06 | 0.391 | 0.11 | SED7B | 15 | | 15 | | **0.12 JN** | **0.34 JN** | **0.06 JN** | **0.08 JN** | **0.18 JN** | **0.1 JN** | **0.18 JN** |
| C3-Phenanthrene/anthracenes | ug/l | D7363-13 | D | PATAC3 | 0.2 | 0.08 | 0.15 | 0.17 | SED7B | 3 | | 15 | | < 0.04 U | **0.17 JN** | < 0.04 U | < 0.04 U | < 0.04 U | < 0.04 U | < 0.04 U |
| C4-Chrysenes | ug/l | D7363-13 | D | 218-01-9C4 | | | | | | | | 15 | | < 0.002 U | < 0.002 U | < 0.002 U | < 0.002 U | < 0.002 U | < 0.002 U | < 0.002 U |
| C4-Naphthalenes | ug/l | D7363-13 | D | NPHC4 | 3.62 | 0.16 | 0.733 | 0.38 | SED7B | 10 | | 15 | | **0.34 JN** | **0.92 JN** | < 0.12 U | < 0.12 U | **0.46 JN** | < 0.12 U | **0.34 JN** |
| C4-Phenanthrenes/anthracenes | ug/l | D7363-13 | D | PATAC4 | | | | | | | | 15 | | < 0.02 U | < 0.02 U | < 0.02 U | < 0.02 U | < 0.02 U | < 0.02 U | < 0.02 U |
| Chrysene | ug/l | D7363-13 | D | 218-01-9 | | | | | | | | 15 | | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U |
| Dibenzo(a,h)anthracene | ug/l | D7363-13 | D | 53-70-3 | | | | | | | | 15 | | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U |
| Fluoranthene | ug/l | D7363-13 | D | 206-44-0 | 0.09 | 0.01 | 0.03 | 0.02 | SED7B | 15 | | 15 | | **0.01 J** | **0.02 J** | **0.02 J** | **0.02 J** | **0.03 J** | **0.02 J** | **0.03 J** |
| Fluorene | ug/l | D7363-13 | D | 86-73-7 | 0.13 | 0.13 | 0.13 | 0.13 | SED7B | 1 | | 15 | | < 1.2 U | < 1.2 U | < 1.2 U | < 1.2 U | < 1.2 U | < 1.2 U | < 1.2 U |
| Indeno(1,2,3-cd)pyrene | ug/l | D7363-13 | D | 193-39-5 | | | | | | | | 15 | | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U |
| Naphthalene | ug/l | D7363-13 | D | 91-20-3 | 0.22 | 0.1 | 0.13 | 0.12 | SED6.5D | 13 | | 15 | | **0.22 J** | **0.1 J** | **0.11 J** | **0.13 J** | **0.11 J** | **0.12 J** | < 5.7 U |
| Perylene | ug/l | D7363-13 | D | 198-55-0 | | | | | | | | 15 | | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U |
| Phenanthrene | ug/l | D7363-13 | D | 85-01-8 | 0.31 | 0.31 | 0.31 | 0.31 | SED7B | 1 | | 15 | | < 0.56 U | < 0.56 U | < 0.56 U | < 0.56 U | < 0.56 U | < 0.56 U | < 0.56 U |
| Pyrene | ug/l | D7363-13 | D | 129-00-0 | 0.12 | 0.02 | 0.031 | 0.02 | SED7B | 15 | | 15 | | **0.02 J** | **0.03 J** | **0.02 J** | **0.02 J** | **0.04 J** | **0.03 J** | **0.03 J** |
| Total High-molecular-weight PAHs | ug/l | D7363-13 | D | TOT-PAH-HMW | 0.21 | 0.03 | 0.057 | 0.04 | SED7B | 15 | | 15 | | **0.03** | **0.05** | **0.04** | **0.04** | **0.07** | **0.05** | **0.06** |
| Total Low-molecular-weight PAHs | ug/l | D7363-13 | D | TOT-PAH-LMW | 0.74 | 0.1 | 0.17 | 0.12 | SED7B | 13 | | 15 | | **0.22** | **0.1** | **0.11** | **0.13** | **0.11** | **0.12** | < 9 U |
| Total PAHs (sum 16) | ug/l | D7363-13 | D | TOT-PAH | 0.95 | 0.05 | 0.21 | 0.17 | SED7B | 15 | | 15 | | **0.25** | **0.2** | **0.15** | **0.17** | **0.18** | **0.17** | **0.06** |
| PCB-104 | % | E1668C | D | 56558-16-8 | 99.91964 | 74.28571 | 92.97321 | 95.28571 | SED8B | 15 | | 15 | | **99.630357143** | **99.464285714** | **82.321428571** | **94.696428571** | **98.982142857** | **93.035714286** | **98.982142857** |
| PCB-121 | % | E1668C | D | 56558-18-0 | 99.85609 | 54.61255 | 84.33727 | 87.82288 | SED8B | 15 | | 15 | | **98.118081181** | **96.789667897** | **60.147601476** | **84.501845018** | **94.79704797** | **81.180811808** | **96.236162362** |
| PCB-14 | % | E1668C | D | 34883-41-5 | 100 | 94.09091 | 98.83212 | 99.7 | SED6.5E SED7E | 15 | | 15 | | **99.927272727** | **100** | **97.090909091** | **99.6** | **99.822727273** | **99.181818182** | **99.872727273** |
| PCB-142 | % | E1668C | D | 41411-61-4 | 99.85666 | 52.90102 | 83.6628 | 86.68942 | SED8B | 15 | | 15 | | **97.645051195** | **96.313993174** | **56.996587031** | **84.641638225** | **94.061433447** | **83.61774744** | **95.90443686** |
| PCB-155 | % | E1668C | D | 33979-03-2 | 99.59398 | 45.86466 | 78.36391 | 79.69925 | SED8B | 15 | | 15 | | **95.939849624** | **93.684210526** | **45.864661654** | **77.443609023** | **88.947368421** | **78.345864662** | **93.458646617** |
| PCB-184 | % | E1668C | D | 74472-48-3 | 97.35714 | 28.57143 | 68.49048 | 67.85714 | SED8B | 15 | | 15 | | **90** | **82.142857143** | **28.571428571** | **66.428571429** | **78.571428571** | **67.857142857** | **90.714285714** |
| PCB-192 | % | E1668C | D | 74472-51-8 | 97.14286 | 28.57143 | 67.42857 | 65 | SED8B | 15 | | 15 | | **89.285714286** | **80.714285714** | **28.571428571** | **63.571428571** | **77.857142857** | **64.285714286** | **90** |
| PCB-204 | % | E1668C | D | 74472-52-9 | 81.90476 | 9.52381 | 51.77778 | 52.38095 | SED8B | 15 | | 15 | | **74.761904762** | **63.333333333** | **9.523809524** | **47.619047619** | **58.095238095** | **52.380952381** | **77.142857143** |
| PCB-36 | % | E1668C | D | 38444-87-0 | 100 | 83.52941 | 96.05294 | 97.82353 | SED6.5E | 15 | | 15 | | **99.894117647** | **100** | **90** | **97.823529412** | **99.747058824** | **96.411764706** | **99.782352941** |
| PCB-78 | % | E1668C | D | 70362-49-1 | 99.89286 | 75.64935 | 92.57273 | 95.03247 | SED8B | 15 | | 15 | | **99.571428571** | **99.24025974** | **80.519480519** | **94.350649351** | **98.831168831** | **92.305194805** | **98.928571429** |
| Decachlorobiphenyl (PCB-209) | ng/g | E1668C | S | 2051-24-3 | 12 | 5.2 | 7.1 | 6.6 | SED7E | 15 | | 15 | | **5.2 J** | **6.5 J** | **8.7 J** | **5.5 J** | **6.6 J** | **5.6 J** | **7.0 J** |
| Dichlorobiphenyl | ng/g | E1668C | S | 25512-42-9 | 150 | 13 | 44 | 28 | SED8A | 15 | | 15 | | **13 J** | **14 J** | **88** | **28** | **16 J** | **33** | **30** |
| Heptachlorobiphenyl | ng/g | E1668C | S | 28655-71-2 | 3100 | 250 | 1500 | 1600 | SED7E | 15 | | 15 | | **850** | **1400** | **2100** | **1100** | **970** | **1600** | **1700** |
| Hexachlorobiphenyl | ng/g | E1668C | S | 26601-64-9 | 3200 | 300 | 1100 | 890 | SED7E | 15 | | 15 | | **890** | **1300** | **880** | **480** | **680** | **1200** | **1700** |
| Monochlorobiphenyl | ng/g | E1668C | S | 27323-18-8 | 16 | 0.33 | 3.3 | 0.64 | SED8B | 11 | | 15 | | **0.64 J** | < 1.7 U | < 0.064 U | **6.6 J** | **0.33 J** | < 1.1 U | **2.2 J** |
| Nonachlorobiphenyl | ng/g | E1668C | S | 53742-07-7 | 97 | 5.3 | 20 | 12 | SED7E | 15 | | 15 | | **15** | **23** | **8.2 J** | **7.2 J** | **12** | **15** | **40** |
| Octachlorobiphenyl | ng/g | E1668C | S | 55722-26-4 | 1900 | 430 | 1200 | 1100 | SED6A | 15 | | 15 | | **660** | **960** | **1900** | **1100** | **960** | **1200** | **850** |
| PCB, Total Aroclors (Lab provided) | ng/g | E1668C | S | TOT-PCB-ARO | 11000 | 1700 | 5600 | 6000 | SED7E | 15 | | 15 | | **3600** | **5600** | **6800** | **3700** | **3700** | **6000** | **6600** |
| PCB-1 | ng/g | E1668C | S | 2051-60-7 | 3.4 | 0.33 | 1.2 | 0.5 | SED8B | 11 | 2 | 15 | | **0.37 JN** | R | < 0.045 U | **2.3 J** | **0.33 JN** | R | **1.0 J** |
| PCB-10 | ng/g | E1668C | S | 33146-45-1 | 1.1 | 1.1 | 1.1 | 1.1 | SED7E | 1 | | 15 | | < 0.28 U | < 0.81 U | < 0.53 U | < 0.40 U | < 0.55 U | < 1.2 U | < 0.48 U |
| PCB-100 | ng/g | E1668C | S | 39485-83-1 | 8.3 | 0.44 | 2.9 | 1.8 | SED7F | 12 | | 15 | | **1.6 JN** | **5.5** | **2.3** | < 0.058 U | **1.3 JN** | **4.4 JN** | **1.9** |
| PCB-101 | ng/g | E1668C | S | 37680-73-2 | 340 | 30 | 120 | 110 | SED7E | 15 | | 15 | | **110** | **190** | **46** | **52** | **90** | **150** | **200** |

**Table 4-38**
**Pore Water Analysis in Waterside Investigation Area Sediment Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | Location ID | SED6.5D | SED6.5E | SED6A | SED6B | SED6C | SED7.5D | SED7.5E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample ID | PW6.5D00EN | PW6.5E00EN | PW6A00EN | PW6B00EN | PW6C00EN | PW7.5D00EN | PW7.5E00EN |
| | | | | | | | | | | | | | Sample Date | 7/26/2017 9:50:00 AM | 7/26/2017 8:50:00 AM | 7/26/2017 9:20:00 AM | 7/26/2017 9:10:00 AM | 7/26/2017 8:00:00 AM | 7/26/2017 9:30:00 AM | 7/26/2017 8:40:00 AM |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N |
| PCB-102 | ng/g | E1668C | S | 68194-06-9 | 9 | 1.1 | 3.9 | 3 | SED7E | 12 | | 15 | | **3.2 JN** | **5.7** | < 0.056 U | **1.5** | **2.8** | **5.0** | **6.5** |
| PCB-103 | ng/g | E1668C | S | 60145-21-3 | 6.5 | 0.65 | 2.5 | 2.4 | SED7E | 8 | | 15 | | **1.3 J** | **2.0 JN** | < 0.058 U | < 0.058 U | **1.2 JN** | **2.7 JN** | **2.9 JN** |
| PCB-104 | ng/g | E1668C | S | 56558-16-8 | 480 | 1.5 | 130 | 88 | SED8A | 15 | | 15 | | **6.9 J** | **10 J** | **330** | **99** | **19** | **130** | **19** |
| PCB-105 | ng/g | E1668C | S | 32598-14-4 | 55 | 10 | 25 | 24 | SED7E | 15 | | 15 | | **24** | **32** | **16** | **18** | **18** | **24** | **39** |
| PCB-106 | ng/g | E1668C | S | 70424-69-0 | 16 | 0.94 | 6.6 | 5.4 | SED8A<br>SED7B | 13 | | 15 | | **0.94 J** | **1.4 J** | **14** | **5.6 J** | **2.1 J** | **5.4 J** | **1.7 J** |
| PCB-107 | ng/g | E1668C | S | 70424-68-9 | 18 | 0.97 | 6.3 | 5.3 | SED7E | 15 | | 15 | | **8.3** | **8.7 J** | **0.97 JN** | **3.8 JN** | **5.3 J** | **6.3 J** | **12** |
| PCB-108 | ng/g | E1668C | S | 70362-41-3 | 7.7 | 0.7 | 2.9 | 2.5 | SED7E | 15 | | 15 | | **3.1 J** | **4.1 J** | **1.5 J** | **2.1 J** | **2.5 J** | **3.3 J** | **5.9 J** |
| PCB-109 | ng/g | E1668C | S | 74472-35-8 | 140 | 17 | 57 | 56 | SED7E | 15 | | 15 | | **56** | **89** | **24 JN** | **30** | **46** | **70** | **93** |
| PCB-11 | ng/g | E1668C | S | 2050-67-1 | 6.4 | 2.7 | 4.2 | 4 | SED8A | 15 | | 15 | | **2.7 J** | **3.7 JN** | **5.7 J** | **3.4 JN** | **3.9 JN** | **3.8 JN** | **3.0 J** |
| PCB-110 | ng/g | E1668C | S | 38380-03-9 | 250 | 28 | 98 | 90 | SED7E | 15 | | 15 | | **99** | **160** | **46** | **48** | **76** | **120** | **160** |
| PCB-111 | ng/g | E1668C | S | 39635-32-0 | | | | | | | | 15 | | < 0.023 U | < 0.030 U | < 0.041 U | < 0.041 U | < 0.063 U | < 0.091 U | < 0.041 U |
| PCB-112 | ng/g | E1668C | S | 74472-36-9 | 1.8 | 0.27 | 0.93 | 0.9 | SED7E | 8 | | 15 | | **0.59 JN** | **1.4 J** | < 0.043 U | < 0.043 U | < 0.066 U | **0.42 JN** | **1.2 J** |
| PCB-113 | ng/g | E1668C | S | 68194-10-5 | 340 | 30 | 120 | 110 | SED7E | 15 | | 15 | | **110** | **190** | **46** | **52** | **90** | **150** | **200** |
| PCB-114 | ng/g | E1668C | S | 74472-37-0 | 4.5 | 0.55 | 1.9 | 1.6 | SED7E | 13 | | 15 | | **1.8 J** | **2.3 JN** | < 0.17 U | **1.4 JN** | **1.4 JN** | **1.9 JN** | **3.1 J** |
| PCB-115 | ng/g | E1668C | S | 74472-38-1 | 250 | 28 | 98 | 90 | SED7E | 15 | | 15 | | **99** | **160** | **46** | **48** | **76** | **120** | **160** |
| PCB-116 | ng/g | E1668C | S | 18259-05-7 | 45 | 4.9 | 17 | 15 | SED7E | 15 | | 15 | | **17** | **27** | **6.9** | **12** | **15** | **21** | **28** |
| PCB-117 | ng/g | E1668C | S | 68194-11-6 | 45 | 4.9 | 17 | 15 | SED7E | 15 | | 15 | | **17** | **27** | **6.9** | **12** | **15** | **21** | **28** |
| PCB-118 | ng/g | E1668C | S | 31508-00-6 | 180 | 22 | 70 | 65 | SED7E | 15 | | 15 | | **73** | **92** | **33** | **46** | **61** | **71** | **120** |
| PCB-119 | ng/g | E1668C | S | 56558-17-9 | 140 | 17 | 57 | 56 | SED7E | 15 | | 15 | | **56** | **89** | **24 JN** | **30** | **46** | **70** | **93** |
| PCB-12 | ng/g | E1668C | S | 2974-92-7 | | | | | | | | 15 | | < 0.25 U | < 0.74 U | < 0.48 U | < 0.36 U | < 0.50 U | < 1.1 U | < 0.43 U |
| PCB-120 | ng/g | E1668C | S | 68194-12-7 | 1.3 | 1.3 | 1.3 | 1.3 | SED7.5E | 1 | | 15 | | < 0.024 U | < 0.030 U | < 0.042 U | < 0.041 U | < 0.064 U | < 0.092 U | **1.3 J** |
| PCB-121 | ng/g | E1668C | S | 56558-18-0 | 410 | 1.3 | 140 | 110 | SED7B | 15 | | 15 | | **17** | **29** | **360** | **140** | **47** | **170** | **34** |
| PCB-122 | ng/g | E1668C | S | 76842-07-4 | 1.9 | 0.6 | 1.1 | 1.1 | SED7E | 13 | | 15 | | **0.68 JN** | **1.3 JN** | **0.89 J** | **0.92 JN** | **0.99 JN** | **1.3 J** | **1.6 JN** |
| PCB-123 | ng/g | E1668C | S | 65510-44-3 | 4.1 | 0.5 | 1.5 | 1.3 | SED7E | 14 | | 15 | | **1.8 J** | **1.9 JN** | **0.54 JN** | **0.68 J** | **1.3 JN** | **1.6 J** | **2.3 J** |
| PCB-124 | ng/g | E1668C | S | 70424-70-3 | 7.7 | 0.7 | 2.9 | 2.5 | SED7E | 15 | | 15 | | **3.1** | **4.1** | **1.5** | **2.1** | **2.5** | **3.3** | **5.9** |
| PCB-125 | ng/g | E1668C | S | 74472-39-2 | 140 | 17 | 57 | 56 | SED7E | 15 | | 15 | | **56** | **89** | **24 JN** | **30** | **46** | **70** | **93** |
| PCB-126 | ng/g | E1668C | S | 57465-28-8 | 2.6 | 0.38 | 1.2 | 0.5 | SED7.5E | 3 | | 15 | | < 0.16 U | **0.50 J** | < 0.19 U | < 0.14 U | < 0.25 U | < 0.22 U | **2.6 J** |
| PCB-127 | ng/g | E1668C | S | 39635-33-1 | | | | | | | | 15 | | < 0.15 U | < 0.25 U | < 0.18 U | < 0.14 U | < 0.23 U | < 0.21 U | < 0.32 U |
| PCB-128 | ng/g | E1668C | S | 38380-07-3 | 58 | 2.7 | 17 | 13 | SED7E | 14 | | 15 | | **18** | **23** | < 0.23 U | **5.1 JN** | **12** | **17** | **30** |
| PCB-129 | ng/g | E1668C | S | 55215-18-4 | 620 | 31 | 170 | 140 | SED7E | 15 | | 15 | | **180** | **250** | **47** | **49** | **120** | **180** | **330** |
| PCB-13 | ng/g | E1668C | S | 2974-90-5 | | | | | | | | 15 | | < 0.25 U | < 0.74 U | < 0.48 U | < 0.36 U | < 0.50 U | < 1.1 U | < 0.43 U |
| PCB-130 | ng/g | E1668C | S | 52663-66-8 | 33 | 1.4 | 9.4 | 6.4 | SED7E | 15 | | 15 | | **10** | **15** | **2.5 J** | **2.9 J** | **6.4 J** | **10** | **19** |
| PCB-131 | ng/g | E1668C | S | 61798-70-7 | | | | | | | | 15 | | < 0.37 U | < 0.55 U | < 0.32 U | < 0.22 U | < 0.44 U | < 0.59 U | < 0.91 U |
| PCB-132 | ng/g | E1668C | S | 38380-05-1 | 140 | 7.1 | 42 | 36 | SED7E | 15 | | 15 | | **41** | **58** | **13 J** | **13** | **29** | **47** | **78** |
| PCB-133 | ng/g | E1668C | S | 35694-04-3 | 12 | 0.96 | 3.8 | 3.1 | SED7E | 12 | | 15 | | **3.5 J** | **4.8 J** | < 0.29 U | **1.2 J** | **2.4 J** | **3.9 J** | **5.9 J** |
| PCB-134 | ng/g | E1668C | S | 52704-70-8 | 29 | 1.1 | 7.8 | 5.6 | SED7E | 15 | | 15 | | **8.2 J** | **10 JN** | **1.6 JN** | **2.1 J** | **5.1 J** | **8.3** | **15** |
| PCB-135 | ng/g | E1668C | S | 52744-13-5 | 300 | 8.5 | 79 | 64 | SED7E | 15 | | 15 | | **69** | **110** | **14** | **18** | **52** | **99** | **150** |
| PCB-136 | ng/g | E1668C | S | 38411-22-2 | 64 | 2.5 | 18 | 15 | SED7E | 15 | | 15 | | **15** | **25** | **3.2 JN** | **4.2 JN** | **11** | **21** | **33** |
| PCB-137 | ng/g | E1668C | S | 35694-06-5 | 18 | 0.94 | 5.9 | 4.4 | SED7E | 14 | | 15 | | **6.8 J** | **8.5 J** | **1.5 JN** | **2.4 J** | **4.0 JN** | **5.8 J** | **10** |
| PCB-138 | ng/g | E1668C | S | 35065-28-2 | 620 | 31 | 170 | 140 | SED7E | 15 | | 15 | | **180** | **250** | **47** | **49** | **120** | **180** | **330** |
| PCB-139 | ng/g | E1668C | S | 56030-56-9 | 7.9 | 0.8 | 3.2 | 2.8 | SED7E | 6 | | 15 | | **2.6 J** | **3.0 JN** | < 0.26 U | **0.88 JN** | < 0.36 U | < 0.48 U | < 0.74 U |
| PCB-14 | ng/g | E1668C | S | 34883-41-5 | 130 | 1.6 | 30 | 7 | SED8A | 13 | | 15 | | **1.6 JN** | < 0.63 U | **64** | **8.8 J** | **3.9 J** | **18** | **2.8 J** |
| PCB-140 | ng/g | E1668C | S | 59291-64-4 | 7.9 | 0.8 | 3.2 | 2.8 | SED7E | 6 | | 15 | | **2.6** | **3.0 JN** | < 0.26 U | **0.88 JN** | < 0.36 U | < 0.48 U | < 0.74 U |
| PCB-141 | ng/g | E1668C | S | 52712-04-6 | 160 | 6.3 | 42 | 32 | SED7E | 15 | | 15 | | **43** | **64** | **8.1 J** | **9.8** | **25** | **48** | **80** |
| PCB-142 | ng/g | E1668C | S | 41411-61-4 | 460 | 1.4 | 160 | 130 | SED8A | 15 | | 15 | | **23** | **36** | **420** | **150** | **58** | **160** | **40** |
| PCB-143 | ng/g | E1668C | S | 68194-15-0 | 29 | 1.1 | 7.8 | 5.6 | SED7E | 15 | | 15 | | **8.2** | **10 JN** | **1.6 JN** | **2.1** | **5.1** | **8.3** | **15** |
| PCB-144 | ng/g | E1668C | S | 68194-14-9 | 35 | 0.99 | 9 | 6.6 | SED7E | 15 | | 15 | | **8.5** | **14** | **1.5 JN** | **1.9 JN** | **4.9 JN** | **11** | **19** |
| PCB-145 | ng/g | E1668C | S | 74472-40-5 | | | | | | | | 15 | | < 0.035 U | < 0.039 U | < 0.050 U | < 0.038 U | < 0.080 U | < 0.093 U | < 0.028 U |
| PCB-146 | ng/g | E1668C | S | 51908-16-8 | 130 | 2 | 37 | 27 | SED7E | 15 | | 15 | | **35** | **53** | **17** | **12** | **25** | **42** | **70** |
| PCB-147 | ng/g | E1668C | S | 68194-13-8 | 630 | 28 | 170 | 140 | SED7E | 15 | | 15 | | **160** | **250** | **39** | **39** | **110** | **190** | **320** |
| PCB-148 | ng/g | E1668C | S | 74472-41-6 | 0.9 | 0.32 | 0.65 | 0.66 | SED7F | 6 | | 15 | | **0.32 J** | **0.66 J** | < 0.070 U | < 0.054 U | < 0.11 U | **0.61 JN** | **0.66 J** |
| PCB-149 | ng/g | E1668C | S | 38380-04-0 | 630 | 28 | 170 | 140 | SED7E | 15 | | 15 | | **160** | **250** | **39** | **39** | **110** | **190** | **320** |
| PCB-15 | ng/g | E1668C | S | 2050-68-2 | 8.2 | 2.2 | 4.4 | 3.7 | SED7F | 15 | | 15 | | **3.1 J** | **3.7 JN** | **4.6 J** | **4.3 J** | **3.8 J** | **4.2 JN** | **7.4 J** |
| PCB-150 | ng/g | E1668C | S | 68194-08-1 | 2 | 0.25 | 0.84 | 0.72 | SED7E | 8 | | 15 | | **0.25 JN** | **0.43 JN** | **0.70 J** | < 0.037 U | < 0.076 U | **0.74 JN** | **0.73 JN** |
| PCB-151 | ng/g | E1668C | S | 52663-63-5 | 300 | 8.5 | 79 | 64 | SED7E | 15 | | 15 | | **69** | **110** | **14** | **18** | **52** | **99** | **150** |
| PCB-152 | ng/g | E1668C | S | 68194-09-2 | 0.78 | 0.083 | 0.38 | 0.32 | SED8A | 5 | | 15 | | < 0.036 U | < 0.040 U | < 0.051 U | < 0.039 U | < 0.082 U | < 0.095 U | **0.27 JN** |
| PCB-153 | ng/g | E1668C | S | 35065-27-1 | 750 | 29 | 200 | 150 | SED7E | 15 | | 15 | | **200** | **300** | **42** | **46** | **130** | **210** | **390** |
| PCB-154 | ng/g | E1668C | S | 60145-22-4 | 16 | 0.73 | 3 | 1.6 | SED7E | 15 | | 15 | | **1.4 J** | **2.3 JN** | **1.6 JN** | **0.82 J** | **1.8 JN** | **2.9 JN** | **7.0 JN** |

**Table 4-38**
**Pore Water Analysis in Waterside Investigation Area Sediment Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Location ID | SED6.5D | SED6.5E | SED6A | SED6B | SED6C | SED7.5D | SED7.5E |
| | | | | | | | | | | | | | Sample ID | PW6.5D00EN | PW6.5E00EN | PW6A00EN | PW6B00EN | PW6C00EN | PW7.5D00EN | PW7.5E00EN |
| | | | | | | | | | | | | | Sample Date | 7/26/2017 9:50:00 AM | 7/26/2017 8:50:00 AM | 7/26/2017 9:20:00 AM | 7/26/2017 9:10:00 AM | 7/26/2017 8:00:00 AM | 7/26/2017 9:30:00 AM | 7/26/2017 8:40:00 AM |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | |
| PCB-155 | ng/g | E1668C | S | 33979-03-2 | 240 | 1.8 | 96 | 90 | SED7B SED8A SED6A | 15 | | 15 | | **18** | **28** | **240** | **100** | **49** | **96** | **29** |
| PCB-156 | ng/g | E1668C | S | 38380-08-4 | 53 | 11 | 22 | 19 | SED7E | 15 | | 15 | | **17 JN** | **23 JN** | **15 JN** | **12 JN** | **15 JN** | **19 JN** | **29** |
| PCB-157 | ng/g | E1668C | S | 69782-90-7 | 53 | 11 | 22 | 19 | SED7E | 15 | | 15 | | **17 JN** | **23 JN** | **15 JN** | **12 JN** | **15 JN** | **19 JN** | **29** |
| PCB-158 | ng/g | E1668C | S | 74472-42-7 | 60 | 2.5 | 17 | 14 | SED7E | 15 | | 15 | | **18** | **25** | **3.4 JN** | **5.2 J** | **12** | **18** | **31** |
| PCB-159 | ng/g | E1668C | S | 39635-35-3 | 9.7 | 0.54 | 2.9 | 2.1 | SED7E | 11 | | 15 | | **1.6 JN** | **3.7 J** | < 0.20 U | < 0.13 U | **1.2 J** | **2.5 J** | **4.5 J** |
| PCB-16 | ng/g | E1668C | S | 38444-78-9 | 24 | 2.3 | 8.1 | 4.7 | SED7E | 15 | | 15 | | **5.3 J** | **18** | **3.1 J** | **2.3 JN** | **4.7 JN** | **15 JN** | **15** |
| PCB-160 | ng/g | E1668C | S | 41411-62-5 | 620 | 31 | 170 | 140 | SED7E | 15 | | 15 | | **180** | **250** | **47** | **49** | **120** | **180** | **330** |
| PCB-161 | ng/g | E1668C | S | 74472-43-8 | 8.4 | 1.5 | 5 | 5 | SED8A | 2 | | 15 | | < 0.22 U | < 0.33 U | < 0.20 U | < 0.13 U | < 0.27 U | < 0.35 U | < 0.55 U |
| PCB-162 | ng/g | E1668C | S | 39635-34-2 | 1 | 1 | 1 | 1 | SED7.5E | 1 | | 15 | | < 0.22 U | < 0.33 U | < 0.19 U | < 0.13 U | < 0.26 U | < 0.35 U | **1.0 J** |
| PCB-163 | ng/g | E1668C | S | 74472-44-9 | 620 | 31 | 170 | 140 | SED7E | 15 | | 15 | | **180** | **250** | **47** | **49** | **120** | **180** | **330** |
| PCB-164 | ng/g | E1668C | S | 74472-45-0 | 38 | 1.8 | 11 | 8.8 | SED7E | 15 | | 15 | | **11** | **17** | **3.4 J** | **3.0 J** | **7.5 J** | **12** | **20** |
| PCB-165 | ng/g | E1668C | S | 74472-46-1 | | | | | | | | 15 | | < 0.25 U | < 0.38 U | < 0.22 U | < 0.15 U | < 0.30 U | < 0.40 U | < 0.62 U |
| PCB-166 | ng/g | E1668C | S | 41411-63-6 | 58 | 2.7 | 17 | 13 | SED7E | 14 | | 15 | | **18** | **23** | < 0.23 U | **5.1 JN** | **12** | **17** | **30** |
| PCB-167 | ng/g | E1668C | S | 52663-72-6 | 22 | 0.97 | 6.1 | 3.9 | SED7E | 15 | | 15 | | **7.4 J** | **9.3 J** | **1.7 J** | **2.1 J** | **3.7 JN** | **6.2 J** | **12** |
| PCB-168 | ng/g | E1668C | S | 59291-65-5 | 750 | 29 | 200 | 150 | SED7E | 15 | | 15 | | **200** | **300** | **42** | **46** | **130** | **210** | **390** |
| PCB-169 | ng/g | E1668C | S | 32774-16-6 | | | | | | | | 15 | | < 0.16 U | < 0.25 U | < 0.14 U | < 0.091 U | < 0.19 U | < 0.25 U | < 0.39 U |
| PCB-17 | ng/g | E1668C | S | 37680-66-3 | 51 | 5.1 | 18 | 13 | SED7E | 15 | | 15 | | **11** | **34** | **13 J** | **9.5** | **14** | **32** | **29** |
| PCB-170 | ng/g | E1668C | S | 35065-30-6 | 250 | 6.1 | 56 | 38 | SED7E | 15 | | 15 | | **50** | **82** | **9.8 J** | **11** | **32** | **60** | **120** |
| PCB-171 | ng/g | E1668C | S | 52663-71-5 | 88 | 3.6 | 25 | 17 | SED7E | 12 | | 15 | | **19** | **29** | < 0.11 U | **3.6 J** | **11 JN** | **23** | **44** |
| PCB-172 | ng/g | E1668C | S | 52663-74-8 | 68 | 3.6 | 19 | 12 | SED7E | 11 | | 15 | | **12** | **21** | < 0.11 U | < 0.11 U | **7.0 J** | **15 JN** | **32** |
| PCB-173 | ng/g | E1668C | S | 68194-16-1 | 88 | 3.6 | 25 | 17 | SED7E | 12 | | 15 | | **19** | **29** | < 0.11 U | **3.6** | **11 JN** | **23** | **44** |
| PCB-174 | ng/g | E1668C | S | 38411-25-5 | 320 | 7.9 | 72 | 48 | SED7E | 15 | | 15 | | **63** | **110** | **10 J** | **11** | **41** | **83** | **160** |
| PCB-175 | ng/g | E1668C | S | 40186-70-7 | 17 | 0.75 | 6 | 5 | SED7E | 7 | | 15 | | **3.0 J** | **5.0 J** | < 0.10 U | < 0.099 U | < 0.16 U | **3.5 JN** | **7.0 JN** |
| PCB-176 | ng/g | E1668C | S | 52663-65-7 | 43 | 2.2 | 12 | 8.8 | SED7E | 12 | | 15 | | **8.4** | **14** | < 0.077 U | **2.2 JN** | **5.1 JN** | **10 JN** | **19** |
| PCB-177 | ng/g | E1668C | S | 52663-70-4 | 180 | 5 | 47 | 28 | SED7E | 13 | | 15 | | **35** | **61** | < 0.11 U | **6.7 J** | **24** | **46** | **91** |
| PCB-178 | ng/g | E1668C | S | 52663-67-9 | 81 | 4.6 | 24 | 17 | SED7E | 11 | | 15 | | **17** | **28** | < 0.11 U | < 0.11 U | **10 J** | **21** | **39** |
| PCB-179 | ng/g | E1668C | S | 52663-64-6 | 150 | 3.8 | 37 | 26 | SED7E | 14 | | 15 | | **29** | **52** | **5.3 J** | **5.6 J** | **20** | **40** | **73** |
| PCB-18 | ng/g | E1668C | S | 37680-65-2 | 74 | 9.2 | 27 | 18 | SED7E | 15 | | 15 | | **18** | **50** | **14 JN** | **11 J** | **19 J** | **53** | **46** |
| PCB-180 | ng/g | E1668C | S | 35065-29-3 | 800 | 18 | 180 | 110 | SED7E | 15 | | 15 | | **160** | **250** | **29** | **31** | **100** | **190** | **410** |
| PCB-181 | ng/g | E1668C | S | 74472-47-2 | | | | | | | | 15 | | < 0.083 U | < 0.059 U | < 0.10 U | < 0.098 U | < 0.16 U | < 0.20 U | < 0.17 U |
| PCB-182 | ng/g | E1668C | S | 60145-23-5 | 1.4 | 1.4 | 1.4 | 1.4 | SED7.5E | 1 | | 15 | | < 0.080 U | < 0.057 U | < 0.098 U | < 0.095 U | < 0.16 U | < 0.19 U | **1.4 JN** |
| PCB-183 | ng/g | E1668C | S | 52663-69-1 | 280 | 6.3 | 65 | 40 | SED7E | 14 | | 15 | | **57** | **89** | **7.4 J** | **11** | **36** | **67** | **130** |
| PCB-184 | ng/g | E1668C | S | 74472-48-3 | 1000 | 37 | 440 | 450 | SED6A | 15 | | 15 | | **140** | **250** | **1000** | **470** | **300** | **450** | **130** |
| PCB-185 | ng/g | E1668C | S | 52712-05-7 | 280 | 6.3 | 65 | 40 | SED7E | 14 | | 15 | | **57** | **89** | **7.4** | **11** | **36** | **67** | **130** |
| PCB-186 | ng/g | E1668C | S | 74472-49-4 | | | | | | | | 15 | | < 0.066 U | < 0.047 U | < 0.081 U | < 0.078 U | < 0.13 U | < 0.16 U | < 0.13 U |
| PCB-187 | ng/g | E1668C | S | 52663-68-0 | 500 | 10 | 110 | 64 | SED7E | 15 | | 15 | | **97** | **160** | **16** | **19** | **64** | **120** | **240** |
| PCB-188 | ng/g | E1668C | S | 74487-85-7 | | | | | | | | 15 | | < 0.061 U | < 0.043 U | < 0.074 U | < 0.075 U | < 0.12 U | < 0.15 U | < 0.12 U |
| PCB-189 | ng/g | E1668C | S | 39635-31-9 | 9.1 | 0.26 | 2 | 1.2 | SED7E | 14 | | 15 | | **1.7 J** | **2.9 J** | **0.42 J** | **0.41 J** | **1.1 J** | **1.7 J** | **4.2 J** |
| PCB-19 | ng/g | E1668C | S | 38444-73-4 | 9.2 | 1.4 | 3.5 | 3.1 | SED7E | 15 | | 15 | | **2.5 J** | **3.7 J** | **3.9 J** | **2.9 JN** | **3.1 J** | **3.7 JN** | **5.8 J** |
| PCB-190 | ng/g | E1668C | S | 41411-64-7 | 59 | 2.2 | 14 | 8.1 | SED7E | 13 | | 15 | | **11** | **19** | < 0.074 U | **2.6 J** | **7.2 JN** | **12 JN** | **28** |
| PCB-191 | ng/g | E1668C | S | 74472-50-7 | 16 | 1 | 5.2 | 4.1 | SED7E | 9 | | 15 | | **3.1 J** | **4.1 JN** | < 0.077 U | < 0.074 U | < 0.12 U | **4.8 J** | **8.4 J** |
| PCB-192 | ng/g | E1668C | S | 74472-51-8 | 1000 | 40 | 460 | 490 | SED6A | 15 | | 15 | | **150** | **270** | **1000** | **510** | **310** | **500** | **140** |
| PCB-193 | ng/g | E1668C | S | 69782-91-8 | 800 | 18 | 180 | 110 | SED7E | 15 | | 15 | | **160** | **250** | **29** | **31** | **100** | **190** | **410** |
| PCB-194 | ng/g | E1668C | S | 35694-08-7 | 170 | 2 | 32 | 16 | SED7E | 15 | | 15 | | **27** | **40** | **3.8 J** | **4.6 J** | **17** | **30** | **77** |
| PCB-195 | ng/g | E1668C | S | 52663-78-2 | 65 | 1.2 | 13 | 6.1 | SED7E | 15 | | 15 | | **11** | **17** | **1.2 JN** | **2.0 J** | **6.1 JN** | **12** | **33** |
| PCB-196 | ng/g | E1668C | S | 42740-50-1 | 90 | 2.3 | 22 | 12 | SED7E | 12 | | 15 | | **15** | **22** | < 0.11 U | **2.3 JN** | **9.7 J** | **19** | **44** |
| PCB-197 | ng/g | E1668C | S | 33091-17-7 | 16 | 3.6 | 10 | 10 | SED7B SED8A SED6A | 15 | | 15 | | **4.8 JN** | **8.5 J** | **16** | **10** | **7.1 JN** | **11** | **7.7 J** |
| PCB-198 | ng/g | E1668C | S | 68194-17-2 | 200 | 4.2 | 42 | 22 | SED7E | 14 | | 15 | | **33** | **51** | **4.2 JN** | **4.9 JN** | **21** | **41** | **100** |
| PCB-199 | ng/g | E1668C | S | 52663-75-9 | 200 | 4.2 | 42 | 22 | SED7E | 14 | | 15 | | **33** | **51** | **4.2 JN** | **4.9 JN** | **21** | **41** | **100** |
| PCB-2 | ng/g | E1668C | S | 2051-61-8 | 7.3 | 0.27 | 2.7 | 2.6 | SED8B | 5 | | 15 | | **0.27 JN** | < 0.81 U | < 0.054 U | **2.6 J** | < 0.095 U | < 0.57 U | **0.83 JN** |
| PCB-20 | ng/g | E1668C | S | 38444-84-7 | 120 | 20 | 50 | 40 | SED7E | 15 | | 15 | | **40** | **59** | **36** | **29** | **40** | **52** | **100** |
| PCB-200 | ng/g | E1668C | S | 52663-73-7 | 21 | 1.4 | 6.1 | 4.3 | SED7E | 12 | | 15 | | **4.2 J** | **5.3 JN** | **3.9 JN** | < 0.048 U | **3.0 JN** | **4.4 JN** | **11** |
| PCB-201 | ng/g | E1668C | S | 40186-71-8 | 25 | 1.5 | 8.1 | 5.5 | SED7E | 8 | | 15 | | **4.3 J** | **6.1 J** | < 0.076 U | < 0.049 U | **3.1 J** | **4.8 J** | **12** |
| PCB-202 | ng/g | E1668C | S | 2136-99-4 | 38 | 2.8 | 10 | 6.8 | SED7E | 11 | | 15 | | **6.8 J** | **11** | < 0.085 U | < 0.055 U | **4.8 J** | **8.3** | **20** |
| PCB-203 | ng/g | E1668C | S | 52663-76-0 | 120 | 3 | 27 | 13 | SED7E | 13 | | 15 | | **20** | **29** | < 0.099 U | **4.2 J** | **13** | **24** | **58** |
| PCB-204 | ng/g | E1668C | S | 74472-52-9 | 1900 | 380 | 1000 | 1000 | SED6A | 15 | | 15 | | **530** | **770** | **1900** | **1100** | **880** | **1000** | **480** |

Table 4-38
Pore Water Analysis in Waterside Investigation Area Sediment Results
Benning Road Facility RI/FS Project
3400 Benning Road, NE
Washington, DC 20019

| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | Location ID | SED6.5D | SED6.5E | SED6A | SED6B | SED6C | SED7.5D | SED7.5E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample ID | PW6.5D00EN | PW6.5E00EN | PW6A00EN | PW6B00EN | PW6C00EN | PW7.5D00EN | PW7.5E00EN |
| | | | | | | | | | | | | | Sample Date | 7/26/2017 9:50:00 AM | 7/26/2017 8:50:00 AM | 7/26/2017 9:20:00 AM | 7/26/2017 9:10:00 AM | 7/26/2017 8:00:00 AM | 7/26/2017 9:30:00 AM | 7/26/2017 8:40:00 AM |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N |
| PCB-205 | ng/g | E1668C | S | 74472-53-0 | 8 | 0.33 | 2 | 1 | SED7E | 11 | | 15 | | **1.0 JN** | **2.0 J** | < 0.22 U | **0.33 JN** | **0.72 J** | **1.9 J** | **3.7 J** |
| PCB-206 | ng/g | E1668C | S | 40186-72-9 | 67 | 0.89 | 11 | 5 | SED7E | 15 | | 15 | | **8.3** | **13** | **1.3 JN** | **1.8 J** | **5.2 J** | **8.4** | **25** |
| PCB-207 | ng/g | E1668C | S | 52663-79-3 | 11 | 3.3 | 5.3 | 4.6 | SED7E | 15 | | 15 | | **4.0 J** | **4.6 JN** | **6.2 J** | **4.5 J** | **4.7 J** | **4.6 J** | **6.2 J** |
| PCB-208 | ng/g | E1668C | S | 52663-77-1 | 18 | 0.81 | 3.8 | 2 | SED7E | 13 | | 15 | | **2.5 J** | **4.8 J** | **0.81 JN** | **0.84 JN** | **2.0 J** | **2.1 J** | **8.4 J** |
| PCB-21 | ng/g | E1668C | S | 55702-46-0 | 35 | 5.5 | 14 | 11 | SED7E | 15 | | 15 | | **11** | **19** | **7.6 JN** | **6.8 J** | **11** | **17** | **27** |
| PCB-22 | ng/g | E1668C | S | 38444-85-8 | 29 | 3.9 | 11 | 8 | SED7E | 15 | | 15 | | **9.3** | **16** | **6.8 J** | **5.5 J** | **8.0 J** | **12** | **24** |
| PCB-23 | ng/g | E1668C | S | 55720-44-0 | | | | | | | | 15 | | < 0.11 U | < 0.19 U | < 0.19 U | < 0.13 U | < 0.19 U | < 0.21 U | < 0.22 U |
| PCB-24 | ng/g | E1668C | S | 55702-45-9 | 1.8 | 0.1 | 0.77 | 0.59 | SED7.5D | 13 | | 15 | | **0.44 J** | **1.6 J** | **0.50 JN** | **0.26 J** | **0.59 JN** | **1.8 J** | **1.3 J** |
| PCB-25 | ng/g | E1668C | S | 55712-37-3 | 12 | 1.6 | 4.3 | 3.5 | SED7E | 15 | | 15 | | **3.4 J** | **3.3 JN** | **3.0 JN** | **3.3 J** | **3.8 J** | **4.5 J** | **7.2 J** |
| PCB-26 | ng/g | E1668C | S | 38444-81-4 | 23 | 2.7 | 8.1 | 5.8 | SED7E | 15 | | 15 | | **5.8 J** | **8.0 J** | **6.5 J** | **4.8 J** | **5.6 J** | **8.2 J** | **15** |
| PCB-27 | ng/g | E1668C | S | 38444-76-7 | 8.1 | 0.9 | 3.3 | 2.4 | SED7E | 15 | | 15 | | **2.4 J** | **5.4 J** | **2.7 J** | **2.2 JN** | **2.3 JN** | **5.6 JN** | **5.1 J** |
| PCB-28 | ng/g | E1668C | S | 7012-37-5 | 120 | 20 | 50 | 40 | SED7E | 15 | | 15 | | **40** | **59** | **36** | **29** | **40** | **52** | **100** |
| PCB-29 | ng/g | E1668C | S | 15862-07-4 | 23 | 2.7 | 8.1 | 5.8 | SED7E | 15 | | 15 | | **5.8** | **8.0** | **6.5** | **4.8** | **5.6** | **8.2** | **15** |
| PCB-3 | ng/g | E1668C | S | 2051-62-9 | 5.6 | 0.37 | 2.5 | 2 | SED8B | 4 | | 15 | | < 0.061 U | < 0.53 U | < 0.064 U | **1.7 JN** | < 0.11 U | < 0.39 U | **0.37 JN** |
| PCB-30 | ng/g | E1668C | S | 35693-92-6 | 74 | 9.2 | 27 | 18 | SED7E | 15 | | 15 | | **18** | **50** | **14 JN** | **11** | **19** | **53** | **46** |
| PCB-31 | ng/g | E1668C | S | 16606-02-3 | 84 | 14 | 34 | 27 | SED7E | 15 | | 15 | | **28** | **40** | **24 J** | **20** | **27** | **35** | **65** |
| PCB-32 | ng/g | E1668C | S | 38444-77-8 | 36 | 4.4 | 15 | 9.8 | SED7E | 15 | | 15 | | **10** | **29** | **9.8 J** | **8.8 J** | **9.5 JN** | **26 JN** | **25** |
| PCB-33 | ng/g | E1668C | S | 38444-86-9 | 35 | 5.5 | 14 | 11 | SED7E | 15 | | 15 | | **11** | **19** | **7.6 JN** | **6.8** | **11** | **17** | **27** |
| PCB-34 | ng/g | E1668C | S | 37680-68-5 | 0.64 | 0.49 | 0.57 | 0.57 | SED7.5E | 2 | | 15 | | < 0.12 U | **0.49 J** | < 0.19 U | < 0.14 U | < 0.19 U | < 0.22 U | **0.64 J** |
| PCB-35 | ng/g | E1668C | S | 37680-69-6 | 1 | 0.29 | 0.45 | 0.35 | SED7F | 6 | | 15 | | **0.40 J** | < 0.19 U | < 0.19 U | < 0.13 U | **0.34 JN** | < 0.21 U | < 0.22 U |
| PCB-36 | ng/g | E1668C | S | 38444-87-0 | 280 | 1.6 | 72 | 37 | SED8A | 14 | | 15 | | **1.8 J** | < 0.18 U | **170** | **37** | **4.3 J** | **61** | **3.7 J** |
| PCB-37 | ng/g | E1668C | S | 38444-90-5 | 20 | 3.3 | 9.1 | 7.1 | SED7.5E | 15 | | 15 | | **8.2 J** | **13** | **5.8 J** | **5.0 J** | **7.1 J** | **11** | **20** |
| PCB-38 | ng/g | E1668C | S | 53555-66-1 | | | | | | | | 15 | | < 0.12 U | < 0.19 U | < 0.19 U | < 0.14 U | < 0.20 U | < 0.22 U | < 0.23 U |
| PCB-39 | ng/g | E1668C | S | 38444-88-1 | 0.87 | 0.29 | 0.64 | 0.71 | SED7B | 7 | | 15 | | **0.29 J** | < 0.17 U | < 0.17 U | < 0.12 U | < 0.18 U | **0.72 J** | **0.71 J** |
| PCB-4 | ng/g | E1668C | S | 13029-08-8 | 12 | 2 | 5.2 | 4.6 | SED7E | 9 | | 15 | | **2.0 JN** | < 3.0 U | **5.9 J** | **4.6 JN** | < 0.69 U | < 4.4 U | **5.3 JN** |
| PCB-40 | ng/g | E1668C | S | 38444-93-8 | 89 | 8.5 | 30 | 21 | SED7E | 15 | | 15 | | **26** | **40** | **16** | **14** | **21** | **32** | **54** |
| PCB-41 | ng/g | E1668C | S | 52663-59-9 | 89 | 8.5 | 30 | 21 | SED7E | 15 | | 15 | | **26** | **40** | **16** | **14** | **21** | **32** | **54** |
| PCB-42 | ng/g | E1668C | S | 36559-22-5 | 43 | 4.7 | 15 | 11 | SED7E | 15 | | 15 | | **13** | **19** | **8.1 J** | **6.8 J** | **11** | **16** | **28** |
| PCB-43 | ng/g | E1668C | S | 70362-46-8 | 6.2 | 0.7 | 2.5 | 2 | SED7E | 14 | | 15 | | **1.9 J** | **2.5 JN** | **1.4 JN** | **1.2 JN** | **2.0 J** | **2.8 JN** | **4.9 J** |
| PCB-44 | ng/g | E1668C | S | 41464-39-5 | 190 | 28 | 64 | 46 | SED7E | 15 | | 15 | | **52** | **71** | **43** | **33** | **46** | **66** | **110** |
| PCB-45 | ng/g | E1668C | S | 70362-45-7 | 44 | 4.1 | 13 | 8.4 | SED7E | 15 | | 15 | | **10** | **13** | **7.5 J** | **5.0 JN** | **8.4 J** | **13** | **22** |
| PCB-46 | ng/g | E1668C | S | 41464-47-5 | 8.6 | 1 | 2.9 | 2.2 | SED7E | 14 | | 15 | | **2.5 JN** | **2.7 J** | **1.5 J** | **1.2 J** | **1.9 J** | **3.0 J** | **5.1 J** |
| PCB-47 | ng/g | E1668C | S | 2437-79-8 | 190 | 28 | 64 | 46 | SED7E | 15 | | 15 | | **52** | **71** | **43** | **33** | **46** | **66** | **110** |
| PCB-48 | ng/g | E1668C | S | 70362-47-9 | 37 | 3.1 | 13 | 9.5 | SED7E | 15 | | 15 | | **11** | **18** | **5.4 JN** | **5.7 J** | **9.5 J** | **13** | **26** |
| PCB-49 | ng/g | E1668C | S | 41464-40-8 | 120 | 19 | 42 | 34 | SED7E | 15 | | 15 | | **35** | **47** | **27** | **22** | **34** | **44** | **77** |
| PCB-5 | ng/g | E1668C | S | 16605-91-7 | | | | | | | | 15 | | < 0.28 U | < 0.83 U | < 0.54 U | < 0.40 U | < 0.56 U | < 1.2 U | < 0.48 U |
| PCB-50 | ng/g | E1668C | S | 62796-65-0 | 27 | 2.8 | 8.8 | 6.3 | SED7E | 15 | | 15 | | **7.1 J** | **7.4 J** | **6.1 J** | **4.9 J** | **6.3 J** | **7.4 J** | **15** |
| PCB-51 | ng/g | E1668C | S | 68194-04-7 | 44 | 4.1 | 13 | 8.4 | SED7E | 15 | | 15 | | **10** | **13** | **7.5** | **5.0 JN** | **8.4** | **13** | **22** |
| PCB-52 | ng/g | E1668C | S | 35693-99-3 | 190 | 32 | 71 | 59 | SED7E | 15 | | 15 | | **62** | **76** | **48** | **38** | **59** | **70** | **120** |
| PCB-53 | ng/g | E1668C | S | 41464-41-9 | 27 | 2.8 | 8.8 | 6.3 | SED7E | 15 | | 15 | | **7.1** | **7.4** | **6.1** | **4.9** | **6.3** | **7.4** | **15** |
| PCB-54 | ng/g | E1668C | S | 15968-05-5 | 0.92 | 0.18 | 0.43 | 0.34 | SED7E | 10 | | 15 | | **0.20 J** | < 0.018 U | **0.30 J** | **0.18 JN** | < 0.019 U | **0.79 JN** | **0.54 J** |
| PCB-55 | ng/g | E1668C | S | 74338-24-2 | 2.3 | 0.31 | 1.1 | 0.82 | SED7E | 12 | | 15 | | **0.34 J** | **1.6 JN** | < 0.068 U | **0.51 JN** | **0.49 JN** | **1.4 J** | **2.1 JN** |
| PCB-56 | ng/g | E1668C | S | 41464-43-1 | 42 | 7.4 | 18 | 14 | SED7E | 15 | | 15 | | **16** | **26** | **11 J** | **9.2** | **14** | **19** | **32** |
| PCB-57 | ng/g | E1668C | S | 70424-67-8 | 1.9 | 0.92 | 1.4 | 1.4 | SED7E | 2 | | 15 | | < 0.039 U | < 0.059 U | < 0.069 U | < 0.047 U | < 0.074 U | < 0.10 U | **0.92 JN** |
| PCB-58 | ng/g | E1668C | S | 41464-49-7 | 2.6 | 0.17 | 0.75 | 0.35 | SED7D | 10 | | 15 | | **0.32 J** | < 0.059 U | **1.2 J** | < 0.048 U | **0.26 JN** | < 0.10 U | **0.38 JN** |
| PCB-59 | ng/g | E1668C | S | 74472-33-6 | 17 | 1.8 | 5.9 | 4.5 | SED7E | 15 | | 15 | | **5.6 J** | **8.1 J** | **2.8 JN** | **3.0 J** | **4.5 J** | **6.3 J** | **11** |
| PCB-6 | ng/g | E1668C | S | 25569-80-6 | 5.5 | 1.2 | 2.8 | 2.3 | SED7E | 4 | | 15 | | < 0.25 U | < 0.73 U | < 0.47 U | **1.2 J** | < 0.49 U | < 1.1 U | **2.8 J** |
| PCB-60 | ng/g | E1668C | S | 33025-41-1 | 21 | 3.2 | 9 | 6 | SED7E | 15 | | 15 | | **8.3** | **14** | **5.7 J** | **5.8 J** | **6.0 J** | **9.9** | **16** |
| PCB-61 | ng/g | E1668C | S | 33284-53-6 | 200 | 33 | 82 | 70 | SED7E | 15 | | 15 | | **77** | **110** | **49** | **46** | **70** | **85** | **140** |
| PCB-62 | ng/g | E1668C | S | 54230-22-7 | 17 | 1.8 | 5.9 | 4.5 | SED7E | 15 | | 15 | | **5.6** | **8.1** | **2.8 JN** | **3.0** | **4.5** | **6.3** | **11** |
| PCB-63 | ng/g | E1668C | S | 74472-34-7 | 7.6 | 0.9 | 2.6 | 2.3 | SED7E | 15 | | 15 | | **2.4 J** | **3.9 J** | **1.7 J** | **1.6 J** | **2.3 J** | **2.8 J** | **4.2 JN** |
| PCB-64 | ng/g | E1668C | S | 52663-58-8 | 63 | 10 | 24 | 19 | SED7E | 15 | | 15 | | **21** | **32** | **15** | **11** | **19** | **25** | **44** |
| PCB-65 | ng/g | E1668C | S | 33284-54-7 | 190 | 28 | 64 | 46 | SED7E | 15 | | 15 | | **52** | **71** | **43** | **33** | **46** | **66** | **110** |
| PCB-66 | ng/g | E1668C | S | 32598-10-0 | 110 | 21 | 47 | 41 | SED7E | 15 | | 15 | | **42** | **64** | **28** | **29** | **41** | **51** | **81** |
| PCB-67 | ng/g | E1668C | S | 73575-53-8 | 5.4 | 0.75 | 2.1 | 1.7 | SED7E | 13 | | 15 | | **1.8 J** | **3.1 J** | **0.98 J** | **0.87 JN** | **1.2 J** | **1.7 JN** | **3.8 J** |
| PCB-68 | ng/g | E1668C | S | 73575-52-7 | 2.6 | 0.4 | 0.93 | 0.78 | SED7E | 13 | | 15 | | **0.59 J** | < 0.052 U | **0.64 JN** | **0.78 J** | **0.52 JN** | **1.0 J** | **1.0 JN** |
| PCB-69 | ng/g | E1668C | S | 60233-24-1 | 120 | 19 | 42 | 34 | SED7E | 15 | | 15 | | **35** | **47** | **27** | **22** | **34** | **44** | **77** |
| PCB-7 | ng/g | E1668C | S | 33284-50-3 | | | | | | | | 15 | | < 0.25 U | < 0.75 U | < 0.49 U | < 0.36 U | < 0.51 U | < 1.1 U | < 0.44 U |
| PCB-70 | ng/g | E1668C | S | 32598-11-1 | 200 | 33 | 82 | 70 | SED7E | 15 | | 15 | | **77** | **110** | **49** | **46** | **70** | **85** | **140** |
| PCB-71 | ng/g | E1668C | S | 41464-46-4 | 89 | 8.5 | 30 | 21 | SED7E | 15 | | 15 | | **26** | **40** | **16** | **14** | **21** | **32** | **54** |

**Table 4-38**
**Pore Water Analysis in Waterside Investigation Area Sediment Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | Location ID | SED6.5D | SED6.5E | SED6A | SED6B | SED6C | SED7.5D | SED7.5E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample ID | PW6.5D00EN | PW6.5E00EN | PW6A00EN | PW6B00EN | PW6C00EN | PW7.5D00EN | PW7.5E00EN |
| | | | | | | | | | | | | | Sample Date | 7/26/2017 9:50:00 AM | 7/26/2017 8:50:00 AM | 7/26/2017 9:20:00 AM | 7/26/2017 9:10:00 AM | 7/26/2017 8:00:00 AM | 7/26/2017 9:30:00 AM | 7/26/2017 8:40:00 AM |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | |
| PCB-72 | ng/g | E1668C | S | 41464-42-0 | 2.7 | 0.42 | 1.1 | 0.88 | SED7E | 7 | | 15 | | **0.64 J** | **0.86 J** | < 0.068 U | < 0.046 U | < 0.073 U | **0.88 JN** | **1.1 JN** |
| PCB-73 | ng/g | E1668C | S | 74338-23-1 | 6.2 | 0.7 | 2.5 | 2 | SED7E | 14 | | 15 | | **1.9** | **2.5 JN** | **1.4 JN** | **1.2 JN** | **2.0** | **2.8 JN** | **4.9** |
| PCB-74 | ng/g | E1668C | S | 32690-93-0 | 200 | 33 | 82 | 70 | SED7E | 15 | | 15 | | **77** | **110** | **49** | **46** | **70** | **85** | **140** |
| PCB-75 | ng/g | E1668C | S | 32598-12-2 | 17 | 1.8 | 5.9 | 4.5 | SED7E | 15 | | 15 | | **5.6** | **8.1** | **2.8 JN** | **3.0** | **4.5** | **6.3** | **11** |
| PCB-76 | ng/g | E1668C | S | 70362-48-0 | 200 | 33 | 82 | 70 | SED7E | 15 | | 15 | | **77** | **110** | **49** | **46** | **70** | **85** | **140** |
| PCB-77 | ng/g | E1668C | S | 32598-13-3 | 10 | 1.2 | 3.8 | 2.8 | SED7E | 15 | | 15 | | **3.9 J** | **5.0 J** | **2.6 J** | **2.1 J** | **2.8 J** | **4.1 J** | **6.4 J** |
| PCB-78 | ng/g | E1668C | S | 70362-49-1 | 250 | 1.1 | 76 | 51 | SED8A SED7B | 15 | | 15 | | **4.4 J** | **7.8 J** | **200** | **58** | **12** | **79** | **11** |
| PCB-79 | ng/g | E1668C | S | 41464-48-6 | 1.9 | 0.16 | 0.87 | 0.86 | SED7E | 6 | | 15 | | **0.16 JN** | **0.95 J** | < 0.061 U | < 0.041 U | < 0.065 U | < 0.090 U | **1.2 J** |
| PCB-8 | ng/g | E1668C | S | 34883-43-7 | 11 | 2.7 | 5.7 | 5.5 | SED7E | 14 | | 15 | | **3.5 J** | **6.3 J** | **7.3 J** | **5.2 JN** | **4.7 JN** | **7.2 J** | **8.5 J** |
| PCB-80 | ng/g | E1668C | S | 33284-52-5 | 2 | 0.28 | 1.1 | 0.79 | SED8A | 7 | | 15 | | < 0.034 U | < 0.050 U | **1.9 J** | **0.79 J** | < 0.064 U | **0.41 J** | < 0.046 U |
| PCB-81 | ng/g | E1668C | S | 70362-50-4 | 0.91 | 0.91 | 0.91 | 0.91 | SED8A | 1 | | 15 | | < 0.037 U | < 0.054 U | < 0.063 U | < 0.043 U | < 0.068 U | < 0.094 U | < 0.047 U |
| PCB-82 | ng/g | E1668C | S | 52663-62-4 | 23 | 2.3 | 9.2 | 7.7 | SED7E | 14 | | 15 | | **8.5** | **13 JN** | **4.0 J** | **4.6 JN** | **5.3 JN** | **11** | **16** |
| PCB-83 | ng/g | E1668C | S | 60145-20-2 | 180 | 17 | 65 | 55 | SED7E | 15 | | 15 | | **64** | **99** | **30** | **37** | **55** | **78** | **110** |
| PCB-84 | ng/g | E1668C | S | 52663-60-2 | 42 | 4.7 | 16 | 15 | SED7E | 15 | | 15 | | **17** | **24 JN** | **8.2 J** | **7.3 J** | **11 JN** | **19** | **28** |
| PCB-85 | ng/g | E1668C | S | 65510-45-4 | 45 | 4.9 | 17 | 15 | SED7E | 15 | | 15 | | **17** | **27** | **6.9 J** | **12** | **15** | **21** | **28** |
| PCB-86 | ng/g | E1668C | S | 55312-69-1 | 140 | 17 | 57 | 56 | SED7E | 15 | | 15 | | **56** | **89** | **24 JN** | **30** | **46** | **70** | **93** |
| PCB-87 | ng/g | E1668C | S | 38380-02-8 | 140 | 17 | 57 | 56 | SED7E | 15 | | 15 | | **56** | **89** | **24 JN** | **30** | **46** | **70** | **93** |
| PCB-88 | ng/g | E1668C | S | 55215-17-3 | 47 | 3.1 | 15 | 11 | SED7E | 15 | | 15 | | **14** | **22** | **6.9 J** | **7.5 J** | **11** | **20** | **25** |
| PCB-89 | ng/g | E1668C | S | 73575-57-2 | 1.8 | 0.69 | 1.2 | 1.2 | SED7.5E | 2 | | 15 | | < 0.038 U | < 0.048 U | < 0.066 U | < 0.066 U | < 0.10 U | < 0.15 U | **1.8 J** |
| PCB-9 | ng/g | E1668C | S | 34883-39-1 | | | | | | | | 15 | | < 0.26 U | < 0.76 U | < 0.50 U | < 0.37 U | < 0.52 U | < 1.1 U | < 0.45 U |
| PCB-90 | ng/g | E1668C | S | 68194-07-0 | 340 | 30 | 120 | 110 | SED7E | 15 | | 15 | | **110** | **190** | **46** | **52** | **90** | **150** | **200** |
| PCB-91 | ng/g | E1668C | S | 68194-05-8 | 47 | 3.1 | 15 | 11 | SED7E | 15 | | 15 | | **14** | **22** | **6.9** | **7.5** | **11** | **20** | **25** |
| PCB-92 | ng/g | E1668C | S | 52663-61-3 | 65 | 6.3 | 22 | 21 | SED7E | 15 | | 15 | | **21** | **32** | **9.0 JN** | **11** | **16** | **29** | **36** |
| PCB-93 | ng/g | E1668C | S | 73575-56-1 | 8.3 | 0.44 | 2.9 | 1.8 | SED7F | 12 | | 15 | | **1.6 JN** | **5.5 J** | **2.3 J** | < 0.058 U | **1.3 JN** | **4.4 JN** | **1.9 J** |
| PCB-94 | ng/g | E1668C | S | 73575-55-0 | 4.1 | 0.46 | 2.2 | 1.9 | SED7E | 3 | | 15 | | < 0.038 U | < 0.048 U | < 0.066 U | < 0.066 U | < 0.10 U | < 0.15 U | < 0.066 U |
| PCB-95 | ng/g | E1668C | S | 38379-99-6 | 210 | 19 | 75 | 70 | SED7E | 15 | | 15 | | **70** | **110** | **30** | **29** | **55** | **89** | **120** |
| PCB-96 | ng/g | E1668C | S | 73575-54-9 | 2.2 | 0.35 | 1.4 | 1.6 | SED7E | 3 | | 15 | | < 0.028 U | < 0.036 U | < 0.050 U | < 0.050 U | < 0.076 U | < 0.11 U | < 0.049 U |
| PCB-97 | ng/g | E1668C | S | 41464-51-1 | 140 | 17 | 57 | 56 | SED7E | 15 | | 15 | | **56** | **89** | **24 JN** | **30** | **46** | **70** | **93** |
| PCB-98 | ng/g | E1668C | S | 60233-25-2 | 9 | 1.1 | 3.9 | 3 | SED7E | 12 | | 15 | | **3.2 JN** | **5.7 J** | < 0.056 U | **1.5 J** | **2.8 J** | **5.0 J** | **6.5 J** |
| PCB-99 | ng/g | E1668C | S | 38380-01-7 | 180 | 17 | 65 | 55 | SED7E | 15 | | 15 | | **64** | **99** | **30** | **37** | **55** | **78** | **110** |
| Pentachlorobiphenyl | ng/g | E1668C | S | 25429-29-2 | 1700 | 300 | 890 | 960 | SED7E | 15 | | 15 | | **620** | **960** | **970** | **560** | **550** | **1000** | **1100** |
| Tetrachlorobiphenyl | ng/g | E1668C | S | 26914-33-0 | 1300 | 250 | 540 | 480 | SED7E | 15 | | 15 | | **410** | **580** | **480** | **300** | **370** | **560** | **830** |
| Trichlorobiphenyl | ng/g | E1668C | S | 25323-68-6 | 530 | 110 | 280 | 310 | SED7E | 15 | | 15 | | **160** | **300** | **310** | **150** | **160** | **340** | **390** |
| Decachlorobiphenyl (PCB-209) | pg/l | E1668C | D | 2051-24-3 | 0.1 | 0.0015 | 0.022 | 0.01 | SED6A SED7B | 15 | | 15 | | **0.0062 J** | **0.01 J** | **0.1 J** | **0.0049 J** | **0.01 J** | **0.006 J** | **0.011 J** |
| PCB, TOTAL | pg/l | E1668C | D | PCB | 10000 | 1600 | 3800 | 2800 | SED7E | 15 | | 15 | | **2800** | **4600** | **2600** | **2600** | **2500** | **4300** | **6400** |
| PCB, Total Congeners (Provided by Lab) | pg/l | E1668C | D | TOT-PCB-LAB | 10000 | 1600 | 3800 | 2800 | SED7E | 15 | | 15 | | **2800** | **4600** | **2600** | **2600** | **2500** | **4300** | **6400** |
| PCB-1 | pg/l | E1668C | D | 2051-60-7 | 650 | 63 | 220 | 95 | SED8B | 11 | 2 | 15 | | **71 JN** | R | < 8.6 U | **440 J** | **63 JN** | R | **190 J** |
| PCB-10 | pg/l | E1668C | D | 33146-45-1 | 69 | 69 | 69 | 69 | SED7E | 1 | | 15 | | < 18 U | < 51 U | < 33 U | < 25 U | < 35 U | < 76 U | < 30 U |
| PCB-100 | pg/l | E1668C | D | 39485-83-1 | 8.4 | 0.45 | 3 | 2.1 | SED7F | 12 | | 15 | | **1.5 JN** | **5.3** | **2.9** | < 0.059 U | **1.3 JN** | **4.6 JN** | **1.8** |
| PCB-101 | pg/l | E1668C | D | 37680-73-2 | 220 | 21 | 84 | 70 | SED7E | 15 | | 15 | | **70** | **120** | **43** | **36** | **59** | **110** | **130** |
| PCB-102 | pg/l | E1668C | D | 68194-06-9 | 8.6 | 1.1 | 3.8 | 3 | SED7E | 12 | | 15 | | **3.1 JN** | **5.5** | < 0.071 U | **1.5** | **2.7** | **5.2** | **6.3** |
| PCB-103 | pg/l | E1668C | D | 60145-21-3 | 6.2 | 0.62 | 2.4 | 2.3 | SED7E | 8 | | 15 | | **1.3 J** | **1.9 JN** | < 0.073 U | < 0.059 U | **1.2 JN** | **2.8 JN** | **2.8 JN** |
| PCB-105 | pg/l | E1668C | D | 32598-14-4 | 23 | 4.6 | 12 | 10 | SED7E | 15 | | 15 | | **10** | **14** | **10** | **8.4** | **7.8** | **11** | **17** |
| PCB-106 | pg/l | E1668C | D | 70424-69-0 | 1.1 | 0.096 | 0.44 | 0.34 | SED7D | 12 | | 15 | | **0.096 J** | **0.18 J** | < 0.13 U | **0.45 J** | **0.11 J** | **0.13 J** | **0.28 J** |
| PCB-107 | pg/l | E1668C | D | 70424-68-9 | 7.6 | 0.68 | 2.9 | 2.8 | SED7E | 15 | | 15 | | **3.5** | **3.7 J** | **0.68 JN** | **1.8 JN** | **2.3 J** | **3.1 J** | **5.2** |
| PCB-108 | pg/l | E1668C | D | 70362-41-3 | 3.3 | 0.46 | 1.4 | 1.2 | SED7E | 15 | | 15 | | **1.3** | **1.8** | **1.1** | **1** | **1.1** | **1.6** | **2.5** |
| PCB-109 | pg/l | E1668C | D | 74472-35-8 | 89 | 12 | 40 | 36 | SED7E | 15 | | 15 | | **36** | **57** | **22 JN** | **21** | **30** | **50** | **60** |
| PCB-11 | pg/l | E1668C | D | 2050-67-1 | 44 | 21 | 32 | 30 | SED6A SED8A | 15 | | 15 | | **21 J** | **29 JN** | **44 J** | **27 JN** | **31 JN** | **29 JN** | **24 J** |
| PCB-110 | pg/l | E1668C | D | 38380-03-9 | 160 | 19 | 69 | 63 | SED7E | 15 | | 15 | | **63** | **100** | **43** | **33** | **50** | **85** | **100** |
| PCB-111 | pg/l | E1668C | D | 39635-32-0 | | | | | | | | 15 | | < 0.0098 U | < 0.013 U | < 0.029 U | < 0.02 U | < 0.028 U | < 0.044 U | < 0.018 U |
| PCB-112 | pg/l | E1668C | D | 74472-36-9 | 1.1 | 0.19 | 0.6 | 0.58 | SED7E | 8 | | 15 | | **0.38 JN** | **0.9 J** | < 0.04 U | < 0.03 U | < 0.043 U | **0.3 JN** | **0.77 J** |
| PCB-113 | pg/l | E1668C | D | 68194-10-5 | 220 | 21 | 84 | 70 | SED7E | 15 | | 15 | | **70** | **120** | **43** | **36** | **59** | **110** | **130** |
| PCB-114 | pg/l | E1668C | D | 74472-37-0 | 1.9 | 0.39 | 0.88 | 0.82 | SED7E | 13 | | 15 | | **0.77 J** | **0.99 JN** | < 0.12 U | **0.67 JN** | **0.62 JN** | **0.93 JN** | **1.3 J** |
| PCB-115 | pg/l | E1668C | D | 74472-38-1 | 160 | 19 | 69 | 63 | SED7E | 15 | | 15 | | **63** | **100** | **43** | **33** | **50** | **85** | **100** |
| PCB-116 | pg/l | E1668C | D | 18259-05-7 | 29 | 3.7 | 12 | 11 | SED7E | 15 | | 15 | | **11** | **17** | **6.4** | **8.4** | **9.8** | **15** | **18** |
| PCB-117 | pg/l | E1668C | D | 68194-11-6 | 29 | 3.7 | 12 | 11 | SED7E | 15 | | 15 | | **11** | **17** | **6.4** | **8.4** | **9.8** | **15** | **18** |
| PCB-118 | pg/l | E1668C | D | 31508-00-6 | 76 | 11 | 33 | 31 | SED7E | 15 | | 15 | | **31** | **39** | **23** | **22** | **27** | **35** | **52** |

Table 4-38
Pore Water Analysis in Waterside Investigation Area Sediment Results
Benning Road Facility RI/FS Project
3400 Benning Road, NE
Washington, DC 20019

| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | Location ID | SED6.5D | SED6.5E | SED6A | SED6B | SED6C | SED7.5D | SED7.5E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample ID | PW6.5D00EN | PW6.5E00EN | PW6A00EN | PW6B00EN | PW6C00EN | PW7.5D00EN | PW7.5E00EN |
| | | | | | | | | | | | | | Sample Date | 7/26/2017 9:50:00 AM | 7/26/2017 8:50:00 AM | 7/26/2017 9:20:00 AM | 7/26/2017 9:10:00 AM | 7/26/2017 8:00:00 AM | 7/26/2017 9:30:00 AM | 7/26/2017 8:40:00 AM |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N |
| PCB-119 | pg/l | E1668C | D | 56558-17-9 | 89 | 12 | 40 | 36 | SED7E | 15 | | 15 | | **36** | **57** | **22 JN** | **21** | **30** | **50** | **60** |
| PCB-12 | pg/l | E1668C | D | 2974-92-7 | | | | | | | | 15 | | < 2 U | < 5.9 U | < 3.9 U | < 2.9 U | < 4 U | < 8.8 U | < 3.4 U |
| PCB-120 | pg/l | E1668C | D | 68194-12-7 | 0.56 | 0.56 | 0.56 | 0.56 | SED7.5E | 1 | | 15 | | < 0.01 U | < 0.013 U | < 0.03 U | < 0.02 U | < 0.028 U | < 0.045 U | **0.56 J** |
| PCB-122 | pg/l | E1668C | D | 76842-07-4 | 0.81 | 0.25 | 0.55 | 0.62 | SED7E | 13 | | 15 | | **0.29 JN** | **0.56 JN** | **0.63 J** | **0.44 JN** | **0.44 JN** | **0.63 J** | **0.69 JN** |
| PCB-123 | pg/l | E1668C | D | 65510-44-3 | 1.7 | 0.24 | 0.68 | 0.62 | SED7E | 14 | | 15 | | **0.77 J** | **0.81 JN** | **0.38 JN** | **0.33 J** | **0.57 JN** | **0.78 J** | **0.99 J** |
| PCB-124 | pg/l | E1668C | D | 70424-70-3 | 3.3 | 0.46 | 1.4 | 1.2 | SED7E | 15 | | 15 | | **1.3** | **1.8** | **1.1** | **1** | **1.1** | **1.6** | **2.5** |
| PCB-125 | pg/l | E1668C | D | 74472-39-2 | 89 | 12 | 40 | 36 | SED7E | 15 | | 15 | | **36** | **57** | **22 JN** | **21** | **30** | **50** | **60** |
| PCB-126 | pg/l | E1668C | D | 57465-28-8 | 0.75 | 0.12 | 0.34 | 0.14 | SED7.5E | 3 | | 15 | | < 0.045 U | **0.14 J** | < 0.1 U | < 0.047 U | < 0.075 U | < 0.074 U | **0.75 J** |
| PCB-127 | pg/l | E1668C | D | 39635-33-1 | | | | | | | | 15 | | < 0.043 U | < 0.072 U | < 0.097 U | < 0.047 U | < 0.069 U | < 0.071 U | < 0.092 U |
| PCB-128 | pg/l | E1668C | D | 38380-07-3 | 11 | 0.61 | 3.7 | 3.4 | SED7E | 14 | | 15 | | **3.4** | **4.4** | < 0.096 U | **1.2 JN** | **2.4** | **3.9** | **5.7** |
| PCB-129 | pg/l | E1668C | D | 55215-18-4 | 120 | 7.7 | 39 | 34 | SED7E | 15 | | 15 | | **34** | **48** | **20** | **11** | **24** | **41** | **62** |
| PCB-13 | pg/l | E1668C | D | 2974-90-5 | | | | | | | | 15 | | < 2 U | < 5.9 U | < 3.9 U | < 2.9 U | < 4 U | < 8.8 U | < 3.4 U |
| PCB-130 | pg/l | E1668C | D | 52663-66-8 | 6.1 | 0.32 | 2 | 1.9 | SED7E | 15 | | 15 | | **1.9** | **2.9** | **1 J** | **0.66 J** | **1.3 J** | **2.3** | **3.6** |
| PCB-131 | pg/l | E1668C | D | 61798-70-7 | | | | | | | | 15 | | < 0.096 U | < 0.15 U | < 0.16 U | < 0.067 U | < 0.12 U | < 0.18 U | < 0.24 U |
| PCB-132 | pg/l | E1668C | D | 38380-05-1 | 36 | 2 | 12 | 11 | SED7E | 15 | | 15 | | **11** | **15** | **5.7 J** | **3.8** | **7.9** | **14** | **20** |
| PCB-133 | pg/l | E1668C | D | 35694-04-3 | 2.2 | 0.17 | 0.79 | 0.65 | SED7E | 12 | | 15 | | **0.65 J** | **0.92 J** | < 0.12 U | **0.27 J** | **0.48 J** | **0.89 J** | **1.1 J** |
| PCB-134 | pg/l | E1668C | D | 52704-70-8 | 7.5 | 0.34 | 2.3 | 1.9 | SED7E | 15 | | 15 | | **2.1** | **2.6 JN** | **0.82 JN** | **0.64** | **1.4** | **2.6** | **3.9** |
| PCB-135 | pg/l | E1668C | D | 52744-13-5 | 78 | 2.5 | 23 | 18 | SED7E | 15 | | 15 | | **18** | **29** | **6.7** | **5.4** | **14** | **31** | **39** |
| PCB-136 | pg/l | E1668C | D | 38411-22-2 | 14 | 0.68 | 4.8 | 3.4 | SED7E | 15 | | 15 | | **3.4** | **5.8** | **1.5 JN** | **1.1 JN** | **2.7** | **5.8** | **7.6** |
| PCB-137 | pg/l | E1668C | D | 35694-06-5 | 3.3 | 0.21 | 1.3 | 1.3 | SED7E | 14 | | 15 | | **1.3 J** | **1.6 J** | **0.62 JN** | **0.55 J** | **0.8 JN** | **1.3 J** | **1.9** |
| PCB-138 | pg/l | E1668C | D | 35065-28-2 | 120 | 7.7 | 39 | 34 | SED7E | 15 | | 15 | | **34** | **48** | **20** | **11** | **24** | **41** | **62** |
| PCB-139 | pg/l | E1668C | D | 56030-56-9 | 2 | 0.2 | 0.86 | 0.74 | SED7E | 6 | | 15 | | **0.68** | **0.79 JN** | < 0.13 U | **0.27 JN** | < 0.099 U | < 0.15 U | < 0.19 U |
| PCB-140 | pg/l | E1668C | D | 59291-64-4 | 2 | 0.2 | 0.86 | 0.74 | SED7E | 6 | | 15 | | **0.68** | **0.79 JN** | < 0.13 U | **0.27 JN** | < 0.099 U | < 0.15 U | < 0.19 U |
| PCB-141 | pg/l | E1668C | D | 52712-04-6 | 30 | 1.4 | 9.1 | 8 | SED7E | 15 | | 15 | | **8** | **12** | **3.4 J** | **2.2** | **5** | **11** | **15** |
| PCB-143 | pg/l | E1668C | D | 68194-15-0 | 7.5 | 0.34 | 2.3 | 1.9 | SED7E | 15 | | 15 | | **2.1** | **2.6 JN** | **0.82 JN** | **0.64** | **1.4** | **2.6** | **3.9** |
| PCB-144 | pg/l | E1668C | D | 68194-14-9 | 9.1 | 0.41 | 2.7 | 2.2 | SED7E | 15 | | 15 | | **2.2** | **3.7** | **0.77 JN** | **0.58 JN** | **1.3 JN** | **3.4** | **5** |
| PCB-145 | pg/l | E1668C | D | 74472-40-5 | | | | | | | | 15 | | < 0.008 U | < 0.0091 U | < 0.023 U | < 0.01 U | < 0.019 U | < 0.026 U | < 0.0064 U |
| PCB-146 | pg/l | E1668C | D | 51908-16-8 | 24 | 1.5 | 7.8 | 6.9 | SED7E | 14 | | 15 | | **6.4** | **10** | **3.7** | **2** | **4.7** | **8.9** | **13** |
| PCB-147 | pg/l | E1668C | D | 68194-13-8 | 160 | 8.6 | 51 | 42 | SED7E | 15 | | 15 | | **42** | **66** | **20** | **12** | **30** | **59** | **84** |
| PCB-148 | pg/l | E1668C | D | 74472-41-6 | 0.27 | 0.083 | 0.18 | 0.18 | SED7F | 6 | | 15 | | **0.083 J** | **0.17 J** | < 0.036 U | < 0.017 U | < 0.03 U | **0.19 JN** | **0.17 J** |
| PCB-149 | pg/l | E1668C | D | 38380-04-0 | 160 | 8.6 | 51 | 42 | SED7E | 15 | | 15 | | **42** | **66** | **20** | **12** | **30** | **59** | **84** |
| PCB-15 | pg/l | E1668C | D | 2050-68-2 | 65 | 18 | 35 | 30 | SED7F | 15 | | 15 | | **25 J** | **29 JN** | **37 J** | **34 J** | **30 J** | **34 JN** | **59 J** |
| PCB-150 | pg/l | E1668C | D | 68194-08-1 | 0.45 | 0.05 | 0.18 | 0.14 | SED7E | 8 | | 15 | | **0.05 JN** | **0.089 JN** | **0.12 J** | < 0.01 U | < 0.018 U | **0.16 JN** | **0.16 JN** |
| PCB-151 | pg/l | E1668C | D | 52663-63-5 | 78 | 2.5 | 23 | 18 | SED7E | 15 | | 15 | | **18** | **29** | **6.7** | **5.4** | **14** | **31** | **39** |
| PCB-152 | pg/l | E1668C | D | 68194-09-2 | 0.044 | 0.0032 | 0.027 | 0.03 | SED7.5E SED7F | 4 | | 15 | | < 0.0082 U | < 0.0093 U | < 0.024 U | < 0.011 U | < 0.02 U | < 0.026 U | **0.044 JN** |
| PCB-153 | pg/l | E1668C | D | 35065-27-1 | 140 | 7.3 | 42 | 37 | SED7E | 15 | | 15 | | **37** | **58** | **17** | **10** | **26** | **48** | **74** |
| PCB-154 | pg/l | E1668C | D | 60145-22-4 | 4.1 | 0.22 | 0.88 | 0.61 | SED7E | 15 | | 15 | | **0.36 J** | **0.61 JN** | **0.82 JN** | **0.25 J** | **0.49 JN** | **0.9 JN** | **1.8 JN** |
| PCB-156 | pg/l | E1668C | D | 38380-08-4 | 7 | 1.4 | 3.3 | 2.8 | SED7E | 15 | | 15 | | **2.2 JN** | **3.1 JN** | **2.8 JN** | **1.6 JN** | **2 JN** | **2.8 JN** | **3.8** |
| PCB-157 | pg/l | E1668C | D | 69782-90-7 | 7 | 1.4 | 3.3 | 2.8 | SED7E | 15 | | 15 | | **2.2 JN** | **3.1 JN** | **2.8 JN** | **1.6 JN** | **2 JN** | **2.8 JN** | **3.8** |
| PCB-158 | pg/l | E1668C | D | 74472-42-7 | 11 | 0.73 | 3.6 | 3.4 | SED7E | 15 | | 15 | | **3.4** | **4.8** | **1.4 JN** | **1.2 J** | **2.4** | **4.1** | **5.8** |
| PCB-159 | pg/l | E1668C | D | 39635-35-3 | 1.3 | 0.069 | 0.45 | 0.42 | SED7E | 11 | | 15 | | **0.21 JN** | **0.52 J** | < 0.068 U | < 0.022 U | **0.18 J** | **0.42 J** | **0.61 J** |
| PCB-16 | pg/l | E1668C | D | 38444-78-9 | 250 | 24 | 82 | 48 | SED7E | 15 | | 15 | | **54 J** | **180** | **32 J** | **24 JN** | **48 JN** | **150 JN** | **150** |
| PCB-160 | pg/l | E1668C | D | 41411-62-5 | 120 | 7.7 | 39 | 34 | SED7E | 15 | | 15 | | **34** | **48** | **20** | **11** | **24** | **41** | **62** |
| PCB-161 | pg/l | E1668C | D | 74472-43-8 | 3.2 | 0.58 | 1.9 | 1.9 | SED8A | 2 | | 15 | | < 0.041 U | < 0.063 U | < 0.083 U | < 0.03 U | < 0.054 U | < 0.08 U | < 0.1 U |
| PCB-162 | pg/l | E1668C | D | 39635-34-2 | 0.14 | 0.14 | 0.14 | 0.14 | SED7.5E | 1 | | 15 | | < 0.029 U | < 0.046 U | < 0.065 U | < 0.022 U | < 0.038 U | < 0.059 U | **0.14 J** |
| PCB-163 | pg/l | E1668C | D | 74472-44-9 | 120 | 7.7 | 39 | 34 | SED7E | 15 | | 15 | | **34** | **48** | **20** | **11** | **24** | **41** | **62** |
| PCB-164 | pg/l | E1668C | D | 74472-45-0 | 7 | 0.43 | 2.4 | 2.1 | SED7E | 15 | | 15 | | **2.1** | **3.3** | **1.4 J** | **0.68 J** | **1.5 J** | **2.7** | **3.8** |
| PCB-165 | pg/l | E1668C | D | 74472-46-1 | | | | | | | | 15 | | < 0.047 U | < 0.073 U | < 0.091 U | < 0.034 U | < 0.06 U | < 0.092 U | < 0.12 U |
| PCB-166 | pg/l | E1668C | D | 41411-63-6 | 11 | 0.61 | 3.7 | 3.4 | SED7E | 14 | | 15 | | **3.4** | **4.4** | < 0.096 U | **1.2 JN** | **2.4** | **3.9** | **5.7** |
| PCB-167 | pg/l | E1668C | D | 52663-72-6 | 2.9 | 0.17 | 0.98 | 0.94 | SED7E | 15 | | 15 | | **0.99 J** | **1.3 J** | **0.58 J** | **0.36 J** | **0.54 JN** | **1.1 J** | **1.6** |
| PCB-168 | pg/l | E1668C | D | 59291-65-5 | 140 | 7.3 | 42 | 37 | SED7E | 15 | | 15 | | **37** | **58** | **17** | **10** | **26** | **48** | **74** |
| PCB-169 | pg/l | E1668C | D | 32774-16-6 | | | | | | | | 15 | | < 0.015 U | < 0.026 U | < 0.039 U | < 0.012 U | < 0.02 U | < 0.032 U | < 0.038 U |
| PCB-17 | pg/l | E1668C | D | 37680-66-3 | 520 | 54 | 190 | 130 | SED7E | 15 | | 15 | | **110** | **350** | **130 J** | **97** | **140** | **330** | **300** |
| PCB-170 | pg/l | E1668C | D | 35065-30-6 | 15 | 0.77 | 4.2 | 3 | SED7E | 15 | | 15 | | **3** | **5.4** | **2.1 J** | **0.92** | **2.2** | **4.9** | **7.1** |
| PCB-171 | pg/l | E1668C | D | 52663-71-5 | 6.8 | 0.38 | 2.3 | 2.1 | SED7E | 12 | | 15 | | **1.5** | **2.5** | < 0.027 U | **0.38** | **0.97 JN** | **2.4** | **3.5** |
| PCB-172 | pg/l | E1668C | D | 52663-74-8 | 4 | 0.2 | 1.3 | 1.2 | SED7E | 11 | | 15 | | **0.71** | **1.4** | < 0.023 U | < 0.0092 U | **0.48 J** | **1.2 JN** | **1.9** |
| PCB-173 | pg/l | E1668C | D | 68194-16-1 | 6.8 | 0.38 | 2.3 | 2.1 | SED7E | 12 | | 15 | | **1.5** | **2.5** | < 0.027 U | **0.38** | **0.97 JN** | **2.4** | **3.5** |
| PCB-174 | pg/l | E1668C | D | 38411-25-5 | 25 | 0.97 | 7 | 4.9 | SED7E | 15 | | 15 | | **4.9** | **9.3** | **2.5 J** | **1.2** | **3.6** | **8.6** | **13** |
| PCB-175 | pg/l | E1668C | D | 40186-70-7 | 1.3 | 0.055 | 0.5 | 0.42 | SED7E | 7 | | 15 | | **0.23 J** | **0.42 J** | < 0.025 U | < 0.01 U | < 0.014 U | **0.36 JN** | **0.55 JN** |

# Table 4-38
## Pore Water Analysis in Waterside Investigation Area Sediment Results
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | Location ID | SED6.5D | SED6.5E | SED6A | SED6B | SED6C | SED7.5D | SED7.5E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample ID | PW6.5D00EN | PW6.5E00EN | PW6A00EN | PW6B00EN | PW6C00EN | PW7.5D00EN | PW7.5E00EN |
| | | | | | | | | | | | | | Sample Date | 7/26/2017 9:50:00 AM | 7/26/2017 8:50:00 AM | 7/26/2017 9:20:00 AM | 7/26/2017 9:10:00 AM | 7/26/2017 8:00:00 AM | 7/26/2017 9:30:00 AM | 7/26/2017 8:40:00 AM |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | |
| PCB-176 | pg/l | E1668C | D | 52663-65-7 | 2.8 | 0.14 | 0.96 | 0.81 | SED7E | 12 | | 15 | | **0.55** | **1** | < 0.017 U | **0.2 JN** | **0.38 JN** | **0.89 JN** | **1.3** |
| PCB-177 | pg/l | E1668C | D | 52663-70-4 | 14 | 0.53 | 4.4 | 3.3 | SED7E | 13 | | 15 | | **2.7** | **5.2** | < 0.027 U | **0.71 J** | **2.1** | **4.8** | **7.2** |
| PCB-178 | pg/l | E1668C | D | 52663-67-9 | 6.3 | 0.33 | 2.2 | 1.9 | SED7E | 11 | | 15 | | **1.3** | **2.4** | < 0.027 U | < 0.012 U | **0.88 J** | **2.2** | **3.1** |
| PCB-179 | pg/l | E1668C | D | 52663-64-6 | 9.8 | 0.35 | 3 | 2.3 | SED7E | 14 | | 15 | | **1.9** | **3.8** | **1.2 J** | **0.51 J** | **1.5** | **3.6** | **4.8** |
| PCB-18 | pg/l | E1668C | D | 37680-65-2 | 760 | 97 | 280 | 180 | SED7E | 15 | | 15 | | **180** | **510** | **140 JN** | **110** | **190** | **550** | **470** |
| PCB-180 | pg/l | E1668C | D | 35065-29-3 | 47 | 2.1 | 13 | 9.5 | SED7E | 15 | | 15 | | **9.5** | **16** | **6.2** | **2.6** | **6.8** | **15** | **24** |
| PCB-181 | pg/l | E1668C | D | 74472-47-2 | | | | | | | | 15 | | < 0.0065 U | < 0.005 U | < 0.025 U | < 0.01 U | < 0.014 U | < 0.021 U | < 0.013 U |
| PCB-182 | pg/l | E1668C | D | 60145-23-5 | 0.11 | 0.11 | 0.11 | 0.11 | SED7.5E | 1 | | 15 | | < 0.0062 U | < 0.0048 U | < 0.024 U | < 0.01 U | < 0.014 U | < 0.02 U | **0.11 JN** |
| PCB-183 | pg/l | E1668C | D | 52663-69-1 | 22 | 0.67 | 6.1 | 4.5 | SED7E | 14 | | 15 | | **4.4** | **7.5** | **1.8** | **1.2** | **3.2** | **7** | **10** |
| PCB-185 | pg/l | E1668C | D | 52712-05-7 | 22 | 0.67 | 6.1 | 4.5 | SED7E | 14 | | 15 | | **4.4** | **7.5** | **1.8** | **1.2** | **3.2** | **7** | **10** |
| PCB-186 | pg/l | E1668C | D | 74472-49-4 | | | | | | | | 15 | | < 0.0043 U | < 0.0034 U | < 0.018 U | < 0.0071 U | < 0.0098 U | < 0.014 U | < 0.0086 U |
| PCB-187 | pg/l | E1668C | D | 52663-68-0 | 39 | 1.5 | 10 | 7.6 | SED7E | 15 | | 15 | | **7.6** | **14** | **4** | **2** | **5.6** | **12** | **19** |
| PCB-188 | pg/l | E1668C | D | 74487-85-7 | | | | | | | | 15 | | < 0.004 U | < 0.0031 U | < 0.017 U | < 0.0068 U | < 0.009 U | < 0.013 U | < 0.008 U |
| PCB-189 | pg/l | E1668C | D | 39635-31-9 | 0.41 | 0.027 | 0.12 | 0.076 | SED7E | 14 | | 15 | | **0.076 J** | **0.15 J** | **0.076 J** | **0.027 J** | **0.058 J** | **0.11 J** | **0.19 J** |
| PCB-19 | pg/l | E1668C | D | 38444-73-4 | 190 | 29 | 73 | 63 | SED7E | 15 | | 15 | | **51 J** | **76 J** | **80 J** | **59 JN** | **63 J** | **76 JN** | **120 J** |
| PCB-190 | pg/l | E1668C | D | 41411-64-7 | 3.5 | 0.18 | 0.99 | 0.76 | SED7E | 13 | | 15 | | **0.65** | **1.2** | < 0.016 U | **0.22 J** | **0.49 JN** | **0.97 JN** | **1.7** |
| PCB-191 | pg/l | E1668C | D | 74472-50-7 | 0.94 | 0.054 | 0.35 | 0.27 | SED7E | 9 | | 15 | | **0.18 J** | **0.27 JN** | < 0.016 U | < 0.0062 U | < 0.0082 U | **0.39 J** | **0.5 J** |
| PCB-193 | pg/l | E1668C | D | 69782-91-8 | 47 | 2.1 | 13 | 9.5 | SED7E | 15 | | 15 | | **9.5** | **16** | **6.2** | **2.6** | **6.8** | **15** | **24** |
| PCB-194 | pg/l | E1668C | D | 35694-08-7 | 3.4 | 0.12 | 0.83 | 0.54 | SED7E | 15 | | 15 | | **0.54** | **0.99** | **0.44 J** | **0.15 J** | **0.43** | **0.92** | **1.5** |
| PCB-195 | pg/l | E1668C | D | 52663-78-2 | 1.6 | 0.063 | 0.42 | 0.28 | SED7E | 15 | | 15 | | **0.28** | **0.51** | **0.16 JN** | **0.08 J** | **0.19 JN** | **0.45** | **0.83** |
| PCB-196 | pg/l | E1668C | D | 42740-50-1 | 2.3 | 0.092 | 0.68 | 0.56 | SED7E | 12 | | 15 | | **0.38** | **0.67** | < 0.015 U | **0.092 JN** | **0.3 J** | **0.71** | **1.1** |
| PCB-197 | pg/l | E1668C | D | 33091-17-7 | 0.18 | 0.0018 | 0.052 | 0.038 | SED7E | 8 | | 15 | | **0.012 JN** | **0.03 J** | < 0.01 U | < 0.0018 U | < 0.0032 U | **0.036** | **0.074 J** |
| PCB-198 | pg/l | E1668C | D | 68194-17-2 | 4.6 | 0.18 | 1.2 | 0.85 | SED7E | 14 | | 15 | | **0.75** | **1.4** | **0.53 JN** | **0.18 JN** | **0.6** | **1.4** | **2.3** |
| PCB-199 | pg/l | E1668C | D | 52663-75-9 | 4.6 | 0.18 | 1.2 | 0.85 | SED7E | 14 | | 15 | | **0.75** | **1.4** | **0.53 JN** | **0.18 JN** | **0.6** | **1.4** | **2.3** |
| PCB-2 | pg/l | E1668C | D | 2051-61-8 | 180 | 6.5 | 66 | 62 | SED8B | 5 | | 15 | | **6.5 JN** | < 19 U | < 1.3 U | **62 J** | < 2.3 U | < 14 U | **20 JN** |
| PCB-20 | pg/l | E1668C | D | 38444-84-7 | 620 | 110 | 260 | 210 | SED7E | 15 | | 15 | | **210** | **300** | **190** | **150** | **210** | **270** | **510** |
| PCB-200 | pg/l | E1668C | D | 52663-73-7 | 0.43 | 0.026 | 0.15 | 0.11 | SED7E | 11 | | 15 | | **0.074 J** | **0.11 JN** | **0.13 JN** | < 0.0016 U | **0.048 JN** | **0.091 JN** | **0.21** |
| PCB-201 | pg/l | E1668C | D | 40186-71-8 | 0.63 | 0.033 | 0.23 | 0.18 | SED7E | 8 | | 15 | | **0.11 J** | **0.18 J** | < 0.01 U | < 0.002 U | **0.096 J** | **0.18 J** | **0.3** |
| PCB-202 | pg/l | E1668C | D | 2136-99-4 | 0.8 | 0.05 | 0.27 | 0.23 | SED7E | 11 | | 15 | | **0.14 J** | **0.28** | < 0.01 U | < 0.0019 U | **0.13 J** | **0.26** | **0.41** |
| PCB-203 | pg/l | E1668C | D | 52663-76-0 | 3 | 0.12 | 0.83 | 0.55 | SED7E | 13 | | 15 | | **0.5** | **0.88** | < 0.013 U | **0.17 J** | **0.4** | **0.9** | **1.5** |
| PCB-205 | pg/l | E1668C | D | 74472-53-0 | 0.16 | 0.0061 | 0.048 | 0.028 | SED7E | 11 | | 15 | | **0.02 JN** | **0.05 J** | < 0.026 U | **0.011 JN** | **0.018 J** | **0.058 J** | **0.074 J** |
| PCB-206 | pg/l | E1668C | D | 40186-72-9 | 0.6 | 0.025 | 0.13 | 0.096 | SED7E | 15 | | 15 | | **0.073** | **0.16** | **0.097 JN** | **0.029 J** | **0.063 J** | **0.12** | **0.21** |
| PCB-207 | pg/l | E1668C | D | 52663-79-3 | 0.065 | 0.0069 | 0.023 | 0.014 | SED7E | 13 | | 15 | | **0.014 J** | **0.014 JN** | **0.038 J** | **0.0078 J** | **0.015 J** | **0.011 J** | **0.03 J** |
| PCB-208 | pg/l | E1668C | D | 52663-77-1 | 0.13 | 0.0093 | 0.041 | 0.029 | SED7E | 13 | | 15 | | **0.018 J** | **0.048 J** | **0.054 JN** | **0.011 JN** | **0.02 J** | **0.025 J** | **0.058 J** |
| PCB-21 | pg/l | E1668C | D | 55702-46-0 | 180 | 30 | 71 | 56 | SED7E | 15 | | 15 | | **56** | **97** | **40 JN** | **35** | **56** | **89** | **140** |
| PCB-22 | pg/l | E1668C | D | 38444-85-8 | 150 | 22 | 57 | 41 | SED7E | 15 | | 15 | | **48** | **82** | **36 J** | **28 J** | **41 J** | **63** | **120** |
| PCB-23 | pg/l | E1668C | D | 55720-44-0 | | | | | | | | 15 | | < 0.56 U | < 0.97 U | < 1 U | < 0.67 U | < 0.98 U | < 1.1 U | < 1.1 U |
| PCB-24 | pg/l | E1668C | D | 55702-45-9 | 19 | 1.1 | 7.8 | 6 | SED7.5D | 13 | | 15 | | **4.5 J** | **16 J** | **5.1 JN** | **2.7 J** | **6 JN** | **19 J** | **13 J** |
| PCB-25 | pg/l | E1668C | D | 55712-37-3 | 62 | 8.9 | 22 | 18 | SED7E | 15 | | 15 | | **17 J** | **17 JN** | **16 JN** | **17 J** | **20 J** | **23 J** | **37 J** |
| PCB-26 | pg/l | E1668C | D | 38444-81-4 | 120 | 15 | 42 | 30 | SED7E | 15 | | 15 | | **30** | **41** | **34** | **25** | **29** | **43** | **77** |
| PCB-27 | pg/l | E1668C | D | 38444-76-7 | 83 | 9.5 | 34 | 25 | SED7E | 15 | | 15 | | **25 J** | **55 J** | **28 J** | **23 JN** | **24 JN** | **58 JN** | **52 J** |
| PCB-28 | pg/l | E1668C | D | 7012-37-5 | 620 | 110 | 260 | 210 | SED7E | 15 | | 15 | | **210** | **300** | **190** | **150** | **210** | **270** | **510** |
| PCB-29 | pg/l | E1668C | D | 15862-07-4 | 120 | 15 | 42 | 30 | SED7E | 15 | | 15 | | **30** | **41** | **34** | **25** | **29** | **43** | **77** |
| PCB-3 | pg/l | E1668C | D | 2051-62-9 | 130 | 8.8 | 58 | 47 | SED8B | 4 | | 15 | | < 1.5 U | < 13 U | < 1.5 U | **41 JN** | < 2.6 U | < 9.4 U | **8.8 JN** |
| PCB-30 | pg/l | E1668C | D | 35693-92-6 | 760 | 97 | 280 | 180 | SED7E | 15 | | 15 | | **180** | **510** | **140 JN** | **110** | **190** | **550** | **470** |
| PCB-31 | pg/l | E1668C | D | 16606-02-3 | 430 | 77 | 180 | 140 | SED7E | 15 | | 15 | | **140** | **210** | **130 J** | **100** | **140** | **180** | **330** |
| PCB-32 | pg/l | E1668C | D | 38444-77-8 | 370 | 46 | 150 | 100 | SED7E | 15 | | 15 | | **100** | **300** | **100 J** | **90 J** | **97 JN** | **270 JN** | **260** |
| PCB-33 | pg/l | E1668C | D | 38444-86-9 | 180 | 30 | 71 | 56 | SED7E | 15 | | 15 | | **56** | **97** | **40 JN** | **35** | **56** | **89** | **140** |
| PCB-34 | pg/l | E1668C | D | 37680-68-5 | 3.3 | 2.5 | 2.9 | 2.9 | SED7.5E | 2 | | 15 | | < 0.62 U | **2.5 J** | < 1 U | < 0.72 U | < 0.98 U | < 1.1 U | **3.3 J** |
| PCB-35 | pg/l | E1668C | D | 37680-69-6 | 2.6 | 0.75 | 1.2 | 0.91 | SED7F | 6 | | 15 | | **1 J** | < 0.49 U | < 0.53 U | < 0.34 U | **0.88 JN** | < 0.56 U | < 0.57 U |
| PCB-37 | pg/l | E1668C | D | 38444-90-5 | 52 | 9.9 | 24 | 18 | SED7.5E | 15 | | 15 | | **21 J** | **33** | **16 J** | **13 J** | **18 J** | **29** | **52** |
| PCB-38 | pg/l | E1668C | D | 53555-66-1 | | | | | | | | 15 | | < 0.31 U | < 0.49 U | < 0.53 U | < 0.37 U | < 0.52 U | < 0.59 U | < 0.59 U |
| PCB-39 | pg/l | E1668C | D | 38444-88-1 | 1.8 | 0.62 | 1.1 | 0.99 | SED7E | 6 | | 15 | | **0.71 J** | < 0.44 U | < 0.48 U | < 0.32 U | < 0.46 U | **1 J** | **1.7 J** |
| PCB-4 | pg/l | E1668C | D | 13029-08-8 | 760 | 130 | 330 | 290 | SED7E | 9 | | 15 | | **130 JN** | < 190 U | **370 J** | **290 JN** | < 44 U | < 280 U | **330 JN** |
| PCB-40 | pg/l | E1668C | D | 38444-93-8 | 210 | 24 | 71 | 49 | SED7E | 15 | | 15 | | **61** | **94** | **42** | **34** | **49** | **78** | **130** |
| PCB-41 | pg/l | E1668C | D | 52663-59-9 | 210 | 24 | 71 | 49 | SED7E | 15 | | 15 | | **61** | **94** | **42** | **34** | **49** | **78** | **130** |
| PCB-42 | pg/l | E1668C | D | 36559-22-5 | 100 | 13 | 35 | 26 | SED7E | 15 | | 15 | | **31** | **45** | **21 J** | **16 J** | **26** | **39** | **66** |
| PCB-43 | pg/l | E1668C | D | 70362-46-8 | 15 | 1.5 | 5.9 | 4.6 | SED7E | 14 | | 15 | | **4.5** | **5.9 JN** | **3 JN** | **2.7 JN** | **4.7** | **6.6 JN** | **12** |
| PCB-44 | pg/l | E1668C | D | 41464-39-5 | 450 | 66 | 150 | 110 | SED7E | 15 | | 15 | | **120** | **170** | **110** | **78** | **110** | **160** | **260** |
| PCB-45 | pg/l | E1668C | D | 70362-45-7 | 180 | 17 | 52 | 33 | SED7E | 15 | | 15 | | **40** | **52** | **31** | **20 JN** | **33** | **53** | **88** |

**Table 4-38**
**Pore Water Analysis in Waterside Investigation Area Sediment Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Location ID | SED6.5D | SED6.5E | SED6A | SED6B | SED6C | SED7.5D | SED7.5E |
| | | | | | | | | | | | | | Sample ID | PW6.5D00EN | PW6.5E00EN | PW6A00EN | PW6B00EN | PW6C00EN | PW7.5D00EN | PW7.5E00EN |
| | | | | | | | | | | | | | Sample Date | 7/26/2017 9:50:00 AM | 7/26/2017 8:50:00 AM | 7/26/2017 9:20:00 AM | 7/26/2017 9:10:00 AM | 7/26/2017 8:00:00 AM | 7/26/2017 9:30:00 AM | 7/26/2017 8:40:00 AM |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N |
| PCB-46 | pg/l | E1668C | D | 41464-47-5 | 34 | 4 | 12 | 8.8 | SED7E | 14 | | 15 | | 10 JN | 11 J | 6.2 J | 4.8 J | 7.6 J | 12 J | 20 J |
| PCB-47 | pg/l | E1668C | D | 2437-79-8 | 450 | 66 | 150 | 110 | SED7E | 15 | | 15 | | 120 | 170 | 110 | 78 | 110 | 160 | 260 |
| PCB-48 | pg/l | E1668C | D | 70362-47-9 | 87 | 8.6 | 30 | 22 | SED7E | 15 | | 15 | | 26 | 42 | 14 JN | 14 J | 22 J | 32 | 61 |
| PCB-49 | pg/l | E1668C | D | 41464-40-8 | 280 | 48 | 100 | 80 | SED7E | 15 | | 15 | | 82 | 110 | 70 | 53 | 80 | 110 | 180 |
| PCB-5 | pg/l | E1668C | D | 16605-91-7 | | | | | | | | 15 | | < 6.3 U | < 19 U | < 12 U | < 9 U | < 13 U | < 27 U | < 11 U |
| PCB-50 | pg/l | E1668C | D | 62796-65-0 | 110 | 11 | 36 | 25 | SED7E | 15 | | 15 | | 28 | 29 | 25 | 20 | 25 | 30 | 60 |
| PCB-51 | pg/l | E1668C | D | 68194-04-7 | 180 | 17 | 52 | 33 | SED7E | 15 | | 15 | | 40 | 52 | 31 | 20 JN | 33 | 53 | 88 |
| PCB-52 | pg/l | E1668C | D | 35693-99-3 | 450 | 77 | 170 | 150 | SED7E | 15 | | 15 | | 150 | 180 | 120 | 91 | 140 | 170 | 280 |
| PCB-53 | pg/l | E1668C | D | 41464-41-9 | 110 | 11 | 36 | 25 | SED7E | 15 | | 15 | | 28 | 29 | 25 | 20 | 25 | 30 | 60 |
| PCB-54 | pg/l | E1668C | D | 15968-05-5 | 3.7 | 0.72 | 1.7 | 1.4 | SED7E | 10 | | 15 | | 0.81 J | < 0.073 U | 1.2 J | 0.72 JN | < 0.078 U | 3.3 JN | 2.2 J |
| PCB-55 | pg/l | E1668C | D | 74338-24-2 | 3.3 | 0.44 | 1.6 | 1.3 | SED7E | 12 | | 15 | | 0.48 J | 2.3 JN | < 0.12 U | 0.75 JN | 0.7 JN | 2.1 J | 3 JN |
| PCB-56 | pg/l | E1668C | D | 41464-43-1 | 59 | 11 | 26 | 20 | SED7E | 15 | | 15 | | 23 | 37 | 17 J | 13 | 20 | 28 | 46 |
| PCB-57 | pg/l | E1668C | D | 70424-67-8 | 2.7 | 1.3 | 2 | 2 | SED7E | 2 | | 15 | | < 0.055 U | < 0.084 U | < 0.12 U | < 0.07 U | < 0.11 U | < 0.15 U | 1.3 JN |
| PCB-58 | pg/l | E1668C | D | 41464-49-7 | 4 | 0.25 | 1.1 | 0.5 | SED7D | 10 | | 15 | | 0.45 J | < 0.084 U | 2 J | < 0.071 U | 0.37 JN | < 0.15 U | 0.54 JN |
| PCB-59 | pg/l | E1668C | D | 74472-33-6 | 40 | 5 | 14 | 11 | SED7E | 15 | | 15 | | 13 | 19 | 7.3 JN | 7.2 | 11 | 15 | 26 |
| PCB-6 | pg/l | E1668C | D | 25569-80-6 | 120 | 27 | 63 | 52 | SED7E | 4 | | 15 | | < 5.6 U | < 16 U | < 11 U | 27 J | < 11 U | < 25 U | 63 J |
| PCB-60 | pg/l | E1668C | D | 33025-41-1 | 30 | 2.8 | 12 | 8.4 | SED7E | 15 | | 15 | | 12 | 20 | 7 J | 8 J | 8.4 J | 14 | 23 |
| PCB-61 | pg/l | E1668C | D | 33284-53-6 | 280 | 52 | 120 | 100 | SED7E | 15 | | 15 | | 110 | 160 | 84 | 68 | 100 | 130 | 200 |
| PCB-62 | pg/l | E1668C | D | 54230-22-7 | 40 | 5 | 14 | 11 | SED7E | 15 | | 15 | | 13 | 19 | 7.3 JN | 7.2 | 11 | 15 | 26 |
| PCB-63 | pg/l | E1668C | D | 74472-34-7 | 11 | 1.4 | 3.9 | 3.3 | SED7E | 15 | | 15 | | 3.4 J | 5.5 J | 2.9 J | 2.4 J | 3.3 J | 4.2 J | 6 JN |
| PCB-64 | pg/l | E1668C | D | 52663-58-8 | 150 | 26 | 58 | 45 | SED7E | 15 | | 15 | | 49 | 75 | 39 | 26 | 45 | 61 | 100 |
| PCB-65 | pg/l | E1668C | D | 33284-54-7 | 450 | 66 | 150 | 110 | SED7E | 15 | | 15 | | 120 | 170 | 110 | 78 | 110 | 160 | 260 |
| PCB-66 | pg/l | E1668C | D | 32598-10-0 | 160 | 31 | 70 | 59 | SED7E | 15 | | 15 | | 60 | 91 | 48 | 43 | 59 | 77 | 120 |
| PCB-67 | pg/l | E1668C | D | 73575-53-8 | 7.6 | 1.1 | 3 | 2.6 | SED7E | 13 | | 15 | | 2.6 J | 4.4 J | 1.7 J | 1.3 JN | 1.7 J | 2.6 JN | 5.4 J |
| PCB-68 | pg/l | E1668C | D | 73575-52-7 | 3.7 | 0.5 | 1.3 | 1.1 | SED7E | 13 | | 15 | | 0.83 J | < 0.074 U | 0.65 JN | 1.1 J | 0.72 JN | 1.4 J | 1.4 JN |
| PCB-69 | pg/l | E1668C | D | 60233-24-1 | 280 | 48 | 100 | 80 | SED7E | 15 | | 15 | | 82 | 110 | 70 | 53 | 80 | 110 | 180 |
| PCB-7 | pg/l | E1668C | D | 33284-50-3 | | | | | | | | 15 | | < 5.6 U | < 17 U | < 11 U | < 8.1 U | < 11 U | < 25 U | < 9.9 U |
| PCB-70 | pg/l | E1668C | D | 32598-11-1 | 280 | 52 | 120 | 100 | SED7E | 15 | | 15 | | 110 | 160 | 84 | 68 | 100 | 130 | 200 |
| PCB-71 | pg/l | E1668C | D | 41464-46-4 | 210 | 24 | 71 | 49 | SED7E | 15 | | 15 | | 61 | 94 | 42 | 34 | 49 | 78 | 130 |
| PCB-72 | pg/l | E1668C | D | 41464-42-0 | 3.8 | 0.59 | 1.6 | 1.3 | SED7E | 7 | | 15 | | 0.91 J | 1.2 J | < 0.12 U | < 0.068 U | < 0.1 U | 1.3 JN | 1.6 JN |
| PCB-73 | pg/l | E1668C | D | 74338-23-1 | 15 | 1.5 | 5.9 | 4.6 | SED7E | 14 | | 15 | | 4.5 | 5.9 JN | 3 JN | 2.7 JN | 4.7 | 6.6 JN | 12 |
| PCB-74 | pg/l | E1668C | D | 32690-93-0 | 280 | 52 | 120 | 100 | SED7E | 15 | | 15 | | 110 | 160 | 84 | 68 | 100 | 130 | 200 |
| PCB-75 | pg/l | E1668C | D | 32598-12-2 | 40 | 5 | 14 | 11 | SED7E | 15 | | 15 | | 13 | 19 | 7.3 JN | 7.2 | 11 | 15 | 26 |
| PCB-76 | pg/l | E1668C | D | 70362-48-0 | 280 | 52 | 120 | 100 | SED7E | 15 | | 15 | | 110 | 160 | 84 | 68 | 100 | 130 | 200 |
| PCB-77 | pg/l | E1668C | D | 32598-13-3 | 8.4 | 1.2 | 3.4 | 3 | SED7E | 15 | | 15 | | 3.3 J | 4.2 J | 3 J | 1.9 J | 2.4 J | 3.8 J | 5.4 J |
| PCB-79 | pg/l | E1668C | D | 41464-48-6 | 1.6 | 0.13 | 0.74 | 0.74 | SED7E | 6 | | 15 | | 0.13 JN | 0.8 J | < 0.069 U | < 0.037 U | < 0.055 U | < 0.082 U | 1 J |
| PCB-8 | pg/l | E1668C | D | 34883-43-7 | 250 | 61 | 130 | 130 | SED7E | 14 | | 15 | | 78 J | 140 J | 160 J | 120 JN | 110 JN | 160 J | 190 J |
| PCB-80 | pg/l | E1668C | D | 33284-52-5 | 0.8 | 0.3 | 0.6 | 0.72 | SED7D | 5 | | 15 | | < 0.029 U | < 0.042 U | 0.77 J | 0.4 J | < 0.055 U | < 0.082 U | < 0.039 U |
| PCB-81 | pg/l | E1668C | D | 70362-50-4 | | | | | | | | 15 | | < 0.031 U | < 0.045 U | < 0.072 U | < 0.039 U | < 0.058 U | < 0.086 U | < 0.04 U |
| PCB-82 | pg/l | E1668C | D | 52663-62-4 | 15 | 1.6 | 6.4 | 6 | SED7E | 14 | | 15 | | 5.4 | 8.3 JN | 3.7 J | 3.2 JN | 3.5 JN | 7.8 | 10 |
| PCB-83 | pg/l | E1668C | D | 60145-20-2 | 110 | 13 | 45 | 41 | SED7E | 15 | | 15 | | 41 | 63 | 28 | 26 | 36 | 55 | 71 |
| PCB-84 | pg/l | E1668C | D | 52663-60-2 | 40 | 4.8 | 17 | 16 | SED7E | 15 | | 15 | | 16 | 23 JN | 10 J | 7.5 J | 11 JN | 20 | 27 |
| PCB-85 | pg/l | E1668C | D | 65510-45-4 | 29 | 3.7 | 12 | 11 | SED7E | 15 | | 15 | | 11 | 17 | 6.4 | 8.4 | 9.8 | 15 | 18 |
| PCB-86 | pg/l | E1668C | D | 55312-69-1 | 89 | 12 | 40 | 36 | SED7E | 15 | | 15 | | 36 | 57 | 22 JN | 21 | 30 | 50 | 60 |
| PCB-87 | pg/l | E1668C | D | 38380-02-8 | 89 | 12 | 40 | 36 | SED7E | 15 | | 15 | | 36 | 57 | 22 JN | 21 | 30 | 50 | 60 |
| PCB-88 | pg/l | E1668C | D | 55215-17-3 | 45 | 3.2 | 15 | 13 | SED7E | 15 | | 15 | | 13 | 21 | 8.7 | 7.7 | 11 | 21 | 24 |
| PCB-89 | pg/l | E1668C | D | 73575-57-2 | 1.7 | 0.66 | 1.2 | 1.2 | SED7.5E | 2 | | 15 | | < 0.037 U | < 0.046 U | < 0.083 U | < 0.068 U | < 0.097 U | < 0.16 U | 1.7 J |
| PCB-9 | pg/l | E1668C | D | 34883-39-1 | | | | | | | | 15 | | < 5.8 U | < 17 U | < 11 U | < 8.3 U | < 12 U | < 25 U | < 10 U |

**Table 4-38**
**Pore Water Analysis in Waterside Investigation Area Sediment Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | Location ID | SED6.5D | SED6.5E | SED6A | SED6B | SED6C | SED7.5D | SED7.5E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Sample ID | PW6.5D00EN | PW6.5E00EN | PW6A00EN | PW6B00EN | PW6C00EN | PW7.5D00EN | PW7.5E00EN |
| | | | | | | | | | | | | | Sample Date | 7/26/2017 9:50:00 AM | 7/26/2017 8:50:00 AM | 7/26/2017 9:20:00 AM | 7/26/2017 9:10:00 AM | 7/26/2017 8:00:00 AM | 7/26/2017 9:30:00 AM | 7/26/2017 8:40:00 AM |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | |
| PCB-90 | pg/l | E1668C | D | 68194-07-0 | 220 | 21 | 84 | 70 | SED7E | 15 | | 15 | | **70** | **120** | **43** | **36** | **59** | **110** | **130** |
| PCB-91 | pg/l | E1668C | D | 68194-05-8 | 45 | 3.2 | 15 | 13 | SED7E | 15 | | 15 | | **13** | **21** | **8.7** | **7.7** | **11** | **21** | **24** |
| PCB-92 | pg/l | E1668C | D | 52663-61-3 | 41 | 4.4 | 15 | 13 | SED7E | 15 | | 15 | | **13** | **20** | **8.4 JN** | **7.7** | **10** | **21** | **23** |
| PCB-93 | pg/l | E1668C | D | 73575-56-1 | 8.4 | 0.45 | 3 | 2.1 | SED7F | 12 | | 15 | | **1.5 JN** | **5.3** | **2.9** | < 0.059 U | **1.3 JN** | **4.6 JN** | **1.8** |
| PCB-94 | pg/l | E1668C | D | 73575-55-0 | 3.9 | 0.44 | 2.1 | 1.9 | SED7E | 3 | | 15 | | < 0.037 U | < 0.046 U | < 0.083 U | < 0.068 U | < 0.097 U | < 0.16 U | < 0.064 U |
| PCB-95 | pg/l | E1668C | D | 38379-99-6 | 200 | 19 | 78 | 67 | SED7E | 15 | | 15 | | **67** | **110** | **38** | **30** | **54** | **93** | **120** |
| PCB-96 | pg/l | E1668C | D | 73575-54-9 | 2 | 0.31 | 1.3 | 1.5 | SED7E | 3 | | 15 | | < 0.025 U | < 0.032 U | < 0.06 U | < 0.048 U | < 0.069 U | < 0.11 U | < 0.044 U |
| PCB-97 | pg/l | E1668C | D | 41464-51-1 | 89 | 12 | 40 | 36 | SED7E | 15 | | 15 | | **36** | **57** | **22 JN** | **21** | **30** | **50** | **60** |
| PCB-98 | pg/l | E1668C | D | 60233-25-2 | 8.6 | 1.1 | 3.8 | 3 | SED7E | 12 | | 15 | | **3.1 JN** | **5.5** | < 0.071 U | **1.5** | **2.7** | **5.2** | **6.3** |
| PCB-99 | pg/l | E1668C | D | 38380-01-7 | 110 | 13 | 45 | 41 | SED7E | 15 | | 15 | | **41** | **63** | **28** | **26** | **36** | **55** | **71** |
| Ammonia | mg/l | E350.1 | N | 7664-41-7 | 32 | 3.5 | 13 | 9.5 | SED7A | 15 | | 15 | | **5.4** | **11** | **22** | **24** | **13** | **7.2** | **5.0** |
| Particulate Organic Carbon | mg/l | E440 | N | PTOC | 5.2 | 0.52 | 1.5 | 0.74 | SED6A | 15 | | 15 | | **4.2** | **1.9** | **5.2** | **0.58 J** | **0.95 J** | **1.2 J** | **0.72 J** |
| Hardness (as CaCO3) | mg/l | SM2340B | D | HARD | 510 | 190 | 290 | 260 | SED7A | 15 | | 15 | | **210** | **240** | **390** | **400** | **280** | **190** | **190** |
| HARDNESS CALCIUM (AS CACO3) | mg/l | SM2340B | D | HARDCA | 370 | 130 | 210 | 170 | SED7A | 15 | | 15 | | **150** | **160** | **290** | **290** | **200** | **140** | **130** |
| HARDNESS MAGNESIUM (AS CACO3) | mg/l | SM2340B | D | HARDMG | 140 | 59 | 84 | 81 | SED7A | 15 | | 15 | | **70** | **81** | **99** | **110** | **80** | **60** | **59** |
| Hardness (as CaCO3) | mg/l | SM2340B | T | HARD | 540 | 190 | 290 | 260 | SED7A | 15 | | 15 | | **200** | **240** | **370** | **400** | **300** | **200** | **190** |
| HARDNESS CALCIUM (AS CACO3) | mg/l | SM2340B | T | HARDCA | 400 | 130 | 210 | 170 | SED7A | 15 | | 15 | | **140** | **160** | **270** | **300** | **210** | **140** | **130** |
| HARDNESS MAGNESIUM (AS CACO3) | mg/l | SM2340B | T | HARDMG | 140 | 58 | 83 | 82 | SED7A | 15 | | 15 | | **66** | **78** | **95** | **100** | **86** | **62** | **58** |
| Dissolved Organic Carbon | mg/l | SM5310C | D | DOC | 140 | 6.2 | 31 | 15 | SED8B | 15 | | 15 | | **7.9** | **20** | **15** | **78** | **26** | **7.4** | **6.2** |
| Aluminum | ug/l | SW6020A | D | 7429-90-5 | | | | | | | | 15 | | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U |
| Antimony | ug/l | SW6020A | D | 7440-36-0 | | | | | | | | 15 | | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Arsenic | ug/l | SW6020A | D | 7440-38-2 | 3.3 | 1.1 | 1.7 | 1.4 | SED8B | 14 | | 15 | | **1.3** | **1.1** | **2.5** | **2.1** | **1.1** | **1.1** | < 1.0 U |
| Barium | ug/l | SW6020A | D | 7440-39-3 | 180 | 74 | 110 | 92 | SED8B SED7A | 15 | | 15 | | **92** | **90** | **130** | **98** | **74** | **92** | **120** |
| Beryllium | ug/l | SW6020A | D | 7440-41-7 | | | | | | | | 15 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cadmium | ug/l | SW6020A | D | 7440-43-9 | | | | | | | | 15 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Calcium | ug/l | SW6020A | D | 7440-70-2 | 150000 | 51000 | 83000 | 69000 | SED7A | 15 | | 15 | | **58000** | **65000** | **120000** | **120000** | **80000** | **54000** | **51000** |
| Chromium | ug/l | SW6020A | D | 7440-47-3 | 0.99 | 0.38 | 0.51 | 0.47 | SED7B | 13 | | 15 | | **0.46 J** | < 2.0 U | **0.49 J** | < 2.0 U | **0.46 J** | **0.38 J** | **0.38 J** |
| Cobalt | ug/l | SW6020A | D | 7440-48-4 | 19 | 0.3 | 6.2 | 3.6 | SED7A | 15 | | 15 | | **1.0** | **0.81** | **15** | **9.2** | **5.5** | **2.0** | **0.30 J** |
| Copper | ug/l | SW6020A | D | 7440-50-8 | | | | | | | | 15 | | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Iron | ug/l | SW6020A | D | 7439-89-6 | 67000 | 4400 | 19000 | 7200 | SED7A | 15 | | 15 | | **6700** | **7200** | **61000** | **17000** | **4400** | **6700** | **5700** |
| Lead | ug/l | SW6020A | D | 7439-92-1 | | | | | | | | 15 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Magnesium | ug/l | SW6020A | D | 7439-95-4 | 35000 | 14000 | 20000 | 20000 | SED7A | 15 | | 15 | | **17000** | **20000** | **24000** | **26000** | **20000** | **14000** | **14000** |
| Manganese | ug/l | SW6020A | D | 7439-96-5 | 11000 | 1300 | 4300 | 2800 | SED7A | 15 | | 15 | | **1800** | **2300** | **9000** | **7100** | **4100** | **1800** | **1300** |
| Nickel | ug/l | SW6020A | D | 7440-02-0 | 3.8 | 0.89 | 1.9 | 1.6 | SED7A | 15 | | 15 | | **1.6** | **1.5** | **2.6** | **2.4** | **1.8** | **1.3** | **0.89 J** |
| Potassium | ug/l | SW6020A | D | 7440-09-7 | 10000 | 5300 | 6800 | 6300 | SED8B SED7A | 15 | | 15 | | **5600** | **6500** | **7800** | **8400** | **6000** | **5500** | **5300** |
| Selenium | ug/l | SW6020A | D | 7782-49-2 | | | | | | | | 15 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Silver | ug/l | SW6020A | D | 7440-22-4 | | | | | | | | 15 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | SW6020A | D | 7440-23-5 | 57000 | 42000 | 50000 | 49000 | SED7A | 15 | | 15 | | **49000** | **46000** | **56000** | **53000** | **48000** | **51000** | **47000** |
| Thallium | ug/l | SW6020A | D | 7440-28-0 | | | | | | | | 15 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Vanadium | ug/l | SW6020A | D | 7440-62-2 | 0.92 | 0.6 | 0.7 | 0.68 | SED7F | 8 | | 15 | | < 1.0 U | **0.69 J** | < 1.0 U | **0.61 J** | **0.66 J** | < 1.0 U | **0.68 J** |
| Zinc | ug/l | SW6020A | D | 7440-66-6 | 6.4 | 2.9 | 3.7 | 3.3 | SED6A | 8 | | 15 | | < 5.0 U | < 5.0 U | **6.4** | **3.1 J** | **2.9 J** | < 5.0 U | < 5.0 U |
| Aluminum | ug/l | SW6020A | T | 7429-90-5 | 360 | 28 | 100 | 81 | SED7.5D | 15 | | 15 | | **95** | **160** | **81** | **42** | **77** | **360** | **69** |
| Antimony | ug/l | SW6020A | T | 7440-36-0 | 3.3 | 3.3 | 3.3 | 3.3 | SED7B | 1 | | 15 | | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Arsenic | ug/l | SW6020A | T | 7440-38-2 | 7.1 | 1.6 | 4.4 | 4.5 | SED7A | 15 | | 15 | | **3.5** | **3.8** | **5.1** | **6.0** | **4.5** | **4.5** | **1.6** |
| Barium | ug/l | SW6020A | T | 7440-39-3 | 340 | 96 | 170 | 140 | SED7A | 15 | | 15 | | **110** | **140** | **240** | **230** | **140** | **140** | **160** |
| Beryllium | ug/l | SW6020A | T | 7440-41-7 | | | | | | | | 15 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cadmium | ug/l | SW6020A | T | 7440-43-9 | 0.11 | 0.1 | 0.11 | 0.11 | SED7F | 2 | | 15 | | < 1.0 U | < 1.0 U | < 1.0 U | **0.10 J** | < 1.0 U | < 1.0 U | < 1.0 U |
| Calcium | ug/l | SW6020A | T | 7440-70-2 | 160000 | 52000 | 83000 | 70000 | SED7A | 15 | | 15 | | **55000** | **65000** | **110000** | **120000** | **86000** | **55000** | **52000** |
| Chromium | ug/l | SW6020A | T | 7440-47-3 | 5.4 | 0.51 | 1.3 | 0.91 | SED7B | 15 | | 15 | | **0.91 J** | **0.91 J** | **1.0 J** | **0.64 J** | **1.2 J** | **1.9 J** | **0.64 J** |
| Cobalt | ug/l | SW6020A | T | 7440-48-4 | 23 | 0.44 | 7.3 | 4 | SED7A | 15 | | 15 | | **1.3** | **1.2** | **16** | **11** | **6.9** | **2.7** | **0.44 J** |
| Copper | ug/l | SW6020A | T | 7440-50-8 | 6.5 | 1.1 | 3 | 2.7 | SED7.5D | 15 | | 15 | | **2.7** | **2.6** | **2.0** | **1.3 J** | **3.1** | **6.5** | **2.7** |
| Iron | ug/l | SW6020A | T | 7439-89-6 | 110000 | 13000 | 44000 | 27000 | SED7A | 15 | | 15 | | **21000** | **26000** | **100000** | **66000** | **30000** | **26000** | **18000** |
| Lead | ug/l | SW6020A | T | 7439-92-1 | 7.1 | 0.5 | 2.7 | 2.1 | SED6.5E | 15 | | 15 | | **2.9** | **7.1** | **1.1** | **0.50 J** | **2.6** | **6.8** | **1.5** |
| Magnesium | ug/l | SW6020A | T | 7439-95-4 | 35000 | 14000 | 20000 | 20000 | SED7A | 15 | | 15 | | **16000** | **19000** | **23000** | **25000** | **21000** | **15000** | **14000** |
| Manganese | ug/l | SW6020A | T | 7439-96-5 | 13000 | 1300 | 4600 | 3000 | SED7A | 15 | | 15 | | **1700** | **2300** | **9300** | **7500** | **4500** | **1800** | **1300** |
| Nickel | ug/l | SW6020A | T | 7440-02-0 | 4.8 | 1.4 | 2.7 | 2.6 | SED7A | 15 | | 15 | | **2.6** | **2.5** | **3.1** | **2.8** | **2.7** | **2.6** | **1.5** |
| Potassium | ug/l | SW6020A | T | 7440-09-7 | 11000 | 5200 | 6900 | 6400 | SED7A | 15 | | 15 | | **5200** | **6400** | **7600** | **8300** | **6400** | **5600** | **5400** |
| Selenium | ug/l | SW6020A | T | 7782-49-2 | | | | | | | | 15 | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |

**Table 4-38**
**Pore Water Analysis in Waterside Investigation Area Sediment Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Location ID | SED6.5D | SED6.5E | SED6A | SED6B | SED6C | SED7.5D | SED7.5E |
| | | | | | | | | | | | | | Sample ID | PW6.5D00EN | PW6.5E00EN | PW6A00EN | PW6B00EN | PW6C00EN | PW7.5D00EN | PW7.5E00EN |
| | | | | | | | | | | | | | Sample Date | 7/26/2017 9:50:00 AM | 7/26/2017 8:50:00 AM | 7/26/2017 9:20:00 AM | 7/26/2017 9:10:00 AM | 7/26/2017 8:00:00 AM | 7/26/2017 9:30:00 AM | 7/26/2017 8:40:00 AM |
| | | | | | | | | | | | | | Type | N | N | N | N | N | N | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Reject | Count Total | | | | | | | | |
| Silver | ug/l | SW6020A | T | 7440-22-4 | | | | | | | | 15 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | SW6020A | T | 7440-23-5 | 58000 | 41000 | 49000 | 50000 | SED7A | 15 | | 15 | | **45000** | **45000** | **55000** | **51000** | **51000** | **51000** | **48000** |
| Thallium | ug/l | SW6020A | T | 7440-28-0 | | | | | | | | 15 | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Vanadium | ug/l | SW6020A | T | 7440-62-2 | 5.2 | 0.97 | 2.2 | 1.8 | SED7.5D | 15 | | 15 | | **2.6** | **3.2** | **1.2** | **0.97 J** | **1.8** | **5.2** | **2.6** |
| Zinc | ug/l | SW6020A | T | 7440-66-6 | 13 | 3.9 | 7.6 | 7.2 | SED7.5D | 14 | | 15 | | **8.1** | **9.0** | **4.9 J** | **4.4 J** | **11** | **13** | **7.5** |
| Mercury | ug/l | SW7470A | D | 7439-97-6 | | | | | | | | 15 | | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U |
| Mercury | ug/l | SW7470A | T | 7439-97-6 | | | | | | | | 15 | | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U |

**Table 4-38**
**Pore Water Analysis in Waterside Investigation Area Sediment Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED7A | SED7B | SED7D | SED7E | SED7F | SED8A | SED8B | SED8C |
| | | Sample ID | PW7A00EN | PW7B00EN | PW7D00EN | PW7E00EN | PW7F00EN | PW8A00EN | PW8B00EN | PW8C00EN |
| | | Sample Date | 7/26/2017 10:10:00 AM | 7/26/2017 8:20:00 AM | 7/26/2017 9:40:00 AM | 7/26/2017 9:00:00 AM | 7/26/2017 8:30:00 AM | 7/26/2017 10:00:00 AM | 7/26/2017 10:20:00 AM | 7/26/2017 8:10:00 AM |
| | | Type | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | |
| 1-Methylnaphthalene | ug/l | | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U |
| 2-Methylnaphthalene | ug/l | | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U | < 2.4 U |
| Acenaphthene | ug/l | | < 1.6 U | **0.15 J** | < 1.6 U | < 1.6 U | < 1.6 U | < 1.6 U | < 1.6 U | < 1.6 U |
| Acenaphthylene | ug/l | | < 9 U | < 9 U | < 9 U | < 9 U | < 9 U | < 9 U | < 9 U | < 9 U |
| Anthracene | ug/l | | < 0.61 U | < 0.61 U | < 0.61 U | < 0.61 U | < 0.61 U | < 0.61 U | < 0.61 U | < 0.61 U |
| Benzo(a)anthracene | ug/l | | < 0.066 U | < 0.066 U | < 0.066 U | < 0.066 U | < 0.066 U | < 0.066 U | < 0.066 U | < 0.066 U |
| Benzo(a)pyrene | ug/l | | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U |
| Benzo(b,k)fluoranthene | ug/l | | < 0.019 U | < 0.019 U | < 0.019 U | < 0.019 U | < 0.019 U | < 0.019 U | < 0.019 U | < 0.019 U |
| Benzo(e)pyrene | ug/l | | < 0.028 U | < 0.028 U | < 0.028 U | < 0.028 U | < 0.028 U | < 0.028 U | < 0.028 U | < 0.028 U |
| Benzo(g,h,i)perylene | ug/l | | < 0.013 U | < 0.013 U | < 0.013 U | < 0.013 U | < 0.013 U | < 0.013 U | < 0.013 U | < 0.013 U |
| C1-Chrysenes | ug/l | | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U | < 0.025 U |
| C1-Fluorenes | ug/l | | < 0.41 U | **0.88 JN** | < 0.41 U | **0.17 JN** | < 0.41 U | < 0.41 U | < 0.41 U | < 0.41 U |
| C1-Phenanthrene/anthracenes | ug/l | | < 0.22 U | **0.19 JN** | < 0.22 U | < 0.22 U | < 0.22 U | < 0.22 U | < 0.22 U | < 0.22 U |
| C1-Pyrene/fluoranthenes | ug/l | | < 0.14 U | < 0.14 U | < 0.14 U | < 0.14 U | < 0.14 U | < 0.14 U | < 0.14 U | < 0.14 U |
| C2-Chrysenes | ug/l | | < 0.014 U | < 0.014 U | < 0.014 U | < 0.014 U | < 0.014 U | < 0.014 U | < 0.014 U | < 0.014 U |
| C2-Fluorenes | ug/l | | < 0.16 U | **0.68 JN** | < 0.16 U | < 0.16 U | < 0.16 U | < 0.16 U | < 0.16 U | < 0.16 U |
| C2-Naphthalenes | ug/l | | **0.15 JN** | **1.48 JN** | < 0.89 U | **0.17 JN** | < 0.89 U | < 0.89 U | **0.18 JN** | < 0.89 U |
| C2-Phenanthrene/anthracenes | ug/l | | < 0.09 U | **0.23 JN** | < 0.09 U | **0.06 JN** | < 0.09 U | < 0.09 U | < 0.09 U | < 0.09 U |
| C3-Chrysenes | ug/l | | < 0.005 U | < 0.005 U | < 0.005 U | < 0.005 U | < 0.005 U | < 0.005 U | < 0.005 U | < 0.005 U |
| C3-Fluorenes | ug/l | | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U |
| C3-Naphthalenes | ug/l | | **0.07 JN** | **4.06 JN** | **0.08 JN** | **0.19 JN** | **0.09 JN** | **0.11 JN** | **0.11 JN** | **0.1 JN** |
| C3-Phenanthrene/anthracenes | ug/l | | < 0.04 U | **0.2 JN** | < 0.04 U | < 0.04 U | < 0.04 U | < 0.04 U | **0.08 JN** | < 0.04 U |
| C4-Chrysenes | ug/l | | < 0.002 U | < 0.002 U | < 0.002 U | < 0.002 U | < 0.002 U | < 0.002 U | < 0.002 U | < 0.002 U |
| C4-Naphthalenes | ug/l | | **0.16 JN** | **3.62 JN** | < 0.12 U | **0.41 JN** | **0.43 JN** | < 0.12 U | **0.3 JN** | **0.35 JN** |
| C4-Phenanthrenes/anthracenes | ug/l | | < 0.02 U | < 0.02 U | < 0.02 U | < 0.02 U | < 0.02 U | < 0.02 U | < 0.02 U | < 0.02 U |
| Chrysene | ug/l | | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U | < 0.06 U |
| Dibenzo(a,h)anthracene | ug/l | | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U |
| Fluoranthene | ug/l | | **0.02 J** | **0.09 J** | **0.02 J** | **0.02 J** | **0.02 J** | **0.02 J** | **0.02 J** | **0.03 J** |
| Fluorene | ug/l | | < 1.2 U | **0.13 J** | < 1.2 U | < 1.2 U | < 1.2 U | < 1.2 U | < 1.2 U | < 1.2 U |
| Indeno(1,2,3-cd)pyrene | ug/l | | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U | < 0.008 U |
| Naphthalene | ug/l | | **0.13 J** | **0.15 J** | < 5.7 U | **0.1 J** | **0.11 J** | **0.13 J** | **0.12 J** | **0.12 J** |
| Perylene | ug/l | | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U | < 0.026 U |
| Phenanthrene | ug/l | | < 0.56 U | **0.31 J** | < 0.56 U | < 0.56 U | < 0.56 U | < 0.56 U | < 0.56 U | < 0.56 U |
| Pyrene | ug/l | | **0.02 J** | **0.12 J** | **0.03 J** | **0.02 J** | **0.02 J** | **0.02 J** | **0.02 J** | **0.03 J** |
| Total High-molecular-weight PAHs | ug/l | | **0.04** | **0.21** | **0.05** | **0.04** | **0.04** | **0.04** | **0.04** | **0.06** |
| Total Low-molecular-weight PAHs | ug/l | | **0.13** | **0.74** | < 9 U | **0.1** | **0.11** | **0.13** | **0.12** | **0.12** |
| Total PAHs (sum 16) | ug/l | | **0.17** | **0.95** | **0.05** | **0.1** | **0.15** | **0.17** | **0.16** | **0.18** |
| PCB-104 | % | | **94.910714286** | **77.5** | **89.821428571** | **99.619642857** | **96.142857143** | **74.285714286** | **99.919642857** | **95.285714286** |
| PCB-121 | % | | **85.608856089** | **54.612546125** | **78.966789668** | **98.228782288** | **87.822878229** | **57.933579336** | **99.856088561** | **90.258302583** |
| PCB-14 | % | | **99.7** | **94.545454545** | **99.318181818** | **100** | **99.759090909** | **94.090909091** | **99.890909091** | **99.681818182** |
| PCB-142 | % | | **84.641638225** | **56.996587031** | **76.450511945** | **98.054607509** | **86.689419795** | **52.901023891** | **99.85665529** | **90.170648464** |
| PCB-155 | % | | **77.443609023** | **45.864661654** | **70.676691729** | **96.390977444** | **79.69924812** | **45.864661654** | **99.593984962** | **86.240601504** |
| PCB-184 | % | | **65.714285714** | **32.142857143** | **57.142857143** | **91.428571429** | **67.142857143** | **32.857142857** | **97.357142857** | **79.285714286** |
| PCB-192 | % | | **65** | **30.714285714** | **57.857142857** | **90.714285714** | **65** | **32.857142857** | **97.142857143** | **77.857142857** |
| PCB-204 | % | | **47.619047619** | **19.047619048** | **42.857142857** | **74.285714286** | **42.857142857** | **23.80952381** | **81.904761905** | **61.428571429** |
| PCB-36 | % | | **97.823529412** | **85.294117647** | **94.647058824** | **99.876470588** | **98.411764706** | **83.529411765** | **99.905882353** | **97.647058824** |
| PCB-78 | % | | **94.545454545** | **75.649350649** | **89.285714286** | **99.464285714** | **95.324675325** | **75.649350649** | **99.892857143** | **95.032467532** |
| Decachlorobiphenyl (PCB-209) | ng/g | | **5.2 J** | **11 J** | **7.3 J** | **12 JN** | **7.8 J** | **5.7 J** | **5.4 JN** | **7.5 J** |
| Dichlorobiphenyl | ng/g | | **19 J** | **130** | **27** | **42** | **31** | **150** | **19 J** | **20 J** |
| Heptachlorobiphenyl | ng/g | | **1000** | **2300** | **1600** | **3100** | **2100** | **1900** | **250** | **820** |
| Hexachlorobiphenyl | ng/g | | **410** | **1500** | **1100** | **3200** | **1900** | **860** | **300** | **500** |
| Monochlorobiphenyl | ng/g | | **0.39 J** | < 0.13 U | **0.42 J** | **1.3 J** | **7.0 J** | **0.50 J** | **16** | **0.46 J** |
| Nonachlorobiphenyl | ng/g | | **5.9 J** | **11 J** | **12** | **97** | **25** | **5.3 J** | **8.6 J** | **10 J** |
| Octachlorobiphenyl | ng/g | | **1100** | **1800** | **1300** | **1300** | **1400** | **1600** | **430** | **870** |
| PCB, Total Aroclors (Lab provided) | ng/g | | **3400** | **8000** | **6000** | **11000** | **7800** | **6400** | **1700** | **3200** |
| PCB-1 | ng/g | | **0.39 J** | < 0.11 U | **0.42 JN** | **1.3 JN** | **2.2 J** | **0.50 J** | **3.4 J** | **0.46 JN** |
| PCB-10 | ng/g | | < 0.45 U | < 0.72 U | < 0.62 U | **1.1 JN** | < 0.49 U | < 0.51 U | < 0.40 U | < 0.80 U |
| PCB-100 | ng/g | | **0.44 JN** | **1.7** | < 0.078 U | **5.4 JN** | **8.3** | < 0.059 U | **1.3** | **0.92 JN** |
| PCB-101 | ng/g | | **30** | **140** | **110** | **340** | **200** | **31** | **50** | **60** |

**Table 4-38**
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**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED7A | SED7B | SED7D | SED7E | SED7F | SED8A | SED8B | SED8C |
| | | Sample ID | PW7A00EN | PW7B00EN | PW7D00EN | PW7E00EN | PW7F00EN | PW8A00EN | PW8B00EN | PW8C00EN |
| | | Sample Date | 7/26/2017 10:10:00 AM | 7/26/2017 8:20:00 AM | 7/26/2017 9:40:00 AM | 7/26/2017 9:00:00 AM | 7/26/2017 8:30:00 AM | 7/26/2017 10:00:00 AM | 7/26/2017 10:20:00 AM | 7/26/2017 8:10:00 AM |
| | | Type | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | |
| PCB-102 | ng/g | | **1.1 JN** | < 0.061 U | **2.6 JN** | **9.0 JN** | **5.6 JN** | < 0.057 U | **2.0** | **1.3 JN** |
| PCB-103 | ng/g | | < 0.048 U | < 0.063 U | < 0.078 U | **6.5 J** | **2.7 JN** | < 0.059 U | **0.65 J** | < 0.10 U |
| PCB-104 | ng/g | | **95** | **420** | **190** | **7.1 JN** | **72** | **480** | **1.5 JN** | **88** |
| PCB-105 | ng/g | | **10 JN** | **27** | **27** | **55** | **38** | **14 JN** | **15** | **16** |
| PCB-106 | ng/g | | **5.5 J** | **16** | **8.9 J** | < 0.37 U | **5.0 J** | **16** | < 0.13 U | **3.4 J** |
| PCB-107 | ng/g | | **1.7 JN** | **4.0 J** | **6.4 JN** | **18** | **10** | **1.5 J** | **3.5 J** | **3.8 JN** |
| PCB-108 | ng/g | | **0.96 J** | **2.2 JN** | **2.8 J** | **7.7 J** | **2.5 JN** | **0.70 JN** | **1.8 J** | **1.7 J** |
| PCB-109 | ng/g | | **17** | **58** | **56** | **140** | **95** | **17** | **28** | **31** |
| PCB-11 | ng/g | | **3.2 JN** | **4.0 JN** | **4.0 J** | **5.2 J** | **5.3 J** | **6.4 J** | **4.0 JN** | **5.3 JN** |
| PCB-110 | ng/g | | **28** | **110** | **90** | **250** | **160** | **29** | **48** | **52** |
| PCB-111 | ng/g | | < 0.034 U | < 0.044 U | < 0.055 U | < 0.057 U | < 0.039 U | < 0.041 U | < 0.039 U | < 0.070 U |
| PCB-112 | ng/g | | **0.27 JN** | < 0.047 U | < 0.057 U | **1.8 JN** | **1.3 J** | < 0.043 U | **0.45 J** | < 0.074 U |
| PCB-113 | ng/g | | **30** | **140** | **110** | **340** | **200** | **31** | **50** | **60** |
| PCB-114 | ng/g | | < 0.22 U | **1.2 J** | **1.6 JN** | **4.5 J** | **2.5 J** | **0.55 JN** | **1.1 JN** | **1.2 J** |
| PCB-115 | ng/g | | **28** | **110** | **90** | **250** | **160** | **29** | **48** | **52** |
| PCB-116 | ng/g | | **5.3** | **13** | **16** | **45** | **30** | **4.9** | **9.9** | **10** |
| PCB-117 | ng/g | | **5.3** | **13** | **16** | **45** | **30** | **4.9** | **9.9** | **10** |
| PCB-118 | ng/g | | **24** | **65** | **68** | **180** | **110** | **22** | **44** | **43** |
| PCB-119 | ng/g | | **17** | **58** | **56** | **140** | **95** | **17** | **28** | **31** |
| PCB-12 | ng/g | | < 0.41 U | < 0.65 U | < 0.56 U | < 0.72 U | < 0.45 U | < 0.46 U | < 0.36 U | < 0.73 U |
| PCB-120 | ng/g | | < 0.034 U | < 0.045 U | < 0.055 U | < 0.058 U | < 0.040 U | < 0.042 U | < 0.039 U | < 0.071 U |
| PCB-121 | ng/g | | **130** | **410** | **190** | **16** | **110** | **380** | **1.3 JN** | **88** |
| PCB-122 | ng/g | | < 0.27 U | **1.1 J** | **1.2 J** | **1.9 JN** | **1.4 JN** | < 0.16 U | **0.60 JN** | **0.65 JN** |
| PCB-123 | ng/g | | **0.50 JN** | **0.69 JN** | **1.3 J** | **4.1 J** | **2.0 J** | < 0.14 U | **0.92 JN** | **1.1 JN** |
| PCB-124 | ng/g | | **0.96** | **2.2 JN** | **2.8** | **7.7** | **2.5 JN** | **0.70 JN** | **1.8** | **1.7** |
| PCB-125 | ng/g | | **17** | **58** | **56** | **140** | **95** | **17** | **28** | **31** |
| PCB-126 | ng/g | | < 0.26 U | < 0.27 U | < 0.25 U | < 0.37 U | **0.38 JN** | < 0.15 U | < 0.13 U | < 0.23 U |
| PCB-127 | ng/g | | < 0.23 U | < 0.27 U | < 0.23 U | < 0.37 U | < 0.29 U | < 0.14 U | < 0.13 U | < 0.22 U |
| PCB-128 | ng/g | | **2.7 JN** | **13 J** | **13** | **58** | **31** | **3.0 J** | **7.1 J** | **7.0 JN** |
| PCB-129 | ng/g | | **34** | **160** | **140** | **620** | **330** | **31** | **68** | **71** |
| PCB-13 | ng/g | | < 0.41 U | < 0.65 U | < 0.56 U | < 0.72 U | < 0.45 U | < 0.46 U | < 0.36 U | < 0.73 U |
| PCB-130 | ng/g | | **1.4 JN** | **6.2 J** | **8.1 J** | **33** | **17** | **1.5 JN** | **3.9 J** | **3.6 J** |
| PCB-131 | ng/g | | < 0.35 U | < 0.51 U | < 0.46 U | < 1.3 U | < 0.64 U | < 0.24 U | < 0.25 U | < 0.36 U |
| PCB-132 | ng/g | | **7.1 JN** | **48** | **36** | **140** | **81** | **9.9 J** | **14** | **16** |
| PCB-133 | ng/g | | < 0.31 U | < 0.46 U | **2.6 JN** | **12 J** | **6.1 J** | **1.3 JN** | **0.96 J** | **1.5 J** |
| PCB-134 | ng/g | | **1.1 JN** | **7.2 J** | **5.6 JN** | **29** | **17** | **1.4 JN** | **2.6 J** | **2.6 JN** |
| PCB-135 | ng/g | | **8.5 JN** | **77** | **64** | **300** | **160** | **9.9 JN** | **20** | **27** |
| PCB-136 | ng/g | | **2.5 J** | **25** | **15** | **64** | **35** | **2.8 JN** | **4.9 J** | **6.0 J** |
| PCB-137 | ng/g | | **0.94 JN** | **3.9 J** | **4.8 J** | **18** | **9.6 JN** | < 0.19 U | **3.4 J** | **2.8 J** |
| PCB-138 | ng/g | | **34** | **160** | **140** | **620** | **330** | **31** | **68** | **71** |
| PCB-139 | ng/g | | < 0.28 U | < 0.41 U | < 0.37 U | **7.9 J** | **4.1 J** | < 0.19 U | **0.80 J** | < 0.29 U |
| PCB-14 | ng/g | | **6.6 J** | **120** | **15** | < 0.61 U | **5.3 J** | **130** | **2.4 JN** | **7.0 J** |
| PCB-140 | ng/g | | < 0.28 U | < 0.41 U | < 0.37 U | **7.9** | **4.1** | < 0.19 U | **0.80** | < 0.29 U |
| PCB-141 | ng/g | | **6.3 J** | **40** | **32** | **160** | **82** | **6.5 JN** | **12** | **15** |
| PCB-142 | ng/g | | **150** | **420** | **230** | **19** | **130** | **460** | **1.4 J** | **96** |
| PCB-143 | ng/g | | **1.1 JN** | **7.2** | **5.6 JN** | **29** | **17** | **1.4 JN** | **2.6** | **2.6 JN** |
| PCB-144 | ng/g | | **1.4 J** | **8.9 JN** | **6.6 JN** | **35** | **17** | **0.99 JN** | **1.6 JN** | **3.4 J** |
| PCB-145 | ng/g | | < 0.035 U | < 0.051 U | < 0.075 U | < 0.068 U | < 0.046 U | < 0.040 U | < 0.025 U | < 0.073 U |
| PCB-146 | ng/g | | **9.7 J** | **27** | **35** | **130** | **70** | **2.0 JN** | **12** | **16** |
| PCB-147 | ng/g | | **28** | **180** | **140** | **630** | **330** | **30** | **53** | **61** |
| PCB-148 | ng/g | | < 0.049 U | < 0.072 U | < 0.11 U | **0.75 JN** | **0.90 J** | < 0.057 U | < 0.035 U | < 0.10 U |
| PCB-149 | ng/g | | **28** | **180** | **140** | **630** | **330** | **30** | **53** | **61** |
| PCB-15 | ng/g | | **3.7 JN** | **2.2 J** | **3.6 JN** | **6.9 J** | **8.2 JN** | **3.7 J** | **3.3 JN** | **3.3 JN** |
| PCB-150 | ng/g | | < 0.033 U | < 0.049 U | **0.46 JN** | **2.0 J** | **1.4 JN** | < 0.039 U | < 0.024 U | < 0.070 U |
| PCB-151 | ng/g | | **8.5 JN** | **77** | **64** | **300** | **160** | **9.9 JN** | **20** | **27** |
| PCB-152 | ng/g | | **0.32 J** | < 0.053 U | < 0.077 U | < 0.070 U | **0.46 J** | **0.78 J** | **0.083 JN** | < 0.075 U |
| PCB-153 | ng/g | | **32** | **160** | **150** | **750** | **360** | **29** | **68** | **76** |
| PCB-154 | ng/g | | **0.73 JN** | **1.4 JN** | **2.6 J** | **16** | **1.8 JN** | **1.6 J** | **1.4 JN** | **1.6 J** |

# Table 4-38
## Pore Water Analysis in Waterside Investigation Area Sediment Results
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | SED7A | SED7B | SED7D | SED7E | SED7F | SED8A | SED8B | SED8C |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED7A | SED7B | SED7D | SED7E | SED7F | SED8A | SED8B | SED8C |
| | | Sample ID | PW7A00EN | PW7B00EN | PW7D00EN | PW7E00EN | PW7F00EN | PW8A00EN | PW8B00EN | PW8C00EN |
| | | Sample Date | 7/26/2017 10:10:00 AM | 7/26/2017 8:20:00 AM | 7/26/2017 9:40:00 AM | 7/26/2017 9:00:00 AM | 7/26/2017 8:30:00 AM | 7/26/2017 10:00:00 AM | 7/26/2017 10:20:00 AM | 7/26/2017 8:10:00 AM |
| | | Type | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | |
| PCB-155 | ng/g | | 100 | 240 | 130 | 16 | 90 | 240 | 1.8 J | 61 |
| PCB-156 | ng/g | | 13 JN | 24 JN | 25 JN | 53 | 35 JN | 21 JN | 11 JN | 15 JN |
| PCB-157 | ng/g | | 13 JN | 24 JN | 25 JN | 53 | 35 JN | 21 JN | 11 JN | 15 JN |
| PCB-158 | ng/g | | 3.2 J | 15 | 14 | 60 | 31 | 2.5 J | 7.3 J | 5.6 JN |
| PCB-159 | ng/g | | < 0.21 U | 2.1 J | 1.6 JN | 9.7 J | 3.3 JN | < 0.14 U | 0.54 J | 0.87 JN |
| PCB-16 | ng/g | | 2.7 JN | 2.3 J | 8.9 JN | 24 | 11 | 2.8 JN | 2.7 JN | 3.0 JN |
| PCB-160 | ng/g | | 34 | 160 | 140 | 620 | 330 | 31 | 68 | 71 |
| PCB-161 | ng/g | | < 0.21 U | 1.5 JN | < 0.28 U | < 0.78 U | < 0.39 U | 8.4 J | < 0.15 U | < 0.22 U |
| PCB-162 | ng/g | | < 0.21 U | < 0.30 U | < 0.27 U | < 0.77 U | < 0.38 U | < 0.14 U | < 0.15 U | < 0.21 U |
| PCB-163 | ng/g | | 34 | 160 | 140 | 620 | 330 | 31 | 68 | 71 |
| PCB-164 | ng/g | | 1.9 J | 10 J | 8.8 J | 38 | 22 | 1.8 J | 3.8 J | 4.4 J |
| PCB-165 | ng/g | | < 0.24 U | < 0.35 U | < 0.32 U | < 0.88 U | < 0.44 U | < 0.16 U | < 0.17 U | < 0.25 U |
| PCB-166 | ng/g | | 2.7 JN | 13 | 13 | 58 | 31 | 3.0 | 7.1 | 7.0 JN |
| PCB-167 | ng/g | | 0.99 JN | 3.9 JN | 5.0 J | 22 | 12 | 0.97 J | 2.5 JN | 2.3 JN |
| PCB-168 | ng/g | | 32 | 160 | 150 | 750 | 360 | 29 | 68 | 76 |
| PCB-169 | ng/g | | < 0.15 U | < 0.22 U | < 0.20 U | < 0.56 U | < 0.28 U | < 0.10 U | < 0.11 U | < 0.15 U |
| PCB-17 | ng/g | | 8.9 J | 5.1 JN | 20 | 51 | 20 | 8.3 J | 9.6 J | 10 J |
| PCB-170 | ng/g | | 9.3 J | 41 | 38 | 250 | 100 | 6.1 JN | 16 | 18 |
| PCB-171 | ng/g | | < 0.10 U | 15 | 15 | 88 | 38 | < 0.11 U | 5.5 J | 7.0 J |
| PCB-172 | ng/g | | < 0.10 U | 7.3 J | 9.0 J | 68 | 25 | < 0.11 U | 3.6 J | 4.5 J |
| PCB-173 | ng/g | | < 0.10 U | 15 | 15 | 88 | 38 | < 0.11 U | 5.5 | 7.0 |
| PCB-174 | ng/g | | 9.2 J | 52 | 48 | 320 | 130 | 7.9 J | 18 | 24 |
| PCB-175 | ng/g | | < 0.094 U | < 0.14 U | < 0.14 U | 17 | 5.8 JN | < 0.10 U | 0.75 JN | < 0.085 U |
| PCB-176 | ng/g | | < 0.071 U | 9.2 J | 7.1 J | 43 | 18 | < 0.075 U | 2.3 J | 3.0 J |
| PCB-177 | ng/g | | 5.0 J | 28 | 28 | 180 | 77 | < 0.11 U | 12 | 15 |
| PCB-178 | ng/g | | < 0.10 U | 9.1 J | 12 | 81 | 35 | < 0.11 U | 4.6 JN | 5.9 J |
| PCB-179 | ng/g | | 3.8 JN | 27 | 25 | 150 | 66 | < 0.080 U | 8.4 J | 11 |
| PCB-18 | ng/g | | 11 J | 9.2 J | 31 | 74 | 35 | 10 J | 11 J | 12 J |
| PCB-180 | ng/g | | 25 | 110 | 110 | 800 | 310 | 18 | 49 | 61 |
| PCB-181 | ng/g | | < 0.094 U | < 0.14 U | < 0.13 U | < 0.14 U | < 0.098 U | < 0.099 U | < 0.055 U | < 0.085 U |
| PCB-182 | ng/g | | < 0.091 U | < 0.14 U | < 0.13 U | < 0.13 U | < 0.094 U | < 0.096 U | < 0.054 U | < 0.082 U |
| PCB-183 | ng/g | | 6.3 J | 41 | 39 | 280 | 110 | < 0.098 U | 18 | 21 |
| PCB-184 | ng/g | | 480 | 950 | 600 | 120 | 460 | 940 | 37 | 290 |
| PCB-185 | ng/g | | 6.3 | 41 | 39 | 280 | 110 | < 0.098 U | 18 | 21 |
| PCB-186 | ng/g | | < 0.075 U | < 0.11 U | < 0.11 U | < 0.11 U | < 0.078 U | < 0.079 U | < 0.044 U | < 0.068 U |
| PCB-187 | ng/g | | 14 | 61 | 68 | 500 | 200 | 10 J | 29 | 37 |
| PCB-188 | ng/g | | < 0.070 U | < 0.10 U | < 0.097 U | < 0.10 U | < 0.073 U | < 0.073 U | < 0.040 U | < 0.064 U |
| PCB-189 | ng/g | | < 0.48 U | 1.2 JN | 0.90 JN | 9.1 J | 2.7 JN | 0.26 JN | 0.66 J | 0.69 J |
| PCB-19 | ng/g | | 2.0 J | 1.4 JN | 3.4 J | 9.2 JN | 4.3 JN | 2.6 J | 2.5 J | 2.2 JN |
| PCB-190 | ng/g | | 2.2 JN | 8.0 J | 8.1 J | 59 | 16 JN | < 0.072 U | 3.4 JN | 4.7 J |
| PCB-191 | ng/g | | < 0.071 U | < 0.11 U | 2.2 JN | 16 | 6.1 J | < 0.075 U | 1.0 JN | 1.2 JN |
| PCB-192 | ng/g | | 490 | 970 | 590 | 130 | 490 | 940 | 40 | 310 |
| PCB-193 | ng/g | | 25 | 110 | 110 | 800 | 310 | 18 | 49 | 61 |
| PCB-194 | ng/g | | 3.5 J | 14 | 16 | 170 | 50 | 2.0 JN | 9.9 J | 11 |
| PCB-195 | ng/g | | 1.6 J | 6.0 J | 6.7 JN | 65 | 24 | 1.2 J | 2.9 JN | 4.2 JN |
| PCB-196 | ng/g | | < 0.11 U | 7.1 JN | 9.8 J | 90 | 29 | < 0.062 U | 5.6 J | 5.4 JN |
| PCB-197 | ng/g | | 9.5 JN | 16 | 12 | 13 J | 12 | 16 | 3.6 J | 7.3 J |
| PCB-198 | ng/g | | 5.3 J | 16 | 22 | 200 | 65 | < 0.063 U | 14 | 13 JN |
| PCB-199 | ng/g | | 5.3 | 16 | 22 | 200 | 65 | < 0.063 U | 14 | 13 JN |
| PCB-2 | ng/g | | < 0.056 U | < 0.12 U | < 0.11 U | < 0.12 U | 2.6 JN | < 0.11 U | 7.3 JN | < 0.10 U |
| PCB-20 | ng/g | | 28 | 20 J | 61 | 120 | 85 | 25 | 30 | 31 |
| PCB-200 | ng/g | | 1.4 JN | 4.6 J | 3.8 J | 21 | 8.8 J | < 0.042 U | 1.7 J | < 0.079 U |
| PCB-201 | ng/g | | < 0.077 U | < 0.12 U | < 0.086 U | 25 | 7.9 J | < 0.043 U | 1.5 J | < 0.081 U |
| PCB-202 | ng/g | | < 0.086 U | 2.8 J | 3.9 J | 38 | 13 | < 0.049 U | 2.8 J | 3.2 J |
| PCB-203 | ng/g | | 3.0 JN | 9.2 J | 12 | 120 | 36 | < 0.056 U | 7.7 J | 8.4 J |
| PCB-204 | ng/g | | 1100 | 1700 | 1200 | 540 | 1200 | 1600 | 380 | 810 |

**Table 4-38**
**Pore Water Analysis in Waterside Investigation Area Sediment Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7A | SED7B | SED7D | SED7E | SED7F | SED8A | SED8B | SED8C |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample ID | PW7A00EN | PW7B00EN | PW7D00EN | PW7E00EN | PW7F00EN | PW8A00EN | PW8B00EN | PW8C00EN |
| | | Sample Date | 7/26/2017 10:10:00 AM | 7/26/2017 8:20:00 AM | 7/26/2017 9:40:00 AM | 7/26/2017 9:00:00 AM | 7/26/2017 8:30:00 AM | 7/26/2017 10:00:00 AM | 7/26/2017 10:20:00 AM | 7/26/2017 8:10:00 AM |
| | | Type | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | |
| PCB-205 | ng/g | | < 0.26 U | < 0.40 U | **0.74 J** | **8.0 J** | **2.7 J** | < 0.11 U | **0.36 JN** | **0.54 J** |
| PCB-206 | ng/g | | **2.0 J** | **4.2 J** | **5.0 J** | **67** | **13** | **0.89 JN** | **3.6 JN** | **4.2 J** |
| PCB-207 | ng/g | | **3.8 JN** | **5.5 J** | **5.4 J** | **11 J** | **7.5 J** | **4.4 JN** | **3.3 J** | **4.4 J** |
| PCB-208 | ng/g | | < 0.43 U | **1.5 JN** | **1.8 JN** | **18** | **4.1 J** | < 0.18 U | **1.7 J** | **1.4 J** |
| PCB-21 | ng/g | | **7.7 J** | **5.5 J** | **17** | **35** | **22** | **5.9 J** | **6.2 J** | **7.5 J** |
| PCB-22 | ng/g | | **5.4 J** | **3.9 J** | **14** | **29** | **17 JN** | **4.3 J** | **5.2 J** | **6.0 J** |
| PCB-23 | ng/g | | < 0.15 U | < 0.23 U | < 0.19 U | < 0.26 U | < 0.19 U | < 0.15 U | < 0.10 U | < 0.16 U |
| PCB-24 | ng/g | | **0.37 J** | < 0.12 U | **0.81 J** | **1.4 JN** | **0.60 JN** | **0.10 JN** | **0.23 JN** | < 0.11 U |
| PCB-25 | ng/g | | **2.9 J** | **1.6 J** | **4.7 J** | **12 J** | **5.2 JN** | **2.9 J** | **3.5 J** | **3.5 J** |
| PCB-26 | ng/g | | **4.9 J** | **2.7 J** | **9.5 J** | **23** | **12** | **4.6 J** | **5.1 J** | **5.8 J** |
| PCB-27 | ng/g | | **2.0 J** | **0.90 JN** | **2.9 JN** | **8.1 J** | **3.9 J** | **1.4 JN** | **2.1 J** | **1.8 JN** |
| PCB-28 | ng/g | | **28** | **20** | **61** | **120** | **85** | **25** | **30** | **31** |
| PCB-29 | ng/g | | **4.9** | **2.7** | **9.5** | **23** | **12** | **4.6** | **5.1** | **5.8** |
| PCB-3 | ng/g | | < 0.065 U | < 0.13 U | < 0.15 U | < 0.14 U | **2.2 J** | < 0.13 U | **5.6 J** | < 0.12 U |
| PCB-30 | ng/g | | **11** | **9.2** | **31** | **74** | **35** | **10** | **11** | **12** |
| PCB-31 | ng/g | | **19 J** | **14 J** | **44** | **84** | **55** | **18 J** | **20** | **22** |
| PCB-32 | ng/g | | **7.0 JN** | **4.4 JN** | **15** | **36** | **19** | **6.9 J** | **7.5 J** | **9.1 J** |
| PCB-33 | ng/g | | **7.7** | **5.5** | **17** | **35** | **22** | **5.9** | **6.2** | **7.5** |
| PCB-34 | ng/g | | < 0.15 U | < 0.24 U | < 0.20 U | < 0.27 U | < 0.19 U | < 0.16 U | < 0.11 U | < 0.17 U |
| PCB-35 | ng/g | | **0.32 JN** | < 0.24 U | < 0.20 U | < 0.26 U | **1.0 J** | < 0.15 U | **0.29 J** | **0.36 J** |
| PCB-36 | ng/g | | **37** | **250** | **91** | **2.1 J** | **27** | **280** | **1.6 JN** | **40** |
| PCB-37 | ng/g | | **4.4 J** | **3.3 J** | **9.5 J** | **18** | **18** | **4.1 J** | **4.3 J** | **4.9 J** |
| PCB-38 | ng/g | | < 0.15 U | < 0.24 U | < 0.20 U | < 0.27 U | < 0.20 U | < 0.16 U | < 0.11 U | < 0.17 U |
| PCB-39 | ng/g | | < 0.14 U | **0.87 J** | **0.78 J** | **0.71 J** | < 0.17 U | < 0.14 U | < 0.096 U | **0.41 J** |
| PCB-4 | ng/g | | < 0.54 U | < 0.89 U | < 0.94 U | **12 JN** | **3.9 JN** | **4.1 JN** | **4.7 J** | **4.1 JN** |
| PCB-40 | ng/g | | **12** | **8.5 J** | **38** | **89** | **51** | **12** | **15** | **15** |
| PCB-41 | ng/g | | **12** | **8.5** | **38** | **89** | **51** | **12** | **15** | **15** |
| PCB-42 | ng/g | | **5.8 J** | **4.7 JN** | **18** | **43** | **26** | **5.9 JN** | **7.4 J** | **7.7 J** |
| PCB-43 | ng/g | | **0.70 JN** | < 0.10 U | **2.8 J** | **6.2 J** | **4.2 J** | **1.6 JN** | **1.4 J** | **1.3 JN** |
| PCB-44 | ng/g | | **28** | **32** | **76** | **190** | **100** | **35** | **38** | **37** |
| PCB-45 | ng/g | | **5.4 J** | **4.1 J** | **14 JN** | **44** | **26** | **5.7 J** | **7.2 J** | **6.8 J** |
| PCB-46 | ng/g | | **1.0 J** | < 0.14 U | **3.6 JN** | **8.6 J** | **5.3 J** | **1.1 J** | **1.5 J** | **1.3 JN** |
| PCB-47 | ng/g | | **28** | **32** | **76** | **190** | **100** | **35** | **38** | **37** |
| PCB-48 | ng/g | | **4.2 JN** | **3.1 JN** | **18** | **37** | **20** | **4.6 J** | **6.0 J** | **6.5 JN** |
| PCB-49 | ng/g | | **20** | **19** | **51** | **120** | **69** | **19** | **25** | **25** |
| PCB-5 | ng/g | | < 0.46 U | < 0.73 U | < 0.63 U | < 0.81 U | < 0.50 U | < 0.52 U | < 0.40 U | < 0.81 U |
| PCB-50 | ng/g | | **4.2 J** | **2.8 JN** | **11** | **27** | **17** | **5.0 J** | **5.8 J** | **5.2 JN** |
| PCB-51 | ng/g | | **5.4** | **4.1** | **14 JN** | **44** | **26** | **5.7** | **7.2** | **6.8** |
| PCB-52 | ng/g | | **32** | **54** | **85** | **190** | **110** | **32** | **40** | **45** |
| PCB-53 | ng/g | | **4.2** | **2.8 JN** | **11** | **27** | **17** | **5.0** | **5.8** | **5.2 JN** |
| PCB-54 | ng/g | | < 0.0065 U | < 0.014 U | **0.38 JN** | **0.92 JN** | **0.50 JN** | **0.25 JN** | **0.22 JN** | < 0.018 U |
| PCB-55 | ng/g | | **0.78 J** | < 0.079 U | **0.86 JN** | **2.3 JN** | **1.5 J** | < 0.042 U | **0.31 JN** | **0.76 J** |
| PCB-56 | ng/g | | **7.4 J** | **9.6 J** | **23** | **42** | **28** | **9.2 J** | **8.6 J** | **10 J** |
| PCB-57 | ng/g | | < 0.064 U | < 0.080 U | < 0.049 U | **1.9 JN** | < 0.068 U | < 0.042 U | < 0.031 U | < 0.099 U |
| PCB-58 | ng/g | | < 0.065 U | **0.24 JN** | **2.6 J** | **1.3 J** | **0.83 JN** | < 0.043 U | **0.21 JN** | **0.17 JN** |
| PCB-59 | ng/g | | **2.1 J** | **1.8 JN** | **7.4 J** | **17** | **10** | **2.5 J** | **3.0 JN** | **2.8 JN** |
| PCB-6 | ng/g | | < 0.40 U | < 0.64 U | < 0.56 U | **5.5 JN** | **1.8 JN** | < 0.46 U | < 0.35 U | < 0.72 U |
| PCB-60 | ng/g | | **3.2 JN** | **3.9 JN** | **13** | **21 JN** | **14** | **3.7 J** | **5.4 J** | **4.7 J** |
| PCB-61 | ng/g | | **35** | **54** | **100** | **200** | **130** | **33** | **46** | **48** |
| PCB-62 | ng/g | | **2.1** | **1.8 JN** | **7.4** | **17** | **10** | **2.5** | **3.0 JN** | **2.8 JN** |
| PCB-63 | ng/g | | **0.98 JN** | **0.94 JN** | **3.2 J** | **7.6 J** | **4.1 J** | **0.90 JN** | **1.6 J** | **1.5 J** |
| PCB-64 | ng/g | | **11** | **10 J** | **30** | **63** | **41** | **10 J** | **13** | **14** |
| PCB-65 | ng/g | | **28** | **32** | **76** | **190** | **100** | **35** | **38** | **37** |
| PCB-66 | ng/g | | **21** | **23** | **57** | **110** | **78** | **21** | **29** | **28** |
| PCB-67 | ng/g | | **0.75 J** | < 0.069 U | **2.2 J** | **5.4 J** | **3.3 J** | < 0.037 U | **0.78 J** | **0.77 JN** |
| PCB-68 | ng/g | | **0.40 J** | < 0.071 U | **1.3 JN** | **2.6 J** | **1.2 J** | **0.95 J** | **0.62 JN** | **0.47 JN** |
| PCB-69 | ng/g | | **20** | **19** | **51** | **120** | **69** | **19** | **25** | **25** |
| PCB-7 | ng/g | | < 0.41 U | < 0.66 U | < 0.57 U | < 0.73 U | < 0.45 U | < 0.47 U | < 0.36 U | < 0.73 U |
| PCB-70 | ng/g | | **35** | **54** | **100** | **200** | **130** | **33** | **46** | **48** |
| PCB-71 | ng/g | | **12** | **8.5** | **38** | **89** | **51** | **12** | **15** | **15** |

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**Pore Water Analysis in Waterside Investigation Area Sediment Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7A | SED7B | SED7D | SED7E | SED7F | SED8A | SED8B | SED8C |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample ID | PW7A00EN | PW7B00EN | PW7D00EN | PW7E00EN | PW7F00EN | PW8A00EN | PW8B00EN | PW8C00EN |
| | | Sample Date | 7/26/2017 10:10:00 AM | 7/26/2017 8:20:00 AM | 7/26/2017 9:40:00 AM | 7/26/2017 9:00:00 AM | 7/26/2017 8:30:00 AM | 7/26/2017 10:00:00 AM | 7/26/2017 10:20:00 AM | 7/26/2017 8:10:00 AM |
| | | Type | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | |
| PCB-72 | ng/g | | < 0.063 U | < 0.078 U | < 0.048 U | **2.7 J** | **1.2 J** | < 0.041 U | **0.42 JN** | < 0.097 U |
| PCB-73 | ng/g | | **0.70 JN** | < 0.10 U | **2.8** | **6.2** | **4.2** | **1.6 JN** | **1.4** | **1.3 JN** |
| PCB-74 | ng/g | | **35** | **54** | **100** | **200** | **130** | **33** | **46** | **48** |
| PCB-75 | ng/g | | **2.1** | **1.8 JN** | **7.4** | **17** | **10** | **2.5** | **3.0 JN** | **2.8 JN** |
| PCB-76 | ng/g | | **35** | **54** | **100** | **200** | **130** | **33** | **46** | **48** |
| PCB-77 | ng/g | | **1.3 J** | **1.9 JN** | **4.0 J** | **10 J** | **7.8 J** | **1.2 JN** | **1.8 J** | **2.0 J** |
| PCB-78 | ng/g | | **56** | **250** | **110** | **5.5 J** | **48** | **250** | **1.1 J** | **51** |
| PCB-79 | ng/g | | < 0.056 U | < 0.070 U | < 0.043 U | **1.9 J** | < 0.060 U | < 0.037 U | **0.26 JN** | **0.77 J** |
| PCB-8 | ng/g | | **5.7 J** | **3.4 JN** | **4.4 J** | **11 J** | **6.3 J** | **2.7 J** | **4.2 J** | < 0.66 U |
| PCB-80 | ng/g | | **0.28 JN** | < 0.069 U | **1.4 JN** | < 0.10 U | < 0.059 U | **2.0 JN** | < 0.027 U | **0.58 JN** |
| PCB-81 | ng/g | | < 0.058 U | < 0.073 U | < 0.046 U | < 0.12 U | < 0.066 U | **0.91 JN** | < 0.032 U | < 0.092 U |
| PCB-82 | ng/g | | **2.3 JN** | **6.8 J** | **9.4 J** | **23** | **16** | < 0.068 U | **3.9 J** | **5.2 J** |
| PCB-83 | ng/g | | **18** | **50** | **60** | **180** | **110** | **17** | **33** | **37** |
| PCB-84 | ng/g | | **4.7 J** | **15 JN** | **17** | **42** | **30** | **5.6 J** | **7.4 J** | **8.2 J** |
| PCB-85 | ng/g | | **5.3 J** | **13 J** | **16** | **45** | **30** | **4.9 J** | **9.9 J** | **10 J** |
| PCB-86 | ng/g | | **17** | **58** | **56** | **140** | **95** | **17** | **28** | **31** |
| PCB-87 | ng/g | | **17** | **58** | **56** | **140** | **95** | **17** | **28** | **31** |
| PCB-88 | ng/g | | **3.1 JN** | **10 J** | **14** | **47** | **28** | **4.4 J** | **5.9 JN** | **7.7 J** |
| PCB-89 | ng/g | | < 0.054 U | < 0.072 U | < 0.088 U | < 0.092 U | < 0.064 U | < 0.066 U | **0.69 J** | < 0.11 U |
| PCB-9 | ng/g | | < 0.42 U | < 0.68 U | < 0.58 U | < 0.75 U | < 0.46 U | < 0.48 U | < 0.37 U | < 0.75 U |
| PCB-90 | ng/g | | **30** | **140** | **110** | **340** | **200** | **31** | **50** | **60** |
| PCB-91 | ng/g | | **3.1 JN** | **10** | **14** | **47** | **28** | **4.4** | **5.9 JN** | **7.7** |
| PCB-92 | ng/g | | **6.3 J** | **22** | **22** | **65** | **36** | **6.8 J** | **9.1 J** | **12** |
| PCB-93 | ng/g | | **0.44 JN** | **1.7 J** | < 0.078 U | **5.4 JN** | **8.3 J** | < 0.059 U | **1.3 J** | **0.92 JN** |
| PCB-94 | ng/g | | < 0.054 U | < 0.071 U | < 0.088 U | **4.1 J** | **1.9 JN** | < 0.066 U | **0.46 JN** | < 0.11 U |
| PCB-95 | ng/g | | **19** | **100** | **72** | **210** | **130** | **23** | **29** | **38** |
| PCB-96 | ng/g | | < 0.041 U | < 0.054 U | < 0.066 U | **2.2 J** | **1.6 J** | < 0.050 U | **0.35 JN** | < 0.085 U |
| PCB-97 | ng/g | | **17** | **58** | **56** | **140** | **95** | **17** | **28** | **31** |
| PCB-98 | ng/g | | **1.1 JN** | < 0.061 U | **2.6 JN** | **9.0 JN** | **5.6 JN** | < 0.057 U | **2.0 J** | **1.3 JN** |
| PCB-99 | ng/g | | **18** | **50** | **60** | **180** | **110** | **17** | **33** | **37** |
| Pentachlorobiphenyl | ng/g | | **400** | **1500** | **960** | **1700** | **1200** | **1000** | **300** | **510** |
| Tetrachlorobiphenyl | ng/g | | **250** | **480** | **680** | **1300** | **800** | **460** | **260** | **320** |
| Trichlorobiphenyl | ng/g | | **140** | **330** | **330** | **530** | **340** | **380** | **110** | **160** |
| Decachlorobiphenyl (PCB-209) | pg/l | | **0.0031 J** | **0.1 J** | **0.016 J** | **0.024 JN** | **0.019 J** | **0.0015 J** | **0.0074 JN** | **0.013 J** |
| PCB, TOTAL | pg/l | | **1600** | **2300** | **3800** | **10000** | **6000** | **2000** | **3000** | **2100** |
| PCB, Total Congeners (Provided by Lab) | pg/l | | **1600** | **2300** | **3800** | **10000** | **6000** | **2000** | **3000** | **2100** |
| PCB-1 | pg/l | | **74 J** | < 21 U | **80 JN** | **250 JN** | **420 J** | **95 J** | **650 J** | **88 JN** |
| PCB-10 | pg/l | | < 28 U | < 45 U | < 39 U | **69 JN** | < 31 U | < 32 U | < 25 U | < 50 U |
| PCB-100 | pg/l | | **0.45 JN** | **2.3** | < 0.084 U | **5.2 JN** | **8.4** | < 0.079 U | **1.2** | **0.92 JN** |
| PCB-101 | pg/l | | **21** | **130** | **81** | **220** | **140** | **30** | **32** | **40** |
| PCB-102 | pg/l | | **1.1 JN** | < 0.081 U | **2.8 JN** | **8.6 JN** | **5.6 JN** | < 0.077 U | **1.9** | **1.3 JN** |
| PCB-103 | pg/l | | < 0.049 U | < 0.084 U | < 0.084 U | **6.2 J** | **2.7 JN** | < 0.079 U | **0.62 J** | < 0.1 U |
| PCB-105 | pg/l | | **4.6 JN** | **18** | **14** | **23** | **18** | **8.8 JN** | **6.3** | **7.2** |
| PCB-106 | pg/l | | **0.47 J** | **0.95** | **1.1 J** | < 0.16 U | **0.4 J** | **1** | < 0.054 U | **0.14 J** |
| PCB-107 | pg/l | | **0.81 JN** | **2.8 J** | **3.3 JN** | **7.6** | **4.7** | **1.1 J** | **1.5 J** | **1.7 JN** |
| PCB-108 | pg/l | | **0.46** | **1.6 JN** | **1.4** | **3.3** | **1.2 JN** | **0.49 JN** | **0.75** | **0.78** |
| PCB-109 | pg/l | | **12** | **56** | **41** | **89** | **65** | **16** | **18** | **21** |
| PCB-11 | pg/l | | **25 JN** | **26 JN** | **30 J** | **41 J** | **42 J** | **44 J** | **32 JN** | **42 JN** |
| PCB-110 | pg/l | | **19** | **110** | **67** | **160** | **110** | **28** | **30** | **35** |
| PCB-111 | pg/l | | < 0.016 U | < 0.031 U | < 0.028 U | < 0.024 U | < 0.018 U | < 0.029 U | < 0.016 U | < 0.032 U |
| PCB-112 | pg/l | | **0.19 JN** | < 0.045 U | < 0.042 U | **1.1 JN** | **0.89 J** | < 0.042 U | **0.28 J** | < 0.05 U |
| PCB-113 | pg/l | | **21** | **130** | **81** | **220** | **140** | **30** | **32** | **40** |
| PCB-114 | pg/l | | < 0.11 U | **0.85 J** | **0.82 JN** | **1.9 J** | **1.2 J** | **0.39 JN** | **0.46 JN** | **0.55 J** |
| PCB-115 | pg/l | | **19** | **110** | **67** | **160** | **110** | **28** | **30** | **35** |
| PCB-116 | pg/l | | **3.7** | **13** | **12** | **29** | **21** | **4.7** | **6.3** | **6.7** |
| PCB-117 | pg/l | | **3.7** | **13** | **12** | **29** | **21** | **4.7** | **6.3** | **6.7** |
| PCB-118 | pg/l | | **11** | **46** | **35** | **76** | **52** | **15** | **18** | **20** |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED7A | SED7B | SED7D | SED7E | SED7F | SED8A | SED8B | SED8C |
| | | Sample ID | PW7A00EN | PW7B00EN | PW7D00EN | PW7E00EN | PW7F00EN | PW8A00EN | PW8B00EN | PW8C00EN |
| | | Sample Date | 7/26/2017 10:10:00 AM | 7/26/2017 8:20:00 AM | 7/26/2017 9:40:00 AM | 7/26/2017 9:00:00 AM | 7/26/2017 8:30:00 AM | 7/26/2017 10:00:00 AM | 7/26/2017 10:20:00 AM | 7/26/2017 8:10:00 AM |
| | | Type | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | |
| PCB-119 | pg/l | | 12 | 56 | 41 | 89 | 65 | 16 | 18 | 21 |
| PCB-12 | pg/l | | < 3.3 U | < 5.4 U | < 4.5 U | < 5.7 U | < 3.6 U | < 3.9 U | < 2.9 U | < 5.8 U |
| PCB-120 | pg/l | | < 0.016 U | < 0.032 U | < 0.028 U | < 0.025 U | < 0.019 U | < 0.03 U | < 0.016 U | < 0.032 U |
| PCB-122 | pg/l | | < 0.13 U | 0.78 J | 0.62 J | 0.81 JN | 0.66 JN | < 0.11 U | 0.25 JN | 0.3 JN |
| PCB-123 | pg/l | | 0.24 JN | 0.49 JN | 0.67 J | 1.7 J | 0.94 J | < 0.099 U | 0.39 JN | 0.5 JN |
| PCB-124 | pg/l | | 0.46 | 1.6 JN | 1.4 | 3.3 | 1.2 JN | 0.49 JN | 0.75 | 0.78 |
| PCB-125 | pg/l | | 12 | 56 | 41 | 89 | 65 | 16 | 18 | 21 |
| PCB-126 | pg/l | | < 0.086 U | < 0.14 U | < 0.09 U | < 0.1 U | 0.12 JN | < 0.077 U | < 0.036 U | < 0.071 U |
| PCB-127 | pg/l | | < 0.076 U | < 0.14 U | < 0.083 U | < 0.1 U | < 0.095 U | < 0.072 U | < 0.036 U | < 0.068 U |
| PCB-128 | pg/l | | 0.61 JN | 5 | 3.3 | 11 | 7 | 1.1 | 1.3 | 1.5 JN |
| PCB-129 | pg/l | | 7.7 | 62 | 35 | 120 | 74 | 12 | 12 | 15 |
| PCB-13 | pg/l | | < 3.3 U | < 5.4 U | < 4.5 U | < 5.7 U | < 3.6 U | < 3.9 U | < 2.9 U | < 5.8 U |
| PCB-130 | pg/l | | 0.32 JN | 2.4 J | 2 J | 6.1 | 3.8 | 0.56 JN | 0.7 J | 0.75 J |
| PCB-131 | pg/l | | < 0.11 U | < 0.25 U | < 0.15 U | < 0.34 U | < 0.19 U | < 0.12 U | < 0.063 U | < 0.1 U |
| PCB-132 | pg/l | | 2 JN | 23 | 12 | 36 | 24 | 3.9 J | 3.5 | 4.4 |
| PCB-133 | pg/l | | < 0.07 U | < 0.18 U | 0.65 JN | 2.2 J | 1.4 J | 0.49 JN | 0.17 J | 0.31 J |
| PCB-134 | pg/l | | 0.34 JN | 3.5 | 1.9 JN | 7.5 | 5.1 | 0.68 JN | 0.66 | 0.74 JN |
| PCB-135 | pg/l | | 2.5 JN | 37 | 21 | 78 | 48 | 4.4 JN | 5.1 | 7.6 |
| PCB-136 | pg/l | | 0.68 J | 11 | 4.5 | 14 | 9.4 | 1.2 JN | 1.1 J | 1.5 J |
| PCB-137 | pg/l | | 0.21 JN | 1.5 J | 1.2 J | 3.3 | 2.2 JN | < 0.071 U | 0.61 J | 0.58 J |
| PCB-138 | pg/l | | 7.7 | 62 | 35 | 120 | 74 | 12 | 12 | 15 |
| PCB-139 | pg/l | | < 0.086 U | < 0.2 U | < 0.12 U | 2 | 1.2 | < 0.092 U | 0.2 | < 0.083 U |
| PCB-140 | pg/l | | < 0.086 U | < 0.2 U | < 0.12 U | 2 | 1.2 | < 0.092 U | 0.2 | < 0.083 U |
| PCB-141 | pg/l | | 1.4 J | 15 | 8 | 30 | 18 | 2.4 JN | 2.2 | 3.1 |
| PCB-143 | pg/l | | 0.34 JN | 3.5 | 1.9 JN | 7.5 | 5.1 | 0.68 JN | 0.66 | 0.74 JN |
| PCB-144 | pg/l | | 0.43 J | 4.4 JN | 2.2 JN | 9.1 | 5.1 | 0.48 JN | 0.41 JN | 0.97 J |
| PCB-145 | pg/l | | < 0.0095 U | < 0.023 U | < 0.022 U | < 0.015 U | < 0.012 U | < 0.017 U | < 0.0055 U | < 0.018 U |
| PCB-146 | pg/l | | 1.5 J | 7.4 | 7.7 | 24 | 15 | < 0.071 U | 2.1 | 2.9 |
| PCB-147 | pg/l | | 8.6 | 88 | 47 | 160 | 100 | 14 | 13 | 17 |
| PCB-148 | pg/l | | < 0.015 U | < 0.035 U | < 0.037 U | 0.19 JN | 0.27 J | < 0.027 U | < 0.0089 U | < 0.028 U |
| PCB-149 | pg/l | | 8.6 | 88 | 47 | 160 | 100 | 14 | 13 | 17 |
| PCB-15 | pg/l | | 29 JN | 18 J | 29 JN | 55 J | 65 JN | 31 J | 26 JN | 26 JN |
| PCB-150 | pg/l | | < 0.0089 U | < 0.022 U | 0.072 JN | 0.45 J | 0.33 JN | < 0.017 U | < 0.0053 U | < 0.018 U |
| PCB-151 | pg/l | | 2.5 JN | 37 | 21 | 78 | 48 | 4.4 JN | 5.1 | 7.6 |
| PCB-152 | pg/l | | 0.0032 J | < 0.024 U | < 0.023 U | < 0.016 U | 0.044 J | < 0.018 U | 0.015 JN | < 0.019 U |
| PCB-153 | pg/l | | 7.3 | 62 | 38 | 140 | 81 | 11 | 12 | 16 |
| PCB-154 | pg/l | | 0.22 JN | 0.69 JN | 0.87 J | 4.1 | 0.54 JN | 0.77 J | 0.35 JN | 0.46 J |
| PCB-156 | pg/l | | 1.7 JN | 5.4 JN | 4.1 JN | 7 | 5.4 JN | 4.4 JN | 1.4 JN | 2 JN |
| PCB-157 | pg/l | | 1.7 JN | 5.4 JN | 4.1 JN | 7 | 5.4 JN | 4.4 JN | 1.4 JN | 2 JN |
| PCB-158 | pg/l | | 0.73 J | 5.8 | 3.5 | 11 | 7 | 0.94 J | 1.3 J | 1.2 JN |
| PCB-159 | pg/l | | < 0.036 U | 0.64 J | 0.3 JN | 1.3 J | 0.56 JN | < 0.041 U | 0.069 J | 0.13 JN |
| PCB-16 | pg/l | | 28 JN | 24 J | 92 JN | 250 | 110 | 30 JN | 28 JN | 31 JN |
| PCB-160 | pg/l | | 7.7 | 62 | 35 | 120 | 74 | 12 | 12 | 15 |
| PCB-161 | pg/l | | < 0.048 U | 0.58 JN | < 0.07 U | < 0.14 U | < 0.088 U | 3.2 J | < 0.027 U | < 0.046 U |
| PCB-162 | pg/l | | < 0.036 U | < 0.092 U | < 0.051 U | < 0.1 U | < 0.064 U | < 0.041 U | < 0.019 U | < 0.032 U |
| PCB-163 | pg/l | | 7.7 | 62 | 35 | 120 | 74 | 12 | 12 | 15 |
| PCB-164 | pg/l | | 0.43 J | 3.9 J | 2.2 J | 7 | 4.9 | 0.68 J | 0.68 J | 0.91 J |
| PCB-165 | pg/l | | < 0.054 U | < 0.14 U | < 0.08 U | < 0.16 U | < 0.099 U | < 0.06 U | < 0.031 U | < 0.052 U |
| PCB-166 | pg/l | | 0.61 JN | 5 | 3.3 | 11 | 7 | 1.1 | 1.3 | 1.5 JN |
| PCB-167 | pg/l | | 0.17 JN | 1.2 JN | 0.94 J | 2.9 | 2 | 0.28 J | 0.32 JN | 0.35 JN |
| PCB-168 | pg/l | | 7.3 | 62 | 38 | 140 | 81 | 11 | 12 | 16 |
| PCB-169 | pg/l | | < 0.019 U | < 0.053 U | < 0.029 U | < 0.054 U | < 0.036 U | < 0.023 U | < 0.01 U | < 0.017 U |
| PCB-17 | pg/l | | 91 J | 54 JN | 210 | 520 | 200 | 89 J | 98 J | 100 J |
| PCB-170 | pg/l | | 0.77 J | 7 | 3.6 | 15 | 8.3 | 0.98 JN | 0.87 | 1.3 |
| PCB-171 | pg/l | | < 0.011 U | 3.1 | 1.8 | 6.8 | 4 | < 0.022 U | 0.4 | 0.63 |
| PCB-172 | pg/l | | < 0.0083 U | 1.3 J | 0.85 J | 4 | 2.1 | < 0.018 U | 0.2 J | 0.31 J |
| PCB-173 | pg/l | | < 0.011 U | 3.1 | 1.8 | 6.8 | 4 | < 0.022 U | 0.4 | 0.63 |
| PCB-174 | pg/l | | 0.97 J | 11 | 5.7 | 25 | 14 | 1.6 J | 1.3 | 2.2 |
| PCB-175 | pg/l | | < 0.0099 U | < 0.029 U | < 0.017 U | 1.3 | 0.61 JN | < 0.02 U | 0.055 JN | < 0.0077 U |

**Table 4-38**
**Pore Water Analysis in Waterside Investigation Area Sediment Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Location ID | SED7A | SED7B | SED7D | SED7E | SED7F | SED8A | SED8B | SED8C |
| | | Sample ID | PW7A00EN | PW7B00EN | PW7D00EN | PW7E00EN | PW7F00EN | PW8A00EN | PW8B00EN | PW8C00EN |
| | | Sample Date | 7/26/2017 10:10:00 AM | 7/26/2017 8:20:00 AM | 7/26/2017 9:40:00 AM | 7/26/2017 9:00:00 AM | 7/26/2017 8:30:00 AM | 7/26/2017 10:00:00 AM | 7/26/2017 10:20:00 AM | 7/26/2017 8:10:00 AM |
| | | Type | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | |
| PCB-176 | pg/l | | < 0.0065 U | **1.7 J** | **0.73 J** | **2.8** | **1.6** | < 0.013 U | **0.14 J** | **0.23 J** |
| PCB-177 | pg/l | | **0.53 J** | **5.8** | **3.3** | **14** | **8.1** | < 0.022 U | **0.87** | **1.4** |
| PCB-178 | pg/l | | < 0.011 U | **1.9 J** | **1.4** | **6.3** | **3.7** | < 0.022 U | **0.33 JN** | **0.53 J** |
| PCB-179 | pg/l | | **0.35 JN** | **5** | **2.6** | **9.8** | **6** | < 0.014 U | **0.51 J** | **0.85** |
| PCB-18 | pg/l | | **110** | **97** | **320** | **760** | **360** | **110** | **110** | **120** |
| PCB-180 | pg/l | | **2.1** | **19** | **10** | **47** | **26** | **2.9** | **2.7** | **4.2** |
| PCB-181 | pg/l | | < 0.0099 U | < 0.029 U | < 0.015 U | < 0.011 U | < 0.01 U | < 0.019 U | < 0.004 U | < 0.0077 U |
| PCB-182 | pg/l | | < 0.0096 U | < 0.029 U | < 0.015 U | < 0.01 U | < 0.0099 U | < 0.019 U | < 0.0039 U | < 0.0074 U |
| PCB-183 | pg/l | | **0.67** | **8.5** | **4.6** | **22** | **12** | < 0.019 U | **1.3** | **1.9** |
| PCB-185 | pg/l | | **0.67** | **8.5** | **4.6** | **22** | **12** | < 0.019 U | **1.3** | **1.9** |
| PCB-186 | pg/l | | < 0.0068 U | < 0.02 U | < 0.011 U | < 0.0072 U | < 0.0071 U | < 0.014 U | < 0.0027 U | < 0.0052 U |
| PCB-187 | pg/l | | **1.5** | **13** | **8.1** | **39** | **21** | **2 J** | **2.1** | **3.3** |
| PCB-188 | pg/l | | < 0.0064 U | < 0.018 U | < 0.01 U | < 0.0066 U | < 0.0067 U | < 0.013 U | < 0.0024 U | < 0.0049 U |
| PCB-189 | pg/l | | < 0.031 U | **0.17 JN** | **0.067 JN** | **0.41 J** | **0.18 JN** | **0.034 JN** | **0.027 J** | **0.037 J** |
| PCB-19 | pg/l | | **41 J** | **29 JN** | **70 J** | **190 JN** | **88 JN** | **54 J** | **51 J** | **45 JN** |
| PCB-190 | pg/l | | **0.18 JN** | **1.4 J** | **0.76 J** | **3.5** | **1.3 JN** | < 0.012 U | **0.18 JN** | **0.33 J** |
| PCB-191 | pg/l | | < 0.0059 U | < 0.019 U | **0.21 JN** | **0.94** | **0.51 J** | < 0.012 U | **0.054 JN** | **0.083 JN** |
| PCB-193 | pg/l | | **2.1** | **19** | **10** | **47** | **26** | **2.9** | **2.7** | **4.2** |
| PCB-194 | pg/l | | **0.12 J** | **1.1** | **0.61** | **3.4** | **1.7** | **0.14 JN** | **0.17 J** | **0.27** |
| PCB-195 | pg/l | | **0.064 J** | **0.57 J** | **0.31 JN** | **1.6** | **0.98** | **0.1 J** | **0.063 JN** | **0.13 JN** |
| PCB-196 | pg/l | | < 0.0044 U | **0.67 JN** | **0.45 J** | **2.3** | **1.2** | < 0.0053 U | **0.12 J** | **0.17 JN** |
| PCB-197 | pg/l | | < 0.0029 U | < 0.011 U | **0.0018** | **0.18 J** | **0.04** | < 0.0036 U | **0.039 J** | < 0.0023 U |
| PCB-198 | pg/l | | **0.2** | **1.4** | **0.94** | **4.6** | **2.4** | < 0.005 U | **0.28** | **0.37 JN** |
| PCB-199 | pg/l | | **0.2** | **1.4** | **0.94** | **4.6** | **2.4** | < 0.005 U | **0.28** | **0.37 JN** |
| PCB-2 | pg/l | | < 1.3 U | < 2.9 U | < 2.6 U | < 2.9 U | **62 JN** | < 2.7 U | **180 JN** | < 2.4 U |
| PCB-20 | pg/l | | **140** | **110** | **320** | **620** | **440** | **140** | **150** | **160** |
| PCB-200 | pg/l | | < 0.0026 U | **0.17 J** | **0.076 J** | **0.43** | **0.25 J** | < 0.0031 U | **0.026 J** | < 0.002 U |
| PCB-201 | pg/l | | < 0.0031 U | < 0.011 U | < 0.004 U | **0.63** | **0.32 J** | < 0.0037 U | **0.033 J** | < 0.0025 U |
| PCB-202 | pg/l | | < 0.0029 U | **0.23 J** | **0.15 J** | **0.8** | **0.45** | < 0.0036 U | **0.05 J** | **0.082 J** |
| PCB-203 | pg/l | | **0.12 JN** | **0.87 J** | **0.55** | **3** | **1.5** | < 0.0048 U | **0.17 J** | **0.26 J** |
| PCB-205 | pg/l | | < 0.0086 U | < 0.032 U | **0.028 J** | **0.16 J** | **0.091 J** | < 0.0079 U | **0.0061 JN** | **0.013 J** |
| PCB-206 | pg/l | | **0.033 J** | **0.19 J** | **0.096 J** | **0.6** | **0.22** | **0.035 JN** | **0.025 JN** | **0.047 J** |
| PCB-207 | pg/l | | < 0.0057 U | **0.0069 J** | **0.018 J** | **0.065 J** | **0.05 J** | < 0.006 U | **0.014 J** | **0.014 J** |
| PCB-208 | pg/l | | < 0.0059 U | **0.059 JN** | **0.029 JN** | **0.13** | **0.059 J** | < 0.006 U | **0.0093 J** | **0.013 J** |
| PCB-21 | pg/l | | **40** | **30** | **89** | **180** | **110** | **33** | **32** | **39** |
| PCB-22 | pg/l | | **28 J** | **22 J** | **73** | **150** | **88 JN** | **24 J** | **27 J** | **31 J** |
| PCB-23 | pg/l | | < 0.77 U | < 1.3 U | < 0.99 U | < 1.3 U | < 0.98 U | < 0.85 U | < 0.51 U | < 0.83 U |
| PCB-24 | pg/l | | **3.8 J** | < 1.3 U | **8.3 J** | **14 JN** | **6.1 JN** | **1.1 JN** | **2.4 JN** | < 1.1 U |
| PCB-25 | pg/l | | **15 J** | **8.9 J** | **25 J** | **62 J** | **27 JN** | **16 J** | **18 J** | **18 J** |
| PCB-26 | pg/l | | **25** | **15** | **50** | **120** | **62** | **26** | **26** | **30** |
| PCB-27 | pg/l | | **21 J** | **9.5 JN** | **30 JN** | **83 J** | **40 J** | **15 JN** | **21 J** | **18 JN** |
| PCB-28 | pg/l | | **140** | **110** | **320** | **620** | **440** | **140** | **150** | **160** |
| PCB-29 | pg/l | | **25** | **15** | **50** | **120** | **62** | **26** | **26** | **30** |
| PCB-3 | pg/l | | < 1.6 U | < 3.1 U | < 3.6 U | < 3.4 U | **53 J** | < 3.2 U | **130 J** | < 2.9 U |
| PCB-30 | pg/l | | **110** | **97** | **320** | **760** | **360** | **110** | **110** | **120** |
| PCB-31 | pg/l | | **98 J** | **77 J** | **230** | **430** | **280** | **100 J** | **100** | **110** |
| PCB-32 | pg/l | | **72 JN** | **46 JN** | **150** | **370** | **190** | **74 J** | **77 J** | **93 J** |
| PCB-33 | pg/l | | **40** | **30** | **89** | **180** | **110** | **33** | **32** | **39** |
| PCB-34 | pg/l | | < 0.77 U | < 1.3 U | < 1 U | < 1.4 U | < 0.98 U | < 0.9 U | < 0.56 U | < 0.88 U |
| PCB-35 | pg/l | | **0.84 JN** | < 0.72 U | < 0.54 U | < 0.67 U | **2.6 J** | < 0.46 U | **0.75 J** | **0.94 J** |
| PCB-37 | pg/l | | **12 J** | **9.9 J** | **26 J** | **46** | **47** | **13 J** | **11 J** | **13 J** |
| PCB-38 | pg/l | | < 0.39 U | < 0.72 U | < 0.54 U | < 0.69 U | < 0.52 U | < 0.49 U | < 0.28 U | < 0.45 U |
| PCB-39 | pg/l | | < 0.37 U | < 0.66 U | **0.98 J** | **1.8 J** | < 0.44 U | < 0.43 U | < 0.25 U | **0.62 J** |
| PCB-4 | pg/l | | < 34 U | < 56 U | < 59 U | **760 JN** | **250 JN** | **260 JN** | **300 J** | **260 JN** |
| PCB-40 | pg/l | | **29** | **24** | **94** | **210** | **120** | **34** | **35** | **36** |
| PCB-41 | pg/l | | **29** | **24** | **94** | **210** | **120** | **34** | **35** | **36** |
| PCB-42 | pg/l | | **14 J** | **13 JN** | **44** | **100** | **62** | **17 JN** | **17 J** | **18 J** |
| PCB-43 | pg/l | | **1.5 JN** | < 0.28 U | **6.6** | **15** | **9.9** | **3.3 JN** | **3.3** | **3 JN** |
| PCB-44 | pg/l | | **66** | **79** | **180** | **450** | **240** | **88** | **89** | **87** |
| PCB-45 | pg/l | | **22** | **17** | **57 JN** | **180** | **100** | **25** | **29** | **27** |

**Table 4-38**
**Pore Water Analysis in Waterside Investigation Area Sediment Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7A | SED7B | SED7D | SED7E | SED7F | SED8A | SED8B | SED8C |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample ID | PW7A00EN | PW7B00EN | PW7D00EN | PW7E00EN | PW7F00EN | PW8A00EN | PW8B00EN | PW8C00EN |
| | | Sample Date | 7/26/2017 10:10:00 AM | 7/26/2017 8:20:00 AM | 7/26/2017 9:40:00 AM | 7/26/2017 9:00:00 AM | 7/26/2017 8:30:00 AM | 7/26/2017 10:00:00 AM | 7/26/2017 10:20:00 AM | 7/26/2017 8:10:00 AM |
| | | Type | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | |
| PCB-46 | pg/l | | **4 J** | < 0.62 U | **15 JN** | **34 J** | **21 J** | **4.9 J** | **6 J** | **5.2 JN** |
| PCB-47 | pg/l | | **66** | **79** | **180** | **450** | **240** | **88** | **89** | **87** |
| PCB-48 | pg/l | | **10 JN** | **8.6 JN** | **44** | **87** | **48** | **13 J** | **14 J** | **16 JN** |
| PCB-49 | pg/l | | **48** | **53** | **130** | **280** | **160** | **54** | **59** | **60** |
| PCB-5 | pg/l | | < 10 U | < 16 U | < 14 U | < 18 U | < 11 U | < 12 U | < 9 U | < 18 U |
| PCB-50 | pg/l | | **17** | **11 JN** | **45** | **110** | **68** | **21** | **23** | **21 JN** |
| PCB-51 | pg/l | | **22** | **17** | **57 JN** | **180** | **100** | **25** | **29** | **27** |
| PCB-52 | pg/l | | **77** | **150** | **210** | **450** | **260** | **90** | **94** | **110** |
| PCB-53 | pg/l | | **17** | **11 JN** | **45** | **110** | **68** | **21** | **23** | **21 JN** |
| PCB-54 | pg/l | | < 0.027 U | < 0.063 U | **1.5 JN** | **3.7 JN** | **2 JN** | **0.94 JN** | **0.9 JN** | < 0.074 U |
| PCB-55 | pg/l | | **1.2 J** | < 0.14 U | **1.3 JN** | **3.3 JN** | **2.2 J** | < 0.078 U | **0.44 JN** | **1.1 J** |
| PCB-56 | pg/l | | **11 J** | **15 J** | **35** | **59** | **41** | **14 J** | **12 J** | **14 J** |
| PCB-57 | pg/l | | < 0.094 U | < 0.15 U | < 0.075 U | **2.7 JN** | < 0.099 U | < 0.078 U | < 0.044 U | < 0.14 U |
| PCB-58 | pg/l | | < 0.096 U | **0.44 JN** | **4 J** | **1.8 J** | **1.2 JN** | < 0.079 U | **0.3 JN** | **0.25 JN** |
| PCB-59 | pg/l | | **5** | **5 JN** | **18** | **40** | **24** | **7.1** | **7 JN** | **6.7 JN** |
| PCB-6 | pg/l | | < 9 U | < 14 U | < 13 U | **120 JN** | **40 JN** | < 10 U | < 7.8 U | < 16 U |
| PCB-60 | pg/l | | **4.1 JN** | **3.3 JN** | **19** | **30 JN** | **20** | **2.8 J** | **7.6 J** | **6.4 J** |
| PCB-61 | pg/l | | **52** | **98** | **150** | **280** | **190** | **61** | **65** | **70** |
| PCB-62 | pg/l | | **5** | **5 JN** | **18** | **40** | **24** | **7.1** | **7 JN** | **6.7 JN** |
| PCB-63 | pg/l | | **1.4 JN** | **1.7 JN** | **4.9 J** | **11 J** | **6 J** | **1.7 JN** | **2.3 J** | **2.2 J** |
| PCB-64 | pg/l | | **26** | **28 J** | **74** | **150** | **98** | **28 J** | **30** | **34** |
| PCB-65 | pg/l | | **66** | **79** | **180** | **450** | **240** | **88** | **89** | **87** |
| PCB-66 | pg/l | | **31** | **42** | **88** | **160** | **110** | **39** | **41** | **41** |
| PCB-67 | pg/l | | **1.1 J** | < 0.13 U | **3.4 J** | **7.6 J** | **4.8 J** | < 0.068 U | **1.1 J** | **1.1 JN** |
| PCB-68 | pg/l | | **0.5 J** | < 0.13 U | **1.8 JN** | **3.7 J** | **1.7 J** | **1.1 J** | **0.87 JN** | **0.61 JN** |
| PCB-69 | pg/l | | **48** | **53** | **130** | **280** | **160** | **54** | **59** | **60** |
| PCB-7 | pg/l | | < 9.2 U | < 15 U | < 13 U | < 16 U | < 10 U | < 11 U | < 8.1 U | < 16 U |
| PCB-70 | pg/l | | **52** | **98** | **150** | **280** | **190** | **61** | **65** | **70** |
| PCB-71 | pg/l | | **29** | **24** | **94** | **210** | **120** | **34** | **35** | **36** |
| PCB-72 | pg/l | | < 0.093 U | < 0.14 U | < 0.074 U | **3.8 J** | **1.8 J** | < 0.076 U | **0.59 JN** | < 0.14 U |
| PCB-73 | pg/l | | **1.5 JN** | < 0.28 U | **6.6** | **15** | **9.9** | **3.3 JN** | **3.3** | **3 JN** |
| PCB-74 | pg/l | | **52** | **98** | **150** | **280** | **190** | **61** | **65** | **70** |
| PCB-75 | pg/l | | **5** | **5 JN** | **18** | **40** | **24** | **7.1** | **7 JN** | **6.7 JN** |
| PCB-76 | pg/l | | **52** | **98** | **150** | **280** | **190** | **61** | **65** | **70** |
| PCB-77 | pg/l | | **1.2 J** | **2.3 JN** | **3.8 J** | **8.4 J** | **6.9 J** | **1.4 JN** | **1.5 J** | **1.8 J** |
| PCB-79 | pg/l | | < 0.05 U | < 0.083 U | < 0.041 U | **1.6 J** | < 0.053 U | < 0.044 U | **0.22 JN** | **0.68 J** |
| PCB-8 | pg/l | | **130 J** | **77 JN** | **99 J** | **250 J** | **140 J** | **61 J** | **94 J** | < 15 U |
| PCB-80 | pg/l | | < 0.049 U | < 0.082 U | **0.8 JN** | < 0.084 U | < 0.052 U | **0.72 JN** | < 0.023 U | **0.3 JN** |
| PCB-81 | pg/l | | < 0.052 U | < 0.087 U | < 0.044 U | < 0.1 U | < 0.058 U | < 0.048 U | < 0.027 U | < 0.081 U |
| PCB-82 | pg/l | | **1.6 JN** | **6.6 J** | **7 J** | **15** | **11** | < 0.066 U | **2.5 J** | **3.5 J** |
| PCB-83 | pg/l | | **13** | **48** | **44** | **110** | **76** | **16** | **21** | **25** |
| PCB-84 | pg/l | | **4.8 J** | **20 JN** | **18** | **40** | **30** | **7.5 J** | **7.1 J** | **8.2 J** |
| PCB-85 | pg/l | | **3.7** | **13** | **12** | **29** | **21** | **4.7** | **6.3** | **6.7** |
| PCB-86 | pg/l | | **12** | **56** | **41** | **89** | **65** | **16** | **18** | **21** |
| PCB-87 | pg/l | | **12** | **56** | **41** | **89** | **65** | **16** | **18** | **21** |
| PCB-88 | pg/l | | **3.2 JN** | **13** | **15** | **45** | **28** | **5.9** | **5.6 JN** | **7.7** |
| PCB-89 | pg/l | | < 0.055 U | < 0.096 U | < 0.094 U | < 0.088 U | < 0.065 U | < 0.089 U | **0.66 J** | < 0.11 U |
| PCB-9 | pg/l | | < 9.4 U | < 15 U | < 13 U | < 17 U | < 10 U | < 11 U | < 8.3 U | < 17 U |

**Table 4-38**
**Pore Water Analysis in Waterside Investigation Area Sediment Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7A | SED7B | SED7D | SED7E | SED7F | SED8A | SED8B | SED8C |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample ID | PW7A00EN | PW7B00EN | PW7D00EN | PW7E00EN | PW7F00EN | PW8A00EN | PW8B00EN | PW8C00EN |
| | | Sample Date | 7/26/2017 10:10:00 AM | 7/26/2017 8:20:00 AM | 7/26/2017 9:40:00 AM | 7/26/2017 9:00:00 AM | 7/26/2017 8:30:00 AM | 7/26/2017 10:00:00 AM | 7/26/2017 10:20:00 AM | 7/26/2017 8:10:00 AM |
| | | Type | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | |
| PCB-90 | pg/l | | **21** | **130** | **81** | **220** | **140** | **30** | **32** | **40** |
| PCB-91 | pg/l | | **3.2 JN** | **13** | **15** | **45** | **28** | **5.9** | **5.6 JN** | **7.7** |
| PCB-92 | pg/l | | **4.4 J** | **21** | **16** | **41** | **25** | **6.6 J** | **5.8 J** | **8.1** |
| PCB-93 | pg/l | | **0.45 JN** | **2.3** | < 0.084 U | **5.2 JN** | **8.4** | < 0.079 U | **1.2** | **0.92 JN** |
| PCB-94 | pg/l | | < 0.055 U | < 0.094 U | < 0.094 U | **3.9 J** | **1.9 JN** | < 0.089 U | **0.44 JN** | < 0.11 U |
| PCB-95 | pg/l | | **19** | **130** | **77** | **200** | **130** | **31** | **28** | **38** |
| PCB-96 | pg/l | | < 0.039 U | < 0.068 U | < 0.067 U | **2 J** | **1.5 J** | < 0.064 U | **0.31 JN** | < 0.08 U |
| PCB-97 | pg/l | | **12** | **56** | **41** | **89** | **65** | **16** | **18** | **21** |
| PCB-98 | pg/l | | **1.1 JN** | < 0.081 U | **2.8 JN** | **8.6 JN** | **5.6 JN** | < 0.077 U | **1.9** | **1.3 JN** |
| PCB-99 | pg/l | | **13** | **48** | **44** | **110** | **76** | **16** | **21** | **25** |
| Ammonia | mg/l | | **32** | **21** | **5.2** | **7.3** | **5.5** | **16** | **3.5** | **9.5** |
| Particulate Organic Carbon | mg/l | | **1.0 J** | **0.52 J** | **0.57 J** | **0.56 J** | **0.74 J** | **3.3** | **0.53 J** | **0.60 J** |
| Hardness (as CaCO3) | mg/l | | **510** | **290** | **210** | **210** | **260** | **300** | **440** | **210** |
| HARDNESS CALCIUM (AS CACO3) | mg/l | | **370** | **200** | **140** | **150** | **170** | **220** | **330** | **150** |
| HARDNESS MAGNESIUM (AS CACO3) | mg/l | | **140** | **86** | **68** | **66** | **87** | **82** | **110** | **62** |
| Hardness (as CaCO3) | mg/l | | **540** | **290** | **210** | **210** | **260** | **300** | **440** | **220** |
| HARDNESS CALCIUM (AS CACO3) | mg/l | | **400** | **210** | **140** | **140** | **170** | **220** | **320** | **160** |
| HARDNESS MAGNESIUM (AS CACO3) | mg/l | | **140** | **86** | **66** | **66** | **86** | **82** | **110** | **66** |
| Dissolved Organic Carbon | mg/l | | **26** | **85** | **8.0** | **6.9** | **9.2** | **20** | **140** | **9.5** |
| Aluminum | ug/l | | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U | < 30 U |
| Antimony | ug/l | | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Arsenic | ug/l | | **3.2** | **1.6** | **1.8** | **1.1** | **1.1** | **1.5** | **3.3** | **1.1** |
| Barium | ug/l | | **180** | **85** | **79** | **99** | **90** | **110** | **180** | **74** |
| Beryllium | ug/l | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cadmium | ug/l | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Calcium | ug/l | | **150000** | **81000** | **58000** | **58000** | **69000** | **87000** | **130000** | **60000** |
| Chromium | ug/l | | **0.64 J** | **0.99 J** | **0.47 J** | **0.38 J** | **0.48 J** | **0.55 J** | **0.46 J** | **0.52 J** |
| Cobalt | ug/l | | **19** | **4.8** | **2.2** | **0.91** | **2.6** | **8.3** | **18** | **3.6** |
| Copper | ug/l | | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Iron | ug/l | | **67000** | **4700** | **7300** | **7200** | **6100** | **17000** | **53000** | **7600** |
| Lead | ug/l | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Magnesium | ug/l | | **35000** | **21000** | **17000** | **16000** | **21000** | **20000** | **27000** | **15000** |
| Manganese | ug/l | | **11000** | **2800** | **1800** | **1400** | **2500** | **5500** | **9500** | **3300** |
| Nickel | ug/l | | **3.8** | **1.2** | **1.3** | **1.6** | **2.2** | **2.3** | **3.2** | **1.2** |
| Potassium | ug/l | | **10000** | **6900** | **5400** | **6300** | **5800** | **6700** | **10000** | **5500** |
| Selenium | ug/l | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |
| Silver | ug/l | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | | **57000** | **50000** | **42000** | **48000** | **48000** | **51000** | **54000** | **46000** |
| Thallium | ug/l | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Vanadium | ug/l | | < 1.0 U | **0.60 J** | < 1.0 U | **0.74 J** | **0.92 J** | < 1.0 U | < 1.0 U | **0.67 J** |
| Zinc | ug/l | | **3.6 J** | **3.2 J** | **3.8 J** | < 5.0 U | < 5.0 U | **3.3 J** | **3.3 J** | < 5.0 U |
| Aluminum | ug/l | | **41** | **58** | **28 J** | **110** | **85** | **150** | **33** | **140** |
| Antimony | ug/l | | < 2.0 U | **3.3** | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U | < 2.0 U |
| Arsenic | ug/l | | **7.1** | **4.7** | **3.3** | **2.6** | **4.1** | **5.4** | **6.7** | **3.2** |
| Barium | ug/l | | **340** | **130** | **96** | **120** | **150** | **190** | **310** | **110** |
| Beryllium | ug/l | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Cadmium | ug/l | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | **0.11 J** | < 1.0 U | < 1.0 U | < 1.0 U |
| Calcium | ug/l | | **160000** | **83000** | **57000** | **58000** | **70000** | **88000** | **130000** | **63000** |
| Chromium | ug/l | | **1.2 J** | **5.4** | **0.51 J** | **0.84 J** | **0.88 J** | **1.6 J** | **0.73 J** | **1.2 J** |
| Cobalt | ug/l | | **23** | **5.6** | **1.9** | **0.92** | **3.1** | **11** | **20** | **4.0** |
| Copper | ug/l | | **3.2** | **4.4** | **1.1 J** | **2.2** | **2.7** | **6.1** | **1.7 J** | **2.7** |
| Iron | ug/l | | **110000** | **28000** | **13000** | **19000** | **27000** | **61000** | **98000** | **22000** |
| Lead | ug/l | | **2.0** | **4.4** | **0.63 J** | **2.1** | **2.4** | **4.1** | **0.58 J** | **2.0** |
| Magnesium | ug/l | | **35000** | **21000** | **16000** | **16000** | **21000** | **20000** | **27000** | **16000** |
| Manganese | ug/l | | **13000** | **3000** | **1700** | **1300** | **2600** | **6000** | **9800** | **3400** |
| Nickel | ug/l | | **4.8** | **1.6** | **1.4** | **2.0** | **3.4** | **3.5** | **3.7** | **1.9** |
| Potassium | ug/l | | **11000** | **7100** | **5400** | **6200** | **5800** | **6700** | **10000** | **5700** |
| Selenium | ug/l | | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U | < 5.0 U |

**Table 4-38**
**Pore Water Analysis in Waterside Investigation Area Sediment Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | Location ID | SED7A | SED7B | SED7D | SED7E | SED7F | SED8A | SED8B | SED8C |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Sample ID | PW7A00EN | PW7B00EN | PW7D00EN | PW7E00EN | PW7F00EN | PW8A00EN | PW8B00EN | PW8C00EN |
| | | Sample Date | 7/26/2017 10:10:00 AM | 7/26/2017 8:20:00 AM | 7/26/2017 9:40:00 AM | 7/26/2017 9:00:00 AM | 7/26/2017 8:30:00 AM | 7/26/2017 10:00:00 AM | 7/26/2017 10:20:00 AM | 7/26/2017 8:10:00 AM |
| | | Type | N | N | N | N | N | N | N | N |
| Analyte | Unit | | | | | | | | | |
| Silver | ug/l | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Sodium | ug/l | | **58000** | **50000** | **41000** | **47000** | **48000** | **50000** | **52000** | **48000** |
| Thallium | ug/l | | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U | < 1.0 U |
| Vanadium | ug/l | | **1.5** | **1.3** | **1.0** | **3.3** | **3.8** | **2.2** | **1.0** | **1.3** |
| Zinc | ug/l | | **6.3** | **6.8** | < 5.0 U | **6.4** | **9.6** | **8.3** | **3.9 J** | **6.7** |
| Mercury | ug/l | | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U |
| Mercury | ug/l | | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U | < 0.20 U |

Notes:
Bold values indicate detects.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
N = Normal
FD = Field Duplicate

mg/l = milligrams per liter
ng/g = nanograms per gram
pg/l = picograms per liter
ug/l = micrograms per liter

**Table 4-39**
**Off-Site City Storm Drain Sediment Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Location ID | SDRF025074 | SDRF025074 | SDRF477827 |
| | | | | | | | | | | | Sample Date | 7/25/2017 9:30:00 AM | 7/25/2017 9:35:00 AM | 7/25/2017 12:30:00 PM |
| | | | | | | | | | | | Sample ID | SDRF025074N | SDRF025074R | SDRF477827N |
| | | | | | | | | | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | | | | | | | | | Type | N | FD | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| Total Organic Carbon | mg/kg | LKTOC | T | 7440-44-0 | 16000 | 12000 | 14000 | 14000 | SDRF025074 | 2 | 3 | 16000 | 12000 | < 1300 U |
| Total Petroleum Hydrocarbons (C9-C44) | mg/kg | M8015D | N | TPH | 1540 | 102 | 974 | 1280 | SDRF025074 | 3 | 3 | 1540 | 1280 | 102 |
| Aluminum | mg/kg | SW6020A | T | 7429-90-5 | 3600 | 790 | 2100 | 1900 | SDRF025074 | 3 | 3 | 3600 J | 1900 J | 790 |
| Antimony | mg/kg | SW6020A | T | 7440-36-0 | 2.2 | 0.12 | 1.1 | 0.94 | SDRF025074 | 3 | 3 | 0.94 J | 2.2 J | 0.12 J |
| Arsenic | mg/kg | SW6020A | T | 7440-38-2 | 3.9 | 1.1 | 2.3 | 2 | SDRF025074 | 3 | 3 | 2.0 J | 3.9 J | 1.1 |
| Barium | mg/kg | SW6020A | T | 7440-39-3 | 71 | 7.1 | 40 | 42 | SDRF025074 | 3 | 3 | 71 J | 42 J | 7.1 |
| Beryllium | mg/kg | SW6020A | T | 7440-41-7 | 0.28 | 0.15 | 0.2 | 0.16 | SDRF025074 | 3 | 3 | 0.28 | 0.16 | 0.15 |
| Cadmium | mg/kg | SW6020A | T | 7440-43-9 | 0.36 | 0.027 | 0.21 | 0.23 | SDRF025074 | 3 | 3 | 0.23 | 0.36 | 0.027 J |
| Calcium | mg/kg | SW6020A | T | 7440-70-2 | 51000 | 770 | 29000 | 34000 | SDRF025074 | 3 | 3 | 34000 | 51000 | 770 |
| Chromium | mg/kg | SW6020A | T | 7440-47-3 | 33 | 4.6 | 22 | 28 | SDRF025074 | 3 | 3 | 28 | 33 | 4.6 |
| Cobalt | mg/kg | SW6020A | T | 7440-48-4 | 5.1 | 2.4 | 3.9 | 4.2 | SDRF025074 | 3 | 3 | 4.2 | 5.1 | 2.4 |
| Copper | mg/kg | SW6020A | T | 7440-50-8 | 55 | 3.6 | 32 | 37 | SDRF025074 | 3 | 3 | 37 | 55 | 3.6 |
| Iron | mg/kg | SW6020A | T | 7439-89-6 | 33000 | 5400 | 17000 | 14000 | SDRF025074 | 3 | 3 | 14000 J | 33000 J | 5400 |
| Lead | mg/kg | SW6020A | T | 7439-92-1 | 51 | 3.1 | 33 | 46 | SDRF025074 | 3 | 3 | 46 | 51 | 3.1 |
| Magnesium | mg/kg | SW6020A | T | 7439-95-4 | 28000 | 470 | 14000 | 13000 | SDRF025074 | 3 | 3 | 13000 J | 28000 J | 470 |
| Manganese | mg/kg | SW6020A | T | 7439-96-5 | 380 | 62 | 270 | 360 | SDRF025074 | 3 | 3 | 380 | 360 | 62 |
| Nickel | mg/kg | SW6020A | T | 7440-02-0 | 33 | 2.1 | 16 | 12 | SDRF025074 | 3 | 3 | 12 J | 33 J | 2.1 |
| Potassium | mg/kg | SW6020A | T | 7440-09-7 | 340 | 210 | 280 | 300 | SDRF025074 | 3 | 3 | 340 | 210 | 300 |
| Selenium | mg/kg | SW6020A | T | 7782-49-2 | 0.25 | 0.14 | 0.2 | 0.2 | SDRF025074 | 2 | 3 | 0.25 J | 0.14 J | < 0.32 U |
| Silver | mg/kg | SW6020A | T | 7440-22-4 | 0.034 | 0.01 | 0.024 | 0.027 | SDRF025074 | 3 | 3 | 0.027 J | 0.034 J | 0.010 J |
| Sodium | mg/kg | SW6020A | T | 7440-23-5 | 300 | 22 | 180 | 220 | SDRF025074 | 3 | 3 | 300 | 220 | 22 J |
| Thallium | mg/kg | SW6020A | T | 7440-28-0 | 0.04 | 0.019 | 0.028 | 0.026 | SDRF025074 | 3 | 3 | 0.040 J | 0.026 J | 0.019 J |
| Vanadium | mg/kg | SW6020A | T | 7440-62-2 | 32 | 9.2 | 23 | 27 | SDRF025074 | 3 | 3 | 27 | 32 | 9.2 |
| Zinc | mg/kg | SW6020A | T | 7440-66-6 | 140 | 7.6 | 77 | 82 | SDRF025074 | 3 | 3 | 82 J | 140 J | 7.6 |
| Mercury | mg/kg | SW7471B | T | 7439-97-6 | 0.013 | 0.012 | 0.013 | 0.013 | SDRF025074 | 2 | 3 | 0.012 J | 0.013 J | < 0.019 U |
| 4,4'-DDD | ug/kg | SW8081B LL | N | 72-54-8 | 1.9 | 0.16 | 1.1 | 1.1 | SDRF025074 | 3 | 3 | 1.9 J | 1.1 J | 0.16 J |
| 4,4'-DDE | ug/kg | SW8081B LL | N | 72-55-9 | 2 | 0.77 | 1.2 | 0.9 | SDRF477827 | 3 | 3 | 0.90 J | 0.77 J | 2.0 |
| 4,4'-DDT | ug/kg | SW8081B LL | N | 50-29-3 | 1.7 | 1.5 | 1.6 | 1.6 | SDRF025074 | 3 | 3 | 1.7 J | 1.6 J | 1.5 |
| Aldrin | ug/kg | SW8081B LL | N | 309-00-2 | | | | | | | 3 | < 0.26 U | < 0.27 U | < 0.28 U |
| alpha-BHC | ug/kg | SW8081B LL | N | 319-84-6 | | | | | | | 3 | < 0.26 U | < 0.27 U | < 0.28 U |
| beta-BHC | ug/kg | SW8081B LL | N | 319-85-7 | | | | | | | 3 | < 0.26 U | < 0.27 U | < 0.28 U |
| cis-Chlordane | ug/kg | SW8081B LL | N | 5103-71-9 | 4.7 | 0.15 | 3 | 4 | SDRF025074 | 3 | 3 | 4.7 J+ | 4.0 J+ | 0.15 J |
| delta-BHC | ug/kg | SW8081B LL | N | 319-86-8 | 0.38 | 0.38 | 0.38 | 0.38 | SDRF025074 | 1 | 3 | 0.38 J+ | < 0.27 U | < 0.28 U |
| Dieldrin | ug/kg | SW8081B LL | N | 60-57-1 | 1.1 | 1 | 1.1 | 1.1 | SDRF025074 | 2 | 3 | 1.1 J | 1.0 J | < 0.28 U |
| Endosulfan I | ug/kg | SW8081B LL | N | 959-98-8 | | | | | | | 3 | < 0.26 U | < 0.27 U | < 0.28 U |
| Endosulfan II | ug/kg | SW8081B LL | N | 33213-65-9 | | | | | | | 3 | < 0.26 U | < 0.27 U | < 0.28 U |
| Endosulfan Sulfate | ug/kg | SW8081B LL | N | 1031-07-8 | | | | | | | 3 | < 0.26 U | < 0.27 U | < 0.28 U |
| Endrin | ug/kg | SW8081B LL | N | 72-20-8 | 0.68 | 0.34 | 0.51 | 0.51 | SDRF025074 | 2 | 3 | 0.68 J | 0.34 J | < 0.28 U |
| Endrin aldehyde | ug/kg | SW8081B LL | N | 7421-93-4 | | | | | | | 3 | < 0.26 U | < 0.27 U | < 0.28 U |
| Endrin ketone | ug/kg | SW8081B LL | N | 53494-70-5 | | | | | | | 3 | < 0.26 U | < 0.27 U | < 0.28 U |
| gamma-BHC (Lindane) | ug/kg | SW8081B LL | N | 58-89-9 | | | | | | | 3 | < 0.26 U | < 0.27 U | < 0.28 U |
| Heptachlor | ug/kg | SW8081B LL | N | 76-44-8 | | | | | | | 3 | < 0.26 U | < 0.27 U | < 0.28 U |
| Heptachlor Epoxide | ug/kg | SW8081B LL | N | 1024-57-3 | 0.3 | 0.17 | 0.24 | 0.24 | SDRF025074 | 2 | 3 | 0.30 J | 0.17 J | < 0.28 U |
| Methoxychlor | ug/kg | SW8081B LL | N | 72-43-5 | | | | | | | 3 | < 0.26 U | < 0.27 U | < 0.28 U |
| Toxaphene | ug/kg | SW8081B LL | N | 8001-35-2 | | | | | | | 3 | < 10 U | < 11 U | < 11 U |
| trans-Chlordane | ug/kg | SW8081B LL | N | 5103-74-2 | 5.5 | 0.14 | 3.5 | 4.8 | SDRF025074 | 3 | 3 | 5.5 J+ | 4.8 J+ | 0.14 J |
| Aroclor-1016 | ug/kg | SW8082A LL | N | 12674-11-2 | | | | | | | 3 | < 5.1 U | < 5.3 U | < 0.55 U |
| Aroclor-1221 | ug/kg | SW8082A LL | N | 11104-28-2 | | | | | | | 3 | < 5.1 U | < 5.3 U | < 0.55 U |

# Table 4-39
## Off-Site City Storm Drain Sediment Results
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | Location ID | SDRF025074 | SDRF025074 | SDRF477827 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Sample Date | 7/25/2017 9:30:00 AM | 7/25/2017 9:35:00 AM | 7/25/2017 12:30:00 PM |
| | | | | | | | | | | | Sample ID | SDRF025074N | SDRF025074R | SDRF477827N |
| | | | | | | | | | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | | | | | | | | | Type | N | FD | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| Aroclor-1232 | ug/kg | SW8082A LL | N | 11141-16-5 | | | | | | | 3 | < 5.1 U | < 5.3 U | < 0.55 U |
| Aroclor-1242 | ug/kg | SW8082A LL | N | 53469-21-9 | | | | | | | 3 | < 5.1 U | < 5.3 U | < 0.55 U |
| Aroclor-1248 | ug/kg | SW8082A LL | N | 12672-29-6 | | | | | | | 3 | < 5.1 U | < 5.3 U | < 0.55 U |
| Aroclor-1254 | ug/kg | SW8082A LL | N | 11097-69-1 | 26 | 0.77 | 18 | 26 | SDRF025074 | 3 | 3 | 26 J+ | 26 J+ | 0.77 |
| Aroclor-1260 | ug/kg | SW8082A LL | N | 11096-82-5 | 6.7 | 5 | 5.9 | 5.9 | SDRF025074 | 2 | 3 | 6.7 J+ | 5.0 J+ | < 0.55 U |
| Aroclor-1262 | ug/kg | SW8082A LL | N | 37324-23-5 | | | | | | | 3 | < 5.1 U | < 5.3 U | < 0.55 U |
| Aroclor-1268 | ug/kg | SW8082A LL | N | 11100-14-4 | | | | | | | 3 | < 5.1 U | < 5.3 U | < 0.55 U |
| PCB, Total Aroclors (AECOM Calc) | ug/kg | SW8082A LL | N | TOT-PCB-ARO-C | 33 | 0.77 | 22 | 31 | SDRF025074 | 3 | 3 | 33 | 31 | 0.77 |
| 1,1,1-Trichloroethane | ug/kg | SW8260C | N | 71-55-6 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,1,2,2-Tetrachloroethane | ug/kg | SW8260C | N | 79-34-5 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ug/kg | SW8260C | N | 76-13-1 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,1,2-Trichloroethane | ug/kg | SW8260C | N | 79-00-5 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,1-Dichloroethane | ug/kg | SW8260C | N | 75-34-3 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,1-Dichloroethene | ug/kg | SW8260C | N | 75-35-4 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,2,3-Trichlorobenzene | ug/kg | SW8260C | N | 87-61-6 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,2,4-Trichlorobenzene | ug/kg | SW8260C | N | 120-82-1 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,2-Dibromo-3-chloropropane | ug/kg | SW8260C | N | 96-12-8 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,2-Dibromoethane | ug/kg | SW8260C | N | 106-93-4 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,2-Dichlorobenzene | ug/kg | SW8260C | N | 95-50-1 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,2-Dichloroethane | ug/kg | SW8260C | N | 107-06-2 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,2-Dichloropropane | ug/kg | SW8260C | N | 78-87-5 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,3-Dichlorobenzene | ug/kg | SW8260C | N | 541-73-1 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,4-Dichlorobenzene | ug/kg | SW8260C | N | 106-46-7 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,4-Dioxane | ug/kg | SW8260C | N | 123-91-1 | | | | | | | 3 | < 1000 U | < 1100 U | < 1100 U |
| 2-Butanone | ug/kg | SW8260C | N | 78-93-3 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 2-Hexanone | ug/kg | SW8260C | N | 591-78-6 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 4-Methyl-2-pentanone | ug/kg | SW8260C | N | 108-10-1 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Acetone | ug/kg | SW8260C | N | 67-64-1 | | | | | | | 3 | < 20 U | < 22 U | < 22 U |
| Benzene | ug/kg | SW8260C | N | 71-43-2 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Bromochloromethane | ug/kg | SW8260C | N | 74-97-5 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Bromodichloromethane | ug/kg | SW8260C | N | 75-27-4 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Bromoform | ug/kg | SW8260C | N | 75-25-2 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Bromomethane | ug/kg | SW8260C | N | 74-83-9 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Butyl alcohol, tert- | ug/kg | SW8260C | N | 75-65-0 | | | | | | | 3 | < 51 U | < 55 U | < 56 U |
| Carbon Disulfide | ug/kg | SW8260C | N | 75-15-0 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Carbon Tetrachloride | ug/kg | SW8260C | N | 56-23-5 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Chlorobenzene | ug/kg | SW8260C | N | 108-90-7 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Chloroethane | ug/kg | SW8260C | N | 75-00-3 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Chloroform | ug/kg | SW8260C | N | 67-66-3 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Chloromethane | ug/kg | SW8260C | N | 74-87-3 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| cis-1,2-Dichloroethylene | ug/kg | SW8260C | N | 156-59-2 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| cis-1,3-Dichloropropene | ug/kg | SW8260C | N | 10061-01-5 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Cyclohexane | ug/kg | SW8260C | N | 110-82-7 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Dibromochloromethane | ug/kg | SW8260C | N | 124-48-1 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Dichlorodifluoromethane | ug/kg | SW8260C | N | 75-71-8 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Diisopropyl ether | ug/kg | SW8260C | N | 108-20-3 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Ethylbenzene | ug/kg | SW8260C | N | 100-41-4 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Ethyl-Tert-Butyl-Ether | ug/kg | SW8260C | N | 637-92-3 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |

# Table 4-39
## Off-Site City Storm Drain Sediment Results
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | Location ID | SDRF025074 | SDRF025074 | SDRF477827 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Sample Date | 7/25/2017 9:30:00 AM | 7/25/2017 9:35:00 AM | 7/25/2017 12:30:00 PM |
| | | | | | | | | | | | Sample ID | SDRF025074N | SDRF025074R | SDRF477827N |
| | | | | | | | | | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | | | | | | | | | Type | N | FD | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| Isopropylbenzene | ug/kg | SW8260C | N | 98-82-8 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| m, p-Xylene | ug/kg | SW8260C | N | XYLMP | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Methyl Acetate | ug/kg | SW8260C | N | 79-20-9 | | | | | | | 3 | < 26 U | < 28 U | < 28 U |
| Methyl tert-Butyl Ether (MTBE) | ug/kg | SW8260C | N | 1634-04-4 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Methylcyclohexane | ug/kg | SW8260C | N | 108-87-2 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Methylene Chloride | ug/kg | SW8260C | N | 75-09-2 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| o-Xylene | ug/kg | SW8260C | N | 95-47-6 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Styrene | ug/kg | SW8260C | N | 100-42-5 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Tetrachloroethylene | ug/kg | SW8260C | N | 127-18-4 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Toluene | ug/kg | SW8260C | N | 108-88-3 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| trans-1,2-Dichloroethene | ug/kg | SW8260C | N | 156-60-5 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| trans-1,3-Dichloropropene | ug/kg | SW8260C | N | 10061-02-6 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Trichloroethene | ug/kg | SW8260C | N | 79-01-6 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Trichlorofluoromethane | ug/kg | SW8260C | N | 75-69-4 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| Vinyl Chloride | ug/kg | SW8260C | N | 75-01-4 | | | | | | | 3 | < 5.1 U | < 5.5 U | < 5.6 U |
| 1,1'-Biphenyl | ug/kg | SW8270D LL | N | 92-52-4 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 1,2,4,5-Tetrachlorobenzene | ug/kg | SW8270D LL | N | 95-94-3 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 2,2'-oxybis(1-Chloropropane) | ug/kg | SW8270D LL | N | 108-60-1 | | | | | | | 3 | < 330 U | < 340 U | < 44 U |
| 2,3,4,6-Tetrachlorophenol | ug/kg | SW8270D LL | N | 58-90-2 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 2,4,5-Trichlorophenol | ug/kg | SW8270D LL | N | 95-95-4 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 2,4,6-Trichlorophenol | ug/kg | SW8270D LL | N | 88-06-2 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 2,4-Dichlorophenol | ug/kg | SW8270D LL | N | 120-83-2 | | | | | | | 3 | < 330 U | < 340 U | < 44 U |
| 2,4-Dimethylphenol | ug/kg | SW8270D LL | N | 105-67-9 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 2,4-Dinitrophenol | ug/kg | SW8270D LL | N | 51-28-5 | | | | | | | 3 | < 16000 U | < 17000 U | < 2200 U |
| 2,4-Dinitrotoluene | ug/kg | SW8270D LL | N | 121-14-2 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 2,6-Dinitrotoluene | ug/kg | SW8270D LL | N | 606-20-2 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 2-Chloronaphthalene | ug/kg | SW8270D LL | N | 91-58-7 | | | | | | | 3 | < 330 U | < 340 U | < 44 U |
| 2-Chlorophenol | ug/kg | SW8270D LL | N | 95-57-8 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 2-Methylnaphthalene | ug/kg | SW8270D LL | N | 91-57-6 | 200 | 200 | 200 | 200 | SDRF025074 | 1 | 3 | 200 J | < 340 U | < 44 U |
| 2-Methylphenol | ug/kg | SW8270D LL | N | 95-48-7 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 2-Nitroaniline | ug/kg | SW8270D LL | N | 88-74-4 | | | | | | | 3 | < 8400 U | < 8600 U | < 1100 U |
| 2-Nitrophenol | ug/kg | SW8270D LL | N | 88-75-5 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 3,3'-Dichlorobenzidine | ug/kg | SW8270D LL | N | 91-94-1 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 3-Nitroaniline | ug/kg | SW8270D LL | N | 99-09-2 | | | | | | | 3 | < 8400 U | < 8600 U | < 1100 U |
| 4,6-Dinitro-2-methylphenol | ug/kg | SW8270D LL | N | 534-52-1 | | | | | | | 3 | < 8400 U | < 8600 U | < 1100 U |
| 4-Bromophenyl-phenylether | ug/kg | SW8270D LL | N | 101-55-3 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 4-Chloro-3-methylphenol | ug/kg | SW8270D LL | N | 59-50-7 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 4-Chloroaniline | ug/kg | SW8270D LL | N | 106-47-8 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 4-Chlorophenyl-phenylether | ug/kg | SW8270D LL | N | 7005-72-3 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 4-Methylphenol | ug/kg | SW8270D LL | N | 106-44-5 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| 4-Nitroaniline | ug/kg | SW8270D LL | N | 100-01-6 | | | | | | | 3 | < 8400 U | < 8600 U | < 1100 U |
| 4-Nitrophenol | ug/kg | SW8270D LL | N | 100-02-7 | | | | | | | 3 | < 8400 U | < 8600 U | < 1100 U |
| Acenaphthene | ug/kg | SW8270D LL | N | 83-32-9 | 150 | 110 | 130 | 130 | SDRF025074 | 2 | 3 | 110 J | 150 J | < 44 U |
| Acenaphthylene | ug/kg | SW8270D LL | N | 208-96-8 | 170 | 170 | 170 | 170 | SDRF477827 | 1 | 3 | < 330 U | < 340 U | 170 |
| Acetophenone | ug/kg | SW8270D LL | N | 98-86-2 | | | | | | | 3 | < 3300 U | < 3400 U | < 440 U |
| Anthracene | ug/kg | SW8270D LL | N | 120-12-7 | 61 | 61 | 61 | 61 | SDRF477827 | 1 | 3 | < 330 U | < 340 U | 61 |
| Atrazine | ug/kg | SW8270D LL | N | 1912-24-9 | | | | | | | 3 | < 3300 U | < 3400 U | < 440 U |
| Benzaldehyde | ug/kg | SW8270D LL | N | 100-52-7 | | | | | | | 3 | < 3300 U | < 3400 U | < 440 U |

**Table 4-39**
**Off-Site City Storm Drain Sediment Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Location ID | SDRF025074 | SDRF025074 | SDRF477827 |
| | | | | | | | | | | | Sample Date | 7/25/2017 9:30:00 AM | 7/25/2017 9:35:00 AM | 7/25/2017 12:30:00 PM |
| | | | | | | | | | | | Sample ID | SDRF025074N | SDRF025074R | SDRF477827N |
| | | | | | | | | | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | | | | | | | | | Type | N | FD | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| Benzo(a)anthracene | ug/kg | SW8270D LL | N | 56-55-3 | 160 | 49 | 100 | 100 | SDRF025074 | 2 | 3 | 160 J | < 340 U | 49 |
| Benzo(a)pyrene | ug/kg | SW8270D LL | N | 50-32-8 | 140 | 69 | 100 | 100 | SDRF025074 | 2 | 3 | 140 J | < 340 U | 69 |
| Benzo(b)fluoranthene | ug/kg | SW8270D LL | N | 205-99-2 | 160 | 65 | 110 | 110 | SDRF025074 | 2 | 3 | 160 J | < 340 U | 65 |
| Benzo(g,h,i)perylene | ug/kg | SW8270D LL | N | 191-24-2 | 140 | 140 | 140 | 140 | SDRF477827 | 1 | 3 | < 330 U | < 340 U | 140 |
| Benzo(k)fluoranthene | ug/kg | SW8270D LL | N | 207-08-9 | 110 | 20 | 65 | 65 | SDRF025074 | 2 | 3 | 110 J | < 340 U | 20 J |
| bis-(2-chloroethoxy)methane | ug/kg | SW8270D LL | N | 111-91-1 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| bis-(2-Chloroethyl)ether | ug/kg | SW8270D LL | N | 111-44-4 | | | | | | | 3 | < 330 U | < 340 U | < 44 U |
| bis-(2-Ethylhexyl)phthalate | ug/kg | SW8270D LL | N | 117-81-7 | | | | | | | 3 | < 3300 U | < 3400 U | < 440 U |
| Butylbenzylphthalate | ug/kg | SW8270D LL | N | 85-68-7 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| Caprolactam | ug/kg | SW8270D LL | N | 105-60-2 | | | | | | | 3 | < 8400 U | < 8600 U | < 1100 U |
| Carbazole | ug/kg | SW8270D LL | N | 86-74-8 | | | | | | | 3 | < 330 U | < 340 U | < 44 U |
| Chrysene | ug/kg | SW8270D LL | N | 218-01-9 | 210 | 49 | 150 | 180 | SDRF025074 | 3 | 3 | 210 J | 180 J | 49 |
| Dibenzo(a,h)anthracene | ug/kg | SW8270D LL | N | 53-70-3 | | | | | | | 3 | < 330 U | < 340 U | < 44 U |
| Dibenzofuran | ug/kg | SW8270D LL | N | 132-64-9 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| Diethylphthalate | ug/kg | SW8270D LL | N | 84-66-2 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| Dimethylphthalate | ug/kg | SW8270D LL | N | 131-11-3 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| Di-n-butylphthalate | ug/kg | SW8270D LL | N | 84-74-2 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| Di-n-octylphthalate | ug/kg | SW8270D LL | N | 117-84-0 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| Fluoranthene | ug/kg | SW8270D LL | N | 206-44-0 | 330 | 47 | 220 | 280 | SDRF025074 | 3 | 3 | 330 | 280 J | 47 |
| Fluorene | ug/kg | SW8270D LL | N | 86-73-7 | 160 | 120 | 140 | 140 | SDRF025074 | 2 | 3 | 120 J | 160 J | < 44 U |
| Hexachlorobenzene | ug/kg | SW8270D LL | N | 118-74-1 | | | | | | | 3 | < 330 U | < 340 U | < 44 U |
| Hexachlorobutadiene | ug/kg | SW8270D LL | N | 87-68-3 | | | | | | | 3 | < 330 U | < 340 U | < 44 U |
| Hexachlorocyclo-pentadiene | ug/kg | SW8270D LL | N | 77-47-4 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| Hexachloroethane | ug/kg | SW8270D LL | N | 67-72-1 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| Indeno(1,2,3-cd)pyrene | ug/kg | SW8270D LL | N | 193-39-5 | 75 | 75 | 75 | 75 | SDRF477827 | 1 | 3 | < 330 U | < 340 U | 75 |
| Isophorone | ug/kg | SW8270D LL | N | 78-59-1 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| Naphthalene | ug/kg | SW8270D LL | N | 91-20-3 | | | | | | | 3 | < 330 U | < 340 U | < 44 U |
| Nitrobenzene | ug/kg | SW8270D LL | N | 98-95-3 | | | | | | | 3 | < 3300 U | < 3400 U | < 440 U |
| N-Nitroso-di-n-propylamine | ug/kg | SW8270D LL | N | 621-64-7 | | | | | | | 3 | < 330 U | < 340 U | < 44 U |
| N-Nitrosodiphenylamine | ug/kg | SW8270D LL | N | 86-30-6 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| Pentachlorophenol | ug/kg | SW8270D LL | N | 87-86-5 | | | | | | | 3 | < 8400 U | < 8600 U | < 1100 U |
| Phenanthrene | ug/kg | SW8270D LL | N | 85-01-8 | 370 | 21 | 220 | 270 | SDRF025074 | 3 | 3 | 270 J | 370 | 21 J |
| Phenol | ug/kg | SW8270D LL | N | 108-95-2 | | | | | | | 3 | < 1600 U | < 1700 U | < 220 U |
| Pyrene | ug/kg | SW8270D LL | N | 129-00-0 | 330 | 60 | 200 | 210 | SDRF025074 | 3 | 3 | 330 | 210 J | 60 |
| BaP-TE | ug/kg | SW8270D LL | N | BAP | 173 | 0.18 | 87.1 | 88.1 | SDRF025074 | 3 | 3 | 173 | 0.180 | 88.1 |
| Total High-molecular-weight PAHs | ug/kg | SW8270D LL | N | TOT-PAH-HMW | 1400 | 570 | 880 | 670 | SDRF025074 | 3 | 3 | 1400 | 670 | 570 |
| Total Low-molecular-weight PAHs | ug/kg | SW8270D LL | N | TOT-PAH-LMW | 680 | 250 | 480 | 500 | SDRF025074 | 3 | 3 | 500 | 680 | 250 |
| Total PAHs (sum 16) | ug/kg | SW8270D LL | N | TOT-PAH | 1900 | 830 | 1400 | 1400 | SDRF025074 | 3 | 3 | 1900 | 1400 | 830 |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran | pg/g | SW8290A | T | 67562-39-4 | 4.06 | 0.688 | 2.82 | 3.72 | SDRF025074 | 3 | 3 | 3.72 | 4.06 JN | 0.688 JN |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin | pg/g | SW8290A | T | 35822-46-9 | 13.3 | 5.41 | 10.3 | 12.1 | SDRF025074 | 3 | 3 | 12.1 | 13.3 | 5.41 |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran | pg/g | SW8290A | T | 55673-89-7 | 0.661 | 0.366 | 0.514 | 0.514 | SDRF025074 | 2 | 3 | 0.366 JN | 0.661 J | < 0.245 U |
| 1,2,3,4,7,8-Hexachlorodibenzofuran | pg/g | SW8290A | T | 70648-26-9 | 0.732 | 0.183 | 0.513 | 0.624 | SDRF025074 | 3 | 3 | 0.624 J | 0.732 JN | 0.183 JN |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin | pg/g | SW8290A | T | 39227-28-6 | 0.339 | 0.275 | 0.307 | 0.307 | SDRF025074 | 2 | 3 | 0.275 J | 0.339 J | < 0.149 U |
| 1,2,3,6,7,8-Hexachlorodibenzofuran | pg/g | SW8290A | T | 57117-44-9 | 0.793 | 0.177 | 0.537 | 0.641 | SDRF025074 | 3 | 3 | 0.641 J | 0.793 J | 0.177 JN |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin | pg/g | SW8290A | T | 57653-85-7 | 0.913 | 0.347 | 0.668 | 0.744 | SDRF025074 | 3 | 3 | 0.744 J | 0.913 J | 0.347 J |
| 1,2,3,7,8,9-Hexachlorodibenzofuran | pg/g | SW8290A | T | 72918-21-9 | | | | | | | 3 | < 0.18 U | < 0.317 U | < 0.222 U |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin | pg/g | SW8290A | T | 19408-74-3 | 0.647 | 0.427 | 0.53 | 0.517 | SDRF025074 | 3 | 3 | 0.517 JN | 0.647 J | 0.427 JN |
| 1,2,3,7,8-PeCDF | pg/g | SW8290A | T | 57117-41-6 | 0.472 | 0.114 | 0.333 | 0.412 | SDRF025074 | 3 | 3 | 0.412 J | 0.472 J | 0.114 JN |

## Table 4-39
## Off-Site City Storm Drain Sediment Results
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Location ID | SDRF025074 | SDRF025074 | SDRF477827 |
| | | | | | | | | | | | Sample Date | 7/25/2017 9:30:00 AM | 7/25/2017 9:35:00 AM | 7/25/2017 12:30:00 PM |
| | | | | | | | | | | | Sample ID | SDRF025074N | SDRF025074R | SDRF477827N |
| | | | | | | | | | | | Depth | 0 - 1 ft | 0 - 1 ft | 0 - 1 ft |
| | | | | | | | | | | | Type | N | FD | N |
| Analyte | Unit | Method | Fraction | CAS | Max Detect | Min Detect | Mean Detect | Median Detect | Max Location | Count Detect | Count Total | | | |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin | pg/g | SW8290A | T | 40321-76-4 | 0.302 | 0.243 | 0.273 | 0.273 | SDRF025074 | 2 | 3 | 0.302 J | 0.243 J | < 0.23 U |
| 2,3,4,6,7,8-Hexachlorodibenzofuran | pg/g | SW8290A | T | 60851-34-5 | 0.837 | 0.186 | 0.6 | 0.778 | SDRF025074 | 3 | 3 | 0.778 J | 0.837 J | 0.186 JN |
| 2,3,4,7,8-Pentachlorodibenzofuran | pg/g | SW8290A | T | 57117-31-4 | 0.844 | 0.465 | 0.664 | 0.684 | SDRF025074 | 3 | 3 | 0.684 J | 0.844 J | 0.465 J |
| 2,3,7,8-Tetrachlorodibenzofuran | pg/g | SW8290A | T | 51207-31-9 | 0.463 | 0.284 | 0.374 | 0.374 | SDRF025074 | 2 | 3 | 0.284 JN | 0.463 | < 0.146 U |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin | pg/g | SW8290A | T | 1746-01-6 | | | | | | | 3 | < 0.11 U | < 0.216 U | < 0.19 U |
| Octachlorochlorodibenzofuran | pg/g | SW8290A | T | 39001-02-0 | 7.01 | 1.79 | 4.88 | 5.84 | SDRF025074 | 3 | 3 | 7.01 | 5.84 JN | 1.79 J |
| Octachlorochlorodibenzo-p-dioxin | pg/g | SW8290A | T | 3268-87-9 | 153 | 114 | 137 | 145 | SDRF025074 | 3 | 3 | 153 | 145 | 114 |
| Total HpCDD | pg/g | SW8290A | T | 37871-00-4 | 31.3 | 11.1 | 23.8 | 29 | SDRF025074 | 3 | 3 | 31.3 | 29 | 11.1 |
| Total HpCDF | pg/g | SW8290A | T | 38998-75-3 | 8.22 | 1.4 | 5.76 | 7.65 | SDRF025074 | 3 | 3 | 7.65 | 8.22 | 1.4 |
| Total HxCDD | pg/g | SW8290A | T | 34465-46-8 | 7.98 | 3.14 | 5.73 | 6.07 | SDRF025074 | 3 | 3 | 6.07 | 7.98 | 3.14 |
| Total HxCDF | pg/g | SW8290A | T | 55684-94-1 | 9.68 | 2.88 | 6.9 | 8.14 | SDRF025074 | 3 | 3 | 8.14 | 9.68 | 2.88 |
| Total PeCDD | pg/g | SW8290A | T | 36088-22-9 | 3.95 | 0.918 | 2.7 | 3.22 | SDRF025074 | 3 | 3 | 3.22 | 3.95 | 0.918 |
| Total PeCDF | pg/g | SW8290A | T | 30402-15-4 | 10.7 | 4.86 | 8.31 | 9.36 | SDRF025074 | 3 | 3 | 9.36 | 10.7 | 4.86 |
| Total TCDD | pg/g | SW8290A | T | 41903-57-5 | 1.15 | 0.434 | 0.707 | 0.538 | SDRF025074 | 3 | 3 | 1.15 | 0.538 | 0.434 |
| Total TCDF | pg/g | SW8290A | T | 55722-27-5 | 6.24 | 0.841 | 3.99 | 4.89 | SDRF025074 | 3 | 3 | 4.89 | 6.24 | 0.841 |
| TCDD TEQ Bird | pg/g | SW8290A | T | DFTEQ-Bird | 2 | 0.601 | 1.42 | 1.66 | SDRF025074 | 3 | 3 | 1.66 | 2.00 | 0.601 |
| TCDD TEQ Fish | pg/g | SW8290A | T | DFTEQ-Fish | 1.21 | 0.324 | 0.878 | 1.1 | SDRF025074 | 3 | 3 | 1.10 | 1.21 | 0.324 |
| TCDD TEQ HH | pg/g | SW8290A | T | DFTEQ-HH | 1.21 | 0.371 | 0.9 | 1.12 | SDRF025074 | 3 | 3 | 1.12 | 1.21 | 0.371 |
| Cyanide | mg/kg | SW9014 | N | 57-12-5 | | | | | | | 3 | < 0.31 U | < 0.32 U | < 0.33 U |

Notes:
Bold values indicate detects.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J+ = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
J- = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
N = Normal
FD = Field Duplicate

mg/kg = milligrams per kilogram
pg/g= picograms per gram
ug/kg = micrograms per kilogram

**Table 4-40**
**Soil and Sediment Project Screening Levels for Human Health**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| CAS Number | Chemical | Human Health Project Screening Levels (PSLs) Sediment Residential RSL (a) (mg/kg) | | Soil Industrial RSL (a) mg/kg | |
|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | 810 | | 3600 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.6 | | 2.7 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | 670 | | 2800 | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.15 | | 0.63 | |
| 92-52-4 | 1,1'-Biphenyl | 4.7 | | 20 | |
| 75-34-3 | 1,1-Dichloroethane | 3.6 | | 16 | |
| 75-35-4 | 1,1-Dichloroethene | 23 | | 100 | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 6.3 | | 93 | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 2.3 | | 35 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 5.8 | | 26 | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 0.0053 | | 0.064 | |
| 106-93-4 | 1,2-Dibromoethane | 0.036 | | 0.16 | |
| 95-50-1 | 1,2-Dichlorobenzene | 180 | | 930 | |
| 107-06-2 | 1,2-Dichloroethane | 0.46 | | 2 | |
| 78-87-5 | 1,2-Dichloropropane | 1.6 | | 6.6 | |
| 541-73-1 | 1,3-Dichlorobenzene | 2.6 | (b) | 11 | (b) |
| 106-46-7 | 1,4-Dichlorobenzene | 2.6 | | 11 | |
| 123-91-1 | 1,4-Dioxane | 5.3 | | 24 | |
| 90-12-0 | 1-Methylnaphthalene | 18 | | 73 | |
| 108-60-1 | 2,2'-oxybis(1-Chloropropane) | 310 | | 4700 | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 190 | | 2500 | |
| 2245-38-7 | 2,3,5-Trimethylnaphthalene | NA | | NA | |
| DFTEQ-HH | 2,3,7,8-TCDD-TEQ | 0.0000048 | (c) | 0.000022 | (c) |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin | 0.0000048 | (c) | 0.000022 | (c) |
| 95-95-4 | 2,4,5-Trichlorophenol | 630 | | 8200 | |
| 88-06-2 | 2,4,6-Trichlorophenol | 6.3 | | 82 | |
| 120-83-2 | 2,4-Dichlorophenol | 19 | | 250 | |
| 105-67-9 | 2,4-Dimethylphenol | 130 | | 1600 | |
| 51-28-5 | 2,4-Dinitrophenol | 13 | | 160 | |
| 121-14-2 | 2,4-Dinitrotoluene | 1.7 | | 7.4 | |
| 581-42-0 | 2,6-Dimethylnaphthalene | NA | | NA | |
| 606-20-2 | 2,6-Dinitrotoluene | 0.36 | | 1.5 | |
| 78-93-3 | 2-Butanone | 2700 | | 19000 | |
| 91-58-7 | 2-Chloronaphthalene | 480 | | 6000 | |
| 95-57-8 | 2-Chlorophenol | 39 | | 580 | |
| 591-78-6 | 2-Hexanone | 20 | | 130 | |
| 91-57-6 | 2-Methylnaphthalene | 24 | | 300 | |
| 95-48-7 | 2-Methylphenol | 320 | | 4100 | |
| 88-74-4 | 2-Nitroaniline | 63 | | 800 | |
| 88-75-5 | 2-Nitrophenol | 1900 | (d) | 25000 | (d) |
| 91-94-1 | 3,3'-Dichlorobenzidine | 1.2 | | 5.1 | |
| 99-09-2 | 3-Nitroaniline | 25 | (e) | 110 | (e) |
| 72-54-8 | 4,4'-DDD | 0.19 | | 2.5 | |
| 72-55-9 | 4,4'-DDE | 2 | | 9.3 | |
| 50-29-3 | 4,4'-DDT | 1.9 | | 8.5 | |

**Table 4-40**
**Soil and Sediment Project Screening Levels for Human Health**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| CAS Number | Chemical | Human Health Project Screening Levels (PSLs) Sediment Residential RSL (a) (mg/kg) | | Soil Industrial RSL (a) mg/kg | |
|---|---|---|---|---|---|
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 0.51 | | 6.6 | |
| 101-55-3 | 4-Bromophenyl-phenylether | NA | | NA | |
| 59-50-7 | 4-Chloro-3-methylphenol | 630 | | 8200 | |
| 106-47-8 | 4-Chloroaniline | 2.7 | | 11 | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | NA | | NA | |
| 108-10-1 | 4-Methyl-2-pentanone | 3300 | | 14000 | |
| 106-44-5 | 4-Methylphenol | 630 | | 8200 | |
| 100-01-6 | 4-Nitroaniline | 25 | | 110 | |
| 100-02-7 | 4-Nitrophenol | 1900 | (d) | 25000 | (d) |
| 83-32-9 | Acenaphthene | 360 | | 4500 | |
| 208-96-8 | Acenaphthylene | 360 | (f) | 4500 | (f) |
| 67-64-1 | Acetone | 6100 | | 67000 | |
| 98-86-2 | Acetophenone | 780 | | 12000 | |
| 309-00-2 | Aldrin | 0.039 | | 0.18 | |
| 319-84-6 | alpha-BHC | 0.086 | | 0.36 | |
| 7429-90-5 | Aluminum | 7700 | | 110000 | |
| 120-12-7 | Anthracene | 1800 | | 23000 | |
| 7440-36-0 | Antimony | 3.1 | | 47 | |
| 7440-38-2 | Arsenic | 0.68 | | 3 | |
| 1912-24-9 | Atrazine | 2.4 | | 10 | |
| BAP | BAP-TE | 0.11 | (g) | 2.1 | (g) |
| 7440-39-3 | Barium | 1500 | | 22000 | |
| 100-52-7 | Benzaldehyde | 170 | | 820 | |
| 71-43-2 | Benzene | 1.2 | | 5.1 | |
| 56-55-3 | Benzo(a)anthracene | 1.1 | | 21 | |
| 50-32-8 | Benzo(a)pyrene | 0.11 | | 2.1 | |
| 205-99-2 | Benzo(b)fluoranthene | 1.1 | | 21 | |
| 191-24-2 | Benzo(g,h,i)perylene | 180 | (h) | 2300 | (h) |
| 207-08-9 | Benzo(k)fluoranthene | 11 | | 210 | |
| 65-85-0 | Benzoic Acid | 25000 | | 330000 | |
| 7440-41-7 | Beryllium | 16 | | 230 | |
| 319-85-7 | beta-BHC | 0.3 | | 1.3 | |
| 111-91-1 | bis-(2-chloroethoxy)methane | 19 | | 250 | |
| 111-44-4 | bis-(2-Chloroethyl)ether | 0.23 | | 1 | |
| 117-81-7 | bis-(2-Ethylhexyl)phthalate | 39 | | 160 | |
| 74-97-5 | Bromochloromethane | 15 | | 63 | |
| 75-27-4 | Bromodichloromethane | 0.29 | | 1.3 | |
| 75-25-2 | Bromoform | 19 | | 86 | |
| 74-83-9 | Bromomethane | 0.68 | | 3 | |
| 85-68-7 | Butylbenzylphthalate | 290 | | 1200 | |
| 7440-43-9 | Cadmium | 7.1 | | 98 | |
| 7440-70-2 | Calcium | EN | | EN | |
| 105-60-2 | Caprolactam | 3100 | | 40000 | |
| 86-74-8 | Carbazole | 240 | (i) | 3000 | (i) |
| 75-15-0 | Carbon Disulfide | 77 | | 350 | |

**Table 4-40**
**Soil and Sediment Project Screening Levels for Human Health**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| CAS Number | Chemical | Human Health Project Screening Levels (PSLs) | | | |
|---|---|---|---|---|---|
| | | Sediment Residential RSL (a) (mg/kg) | | Soil Industrial RSL (a) mg/kg | |
| 56-23-5 | Carbon Tetrachloride | 0.65 | | 2.9 | |
| 108-90-7 | Chlorobenzene | 28 | | 130 | |
| 75-00-3 | Chloroethane | 1400 | | 5700 | |
| 67-66-3 | Chloroform | 0.32 | | 1.4 | |
| 74-87-3 | Chloromethane | 11 | | 46 | |
| 7440-47-3 | Chromium, total/trivalent | 12,000 | | 180,000 | |
| 18540-29-9 | Chromium, hexavalent | 0.3 | | 6.3 | |
| 218-01-9 | Chrysene | 110 | | 2100 | |
| 156-59-2 | cis-1,2-Dichloroethylene | 16 | | 230 | |
| 10061-01-5 | cis-1,3-Dichloropropene | 1.8 | (k) | 8.2 | (k) |
| 5103-71-9 | cis-Chlordane | 1.7 | (l) | 7.7 | (l) |
| 12789-03-6 | Chlordane (Technical) | 1.7 | (l) | 7.7 | (l) |
| 7440-48-4 | Cobalt | 2.3 | | 35 | |
| 7440-50-8 | Copper | 310 | | 4700 | |
| 57-12-5 | Cyanide | 2.3 | | 15 | |
| 110-82-7 | Cyclohexane | 650 | | 2700 | |
| 319-86-8 | delta-BHC | 0.086 | (m) | 0.36 | (m) |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.11 | | 2.1 | |
| 132-64-9 | Dibenzofuran | 7.3 | | 100 | |
| 132-65-0 | Dibenzothiophene | 78 | | 1200 | |
| 124-48-1 | Dibromochloromethane | 8.3 | | 39 | |
| 75-71-8 | Dichlorodifluoromethane | 8.7 | | 37 | |
| 60-57-1 | Dieldrin | 0.034 | | 0.14 | |
| C10C20 | Diesel Range Organics (C10-C20) | 96 | (x) | 440 | (x) |
| DIESELCOMP | Diesel Range Organics (C10-C28) | 96 | (x) | 440 | (x) |
| 84-66-2 | Diethylphthalate | 5100 | | 66000 | |
| 108-20-3 | Diisopropyl ether | 220 | | 940 | |
| 131-11-3 | Dimethylphthalate | 5100 | (n) | 66000 | (n) |
| 84-74-2 | Di-n-butylphthalate | 630 | | 8200 | |
| 117-84-0 | Di-n-octylphthalate | 63 | | 820 | |
| 959-98-8 | Endosulfan I | 47 | (o) | 700 | (o) |
| 33213-65-9 | Endosulfan II | 47 | (o) | 700 | (o) |
| 1031-07-8 | Endosulfan Sulfate | 47 | (o) | 700 | (o) |
| 72-20-8 | Endrin | 1.9 | | 25 | |
| 7421-93-4 | Endrin aldehyde | 1.9 | (p) | 25 | (p) |
| 53494-70-5 | Endrin ketone | 1.9 | (p) | 25 | (p) |
| 100-41-4 | Ethylbenzene | 5.8 | | 25 | |
| 206-44-0 | Fluoranthene | 240 | | 3000 | |
| 86-73-7 | Fluorene | 240 | | 3000 | |
| 58-89-9 | gamma-BHC (Lindane) | 0.57 | | 2.5 | |
| 8006-61-9 | Gasoline Range Organics (C6-C10) | 8.2 | (y) | 42 | (y) |
| 76-44-8 | Heptachlor | 0.13 | | 0.63 | |
| 1024-57-3 | Heptachlor Epoxide | 0.07 | | 0.33 | |
| 118-74-1 | Hexachlorobenzene | 0.21 | | 0.96 | |
| 87-68-3 | Hexachlorobutadiene | 1.2 | | 5.3 | |

**Table 4-40**
**Soil and Sediment Project Screening Levels for Human Health**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| CAS Number | Chemical | Human Health Project Screening Levels (PSLs) Sediment Residential RSL (a) (mg/kg) | | Soil Industrial RSL (a) mg/kg | |
|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclo-pentadiene | 0.18 | | 0.75 | |
| 67-72-1 | Hexachloroethane | 1.8 | | 8 | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 1.1 | | 21 | |
| 7439-89-6 | Iron | 5500 | | 82000 | |
| 78-59-1 | Isophorone | 570 | | 2400 | |
| 98-82-8 | Isopropylbenzene | 190 | | 990 | |
| 7439-92-1 | Lead | 400 | | 800 | |
| XYLMP | m, p-Xylene | 55 | (r) | 240 | (r) |
| 7439-95-4 | Magnesium | EN | | EN | |
| 7439-96-5 | Manganese | 180 | (s) | 2600 | (s) |
| 7439-97-6 | Mercury | 2.3 | (t) | 35 | (t) |
| 72-43-5 | Methoxychlor | 32 | | 410 | |
| 79-20-9 | Methyl Acetate | 7800 | | 120000 | |
| 1634-04-4 | Methyl tert-Butyl Ether (MTBE) | 47 | | 210 | |
| 108-87-2 | Methylcyclohexane | 650 | (u) | 2700 | (u) |
| 75-09-2 | Methylene Chloride | 35 | | 320 | |
| 91-20-3 | Naphthalene | 3.8 | | 17 | |
| 7440-02-0 | Nickel | 150 | | 2200 | |
| 98-95-3 | Nitrobenzene | 5.1 | | 22 | |
| 621-64-7 | N-Nitroso-di-n-propylamine | 0.078 | | 0.33 | |
| 86-30-6 | N-Nitrosodiphenylamine | 110 | | 470 | |
| C20C36 | Oil Range Organics (C20-C36) | 23000 | (z) | 350000 | (z) |
| 95-47-6 | o-Xylene | 65 | | 280 | |
| PCBTEQ-HH | PCB TEQ HH | 0.0000048 | (c) | 0.000022 | (c) |
| PCB | PCB, TOTAL | 0.12 | (v) | 0.97 | (v) |
| TOT-PCB-ARO-C | PCB, Total Aroclors (AECOM Calc) | 0.12 | (v) | 0.97 | (v) |
| TOT-PCB-ARO-C | PCB, Total Aroclors (AECOM Calc) | 0.12 | (v) | 0.97 | (v) |
| 87-86-5 | Pentachlorophenol | 1 | | 4 | |
| 198-55-0 | Perylene | NA | | NA | |
| 85-01-8 | Phenanthrene | 1800 | (w) | 23000 | (w) |
| 108-95-2 | Phenol | 1900 | | 25000 | |
| 7440-09-7 | Potassium | EN | | EN | |
| 129-00-0 | Pyrene | 180 | | 2300 | |
| 7782-49-2 | Selenium | 39 | | 580 | |
| 7440-22-4 | Silver | 39 | | 580 | |
| 7440-23-5 | Sodium | EN | | EN | |
| 100-42-5 | Styrene | 600 | | 3500 | |
| 127-18-4 | Tetrachloroethylene | 8.1 | | 39 | |
| 7440-28-0 | Thallium | 0.078 | | 1.2 | |
| 108-88-3 | Toluene | 490 | | 4700 | |
| TOT-PCB-ARO | Total PCBs | 0.12 | (v) | 0.97 | (v) |
| 8001-35-2 | Toxaphene | 0.49 | | 2.1 | |
| 156-60-5 | trans-1,2-Dichloroethene | 160 | | 2300 | |
| 10061-02-6 | trans-1,3-Dichloropropene | 1.8 | (k) | 8.2 | (k) |
| 5103-74-2 | trans-Chlordane | 1.7 | (l) | 7.7 | (l) |

**Table 4-40**
**Soil and Sediment Project Screening Levels for Human Health**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| CAS Number | Chemical | Human Health Project Screening Levels (PSLs) Sediment Residential RSL (a) (mg/kg) | Soil Industrial RSL (a) mg/kg |
|---|---|---|---|
| 79-01-6 | Trichloroethene | 0.41 | 1.9 |
| 75-69-4 | Trichlorofluoromethane | 2300 | 35000 |
| 7440-62-2 | Vanadium | 39 | 580 |
| 75-01-4 | Vinyl Chloride | 0.059 | 1.7 |
| 1330-20-7 | Xylenes (total) | 58 | 250 |
| 7440-66-6 | Zinc | 2300 | 35000 |

**Notes:**
CAS - Chemical Abstracts Service.
EN - Essential Nutrient.
NA - Not Available; no appropriate surrogate.
RSL - Regional Screening Level.
PSL - Project Screening Level.
USEPA - United States Environmental Protection Agency.
(a) USEPA Regional Screening Level Table. (Target Risk =1E-06; Target Hazard Quotient=0.1). May 2018.
https://www.epa.gov/risk/regional-screening-levels-rsls
Residential value used for sediment, industrial value used for soil.
(b) - Value for 1,4-dichlororobenzene.
(c) - Value for 2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD).
(d) - Value for phenol.
(e) - Value for 4-nitroaniline.
(f) - Value for acenaphthene
(g) - Value for benzo(a)pyrene.
(h) - Value for pyrene.
(i) - Value for fluorene.
(k) - Value for 1,3-dichloropropene.
(l) - Value for chlordane.
(m) - Value for alpha-BHC.
(n) - Value for diethylphthalate.
(o) - Value for endosulfan.
(p) - Value for endrin.
(r) - Value for m-xylenes.
(s) - Value for manganese, non-diet.
(t) - Value for mercuric chloride.
(u) - Value for cyclohexane.
(v) - Value for Aroclor-1254.
(w) - Value for anthracene.
(x) - Value for total petroleum hydrocarbons (aliphatic medium). THQ of 1 used to account for uncertainty in toxicity data.
(y) - Value for total petroleum hydrocarbons (aromatic low).
(z) - Value for total petroleum hydrocarbons (aliphatic high).

**Table 4-41**
**Groundwater Project Screening Levels for Human Health**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| CAS Number | Chemical | DOEE Primary Drinking Water Standard (a) (ug/L) | MCL (b) (ug/L) | Tapwater RSL (c) (ug/L) | Selected Project Screening Level (PSL) (d) (ug/L) | |
|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | 200 | 200 | 800 | 200 | DOEE |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | NA | NA | 0.076 | 0.076 | RSL |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | 1000 | 1000 | RSL |
| 79-00-5 | 1,1,2-Trichloroethane | NA | 5 | 0.041 | 5 | MCL |
| 92-52-4 | 1,1'-Biphenyl | NA | NA | 0.083 | 0.083 | RSL |
| 75-34-3 | 1,1-Dichloroethane | NA | NA | 2.8 | 2.8 | RSL |
| 75-35-4 | 1,1-Dichloroethene | 7 | 7 | 28 | 7 | DOEE |
| 87-61-6 | 1,2,3-Trichlorobenzene | NA | NA | 0.7 | 0.7 | RSL |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | NA | NA | 0.17 | 0.17 | RSL |
| 120-82-1 | 1,2,4-Trichlorobenzene | NA | 70 | 0.4 | 70 | MCL |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | NA | 0.2 | 0.00033 | 0.2 | MCL |
| 106-93-4 | 1,2-Dibromoethane | NA | 0.05 | 0.0075 | 0.05 | MCL |
| 95-50-1 | 1,2-Dichlorobenzene | NA | 600 | 30 | 600 | MCL |
| 107-06-2 | 1,2-Dichloroethane | 5 | 5 | 0.17 | 5 | DOEE |
| 78-87-5 | 1,2-Dichloropropane | NA | 5 | 0.82 | 5 | MCL |
| 541-73-1 | 1,3-Dichlorobenzene | NA | NA | 0.48 (g) | 0.48 | RSL |
| 106-46-7 | 1,4-Dichlorobenzene | 75 | 75 | 0.48 | 75 | DOEE |
| 123-91-1 | 1,4-Dioxane | NA | NA | 0.46 | 0.46 | RSL |
| 90-12-0 | 1-Methylnaphthalene | NA | NA | 1.1 | 1.1 | RSL |
| 108-60-1 | 2,2'-oxybis(1-Chloropropane) | NA | NA | 71 | 71 | RSL |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | NA | NA | 24 | 24 | RSL |
| 1746-01-6 | 2,3,7,8-TCDD | NA | 0.00003 | 0.00000012 | 0.00003 | MCL |
| 95-95-4 | 2,4,5-Trichlorophenol | NA | NA | 120 | 120 | RSL |
| 88-06-2 | 2,4,6-Trichlorophenol | NA | NA | 1.2 | 1.2 | RSL |
| 120-83-2 | 2,4-Dichlorophenol | NA | NA | 4.6 | 4.6 | RSL |
| 105-67-9 | 2,4-Dimethylphenol | NA | NA | 36 | 36 | RSL |
| 51-28-5 | 2,4-Dinitrophenol | NA | NA | 3.9 | 3.9 | RSL |
| 121-14-2 | 2,4-Dinitrotoluene | NA | NA | 0.24 | 0.24 | RSL |
| 606-20-2 | 2,6-Dinitrotoluene | NA | NA | 0.049 | 0.049 | RSL |
| 78-93-3 | 2-Butanone | NA | NA | 560 | 560 | RSL |
| 91-58-7 | 2-Chloronaphthalene | NA | NA | 75 | 75 | RSL |
| 95-57-8 | 2-Chlorophenol | NA | NA | 9.1 | 9.1 | RSL |
| 591-78-6 | 2-Hexanone | NA | NA | 3.8 | 3.8 | RSL |
| 91-57-6 | 2-Methylnaphthalene | NA | NA | 3.6 | 3.6 | RSL |
| 95-48-7 | 2-Methylphenol | NA | NA | 93 | 93 | RSL |
| 88-74-4 | 2-Nitroaniline | NA | NA | 19 | 19 | RSL |
| 88-75-5 | 2-Nitrophenol | NA | NA | 580 (h) | 580 | RSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | NA | NA | 0.13 | 0.13 | RSL |
| 99-09-2 | 3-Nitroaniline | NA | NA | 3.8 (i) | 3.8 | RSL |
| 72-54-8 | 4,4'-DDD | NA | NA | 0.0063 | 0.0063 | RSL |
| 72-55-9 | 4,4'-DDE | NA | NA | 0.046 | 0.046 | RSL |
| 50-29-3 | 4,4'-DDT | NA | NA | 0.23 | 0.23 | RSL |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | NA | NA | 0.15 | 0.15 | RSL |
| 59-50-7 | 4-Chloro-3-methylphenol | NA | NA | 140 | 140 | RSL |
| 106-47-8 | 4-Chloroaniline | NA | NA | 0.37 | 0.37 | RSL |
| 108-10-1 | 4-Methyl-2-pentanone | NA | NA | 630 | 630 | RSL |
| 106-44-5 | 4-Methylphenol | NA | NA | 190 | 190 | RSL |
| 100-01-6 | 4-Nitroaniline | NA | NA | 3.8 | 3.8 | RSL |
| 100-02-7 | 4-Nitrophenol | NA | NA | 580 (h) | 580 | RSL |
| 83-32-9 | Acenaphthene | NA | NA | 53 | 53 | RSL |
| 208-96-8 | Acenaphthylene | NA | NA | 53 (j) | 53 | RSL |
| 67-64-1 | Acetone | NA | NA | 1400 | 1400 | RSL |
| 98-86-2 | Acetophenone | NA | NA | 190 | 190 | RSL |
| 309-00-2 | Aldrin | NA | NA | 0.00092 | 0.00092 | RSL |
| 319-84-6 | alpha-BHC | NA | NA | 0.0072 | 0.0072 | RSL |
| 7429-90-5 | Aluminum | NA | NA | 2000 | 2000 | RSL |
| 120-12-7 | Anthracene | NA | NA | 180 | 180 | RSL |
| 7440-36-0 | Antimony | NA | 6 | 0.78 | 6 | MCL |
| 7440-38-2 | Arsenic | 50 | 10 | 0.052 | 10 | MCL |

**Table 4-41**
**Groundwater Project Screening Levels for Human Health**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| CAS Number | Chemical | DOEE Primary Drinking Water Standard (a) (ug/L) | MCL (b) (ug/L) | | Tapwater RSL (c) (ug/L) | | Selected Project Screening Level (PSL) (d) (ug/L) | |
|---|---|---|---|---|---|---|---|---|
| 1912-24-9 | Atrazine | NA | 3 | | 0.3 | | 3 | MCL |
| BAP | BAP-TE | NA | 0.2 | (y) | 0.025 | (y) | 0.2 | MCL |
| 7440-39-3 | Barium | 1000 | 2000 | | 380 | | 1000 | DOEE |
| 100-52-7 | Benzaldehyde | NA | NA | | 19 | | 19 | RSL |
| 71-43-2 | Benzene | 5 | 5 | | 0.46 | | 5 | DOEE |
| 56-55-3 | Benzo(a)anthracene | NA | NA | | 0.03 | | 0.03 | RSL |
| 50-32-8 | Benzo(a)pyrene | NA | 0.2 | | 0.025 | | 0.2 | MCL |
| 205-99-2 | Benzo(b)fluoranthene | NA | NA | | 0.25 | | 0.25 | RSL |
| 191-24-2 | Benzo(g,h,i)perylene | NA | NA | | 12 | (k) | 12 | RSL |
| 207-08-9 | Benzo(k)fluoranthene | NA | NA | | 2.5 | | 2.5 | RSL |
| 65-85-0 | Benzoic Acid | NA | NA | | 7500 | | 7500 | RSL |
| 7440-41-7 | Beryllium | NA | 4 | | 2.5 | | 4 | MCL |
| 319-85-7 | beta-BHC | NA | NA | | 0.025 | | 0.025 | RSL |
| 111-91-1 | bis-(2-chloroethoxy)methane | NA | NA | | 5.9 | | 5.9 | RSL |
| 111-44-4 | bis-(2-Chloroethyl)ether | NA | NA | | 0.014 | | 0.014 | RSL |
| 117-81-7 | bis-(2-Ethylhexyl)phthalate | NA | 6 | | 5.6 | | 6 | MCL |
| 74-97-5 | Bromochloromethane | NA | NA | | 8.3 | | 8.3 | RSL |
| 75-27-4 | Bromodichloromethane | NA | 80 | (e) | 0.13 | | 80 | MCL |
| 75-25-2 | Bromoform | NA | 80 | (e) | 3.3 | | 80 | MCL |
| 74-83-9 | Bromomethane | NA | NA | | 0.75 | | 0.75 | RSL |
| 75-65-0 | Butyl alcohol, tert- | NA | NA | | 14 | (ab) | 14 | RSL |
| 85-68-7 | Butylbenzylphthalate | NA | NA | | 16 | | 16 | RSL |
| 7440-43-9 | Cadmium | 5 | 5 | | 0.92 | | 5 | DOEE |
| 7440-70-2 | Calcium | EN | EN | | EN | | EN | |
| 105-60-2 | Caprolactam | NA | NA | | 990 | | 990 | RSL |
| 86-74-8 | Carbazole | NA | NA | | 29 | (aa) | 29 | RSL |
| 75-15-0 | Carbon Disulfide | NA | NA | | 81 | | 81 | RSL |
| 56-23-5 | Carbon Tetrachloride | 5 | 5 | | 0.46 | | 5 | DOEE |
| 108-90-7 | Chlorobenzene | NA | 100 | | 7.8 | | 100 | MCL |
| 75-00-3 | Chloroethane | NA | NA | | 2100 | | 2100 | RSL |
| 67-66-3 | Chloroform | NA | 80 | (e) | 0.22 | | 80 | MCL |
| 74-87-3 | Chloromethane | NA | NA | | 19 | | 19 | RSL |
| 18540-29-9 | Chromium, hexavalent | | | | 0.035 | | | |
| 7440-47-3 | Chromium, total/trivalent | 100 | 100 | | 2,200 | | 100 | DOEE |
| 218-01-9 | Chrysene | NA | NA | | 25 | | 25 | RSL |
| 156-59-2 | cis-1,2-Dichloroethylene | 70 | 70 | | 3.6 | | 70 | DOEE |
| 10061-01-5 | cis-1,3-Dichloropropene | NA | NA | | 0.47 | (m) | 0.47 | RSL |
| 5103-71-9 | cis-Chlordane | NA | 2 | | 0.02 | (l) | 2 | MCL |
| 7440-48-4 | Cobalt | NA | NA | | 0.6 | | 0.6 | RSL |
| 7440-50-8 | Copper | NA | 1300 | | 80 | | 1300 | MCL |
| 57-12-5 | Cyanide | 200 | 200 | | 0.15 | | 200 | DOEE |
| 110-82-7 | Cyclohexane | NA | NA | | 1300 | | 1300 | RSL |
| 319-86-8 | delta-BHC | NA | NA | | 0.0072 | (o) | 0.0072 | RSL |
| 53-70-3 | Dibenzo(a,h)anthracene | NA | NA | | 0.025 | | 0.025 | RSL |
| 132-64-9 | Dibenzofuran | NA | NA | | 0.79 | | 0.79 | RSL |
| 132-65-0 | Dibenzothiophene | NA | NA | | 6.5 | | 6.5 | RSL |
| 124-48-1 | Dibromochloromethane | NA | 80 | (e) | 0.87 | | 80 | MCL |
| 75-71-8 | Dichlorodifluoromethane | NA | NA | | 20 | | 20 | RSL |
| 60-57-1 | Dieldrin | NA | NA | | 0.0018 | | 0.0018 | RSL |
| C10C20 | Diesel Range Organics (C10-C20) | NA | NA | | 100 | (p) | 100 | RSL |
| 84-66-2 | Diethylphthalate | NA | NA | | 1500 | | 1500 | RSL |
| 108-20-3 | Diisopropyl ether | NA | NA | | 150 | | 150 | RSL |
| 131-11-3 | Dimethylphthalate | NA | NA | | 1500 | (q) | 1500 | RSL |
| 84-74-2 | Di-n-butylphthalate | NA | NA | | 90 | | 90 | RSL |
| 117-84-0 | Di-n-octylphthalate | NA | NA | | 20 | | 20 | RSL |
| 959-98-8 | Endosulfan I | NA | NA | | 10 | (r) | 10 | RSL |
| 33213-65-9 | Endosulfan II | NA | NA | | 10 | (r) | 10 | RSL |
| 1031-07-8 | Endosulfan Sulfate | NA | NA | | 10 | (r) | 10 | RSL |
| 72-20-8 | Endrin | 0.2 | 2 | | 0.23 | | 0.2 | DOEE |

**Table 4-41**
**Groundwater Project Screening Levels for Human Health**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| CAS Number | Chemical | DOEE Primary Drinking Water Standard (a) (ug/L) | MCL (b) (ug/L) | | Tapwater RSL (c) (ug/L) | | Selected Project Screening Level (PSL) (d) (ug/L) | |
|---|---|---|---|---|---|---|---|---|
| 7421-93-4 | Endrin aldehyde | NA | NA | | 0.23 | (s) | 0.23 | RSL |
| 53494-70-5 | Endrin ketone | NA | NA | | 0.23 | (s) | 0.23 | RSL |
| 100-41-4 | Ethylbenzene | 700 | 700 | | 1.5 | | 700 | DOEE |
| 206-44-0 | Fluoranthene | NA | NA | | 80 | | 80 | RSL |
| 86-73-7 | Fluorene | NA | NA | | 29 | | 29 | RSL |
| 58-89-9 | gamma-BHC (Lindane) | 4 | 0.2 | | 0.042 | | 0.2 | MCL |
| 8006-61-9 | Gasoline Range Organics (C6-C10) | NA | NA | | 3.3 | (t) | 3.3 | RSL |
| 76-44-8 | Heptachlor | NA | 0.4 | | 0.0014 | | 0.4 | MCL |
| 1024-57-3 | Heptachlor Epoxide | NA | 0.2 | | 0.0014 | | 0.2 | MCL |
| 118-74-1 | Hexachlorobenzene | NA | 1 | | 0.0098 | | 1 | MCL |
| 87-68-3 | Hexachlorobutadiene | NA | NA | | 0.14 | | 0.14 | RSL |
| 77-47-4 | Hexachlorocyclo-pentadiene | NA | 50 | | 0.041 | | 50 | MCL |
| 67-72-1 | Hexachloroethane | NA | NA | | 0.33 | | 0.33 | RSL |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | NA | NA | | 0.25 | | 0.25 | RSL |
| 7439-89-6 | Iron | NA | NA | | 1400 | | 1400 | RSL |
| 78-59-1 | Isophorone | NA | NA | | 78 | | 78 | RSL |
| 98-82-8 | Isopropylbenzene | NA | NA | | 45 | | 45 | RSL |
| 7439-92-1 | Lead | 50 | 15 | | 15 | | 15 | MCL |
| XYLMP | m, p-Xylene | 10000 | 10000 | | 19 | (u) | 10000 | DOEE |
| 7439-95-4 | Magnesium | EN | EN | | EN | | EN | |
| 7439-96-5 | Manganese | NA | NA | | 43 | | 43 | RSL |
| 7439-97-6 | Mercury | 2 | 2 | | 0.57 | (n) | 2 | DOEE |
| 72-43-5 | Methoxychlor | 100 | 40 | | 3.7 | | 40 | MCL |
| 79-20-9 | Methyl Acetate | NA | NA | | 2000 | | 2000 | RSL |
| 1634-04-4 | Methyl tert-Butyl Ether (MTBE) | NA | NA | | 14 | | 14 | RSL |
| 108-87-2 | Methylcyclohexane | NA | NA | | 1300 | (v) | 1300 | RSL |
| 75-09-2 | Methylene Chloride | NA | 5 | | 11 | | 5 | MCL |
| 91-20-3 | Naphthalene | NA | NA | | 0.17 | | 0.17 | RSL |
| 7440-02-0 | Nickel | NA | NA | | 39 | | 39 | RSL |
| 98-95-3 | Nitrobenzene | NA | NA | | 0.14 | | 0.14 | RSL |
| 621-64-7 | N-Nitroso-di-n-propylamine | NA | NA | | 0.011 | | 0.011 | RSL |
| 86-30-6 | N-Nitrosodiphenylamine | NA | NA | | 12 | | 12 | RSL |
| 111-84-2 | Nonane | NA | NA | | 0.53 | | 0.53 | RSL |
| C20C36 | Oil Range Organics (C20-C36) | NA | NA | | 6000 | (w) | 6000 | RSL |
| 95-47-6 | o-Xylene | 10000 | 10000 | | 19 | | 10000 | DOEE |
| PCBTEQ-HH | PCB TEQ HH | NA | 0.00003 | (f) | 0.00000012 | (f) | 0.00003 | MCL |
| PCB | PCB, TOTAL | NA | 0.5 | | 0.044 | (x) | 0.5 | MCL |
| TOT-PCB-ARO-C | PCB, Total Aroclors | NA | 0.5 | | 0.044 | (x) | 0.5 | MCL |
| TOT-PCB-ARO | PCB, Total Aroclors (Lab provided) | NA | 0.5 | | 0.044 | (x) | 0.5 | MCL |
| 87-86-5 | Pentachlorophenol | NA | 1 | | 0.041 | | 1 | MCL |
| 85-01-8 | Phenanthrene | NA | NA | | 180 | (z) | 180 | RSL |
| 108-95-2 | Phenol | NA | NA | | 580 | | 580 | RSL |
| 7440-09-7 | Potassium | EN | EN | | EN | | EN | |
| 129-00-0 | Pyrene | NA | NA | | 12 | | 12 | RSL |
| 7782-49-2 | Selenium | 50 | 50 | | 10 | | 50 | DOEE |
| 7440-22-4 | Silver | 50 | NA | | 9.4 | | 50 | DOEE |
| 7440-23-5 | Sodium | EN | EN | | EN | | EN | |
| 100-42-5 | Styrene | NA | 100 | | 120 | | 100 | MCL |
| DFTEQ-HH | TCDD TEQ HH | NA | 0.00003 | (f) | 0.00000012 | (f) | 0.00003 | MCL |
| 994-05-8 | Tertiary-Amyl Methyl Ether | NA | NA | | 41 | (ac) | 41 | rsl |
| 127-18-4 | Tetrachloroethylene | 5 | 5 | | 4.1 | | 5 | DOEE |
| 7440-28-0 | Thallium | NA | 2 | | 0.02 | | 2 | MCL |
| 108-88-3 | Toluene | 1000 | 1000 | | 110 | | 1000 | DOEE |
| 8001-35-2 | Toxaphene | 5 | 3 | | 0.071 | | 3 | MCL |
| 156-60-5 | trans-1,2-Dichloroethene | 100 | 100 | | 36 | | 100 | DOEE |
| 10061-02-6 | trans-1,3-Dichloropropene | NA | NA | | 0.47 | (m) | 0.47 | RSL |
| 5103-74-2 | trans-Chlordane | NA | 2 | | 0.02 | (l) | 2 | MCL |
| 79-01-6 | Trichloroethene | 5 | 5 | | 0.28 | | 5 | DOEE |
| 75-69-4 | Trichlorofluoromethane | NA | NA | | 520 | | 520 | RSL |
| 7440-62-2 | Vanadium | NA | NA | | 8.6 | | 8.6 | RSL |

**Table 4-41**
**Groundwater Project Screening Levels for Human Health**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| CAS Number | Chemical | DOEE Primary Drinking Water Standard (a) (ug/L) | MCL (b) (ug/L) | Tapwater RSL (c) (ug/L) | Selected Project Screening Level (PSL) (d) (ug/L) | |
|---|---|---|---|---|---|---|
| 75-01-4 | Vinyl Chloride | 2 | 2 | 0.019 | 2 | DOEE |
| 1330-20-7 | Xylenes (total) | 10000 | 10000 | 19 | 10000 | DOEE |
| 7440-66-6 | Zinc | NA | NA | 600 | 600 | RSL |

**Notes:**

CAS - Chemical Abstracts Service.
DOEE - District Department of Energy and Environment.
EN - Essential Nutrient.
MCL - Maximum Contaminant Level.
NA - Not Available from this source.
PSL - Project Screening Level.
RSL - Regional Screening Level.
USEPA - United States Environmental Protection Agency.

(a) DOEE, Title 21 of the District of Columbia Municipal Regulations, Chapter 11, Water Quality Standards. Rule 21-1155. Groundwater Standards. Effective March 4,1994.
http://www.dcregs.dc.gov/Gateway/RuleHome.aspx?RuleNumber=21-1155
(b) National Primary Drinking Water Regulations. Maximum Contaminant Level (MCL). Accessed September 2017.
https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations
(c) USEPA Regional Screening Level Table. (Target Risk =1E-06; Target Hazard Quotient=0.1). May 2018. Value for tapwater.
https://www.epa.gov/risk/regional-screening-levels-rsls
(d) Selected screening level is the lower of the DOEE and the MCL, where available. Where neither is available, the tapwater RSL is selected.
(e) Value for total trihalomethanes. Applies to the sum of concentrations of bromodichloromethane, bromoform, dibromochloromethane, and chloroform.
(f) - Value for 2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD).
(g) - Value for 1,4-dichlororobenzene.
(h) - Value for phenol.
(i) - Value for 4-nitroaniline.
(j) - Value for acenaphthene
(k) - Value for pyrene.
(l) - Value for chlordane.
(m) - Value for 1,3-dichloropropene.
(n) - Value for mercuric chloride.
(o) - Value for alpha-BHC.
(p) - Value for total petroleum hydrocarbons (aliphatic medium). THQ of 1 used to account for uncertainty in toxicity data.
(q) - Value for diethylphthalate.
(r) - Value for endosulfan.
(s) - Value for endrin.
(t) - Value for total petroleum hydrocarbons (aromatic low).
(u) - Value for m-xylenes.
(v) - Value for cyclohexane.
(w) - Value for total petroleum hydrocarbons (aliphatic high).
(x) - Value for polychlorinated biphenyls, low risk.
(y) - Value for benzo(a)pyrene.
(z) - Value for anthracene.
(aa) - Value for fluorene.
(ab) - Value for MTBE.
(ac) - Value for isopropanol.

**Table 4-42**
**Surface Water Project Screening Levels for Human Health**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| CAS Number | Chemical | DOEE Class D Surface Water Criteria (a) (ug/L) | NRWQC, Human Health, Organism only (b) (ug/L) | Tapwater RSL (c) (ug/L) | Selected Human Health Project Screening Level (PSL) (d) (ug/L) | |
|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | NA | 200000 | 800 | 200000 | NRWQC |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 4 | 3 | 0.076 | 4 | DOEE |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane | NA | NA | 1000 | 1000 | RSL |
| 79-00-5 | 1,1,2-Trichloroethane | 16 | 8.9 | 0.041 | 16 | DOEE |
| 92-52-4 | 1,1'-Biphenyl | NA | NA | 0.083 | 0.083 | RSL |
| 75-34-3 | 1,1-Dichloroethane | NA | NA | 2.8 | 2.8 | RSL |
| 75-35-4 | 1,1-Dichloroethene | 7100 | 20000 | 28 | 7100 | DOEE |
| 87-61-6 | 1,2,3-Trichlorobenzene | NA | NA | 0.7 | 0.7 | RSL |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 1.1 | 0.03 | 0.17 | 1.1 | DOEE |
| 120-82-1 | 1,2,4-Trichlorobenzene | 70 | 0.076 | 0.4 | 70 | DOEE |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | NA | NA | 0.00033 | 0.00033 | RSL |
| 106-93-4 | 1,2-Dibromoethane | NA | NA | 0.0075 | 0.0075 | RSL |
| 95-50-1 | 1,2-Dichlorobenzene | 1300 | 3000 | 30 | 1300 | DOEE |
| 107-06-2 | 1,2-Dichloroethane | 37 | 650 | 0.17 | 37 | DOEE |
| 78-87-5 | 1,2-Dichloropropane | 15 | 31 | 0.82 | 15 | DOEE |
| 541-73-1 | 1,3-Dichlorobenzene | 960 | 10 | 0.48 (g) | 960 | DOEE |
| 106-46-7 | 1,4-Dichlorobenzene | 190 | 900 | 0.48 | 190 | DOEE |
| 123-91-1 | 1,4-Dioxane | NA | NA | 0.46 | 0.46 | RSL |
| 90-12-0 | 1-Methylnaphthalene | NA | NA | 1.1 | 1.1 | RSL |
| 108-60-1 | 2,2'-oxybis(1-Chloropropane) | 65000 | 4000 | 71 | 65000 | DOEE |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | NA | NA | 24 | 24 | RSL |
| 1746-01-6 | 2,3,7,8-TCDD | 0.000000051 | 5.1E-09 | 0.00000012 | 0.000000051 | DOEE |
| DFTEQ-HH | 2,3,7,8-TCDD-TEQ | 0.000000051 (z) | 5.1E-09 (z) | 0.00000012 (z) | 0.000000051 | DOEE |
| 95-95-4 | 2,4,5-Trichlorophenol | 3600 | 600 | 120 | 3600 | DOEE |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.4 | 2.8 | 1.2 | 2.4 | DOEE |
| 120-83-2 | 2,4-Dichlorophenol | 290 | 60 | 4.6 | 290 | DOEE |
| 105-67-9 | 2,4-Dimethylphenol | 850 | 3000 | 36 | 850 | DOEE |
| 51-28-5 | 2,4-Dinitrophenol | 5300 | 300 | 3.9 | 5300 | DOEE |
| 121-14-2 | 2,4-Dinitrotoluene | 3.4 | 1.7 | 0.24 | 3.4 | DOEE |
| 606-20-2 | 2,6-Dinitrotoluene | NA | NA | 0.049 | 0.049 | RSL |
| 78-93-3 | 2-Butanone | NA | NA | 560 | 560 | RSL |
| 91-58-7 | 2-Chloronaphthalene | 1600 | 1000 | 75 | 1600 | DOEE |
| 95-57-8 | 2-Chlorophenol | 150 | 800 | 9.1 | 150 | DOEE |
| 591-78-6 | 2-Hexanone | NA | NA | 3.8 | 3.8 | RSL |
| 91-57-6 | 2-Methylnaphthalene | NA | NA | 3.6 | 3.6 | RSL |
| 95-48-7 | 2-Methylphenol | NA | NA | 93 | 93 | RSL |
| 88-74-4 | 2-Nitroaniline | NA | NA | 19 | 19 | RSL |
| 88-75-5 | 2-Nitrophenol | NA | NA | 580 (h) | 580 | RSL |
| 91-94-1 | 3,3'-Dichlorobenzidine | 0.028 | 0.15 | 0.13 | 0.028 | DOEE |
| 99-09-2 | 3-Nitroaniline | NA | NA | 3.8 (i) | 3.8 | RSL |
| 72-54-8 | 4,4'-DDD | 0.00031 | 0.00012 | 0.0063 | 0.00031 | DOEE |
| 72-55-9 | 4,4'-DDE | 0.00022 | 0.000018 | 0.046 | 0.00022 | DOEE |
| 50-29-3 | 4,4'-DDT | 0.00022 | 0.00003 | 0.23 | 0.00022 | DOEE |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 280 | 30 | 0.15 | 280 | DOEE |
| 101-55-3 | 4-Bromophenyl-phenylether | NA | NA | NA | NA | |
| 59-50-7 | 4-Chloro-3-methylphenol | NA | 2000 | 140 | 2000 | NRWQC |
| 106-47-8 | 4-Chloroaniline | NA | NA | 0.37 | 0.37 | RSL |
| 7005-72-3 | 4-Chlorophenyl-phenylether | NA | NA | NA | NA | |
| 108-10-1 | 4-Methyl-2-pentanone | NA | NA | 630 | 630 | RSL |
| 106-44-5 | 4-Methylphenol | NA | NA | 190 | 190 | RSL |
| 100-01-6 | 4-Nitroaniline | NA | NA | 3.8 | 3.8 | RSL |
| 100-02-7 | 4-Nitrophenol | NA | NA | 580 (h) | 580 | RSL |
| 83-32-9 | Acenaphthene | 990 | 90 | 53 | 990 | DOEE |
| 208-96-8 | Acenaphthylene | NA | NA | 53 (j) | 53 | RSL |
| 67-64-1 | Acetone | NA | NA | 1400 | 1400 | RSL |
| 98-86-2 | Acetophenone | NA | NA | 190 | 190 | RSL |
| 309-00-2 | Aldrin | 0.00005 | 0.00000077 | 0.00092 | 0.00005 | DOEE |
| 319-84-6 | alpha-BHC | 0.0049 | 0.00039 | 0.0072 | 0.0049 | DOEE |
| 7429-90-5 | Aluminum | NA | NA | 2000 | 2000 | RSL |

**Table 4-42**
**Surface Water Project Screening Levels for Human Health**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| CAS Number | Chemical | DOEE Class D Surface Water Criteria (a) (ug/L) | | NRWQC, Human Health, Organism only (b) (ug/L) | | Tapwater RSL (c) (ug/L) | | Selected Human Health Project Screening Level (PSL) (d) (ug/L) | |
|---|---|---|---|---|---|---|---|---|---|
| 120-12-7 | Anthracene | 40000 | | 400 | | 180 | | 40000 | DOEE |
| 7440-36-0 | Antimony | 640 | | 640 | | 0.78 | | 640 | DOEE |
| 7440-38-2 | Arsenic | 0.14 | | 0.14 | | 0.052 | | 0.14 | DOEE |
| 1912-24-9 | Atrazine | NA | | NA | | 0.3 | | 0.3 | RSL |
| BAP | BaP-TE | 0.018 | | 0.00013 | | 0.025 | | 0.018 | DOEE |
| 7440-39-3 | Barium | NA | | NA | | 380 | | 380 | RSL |
| 100-52-7 | Benzaldehyde | NA | | NA | | 19 | | 19 | RSL |
| 71-43-2 | Benzene | 51 | | 16 | | 0.46 | | 51 | DOEE |
| 56-55-3 | Benzo(a)anthracene | 0.018 | | 0.0013 | | 0.03 | | 0.018 | DOEE |
| 50-32-8 | Benzo(a)pyrene | 0.018 | | 0.00013 | | 0.025 | | 0.018 | DOEE |
| 205-99-2 | Benzo(b)fluoranthene | 0.018 | | 0.0013 | | 0.25 | | 0.018 | DOEE |
| 191-24-2 | Benzo(g,h,i)perylene | NA | | NA | | 12 | (k) | 12 | RSL |
| 207-08-9 | Benzo(k)fluoranthene | 0.018 | | 0.013 | | 2.5 | | 0.018 | DOEE |
| 65-85-0 | Benzoic Acid | NA | | NA | | 7500 | | 7500 | RSL |
| 7440-41-7 | Beryllium | NA | | NA | | 2.5 | | 2.5 | RSL |
| 319-85-7 | beta-BHC | 0.017 | | 0.014 | | 0.025 | | 0.017 | DOEE |
| 111-91-1 | bis-(2-chloroethoxy)methane | NA | | NA | | 5.9 | | 5.9 | RSL |
| 111-44-4 | bis-(2-Chloroethyl)ether | 0.53 | | 2.2 | | 0.014 | | 0.53 | DOEE |
| 117-81-7 | bis-(2-Ethylhexyl)phthalate | 2.2 | | 0.37 | | 5.6 | | 2.2 | DOEE |
| 74-97-5 | Bromochloromethane | NA | | NA | | 8.3 | | 8.3 | RSL |
| 75-27-4 | Bromodichloromethane | 17 | | 27 | | 0.13 | | 17 | DOEE |
| 75-25-2 | Bromoform | 140 | | 120 | | 3.3 | | 140 | DOEE |
| 74-83-9 | Bromomethane | 1500 | | 10000 | | 0.75 | | 1500 | DOEE |
| 75-65-0 | Butyl alcohol, tert- | NA | | NA | | 14 | (ac) | 14 | RSL |
| 85-68-7 | Butylbenzylphthalate | 1900 | | 0.1 | | 16 | | 1900 | DOEE |
| 7440-43-9 | Cadmium | NA | | NA | | 0.92 | | 0.92 | RSL |
| 7440-70-2 | Calcium | EN | | EN | | EN | | EN | |
| 105-60-2 | Caprolactam | NA | | NA | | 990 | | 990 | RSL |
| 86-74-8 | Carbazole | NA | | NA | | 29 | (aa) | 29 | RSL |
| 75-15-0 | Carbon Disulfide | NA | | NA | | 81 | | 81 | RSL |
| 56-23-5 | Carbon Tetrachloride | 1.6 | | 5 | | 0.46 | | 1.6 | DOEE |
| 108-90-7 | Chlorobenzene | 1600 | | 800 | | 7.8 | | 1600 | DOEE |
| 75-00-3 | Chloroethane | NA | | NA | | 2100 | | 2100 | RSL |
| 67-66-3 | Chloroform | 470 | | 2000 | | 0.22 | | 470 | DOEE |
| 74-87-3 | Chloromethane | NA | | NA | | 19 | | 19 | RSL |
| 18540-29-9 | Chromium, hexavalent | NA | | NA | | 0.035 | | 0.035 | RSL |
| 7440-47-3 | Chromium, total/trivalent | NA | | NA | | 2200 | | 2200 | RSL |
| 218-01-9 | Chrysene | 0.018 | | 0.13 | | 25 | | 0.018 | DOEE |
| 156-59-2 | cis-1,2-Dichloroethylene | 10000 | (e) | 4000 | (e) | 3.6 | | 10000 | DOEE |
| 10061-01-5 | cis-1,3-Dichloropropene | 21 | (f) | 12 | (f) | 0.47 | (f) | 21 | DOEE |
| 5103-71-9 | cis-Chlordane | 0.00081 | | 0.00032 | | 0.02 | (l) | 0.00081 | DOEE |
| 7440-48-4 | Cobalt | NA | | NA | | 0.6 | | 0.6 | RSL |
| 7440-50-8 | Copper | NA | | NA | | 80 | | 80 | RSL |
| 57-12-5 | Cyanide | NA | | 400 | | 0.15 | | 400 | NRWQC |
| 110-82-7 | Cyclohexane | NA | | NA | | 1300 | | 1300 | RSL |
| 319-86-8 | delta-BHC | NA | | NA | | 0.0072 | (m) | 0.0072 | RSL |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.018 | | 0.00013 | | 0.025 | | 0.018 | DOEE |
| 132-64-9 | Dibenzofuran | NA | | NA | | 0.79 | | 0.79 | RSL |
| 132-65-0 | Dibenzothiophene | NA | | NA | | 6.5 | | 6.5 | RSL |
| 124-48-1 | Dibromochloromethane | 13 | | 21 | | 0.87 | | 13 | DOEE |
| 75-71-8 | Dichlorodifluoromethane | NA | | NA | | 20 | | 20 | RSL |
| 60-57-1 | Dieldrin | 0.000054 | | 0.0000012 | | 0.0018 | | 0.000054 | DOEE |
| C10C20 | Diesel Range Organics (C10-C20) | NA | | NA | | 100 | (n) | 100 | RSL |
| 84-66-2 | Diethylphthalate | 44000 | | 600 | | 1500 | | 44000 | DOEE |
| 108-20-3 | Diisopropyl ether | NA | | NA | | 150 | | 150 | RSL |
| 131-11-3 | Dimethylphthalate | 1100000 | | 2000 | | 1500 | (o) | 1100000 | DOEE |
| 84-74-2 | Di-n-butylphthalate | 4500 | | 30 | | 90 | | 4500 | DOEE |
| 117-84-0 | Di-n-octylphthalate | NA | | NA | | 20 | | 20 | RSL |
| 959-98-8 | Endosulfan I | 89 | | 30 | | 10 | (p) | 89 | DOEE |

**Table 4-42**
**Surface Water Project Screening Levels for Human Health**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| CAS Number | Chemical | DOEE Class D Surface Water Criteria (a) (ug/L) | NRWQC, Human Health, Organism only (b) (ug/L) | Tapwater RSL (c) (ug/L) | Selected Human Health Project Screening Level (PSL) (d) (ug/L) | |
|---|---|---|---|---|---|---|
| 33213-65-9 | Endosulfan II | 89 | 40 | 10 (p) | 89 | DOEE |
| 1031-07-8 | Endosulfan Sulfate | 89 | 40 | 10 (p) | 89 | DOEE |
| 72-20-8 | Endrin | 0.06 | 0.03 | 0.23 | 0.06 | DOEE |
| 7421-93-4 | Endrin aldehyde | 0.3 | 1 | 0.23 (q) | 0.3 | DOEE |
| 53494-70-5 | Endrin ketone | NA | NA | 0.23 (q) | 0.23 | RSL |
| 100-41-4 | Ethylbenzene | 2100 | 130 | 1.5 | 2100 | DOEE |
| 637-92-3 | Ethyl-Tert-Butyl-Ether | NA | NA | NA | NA | |
| 206-44-0 | Fluoranthene | 140 | 20 | 80 | 140 | DOEE |
| 86-73-7 | Fluorene | 5300 | 70 | 29 | 5300 | DOEE |
| 58-89-9 | gamma-BHC (Lindane) | 1.8 | 4.4 | 0.042 | 1.8 | DOEE |
| 8006-61-9 | Gasoline Range Organics (C6-C10) | NA | NA | 3.3 (r) | 3.3 | RSL |
| 76-44-8 | Heptachlor | 0.000079 | 0.0000059 | 0.0014 | 0.000079 | DOEE |
| 1024-57-3 | Heptachlor Epoxide | 0.000039 | 0.000032 | 0.0014 | 0.000039 | DOEE |
| 118-74-1 | Hexachlorobenzene | 0.00029 | 0.000079 | 0.0098 | 0.00029 | DOEE |
| 87-68-3 | Hexachlorobutadiene | 18 | 0.01 | 0.14 | 18 | DOEE |
| 77-47-4 | Hexachlorocyclo-pentadiene | 1100 | 4 | 0.041 | 1100 | DOEE |
| 67-72-1 | Hexachloroethane | 3.3 | 0.1 | 0.33 | 3.3 | DOEE |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.018 | 0.0013 | 0.25 | 0.018 | DOEE |
| 7439-89-6 | Iron | EN | EN | 1400 | EN | |
| 78-59-1 | Isophorone | 960 | 1800 | 78 | 960 | DOEE |
| 98-82-8 | Isopropylbenzene | NA | NA | 45 | 45 | RSL |
| 7439-92-1 | Lead | NA | NA | 15 | 15 | RSL |
| XYLMP | m, p-Xylene | NA | NA | 19 (s) | 19 | RSL |
| 7439-95-4 | Magnesium | EN | EN | EN | EN | |
| 7439-96-5 | Manganese | 100 | 100 | 43 | 100 | DOEE |
| 7439-97-6 | Mercury | 0.15 | NA | 0.57 (t) | 0.15 | DOEE |
| 72-43-5 | Methoxychlor | NA | 0.02 | 3.7 | 0.02 | NRWQC |
| 79-20-9 | Methyl Acetate | NA | NA | 2000 | 2000 | RSL |
| 1634-04-4 | Methyl tert-Butyl Ether (MTBE) | NA | NA | 14 | 14 | RSL |
| 108-87-2 | Methylcyclohexane | NA | NA | 1300 (u) | 1300 | RSL |
| 75-09-2 | Methylene Chloride | 590 | 1000 | 11 | 590 | DOEE |
| 91-20-3 | Naphthalene | NA | NA | 0.17 | 0.17 | RSL |
| 7440-02-0 | Nickel | 4600 | 4600 | 39 | 4600 | DOEE |
| 98-95-3 | Nitrobenzene | 690 | 600 | 0.14 | 690 | DOEE |
| 621-64-7 | N-Nitroso-di-n-propylamine | 0.51 | 0.51 | 0.011 | 0.51 | DOEE |
| 86-30-6 | N-Nitrosodiphenylamine | 6 | 6 | 12 | 6 | DOEE |
| 111-84-2 | Nonane | NA | NA | 0.53 | 0.53 | RSL |
| C20C36 | Oil Range Organics (C20-C36) | NA | NA | 6000 (v) | 6000 | RSL |
| 95-47-6 | o-Xylene | NA | NA | 19 | 19 | RSL |
| TOT-PCB-ARO-C | PCB, Total Aroclors (AECOM Calc) | 0.000064 | 0.000064 | 0.044 (w) | 0.000064 | DOEE |
| TOT-PCB-ARO | PCB, Total Aroclors (Lab provided) | 0.000064 | 0.000064 | 0.044 (w) | 0.000064 | DOEE |
| 87-86-5 | Pentachlorophenol | 3 | 0.04 | 0.041 | 3 | DOEE |
| 85-01-8 | Phenanthrene | NA | NA | 180 (x) | 180 | RSL |
| 108-95-2 | Phenol | 860000 | 300000 | 580 | 860000 | DOEE |
| 7440-09-7 | Potassium | EN | EN | EN | EN | |
| 129-00-0 | Pyrene | 4000 | 30 | 12 | 4000 | DOEE |
| 7782-49-2 | Selenium | 4200 | 4200 | 10 | 4200 | DOEE |
| 7440-22-4 | Silver | 65000 | NA | 9.4 | 65000 | DOEE |
| 7440-23-5 | Sodium | EN | EN | EN | EN | |
| 100-42-5 | Styrene | NA | NA | 120 | 120 | RSL |
| 994-05-8 | Tertiary-Amyl Methyl Ether | NA | NA | 41 (ab) | 41 | RSL |
| 127-18-4 | Tetrachloroethylene | 3.3 | 29 | 4.1 | 3.3 | DOEE |
| 7440-28-0 | Thallium | 0.47 | 0.47 | 0.02 | 0.47 | DOEE |
| 108-88-3 | Toluene | 15000 | 520 | 110 | 15000 | DOEE |
| 1336-36-3 | Total PCBs | 0.000064 | 0.000064 | 0.044 (w) | 0.000064 | DOEE |
| 8001-35-2 | Toxaphene | 0.00028 | 0.00071 | 0.071 | 0.00028 | DOEE |
| 156-60-5 | trans-1,2-Dichloroethene | 10000 | 4000 | 36 | 10000 | DOEE |
| 10061-02-6 | trans-1,3-Dichloropropene | 21 (f) | 12 (f) | 0.47 (f) | 21 | DOEE |
| 5103-74-2 | trans-Chlordane | 0.00081 | 0.00032 | 0.02 (l) | 0.00081 | DOEE |

**Table 4-42**
**Surface Water Project Screening Levels for Human Health**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| CAS Number | Chemical | DOEE Class D Surface Water Criteria (a) (ug/L) | NRWQC, Human Health, Organism only (b) (ug/L) | Tapwater RSL (c) (ug/L) | Selected Human Health Project Screening Level (PSL) (d) (ug/L) | |
|---|---|---|---|---|---|---|
| 79-01-6 | Trichloroethene | 30 | 7 | 0.28 | 30 | DOEE |
| 75-69-4 | Trichlorofluoromethane | NA | NA | 520 | 520 | RSL |
| 7440-62-2 | Vanadium | NA | NA | 8.6 | 8.6 | RSL |
| 75-01-4 | Vinyl Chloride | 2.4 | 1.6 | 0.019 | 2.4 | DOEE |
| 1330-20-7 | Xylenes (total) | NA | NA | 19 | 19 | RSL |
| 7440-66-6 | Zinc | 26000 | 26000 | 600 | 26000 | DOEE |

**Notes:**
CAS - Chemical Abstracts Service.
DOEE - District Department of Energy and Environment.
EN - Essential Nutrient.
NA - Not Available from this source.
NRWQC - National Recommended Water Quality Criteria.
RSL - Regional Screening Level.
USEPA - United States Environmental Protection Agency.

(a) - DOEE, Title 21 of the District of Columbia Municipal Regulations, Chapter 11, Water Quality Standards. Rule 21-1104, Standards. Effective 11/1/2013. https://www.dcregs.dc.gov/Common/DCMR/SectionList.aspx?SectionNumber=21-1104
(b) - USEPA, National Recommended Water Quality Criteria for Priority Pollutants. Value for Human Health for the consumption of organisms. Accessed 8/2018. https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table.
(c) USEPA Regional Screening Level Table. (Target Risk =1E-06; Target Hazard Quotient=0.1). November 2018. Value for tapwater. https://www.epa.gov/risk/regional-screening-levels-rsls
(d) Selected screening level is the lower of the DOEE criteria, where available. If a DOEE criteria is not available, the NRWQC is used. Where neither is available, the tapwater RSL is selected.
(e) Value for trans-1,2-Dichloroethene.
(f) - Value for 1,3-dichloropropene.
(g) - Value for 1,4-dichlororobenzene.
(h) - Value for phenol.
(i) - Value for 4-nitroaniline.
(j) - Value for acenaphthene
(k) - Value for pyrene.
(l) - Value for chlordane.
(m) - Value for alpha-BHC.
(n) - Value for total petroleum hydrocarbons (aliphatic medium). THQ of 1 used to account for uncertainty in toxicity data.
(o) Value for diethylphthalate.
(p) - Value for endosulfan.
(q) - Value for endrin.
(r) - Value for total petroleum hydrocarbons (aromatic low).
(s) - Value for m-xylenes.
(t) - Value for mercuric chloride.
(u) - Value for cyclohexane.
(v) - Value for total petroleum hydrocarbons (aliphatic high).
(w) - Value for polychlorinated biphenyls, low risk.
(x) - Value for anthracene.
(y) - Value for benzo(a)pyrene.
(z) - Value for 2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD).
(aa) - Value for fluorene.
(ab) - Value for isopropanol.
(ac) - Value for methyl tert-Butyl Ether (MTBE).

**Table 4-43**
**Surface Water Project Screening Levels for Ecological Risk Assessment**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| Detected Chemical | Selected Project Screening Level - Chronic ESV (a) | Chronic ESV Source |
|---|---|---|
| **INORGANICS - DISSOLVED PHASE** | | |
| Aluminum | 87 | USEPA, 2006 |
| Antimony | 30 | USEPA, 2006 |
| Arsenic | 150 | DOH, 2014 |
| Barium | 4 | USEPA, 2006 |
| Beryllium | 0.66 | USEPA, 2006 |
| Cadmium | 0.51 (b) | DOH, 2014 |
| Calcium | 116000 | USEPA, 2006 |
| Chromium | 11.0 (c) | DOH, 2014 |
| Cobalt | 23 | USEPA, 2006 |
| Copper | 22.24 (b) | DOH, 2014 |
| Iron | 1000 | DOH, 2014 |
| Lead | 7.8 (b) | DOH, 2014 |
| Magnesium | 82000 | USEPA, 2006 |
| Manganese | 120 | USEPA, 2006 |
| Mercury | 0.65 | DOH, 2014 |
| Nickel | 128 (b) | DOH, 2014 |
| Potassium | 53000 | USEPA, 2006 |
| Selenium | 5 | DOH, 2014 |
| Silver | 20.08 (b) | DOH, 2014 |
| Sodium | 680000 | USEPA, 2006 |
| Thallium | NV | |
| Vanadium | 20 | USEPA, 2006 |
| Zinc | 291 (b) | DOH, 2014 |
| **INORGANICS - TOTAL RECOVERABLE PHASE** | | |
| Iron | 300 | USEPA, 2006 |
| Mercury | 0.77 | DOH, 2014 |
| Selenium | 5 | DOH, 2014 |
| Thallium | 0.8 | USEPA, 2006 |
| **PESTICIDES** | | |
| 4,4'-DDD | 0.001 | DOH, 2014 |
| 4,4'-DDE | 0.001 | DOH, 2014 |
| 4,4'-DDT | 0.001 | DOH, 2014 |
| Aldrin | 3 | USEPA, 2006 |
| alpha-BHC | NV | USEPA, 2006 |
| alpha-Chlordane | 0.0022 | USEPA, 2006 |
| beta-BHC | 2.2 | USEPA, 2006 |
| delta-BHC | 141 | USEPA, 2006 |
| Dieldrin | 0.056 | USEPA, 2006 |
| Endosulfan | 0.056 | DOH, 2014 |
| Endosulfan II | 0.056 | DOH, 2014 |
| Endosulfan sulfate | 0.056 | DOH, 2014 |
| Endrin | 0.036 | USEPA, 2006 |
| Endrin aldehyde | 0.15 | Buchman, 2006 |
| Endrin ketone | 0.036 | USEPA, 2006 |
| gamma-BHC (Lindane) | NV | USEPA, 2006 |
| gamma-Chlordane | 0.0022 | USEPA, 2006 |
| Heptachlor | 0.0038 | DOH, 2014 |
| Heptachlor epoxide | 0.0038 | DOH, 2014 |
| Methoxychlor | 0.03 | DOH, 2014 |
| Toxaphene | 0.0002 | DOH, 2014 |
| **POLYCHLORINATED BIPHENYLS** | | |
| Aroclor-1016 | 0.014 | DOH, 2014 |
| Aroclor-1221 | 0.014 | DOH, 2014 |
| Aroclor-1232 | 0.014 | DOH, 2014 |
| Aroclor-1242 | 0.014 | DOH, 2014 |
| Aroclor-1248 | 0.014 | DOH, 2014 |
| Aroclor-1254 | 0.014 | DOH, 2014 |
| Aroclor-1260 | 0.014 | DOH, 2014 |
| Aroclor-1262 | 0.014 | DOH, 2014 |
| Aroclor-1268 | 0.014 | DOH, 2014 |
| PCB, Total Aroclors | 0.014 | DOH, 2014 |

**Table 4-43**
**Surface Water Project Screening Levels for Ecological Risk Assessment**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| Detected Chemical | Selected Project Screening Level - Chronic ESV (a) | Chronic ESV Source |
|---|---|---|
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | |
| 1,1'-Biphenyl | 14 | USEPA, 2006 |
| 1,2,4,5-Tetrachlorobenzene | 3 | USEPA, 2006 |
| 2,2'-Oxybis(1-choloropropane) | NV | DOH, 2014 |
| 2,3,4,6-Tetrachlorophenol | 1.2 | USEPA, 2006 |
| 2,4,5-Trichlorophenol | 63 | Buchman, 2006 |
| 2,4,6-Trichlorophenol | 4.9 | USEPA, 2006 |
| 2,4-Dichlorophenol | 11 | USEPA, 2006 |
| 2,4-Dimethylphenol | 200 | DOH, 2014 |
| 2,4-Dinitrophenol | 19 | Buchman, 2006 |
| 2,4-Dinitrotoluene | 33 | DOH, 2014 |
| 2,6-Dinitrotoluene | 81 | USEPA, 2006 |
| 2-Chloronaphthalene | 200 | DOH, 2014 |
| 2-Chlorophenol | 100 | DOH, 2014 |
| 2-Methylnaphthalene | 4.7 | USEPA, 2006 |
| 2-Methylphenol | 13 | USEPA, 2006 |
| 2-Nitroaniline | NV | |
| 2-Nitrophenol | 1920 | USEPA, 2006 |
| 3,3'-dicholorobenzidine | 10 | DOH, 2014 |
| 3-Nitroaniline | NV | |
| 4,6-Dinitro-2-methylphenol | NV | |
| 4-Bromophenyl-phenylether | 1.5 | USEPA, 2006 |
| 4-Chloro-3-methylphenol | NV | |
| 4-Chloroaniline | 232 | USEPA, 2006 |
| 4-Chlorophenyl-phenyl ether | NV | |
| 4-Methylphenol | 543 | USEPA, 2006 |
| 4-Nitroaniline | NV | |
| 4-Nitrophenol | 60 | USEPA, 2006 |
| Acetophenone | NV | |
| Atrazine | NV | USEPA, 2006 |
| Benzaldehyde | NV | |
| Bis(2-chloroethoxy) methane | 11000 | Buchman, 2006 |
| Bis(2-chloroethyl) ether | NV | |
| Bis(2-ethylhexyl) phthalate | 16 | USEPA, 2006 |
| Butylbenzylphthalate | 19 | USEPA, 2006 |
| Caprolactam | NV | |
| Carbazole | NV | |
| Dibenzofuran | 3.7 | USEPA, 2006 |
| Diethylphthalate | 210 | USEPA, 2006 |
| Dimethylphthalate | 3 | Buchman, 2006 |
| Di-n-butylphthalate | 19 | USEPA, 2006 |
| Di-n-octylphthalate | 22 | USEPA, 2006 |
| Hexachlorobenzene | 0.0003 | USEPA, 2006 |
| Hexachlorobutadiene | 10 | DOH, 2014 |
| Hexachlorocyclopentadiene | 0.5 | DOH, 2014 |
| Hexachloroethane | 12 | USEPA, 2006 |
| Isophorone | 1000 | DOH, 2014 |
| Nitrobenzene | 1000 | DOH, 2014 |
| N-Nitroso-di-n propylamine | NV | |
| N-Nitrosodiphenylamine | 210 | USEPA, 2006 |
| Pentachlorophenol | 5.10 | DOH, 2014 |
| Phenol | 4 | USEPA, 2006 |
| Acenaphthene | 50 | DOH, 2014 |
| Acenaphthylene | 4840 | Buchman, 2006 |
| Anthracene | 0.012 | USEPA, 2006 |
| Benzo(a)anthracene | NV | USEPA, 2006 |
| Benzo(a)pyrene | NV | USEPA, 2006 |
| Benzo(b)fluoranthene | 9.07 | Buchman, 2006 |
| Benzo(g,h,i) perylene | 7.64 | Buchman, 2006 |
| Benzo(k)fluoranthene | 0.015 | USEPA, 2006 |
| Chrysene | 0.015 | USEPA, 2006 |
| Dibenzo(a,h) Anthracene | 0.015 | USEPA, 2006 |

**Table 4-43**
**Surface Water Project Screening Levels for Ecological Risk Assessment**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| **Detected Chemical** | **Selected Project Screening Level - Chronic ESV (a)** | **Chronic ESV Source** |
|---|---|---|
| Fluoranthene | 400 | DOH, 2014 |
| Fluorene | 3 | USEPA, 2006 |
| Indeno(1,2,3,-cd) pyrene | 4.31 | Buchman, 2006 |
| Naphthalene | 600 | DOH, 2014 |
| Phenanthrene | 0.4 | USEPA, 2006 |
| Pyrene | 0.025 | USEPA, 2006 |
| Total PAHs | 0.012 | |
| Total LMW PAHs | 0.012 | |
| Total HMW PAHs | 0.015 | |
| **VOLATILE ORGANIC COMPOUNDS** | | |
| 1,1,1-Trichloroethane | 11 | USEPA, 2006 |
| 1,1,2,2-Tetrachloroethane | 610 | USEPA, 2006 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NV | |
| 1,1,2-Trichloroethane | 1200 | USEPA, 2006 |
| 1,1-Dichloroethane | 47 | USEPA, 2006 |
| 1,1-Dichloroethene | 25 | USEPA, 2006 |
| 1,2,3-Trichlorobenzene | NV | |
| 1,2,4-Trichlorobenzene | NV | |
| 1,2-Dibromo-3-chloropropane | NV | |
| 1,2-Dibromoethane | NV | |
| 1,2-Dichlorobenzene | 200 | DOH, 2014 |
| 1,2-Dichloroethane | 100 | USEPA, 2006 |
| 1,2-Dichloropropane | 2000 | DOH, 2014 |
| 1,3-Dichlorobenzene | 200 | DOH, 2014 |
| 1,4-Dichlorobenzene | 200 | DOH, 2014 |
| 1,4-Dioxane | NV | |
| 2-Butanone | 14000 | USEPA, 2006 |
| 2-Hexanone | 99 | USEPA, 2006 |
| 4-Methyl-2-pentanone | 170 | USEPA, 2006 |
| Acetone | 1500 | USEPA, 2006 |
| Benzene | 1000 | DOH, 2014 |
| Bromochloromethane | NV | |
| Bromodichloromethane | NV | |
| Bromoform | 320 | USEPA, 2006 |
| Bromomethane | NV | |
| Carbon disulfide | 0.92 | USEPA, 2006 |
| Carbon tetrachloride | 1000 | DOH, 2014 |
| Chlorobenzene | 25 | DOH, 2014 |
| Chloroethane | 50 | DOH, 2014 |
| Chloroform | 3000 | DOH, 2014 |
| Chloromethane | NV | |
| cis-1,2-Dichloroethene | NV | |
| cis-1,3-Dichloropropene | NV | |
| Cyclohexane | NV | |
| Dibromochloromethane | NV | |
| Dichlorodifluoromethane | NV | |
| Ethylbenzene | 40 | DOH, 2014 |
| Isopropylbenzene | 2.6 | USEPA, 2006 |
| Methyl acetate | NV | |
| Methyl tert-butyl ether | 11070 | USEPA, 2006 |
| Methylcyclohexane | NV | |
| Methylene chloride | NV | USEPA, 2006 |
| o-Xylene | 350 | Buchman, 2006 |
| Styrene | NV | USEPA, 2006 |
| Tetrachloroethene | 800 | DOH, 2014 |
| Toluene | 600 | DOH, 2014 |
| trans-1,2-Dichloroethene | 970 | USEPA, 2006 |
| trans-1,3-Dichloropropene | 0.055 | Buchman, 2006 |
| Trichloroethene | 21 | Buchman, 2008 |
| Trichlorofluoromethane | 11000 | Buchman, 2006 |
| Vinyl chloride | 930 | USEPA, 2006 |

**Table 4-43**
**Surface Water Project Screening Levels for Ecological Risk Assessment**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| Detected Chemical | Selected Project Screening Level - Chronic ESV (a) | Chronic ESV Source |
|---|---|---|
| **DIOXIN/FURANS** | | |
| TCDD TEQ Fish | 0.00001 | Buchman, 2008 |
| 2,3,7,8-TCDD | 0.00001 | Buchman, 2008 |
| 1,2,3,7,8-PeCDD | NV | |
| 1,2,3,6,7,8-HxCDD | 0.00001 | Buchman, 2008 |
| 1,2,3,4,7,8-HxCDD | 0.00001 | Buchman, 2008 |
| 1,2,3,7,8,9-HxCDD | 0.00001 | Buchman, 2008 |
| 1,2,3,4,6,7,8-HpCDD | 0.00001 | Buchman, 2008 |
| OCDD | 0.00001 | Buchman, 2008 |
| 2,3,7,8-TCDF | 0.00001 | Buchman, 2008 |
| 1,2,3,7,8-PeCDF | NV | |
| 2,3,4,7,8-PeCDF | 0.00001 | Buchman, 2008 |
| 1,2,3,6,7,8-HxCDF | 0.00001 | Buchman, 2008 |
| 1,2,3,7,8,9-HxCDF | 0.00001 | Buchman, 2008 |
| 1,2,3,4,7,8-HxCDF | 0.00001 | Buchman, 2008 |
| 2,3,4,6,7,8-HxCDF | 0.00001 | Buchman, 2008 |
| 1,2,3,4,6,7,8-HpCDF | 0.00001 | Buchman, 2008 |
| 1,2,3,4,7,8,9-HpCDF | 0.00001 | Buchman, 2008 |
| OCDF | 0.00001 | Buchman, 2008 |

**Notes:**
All units are in micrograms per liter (μg/L).
Chronic ESV - Chronic Ecological Screening Value.
NV - No value.
(a) Chronic ESVs selected based on a hierarchy of water quality standards and benchmarks from DDOE WQS Criteria (DOH, 2014), USEPA Region 3 freshwater screening values (USEPA, 2006), and literature values (Suter and Tsao, 1996; Buchman, 2008).
(b) Hardness dependent criteria. Value presented has been adjusted by a mean hardness of 290 mg/L as $CaCO_3$ for the Waterside Investigation Area.
(c) Value for Hexavalant Chromium used.

**Table 4-44**
**Sediment Project Screening Levels for Ecological Risk Assessment**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| Detected Chemical | Selected Project Screening Level - Low Effect ESV (a) | | Low Effect ESV Source |
|---|---|---|---|
| **INORGANICS** | | | |
| Aluminum | 25000 | | USEPA, 2018 |
| Antimony | 2.0 | | USEPA, 2006 |
| Arsenic | 5.9 | | Buchman, 2008 |
| Barium | 0.7 | | Buchman, 2008 |
| Beryllium | NV | | |
| Cadmium | 0.583 | | Buchman, 2008 |
| Calcium | EN | | |
| Chromium | 26 | | Buchman, 2008 |
| Cobalt | 50 | | USEPA, 2006 |
| Copper | 31.6 | | USEPA, 2006 |
| Iron | 20000 | | USEPA, 2006 |
| Lead | 31 | | Buchman, 2008 |
| Magnesium | EN | | |
| Manganese | 460 | | Buchman, 2008 |
| Mercury | 0.174 | | Buchman, 2008 |
| Nickel | 16 | | Buchman, 2008 |
| Potassium | EN | | |
| Selenium | 11 | | USEPA, 2018 |
| Silver | 0.5 | | Buchman, 2008 |
| Sodium | EN | | |
| Thallium | NV | | |
| Vanadium | NV | | |
| Zinc | 98 | | Buchman, 2008 |
| **PESTICIDES** | | | |
| 4,4'-DDD | 0.00354 | | Buchman, 2008 |
| 4,4'-DDE | 0.00316 | | Buchman, 2008 |
| 4,4'-DDT | 0.00119 | | Buchman, 2008 |
| Aldrin | 0.002 | | Buchman, 2008 |
| alpha-BHC | 0.006 | | Buchman, 2008 |
| alpha-Chlordane | 0.00003 | (b) | Buchman, 2008 |
| beta-BHC | 0.005 | | Buchman, 2008 |
| delta-BHC | 0.01 | (b) | Buchman, 2008 |
| Dieldrin | 0.0019 | | Buchman, 2008 |
| Endosulfan | 0.0029 | | USEPA, 2006 |
| Endosulfan II | 0.014 | | USEPA, 2006 |
| Endosulfan sulfate | 0.0054 | | USEPA, 2006 |
| Endrin | 0.00222 | | Buchman, 2008 |
| Endrin aldehyde | 0.00222 | (c) | Buchman, 2008 |
| Endrin ketone | 0.00222 | (c) | Buchman, 2008 |
| gamma-BHC (Lindane) | 0.00237 | | Buchman, 2008 |
| gamma-Chlordane | 0.00003 | (b) | Buchman, 2008 |
| Heptachlor | 0.01 | | Buchman, 2008 |
| Heptachlor epoxide | 0.0006 | | Buchman, 2008 |
| Methoxychlor | 0.0187 | | USEPA, 2006 |
| Toxaphene | 0.0001 | | Buchman, 2008 |
| **POLYCHLORINATED BIPHENYLS** | | | |
| Aroclor-1016 | 0.026 | (c) | Buchman, 2008 |
| Aroclor-1221 | 0.026 | (c) | Buchman, 2008 |
| Aroclor-1232 | 0.026 | (c) | Buchman, 2008 |
| Aroclor-1242 | 0.026 | (c) | Buchman, 2008 |
| Aroclor-1248 | 0.026 | (d) | Buchman, 2008 |
| Aroclor-1254 | 0.06 | | Buchman, 2008 |
| Aroclor-1260 | 0.026 | (d) | Buchman, 2008 |
| Aroclor-1262 | 0.026 | (c) | Buchman, 2008 |
| Aroclor-1268 | 0.026 | (c) | Buchman, 2008 |
| Total PCBs | 0.026 | | Buchman, 2008 |
| **SEMI-VOLATILE ORGANIC COMPOUNDS** | | | |
| 1,1'-Biphenyl | 1.22 | | USEPA, 2006 |
| 1,2,4,5-Tetrachlorobenzene | 0.01 | | Buchman, 2008 |
| 2,2'-Oxybis(1-choloropropane) | NV | | |
| 2,3,4,6-Tetrachlorophenol | 0.01 | | Buchman, 2008 |

**Table 4-44**
**Sediment Project Screening Levels for Ecological Risk Assessment**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| Detected Chemical | Selected Project Screening Level - Low Effect ESV (a) | | Low Effect ESV Source |
|---|---|---|---|
| 2,4,5-Trichlorophenol | 0.01 | | Buchman, 2008 |
| 2,4,6-Trichlorophenol | 0.01 | | Buchman, 2008 |
| 2,4-Dichlorophenol | 0.01 | | Buchman, 2008 |
| 2,4-Dimethylphenol | 0.029 | | USEPA, 2006 |
| 2,4-Dinitrophenol | 0.00621 | | USEPA, 2003 |
| 2,4-Dinitrotoluene | 0.0416 | | USEPA, 2006 |
| 2,6-Dinitrotoluene | 0.0416 | (f) | USEPA, 2006 |
| 2-Chloronaphthalene | 0.25 | | Buchman, 2008 |
| 2-Chlorophenol | 0.055 | | Buchman, 2008 |
| 2-Methylnaphthalene | 0.0202 | | USEPA, 2006 |
| 2-Methylphenol | 0.0051 | (d) | Buchman, 2008 |
| 2-Nitroaniline | NV | | |
| 2-Nitrophenol | 0.0133 | (e) | USEPA, 2003 |
| 3,3'-dicholorobenzidine | 0.127 | | USEPA, 2006 |
| 3-Nitroaniline | NV | | |
| 4,6-Dinitro-2-methylphenol | 0.104 | | USEPA, 2003 |
| 4-Bromophenyl-phenylether | 1.23 | | USEPA, 2006 |
| 4-Chloro-3-methylphenol | 15 | | Buchman, 2008 |
| 4-Chloroaniline | 0.0009 | | USEPA, 2018 |
| 4-Chlorophenyl-phenyl ether | NV | | |
| 4-Methylphenol | 0.0051 | | Buchman, 2008 |
| 4-Nitroaniline | NV | | |
| 4-Nitrophenol | 0.0133 | | USEPA, 2003 |
| Acenaphthene | 0.00671 | | Buchman, 2008 |
| Acenaphthylene | 0.00587 | | Buchman, 2008 |
| Acetophenone | NV | | |
| Anthracene | 0.01 | | Buchman, 2008 |
| Atrazine | 0.0002 | | Buchman, 2008 |
| Benzaldehyde | 0.059 | | USEPA, 2018 |
| Benzo(a) pyrene | 0.0319 | | Buchman, 2008 |
| Benzo(a)anthracene | 0.01572 | | Buchman, 2008 |
| Benzo(b) fluoranthene | 0.19 | | USEPA, 2018 |
| Benzo(g,h,i) perylene | 0.17 | | Buchman, 2008 |
| Benzo(k) fluoranthene | 0.0272 | | Buchman, 2008 |
| Bis(2-chloroethoxy) methane | NV | | |
| Bis(2-chloroethyl) ether | 3.52 | | USEPA, 2003 |
| Bis(2-ethylhexyl) phthalate | 0.1 | | Buchman, 2008 |
| Butylbenzylphthalate | 0.1 | | Buchman, 2008 |
| Caprolactam | NV | | |
| Carbazole | 0.069 | | USEPA, 2018 |
| Chrysene | 0.027 | | Buchman, 2008 |
| Dibenzo(a,h) anthracene | 0.0062 | | Buchman, 2008 |
| Dibenzofuran | 5.1 | | Buchman, 2008 |
| Diethylphthalate | 0.53 | | Buchman, 2008 |
| Dimethylphthalate | 1 | | Buchman, 2008 |
| Di-n-butylphthalate | 0.44 | (e) | Buchman, 2008 |
| Di-n-octylphthalate | 0.1 | (b) | Buchman, 2008 |
| Fluoranthene | 0.031 | | Buchman, 2008 |
| Fluorene | 0.01 | | Buchman, 2008 |
| Hexachlorobenzene | 0.0014 | | Buchman, 2008 |
| Hexachlorobutadiene | 0.027 | | USEPA, 2003 |
| Hexachlorocyclopentadiene | 0.901 | | USEPA, 2003 |
| Hexachloroethane | 1.027 | | USEPA, 2006 |
| Indeno(1,2,3,-cd) pyrene | 0.017 | | Buchman, 2008 |
| Isophorone | 0.43 | | USEPA, 2003 |
| Naphthalene | 0.015 | | Buchman, 2008 |
| Nitrobenzene | 0.15 | | USEPA, 2003 |
| N-Nitroso-di-n propylamine | NV | | |
| N-Nitrosodiphenylamine | 2.68 | | USEPA, 2006 |
| Pentachlorophenol | 0.01 | | Buchman, 2008 |
| Phenanthrene | 0.019 | | Buchman, 2008 |
| Phenol | 0.048 | | Buchman, 2008 |
| Pyrene | 0.044 | | Buchman, 2008 |

**Table 4-44**
**Sediment Project Screening Levels for Ecological Risk Assessment**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| Detected Chemical | Selected Project Screening Level - Low Effect ESV (a) | | Low Effect ESV Source |
|---|---|---|---|
| Total PAHs | 0.26 | | Buchman, 2008 |
| Total LMW PAHs | 0.076 | | Buchman, 2008 |
| Total HMW PAHs | 0.193 | | Buchman, 2008 |
| **VOLATILE ORGANIC COMPOUNDS** | | | |
| 1,1,1-Trichloroethane | 0.07 | | Buchman, 2008 |
| 1,1,2,2-Tetrachloroethane | 1.36 | | USEPA, 2006 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | NV | | |
| 1,1,2-Trichloroethane | 0.4 | | Buchman, 2008 |
| 1,1-Dichloroethane | 0.02 | | Buchman, 2008 |
| 1,1-Dichloroethene | 0.1 | | Buchman, 2008 |
| 1,2,3-Trichlorobenzene | 0.011 | | Buchman, 2008 |
| 1,2,4-Trichlorobenzene | 0.011 | | Buchman, 2008 |
| 1,2-Dibromo-3-chloropropane | NV | | |
| 1,2-Dibromoethane | NV | | |
| 1,2-Dichlorobenzene | 0.03 | | Buchman, 2008 |
| 1,2-Dichloroethane | 0.02 | | Buchman, 2008 |
| 1,2-Dichloropropane | 0.002 | | Buchman, 2008 |
| 1,3-Dichlorobenzene | 0.03 | | Buchman, 2008 |
| 1,4-Dichlorobenzene | 0.03 | | Buchman, 2008 |
| 1,4-Dioxane | 0.119 | | USEPA, 2003 |
| 2-Butanone | 35 | (b) | Buchman, 2008 |
| 2-Hexanone | 0.0582 | | USEPA, 2003 |
| 4-Methyl-2-pentanone | 0.0251 | | USEPA, 2003 |
| Acetone | 0.065 | | USEPA, 2018 |
| Benzene | 0.01 | | Buchman, 2008 |
| Bromochloromethane | NV | | |
| Bromodichloromethane | NV | | |
| Bromoform | 75 | | Buchman, 2008 |
| Bromomethane | 0.00137 | | USEPA, 2003 |
| Carbon disulfide | 0.000851 | | USEPA, 2006 |
| Carbon tetrachloride | 0.17 | | Buchman, 2008 |
| Chlorobenzene | 0.03 | | Buchman, 2008 |
| Chloroethane | NV | | |
| Chloroform | 0.02 | (b) | Buchman, 2008 |
| Chloromethane | NV | | |
| cis-1,2-Dichloroethene | 0.2 | | Buchman, 2008 |
| cis-1,3-Dichloropropene | NV | | |
| Cyclohexane | NV | | |
| Dibromochloromethane | NV | | |
| Dichlorodifluoromethane | NV | | |
| Ethylbenzene | 0.03 | | Buchman, 2008 |
| Isopropylbenzene | 0.086 | | USEPA, 2006 |
| Methyl acetate | NV | | |
| Methyl tert-butyl ether | 100 | | Buchman, 2008 |
| Methylcyclohexane | NV | | |
| Methylene chloride | 0.018 | | Buchman, 2008 |
| o-Xylene | 0.089 | | Buchman, 2008 |
| Styrene | 0.2 | | Buchman, 2008 |
| Tetrachloroethene | 0.002 | | Buchman, 2008 |
| Toluene | 0.01 | | Buchman, 2008 |
| trans-1,2-Dichloroethene | 0.2 | | Buchman, 2008 |
| trans-1,3-Dichloropropene | NV | | |
| Trichlorofluoromethane | NV | | |
| Vinyl chloride | 0.01 | | Buchman, 2008 |
| **DIOXIN/FURANs** | | | |
| 1,2,3,4,6,7,8-HpCDD | NV | | |
| 1,2,3,4,6,7,8-HpCDF | NV | | |
| 1,2,3,4,7,8,9-HpCDF | NV | | |
| 1,2,3,4,7,8-HxCDD | NV | | |
| 1,2,3,4,7,8-HxCDF | NV | | |
| 1,2,3,6,7,8-HxCDD | NV | | |
| 1,2,3,6,7,8-HxCDF | NV | | |
| 1,2,3,7,8,9-HxCDD | NV | | |

**Table 4-44**
**Sediment Project Screening Levels for Ecological Risk Assessment**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, N.E., Washington DC 20019**

| Detected Chemical | Selected Project Screening Level - Low Effect ESV (a) | Low Effect ESV Source |
|---|---|---|
| 1,2,3,7,8,9-HxCDF | NV | |
| 1,2,3,7,8-PeCDD | NV | |
| 1,2,3,7,8-PeCDF | NV | |
| 2,3,4,6,7,8-HxCDF | NV | |
| 2,3,4,7,8-PeCDF | NV | |
| 2,3,7,8-TCDD | NV | |
| 2,3,7,8-TCDF | NV | |
| OCDD | NV | |
| OCDF | NV | |

Notes:
All screening values reported in milligrams per kilogram (mg/kg).
EN - Essential nutrient.
NOAA - National Oceanic and Atmospheric Administration.
NV - No value identified.
OMOE - Ontario Ministry of Environment and Energy
TCDD TEQ - Tetrachlorodibenzo-p-dioxin Toxicity Equivalency Factor
USEPA - United States Environmental Protection Agency.
(a) Low effect ESVs selected based on a hierarchy of freshwater values from NOAA SQuiRT tables (Buchman 2008), USEPA Region 3 freshwater sediment screening values (USEPA 2006), USEPA Region 5 Ecological Screening Levels (USEPA 2003), and USEPA Region 4 recommended ecological screening values (USEPA, 2018).
(b) Target standard from E.M.J Verbruggen, R. Posthumus, and A.P. van Wezel. 2001. Ecotoxicological Serious Risk Concentrations for soil, sediment, and groundwater. Risk limits are typically divided by 100 to derive the Target value.
(c) Value for endrin used due to structural similarities.
(d) Value for Total PCBs used for individual Aroclors without screening values.
(e) Upper Effects Thresholds (Buchman, 2008), based on median Study Area TOC (4.05%).
(f) Screening value is not available. Value for Benzo(a) pyrene is used due to structural similarities.

**Table 4-45**
**Hexavalent Chromium Evaluation**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd, NE**
**Washington, DC 20019**

| Area | Location | Sample | Units | Total Chromium | | Hexavalent Chromium | | % Hexavalent Chromium | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Result | Detect Flag | Result | Detect Flag | Including Non-Detects | Excluding Non-Detects |
| Anacostia Park Property | KMY04 | SUSKMY0400N | mg/kg | 51 | Y | 0.34 | Y | 0.67% | 0.67% |
| | KMY05 | SUSKMY0500N | mg/kg | 41 | Y | 1.20 | N | 2.93% | -- |
| | KMY07 | SUSKMY0700N | mg/kg | 36 | Y | 0.40 | N | 1.11% | -- |
| | KMY08 | SUSKMY0800N | mg/kg | 44 | Y | 0.98 | Y | 2.23% | 2.23% |
| | KMY12 | SUSKMY1200N | mg/kg | 40 | Y | 0.62 | Y | 1.55% | 1.55% |
| | KMY14 | SUSKMY1400N | mg/kg | 35 | Y | 0.35 | N | 1.00% | -- |
| Warehouse and Laydown Area | SUS08-1D | SUS081D00N2 | mg/kg | 69 | Y | 0.6 | Y | 0.87% | 0.87% |
| | SUS08-1H | SUS081H00N2 | mg/kg | 42 | Y | 0.25 | Y | 0.60% | 0.60% |
| | SUS08-1H | SUS081H00R2 | mg/kg | 53 | Y | 0.18 | Y | 0.34% | 0.34% |
| | SUSDP08 | SUS0800N2 | mg/kg | 27 | Y | 0.36 | N | 1.33% | -- |
| | SUSDP08-1E | SUS081E00N2 | mg/kg | 160 | Y | 0.38 | N | 0.24% | -- |
| | TA1C4 | SUSTA1C400N2 | mg/kg | 120 | Y | 2.60 | N | 2.17% | -- |
| | TA1C5 | SUSTA1C500N2 | mg/kg | 160 | Y | 3.50 | N | 2.19% | -- |
| | TA1E1 | SUSTA1E100N2 | mg/kg | 18 | Y | 0.43 | N | 2.39% | -- |
| | TA1E9 | SUSTA1E900N2 | mg/kg | 11 | Y | 0.32 | N | 2.91% | -- |
| | TA1F4 | SUSTA1F400N2 | mg/kg | 22 | Y | 0.42 | N | 1.91% | -- |
| | TA1G9 | SUSTA1G900N2 | mg/kg | 18 | Y | 0.36 | N | 2.00% | -- |

Notes

Detect Flag: Y = Yes, Detected. N = No, Not Detected

| Summary of % Hexavalent Chromium - Anacostia Park Property and Warehouse | | |
|---|---|---|
| Statistic | Including Non-Detects | Excluding Non-Detects |
| Minimum | 0.24% | 0.34% |
| Maximum | 2.93% | 2.23% |
| Mean | **1.55%** | 1.0% |

| Summary of % Hexavalent Chromium - Anacostia Park Property Only | | |
|---|---|---|
| Statistic | Including Non-Detects | Excluding Non-Detects |
| Minimum | 0.67% | 0.67% |
| Maximum | 2.93% | 2.23% |
| Mean | **1.58%** | 1.5% |

| Summary of % Hexavalent Chromium - Warehouse Only | | |
|---|---|---|
| Statistic | Including Non-Detects | Excluding Non-Detects |
| Minimum | 0.24% | 0.34% |
| Maximum | 2.91% | 0.87% |
| Mean | **1.54%** | 0.60% |

# Table 4-46
## Ratios of Total PCBs as Congeners/PCBs as Aroclors
## Benning Road Facility RI/FS Project
## 3400 Benning Road, NE Washington, DC

| | | | | | | | Chemical Name<br>Analytic Method<br>Units | PCBc, Total<br>EPA 1668C<br>ng/g | PCBa, Total<br>EPA 8082A<br>ug/kg | Total PCBc/PCBa<br><br>ratio |
|---|---|---|---|---|---|---|---|---|---|---|
| Matrix | Location | Sample ID | start_ depth | end_ depth | x_coord | y_coord | Sample Date | | | |
| SO | KMY-DU01 | SUSNPSMI0100N | 0 | 1 | 1323505.3 | 449363.66 | 4/12/2017 | 110 | 31 | 3.55 |
| SO | KMY-DU02 | SUSNPSMI0200N | 0 | 1 | 1323341.5 | 448717.63 | 4/12/2017 | 250 | 83 | 3.01 |
| SO | KMY-DU03 | SUSNPSMI0300N | 0 | 1 | 1323559.2 | 448663.73 | 4/13/2017 | 110 | 54 | 2.04 |
| SO | SOBACK18/ DPBACK13 | SOBACK1800N | 0 | 1 | 1321086.4 | 446369.96 | 4/5/2017 | 590 | 390 | 1.51 |
| SO | SUSDP04 | DPS04F02-05N | 2 | 5 | 1324091.7 | 448808.97 | 1/25/2017 | 7100 | 4800 | 1.48 |
| SO | SUSDP05 | SUS0500N | 0 | 1 | 1324087.9 | 449163.57 | 2/4/2013 | 9560 | 5700 | 1.68 |
| SO | SUSDP05 | DPS0515N | 14.5 | 15.5 | 1324087.9 | 449163.57 | 5/21/2013 | 110 | 190 | 0.58 |
| SO | SUSDP06 | SUS0600N | 0 | 1 | 1324259.2 | 448063.28 | 2/5/2013 | 4220 | 1900 | 2.22 |
| SO | SUSDP08 | SUS0800N | 0 | 1 | 1324319.3 | 448910.93 | 2/5/2013 | 1240 | 840 | 1.48 |
| SO | SUSDP08 | DPS08F01N | 1 | 2 | 1324319.3 | 448910.93 | 1/24/2017 | 790 | 970 | 0.81 |
| SO | SUSDP08 | DPS08F05-10N | 5 | 10 | 1324319.3 | 448910.93 | 1/24/2017 | 45 | 140 | 0.32 |
| SO | SUSDP10 | SUS1000N | 0.5 | 1 | 1324662.9 | 448784.82 | 2/5/2013 | 4710 | 1000 | 4.71 |
| SO | SUSDP11 | DPS11F01N | 1 | 2 | 1324624.6 | 449239.72 | 1/25/2017 | 15000 | 11000 | 1.36 |
| SO | SUSDP12 | DPS12F02-05N | 2 | 5 | 1324827.2 | 448435.68 | 1/26/2017 | 2000 | 1100 | 1.82 |
| SO | SUSDP12 | SUS1200N | 0 | 1 | 1324827.2 | 448435.68 | 2/6/2013 | 5180 | 2900 | 1.79 |
| SO | SUSDP15 | DPS15F05-10N | 5 | 10 | 1325219.5 | 448484.64 | 2/2/2017 | 580 | 160 | 3.63 |
| SO | SUSDP15 | DPS15F01N | 1 | 2 | 1325219.5 | 448484.64 | 1/30/2017 | 1900 | 1300 | 1.46 |
| SO | SUSDP15 | DPS1510N | 9.5 | 10.5 | 1325219.5 | 448484.64 | 6/6/2013 | 1180 | 1100 | 1.07 |
| SO | SUSDP20 | SUS2000N | 0.42 | 1 | 1325651.5 | 448307.48 | 2/7/2013 | 6450 | 5100 | 1.26 |
| SO | SUSDP21 | DPS21F01N | 1 | 2 | 1326039.4 | 447908.4 | 1/27/2017 | 1300 | 1000 | 1.30 |
| SO | SUSDP21 | SUS2100N | 1 | 1.75 | 1326039.4 | 447908.4 | 2/7/2013 | 4840 | 7200 | 0.67 |
| SO | SUSDP39 | DPS39F01N | 1 | 2 | 1324489.8 | 448470.19 | 1/25/2017 | 120 | 110 | 1.09 |
| SO | SUSDP43 | DPS43F05-10N | 5 | 10 | 1324763 | 448548.99 | 1/30/2017 | 710 | 270 | 2.63 |
| SO | SUSDP43 | DPS43F02-05N | 2 | 5 | 1324763 | 448548.99 | 1/26/2017 | 3300 | 1400 | 2.36 |
| SO | SUSDP43 | SUS43F00N | 0 | 1 | 1324763 | 448548.99 | 1/26/2017 | 3300 | 2700 | 1.22 |
| SO | SUSDP44 | DPS44F01N | 2.5 | 3.5 | 1324717.1 | 448871.86 | 1/27/2017 | 6800 | 4600 | 1.48 |
| SO | SUSDP44 | DPS4403N | 2.5 | 3.5 | 1324717.1 | 448871.86 | 5/21/2013 | 2390 | 3100 | 0.77 |
| SO | SUSDP48 | DPS48F05-10N | 5 | 10 | 1325216.8 | 448346.01 | 1/27/2017 | 290 | 230 | 1.26 |
| SO | SUSDP48 | SUS48F00N | 0 | 1 | 1325216.8 | 448346.01 | 1/26/2017 | 1800 | 2000 | 0.90 |

**Table 4-46**
**Ratios of Total PCBs as Congeners/PCBs as Aroclors**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE Washington, DC**

| | | | | | | | Chemical Name<br>Analytic Method<br>Units | PCBc, Total<br>EPA 1668C<br>ng/g | PCBa, Total<br>EPA 8082A<br>ug/kg | Total PCBc/PCBa<br><br>ratio |
|---|---|---|---|---|---|---|---|---|---|---|
| Matrix | Location | Sample ID | start_ depth | end_ depth | x_coord | y_coord | Sample Date | | | |
| SE | SD013 | SDR013N | | | 1324412.9 | 449252.2 | 10/8/2013 | 677 | 960 | 0.71 |
| SE | SDPEPR4 | SDRPEPR4N | | | 1325898.8 | 447966.5 | 10/8/2013 | 1320 | 780 | 1.69 |
| SE | SDRF025074 | SDRF025074N | 0 | 1 | 1323364.8 | 445500.89 | 7/25/2017 | 370 | 33 | 11.21 |
| SE | SDRF025074 | SDRF025074R | 0 | 1 | 1323364.8 | 445500.89 | 7/25/2017 | 55 | 31 | 1.77 |
| SE | SDRF477827 | SDRF477827N | 0 | 1 | 1323268.1 | 446101.04 | 7/25/2017 | 0.69 | 0.77 | 0.90 |
| SE | SED1.5B | SED1.5B00FN | 0 | 1 | 1323208.9 | 447688.22 | 6/15/2017 | 410 | 230 | 1.78 |
| SE | SED1.5C | SED1.5C00AN | 0 | 0.33 | 1323332 | 447788.51 | 6/21/2017 | 180 | 87 | 2.07 |
| SE | SED1.5C | SED1.5C00CN | 0.67 | 1 | 1323332 | 447788.51 | 6/21/2017 | 390 | 180 | 2.17 |
| SE | SED1.5C | SED1.5C01BN | 1.33 | 1.67 | 1323332 | 447788.51 | 6/21/2017 | 370 | 180 | 2.06 |
| SE | SED1.5C | SED1.5C03BN | 3.33 | 3.67 | 1323332 | 447788.51 | 6/21/2017 | 800 | 360 | 2.22 |
| SE | SED1.5C | SED1.5C04AN | 4 | 4.33 | 1323332 | 447788.51 | 6/21/2017 | 890 | 550 | 1.62 |
| SE | SED1C | SED1C07N | 7 | 9 | 1323207.6 | 447452.22 | 11/7/2013 | 1640 | 770 | 2.13 |
| SE | SED2.5B | SED2.5B05N | 5 | 7 | 1323217.1 | 448285.96 | 11/7/2013 | 1110 | 1000 | 1.11 |
| SE | SED2A | SED2A00N | 0 | 0.5 | 1323069.4 | 447930.53 | 11/6/2013 | 294 | 230 | 1.28 |
| SE | SED4C | SED4C04FN | 4 | 5 | 1323146.1 | 448888.08 | 6/14/2017 | 500 | 160 | 3.13 |
| SE | SED5B | SED5B00AN | 0 | 0.33 | 1323266.7 | 449349.09 | 6/20/2017 | 240 | 180 | 1.33 |
| SE | SED5B | SED5B01BN | 1.33 | 1.67 | 1323266.7 | 449349.09 | 6/20/2017 | 150 | 85 | 1.76 |
| SE | SED5B | SED5B03CN | 3.67 | 4 | 1323266.7 | 449349.09 | 6/20/2017 | 55 | 45 | 1.22 |
| SE | SED5C | SED5C00FN | 0 | 1 | 1323337.1 | 449338.07 | 6/14/2017 | 730 | 490 | 1.49 |
| SE | SED6.5D | SED6.5D00FN | 0 | 1 | 1323798.2 | 449651.75 | 6/27/2017 | 5500 | 2800 | 1.96 |
| SE | SED6.5E | SED6.5E00EN | 0 | 0.33 | 1323969.8 | 449649.36 | 6/8/2017 | 760 | 250 | 3.04 |
| SE | SED6.5E | SED6.5E01N | 1 | 3 | 1323969.8 | 449649.36 | 11/25/2013 | 11000 | 1400 | 7.86 |
| SE | SED6A | SED6A00EN | 0 | 0.33 | 1323401.3 | 449707.18 | 6/8/2017 | 180 | 69 | 2.61 |
| SE | SED6B | SED6B00EN | 0 | 0.33 | 1323424.8 | 449687.44 | 6/8/2017 | 210 | 130 | 1.62 |
| SE | SED7.5D | SED7.5D03N | 3 | 5 | 1323906.9 | 449865.94 | 11/25/2013 | 1710 | 1000 | 1.71 |
| SE | SED7.5E | SED7.5E00EN | 0 | 0.33 | 1324043.6 | 449782.68 | 6/8/2017 | 1400 | 780 | 1.79 |
| SE | SED7.5E | SED7.5E00N | 0 | 0.5 | 1324043.6 | 449782.68 | 11/25/2013 | 11800 | 1900 | 6.21 |
| SE | SED7D | SED7D00FN | 0 | 1 | 1323814.3 | 449789.58 | 6/27/2017 | 6100 | 3900 | 1.56 |
| SE | SED7D | SED7D04FN | 4 | 5 | 1323814.3 | 449789.58 | 6/27/2017 | 1100 | 580 | 1.90 |

**Table 4-46**
**Ratios of Total PCBs as Congeners/PCBs as Aroclors**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE Washington, DC**

| | | | | | | | Chemical Name<br>Analytic Method<br>Units | PCBc, Total<br>EPA 1668C<br>ug/kg | PCBa, Total<br>EPA 8082A<br>ug/kg | Total PCBc/PCBa<br><br>ratio |
|---|---|---|---|---|---|---|---|---|---|---|
| Matrix | Location | Sample ID | start_ depth | end_ depth | x_coord | y_coord | Sample Date | | | |
| SE | SED7E | SED7E00EN | 0 | 0.33 | 1323942.7 | 449728.24 | 6/8/2017 | 980 | 630 | 1.56 |
| SE | SED7E | SED7E01CN | 1.67 | 2 | 1323942.7 | 449728.24 | 6/22/2017 | 1900 | 1100 | 1.73 |
| SE | SED7E | SED7E04AN | 4 | 4.33 | 1323942.7 | 449728.24 | 6/22/2017 | 1000 | 440 | 2.27 |
| SE | SED7F | SED7F00EN | 0 | 0.33 | 1324119.9 | 449660.56 | 6/8/2017 | 1000 | 300 | 3.33 |
| SE | SED9.5B | SED9.5B00N | 0 | 0.5 | 1324031.2 | 450586.65 | 11/11/2013 | 170 | 380 | 0.45 |
| SE | SED9.5B | SED9.5B03N | 3 | 5 | 1324031.2 | 450586.65 | 11/11/2013 | 892 | 450 | 1.98 |
| SE | SEDBACK11 | SEDBACK1100N | 0 | 0.5 | 1322284.1 | 446970.24 | 11/15/2013 | 1000 | 190 | 5.26 |
| SE | SEDBACK11 | SEDBACK1101N | 1 | 3 | 1322284.1 | 446970.24 | 11/15/2013 | 300 | 530 | 0.57 |
| SE | SEDBACK16 | SEDBACK1600N | 0 | 0.33 | 1329539.6 | 461605.35 | 6/12/2017 | 41 | 140 | 0.29 |
| SE | SEDBACK17 | SEDBACK1700N | 0 | 0.33 | 1329694.4 | 459358.19 | 6/12/2017 | 380 | 45 | 8.44 |
| SE | SEDBACK18 | SEDBACK1800N | 0 | 0.33 | 1329623.3 | 456839.3 | 6/12/2017 | 37 | 22 | 1.68 |
| SE | SEDBACK19 | SEDBACK1900N | 0 | 0.33 | 1328365.2 | 455288.85 | 6/13/2017 | 140 | 77 | 1.82 |
| SE | SEDBACK19 | SEDBACK1900R | 0 | 0.33 | 1328365.2 | 455288.85 | 6/13/2017 | 79 | 32 | 2.47 |
| SE | SEDBACK20 | SEDBACK2000N | 0 | 0.33 | 1325556.6 | 454320.61 | 6/13/2017 | 60 | 43 | 1.40 |
| SE | SEDBACK20 | SEDBACK2000R | 0 | 0.33 | 1325556.6 | 454320.61 | 6/13/2017 | 24 | 52 | 0.46 |
| SE | SEDBACK21 | SEDBACK2100N | 0 | 0.33 | 1324615 | 452024.48 | 6/13/2017 | 59 | 57 | 1.04 |
| SE | SEDBACK4 | SEDBACK401N | 1 | 3 | 1329784 | 457920.6 | 11/14/2013 | 513 | 180 | 2.85 |
| SE | SEDBACK5 | SEDBACK500N | 0 | 0.5 | 1326967.7 | 454617.45 | 11/14/2013 | 127 | 78 | 1.63 |
| SE | SEDBACK5 | SEDBACK503N | 3 | 5 | 1326967.7 | 454617.45 | 11/14/2013 | 162 | 160 | 1.01 |
| SE | SEDBACK6 | SEDBACK600N | 0 | 0.5 | 1326311.6 | 454054.19 | 11/15/2013 | 219 | 140 | 1.56 |
| SE | SEDREF02 | SEDREF0202R | 2 | 3 | 1323199.7 | 447498.74 | 6/15/2017 | 500 | 240 | 2.08 |
| SE | SEDREF02 | SEDREF0206N | 6 | 7 | 1323199.7 | 447498.74 | 6/15/2017 | 990 | 280 | 3.54 |
| SE | SEDREF03 | SEDREF0302N | 2 | 3 | 1322638.7 | 445798.7 | 6/15/2017 | 1600 | 380 | 4.21 |
| SE | SEDREF04 | SEDREF0402N | 2 | 3 | 1322717 | 445793.7 | 6/16/2017 | 460 | 1100 | 0.42 |
| SE | SEDREF06 | SEDREF0602N | 2 | 3 | 1322461.1 | 444613.49 | 6/16/2017 | 1200 | 730 | 1.64 |
| SE | SEDREF07 | SEDREF0702N | 2 | 3 | 1322239.6 | 444275.61 | 6/16/2017 | 310 | 150 | 2.07 |
| SE | SEDREF08 | SEDREF0802N | 2 | 3 | 1322362.1 | 444295.41 | 6/19/2017 | 950 | 480 | 1.98 |
| SE | WSED2 | WSED207N | 7 | 9 | 1323124.8 | 448582.42 | 11/15/2013 | 1150 | 6300 | 0.18 |

Notes:
SO - Soil
SE - Sediment
ug/kg - Micrograms per kilogram
PCB - Polychlorinated biphenyl
PCBc - PCB Congeners
PCBa - PCB Aroclors

**Table 4-47**
**Target Area Investigation Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| TA # | Name | Location | OA # | Results |
|---|---|---|---|---|
| 1 | Former Sludge Dewatering Area | Between Building 65 and Cooling Towers | 4 | Vanadium, PCBs, PAHs, and Dioxins largely surficial and shallow sub-surficial soil. Vanadium impacts extend outside of TA1 over a larger former Coal Pile Area footprint with PSL exceedances in surface soil at 14 locations and 2 two locations in shallow subsurface soil to 3 ft bgs. Total PCBs exceed their PSL at 4 surface soil and 4 subsurface soil locations to 5 ft bgs. TCDD TEQ exceeds its PSL at 5 surface soil locations. There are also several subsurface PSL exceedances for PAHs. Monitoring well MW-7 detected metals above PSLs[1]. |
| 2 | Benning Fueling Island | Located east of Building # 32 | 3 | ERI transect (WAS-5) and downgradient/cross-gradient monitoring well locations (MW-2, MW-5 and MW-6) did not indicate presence of NAPLs, TPH (only analyzed in MW-2A), or BTEX. Historically, USTs located at this area were removed and impacted soil reportedly excavated, and the cases were closed with District approval. (URS, 1999). |
| 3 | Former 15,000 Gal UST and 50,000 Gal AST (No. 2 Fuel Oil) | East of Generating Station, south of cooling tower unit 15 | 4,5 | A limited number of metals in soils and groundwater[1], and a limited number of PAHs in subsurface soils exceeded screening levels (these locations along Target Area 5 southern boundary so also noted under Target Area 5). ORO detected in surface soil below screening values. No BTEX exceedances in MW-8A/B. Dieldrin was detected in MW-08B slightly above its PSL. This target area is between Target Area 1 and Target Area 5 and some compound exceedances may be related to these Target Areas. |
| 4 | 2003 Salvage Yard Investigation & Former Timber Pole Storage Area | Salvage yard located west of Buildings # 75 and # 88 | 1 | PCBs, PAHs, and TPH largely in soil to 5 ft bgs, some extend to 10-15 ft bgs. PAHs as represented by BaP-TE exceed their PSL at 5 surface soil locations and 10 subsurface locations. DRO exceed its PSL at several surface and shallow subsurface soil locations. Total PCBs exceed their PSL at several surface and subsurface soil locations to approximately 3 ft bgs. |
| 5 | Former Cooling Towers – 1995 & 2017 Cleanup Area | Unit 15 and 16 cooling tower basins and surrounding soil | 4 | PCBs and TPH in soil to 6 ft bgs. Cooling tower superstructures were removed in 2013 and excavation of impacted soils was performed in 2017 along with removal of cooling tower concrete basins. In soil surrounding excavated area, DRO exceed its PSL at seven subsurface locations to 6 ft bgs. Total PCBs exceed their PSL at one surface soil location at former cooling tower #15 and at 8 surface soil locations at former cooling tower #16. Total PCBs exceed their PSL at 12 subsurface locations at former cooling tower #16 to 6 ft bgs. PAHs as represented by BaP-TE exceed its PSL at two shallow subsurface locations. Monitoring wells MW-8 and MW-11 detected metals[1] and dieldrin above PSLs. Note Target Area 3 (discussed above) is immediately south of Target Area 5. |
| 6 | 1991 Cleanup Area | Between Buildings # 41 and # 61 | | Several soil borings, and ERI transect (WAS-7) and a monitoring well (MW-13) completed in this area. No soil screening level exceedances. A limited number of metals in monitoring well groundwater exceeded screening levels[1]. GRO and MTBE exceed screening levels in Direct Push groundwater sample DP32 and in MW-13B (MTBE only) but this believed to be related to Target Area 18. |
| 7 | 1988 Parking Lot Cleanup Area | Parking lot located in the eastern portion of facility. | 1, 2 | Several soil borings, two ERI transects (WAS-8 and WAS-9) and a monitoring well (MW-15) completed in this area. Area was further sampled in soil during the Phase II event due to a Phase I PCB detection but no PSL soil exceedances were identified in Phase II. The PCB detections are potential residual from former PCB cleanup. MW-15 detected metals above PSLs[1]. |
| 8 | 1985 Excavation Area | Underground pipe leading from Kenilworth Transformer Shop (Current Building # 56) | -- | One soil boring (DP22) installed in this area. No soil screening level exceedances. Metals exceeded screening levels in direct push groundwater sample[1]. |
| 9 | Green Tag Storage Area | Storage Building #66 | 6 | Area was further sampled in the soil during the Phase II event due to a Phase I PCB detection and a TCDD TEQ detection but no PSL soil exceedances were identified in Phase II. The highest Phase II TCDD TEQ concentration was 19.7 pg./g at SUS18-1D. |
| 10 | Red Tag Storage Area | South of Building # 68 (PCB Storage Building) | 6 | PCB and Dioxins in surface and shallow subsurface soils. Total PCBs exceed their PSL at several surface and subsurface soil locations to 4 ft bgs. TCDD TEQ exceeds its PSL at 12 surface soil locations. Monitoring well MW-10 detected metals above PSLs[1]. |
| 11 | Building #68 (PCB Building) | Building #68 | | Total PCBs exceed their PSL at several surface and subsurface soil locations to 4 ft bgs. |
| 12 | Building #57 | Building #57 | 6 | PCBs and PAHs to 5 ft bgs. PAHs as represented by BaP-TE exceed their PSL at two surface soil locations and 16 subsurface locations to 5 ft bgs. Total PCBs exceed their PSL at 15 surface soil and 22 subsurface soil locations to 5 ft bgs. The maximum PCB surface soil detection is 8,800,000 μg/kg[2] at SUSDP21-3G. Most of the exceedances are grouped between Building #57 and the Anacostia Freeway at the Site boundary. |
| 13 | Bulk Storage ASTs and Loading Rack | East of the Generating Station Building | 5 | PAHs as represented by BaP-TE slightly exceed its PSL at one surface soil location. DRO exceed its PSL at one location; AST3A, collected during a sample event in 2012. During the RI investigation, no DRO exceedances of its PSL were identified. Three ERI transects (WAS-1, WAS-3, and WAS-5) and a monitoring well (MW-6) completed near this area; MW-6 detected metals above PSLs[1] but not BTEX. No BTEX or TPH exceedances in downgradient monitoring wells MW-2 and MW-3 (only MW-2A analyzed for TPH which was not detected). |

**Table 4-47**
**Target Area Investigation Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| TA # | Name | Location | OA # | Results |
|---|---|---|---|---|
| 14 | Former Railroad Switchyard | Adjacent to southern property boundary and east of Building # 32. | -- | This area was further sampled in the soil during the Phase II event due to a Phase I PCB detection but no PSL soil exceedances were identified in Phase II. ERI transect (WAS-5) and downgradient monitoring well location (MW-5) did not indicate presence of NAPLs or petroleum constituents in groundwater but detected metals and PCE (believe to be related to Target Area 19) above PSLs [1]. |
| 15 | Generating Station Transformers | West of the Generating Station | -- | Several soil borings and three monitoring wells (MW-2, MW-3, and MW-4) installed in this area. A limited number of metals in soils and monitoring well groundwater [1], and naphthalene in MW-2 exceeded screening levels. Resample of MW-2 in 2016 did not detect naphthalene. All transformers and associated containment areas were demolished and removed from the site. |
| 16 | Print Shop | Southern portion of Building # 32 | -- | Several soil borings, an ERI transect (WAS-5) and a monitoring well (MW-5) completed in this area. A limited number of metals in soils and groundwater exceeded screening levels [1] as did PCE (believed to be related to Target Area 19) in groundwater. |
| 17 | Storm Drain System | Across the site | -- | Primarily related to PCBs, PAHs, and metals in storm drain media. Eight water samples and four residue samples were collected from the storm drain system. A limited number of PCBs, metals, PAHs, TPHs, and pesticides were detected in the storm drain media. The low levels of constituents in storm drain samples are attributable to urban runoff and historical residuals. |
| 18 | Kenilworth Fueling Island | Approximately 105 feet west of Building # 56 | 3 | Direct push groundwater sample events in 2014 and 2016 were performed to delineate the MTBE concentrations in groundwater. MTBE was detected in 45 of 75 direct push UWZ samples but the PSL for MTBE was only exceeded in three of these UWZ samples. MTBE was detected in 11 of 25 UWZ monitoring well samples but not above its PSL. MTBE was detected in 28 of 43 direct push LWZ samples but the PSL for MTBE was only exceeded in six of the LWZ samples. MTBE was detected in 15 of 24 LWZ monitoring well samples and exceeded its PSL in MW13B. The largest MTBE detection of 1,100 ug/L was collected in 2017 from immediately north of the Site boundary. Butyl alcohol, tert- was detected above its PSL in MW-09B and above its PSL in a direct push LWZ groundwater sample at DP58. |
| 19 | PCE and Naphthalene in Groundwater | Southeast area of Site and adjacent to southern portion of former power plant where chlorinated solvents were stored and used. | 7 | For UWZ monitoring wells, PCE, TCE, and VC were detected above their PSLs in 16, 8, and 1 samples, respectively, out of 25 samples. PCE exceeded its PSL in MW01-A, MW-05-A, and MW09-A. TCE and VC exceeded their PSL in MW09-A. Cis-DCE was also detected in the UWZ but at concentrations below its PSL. The maximum concentrations of PCE, TCE, and cis-1,2-dichloroethylene detected in groundwater during the Phase I PCE direct push sample event to further characterize the PCE concentrations were 470 µg/l, 26 µg/l, and 23 µg/l, respectively, all in sample DPWB730-35N. Levels of PCE, TCE, and cis-1,2-dichloroethylene in groundwater diminish rapidly with increasing distance north of Benning Road. For LWZ monitoring wells, PCE and TCE were detected in 7 and 4 samples, respectively, out of 24 samples. PCE exceeded its PSL in MW01-B and MW-05-B. TCE exceeded its PSL in MW01-B. VC and cis-DCE were also detected in the LWZ but at concentrations below their PSLs. Within the south-central area of the Site, the groundwater samples from the LWZ exhibited little or no PCE contamination. Naphthalene in MW-1A exceeded screening levels but resample of MW-1 in 2016 did not detect naphthalene. |
| 20 | PAHs in Soil | Parking Lot west of Buildings #56 and #57 | 2 | PAHs largely to 5 ft bgs, some locations extend to 11 ft bgs. PAHs as represented by BaP-TE exceed their PSL at 7 surface soil locations and 26 subsurface soil locations. The maximum BaP-TE detection is 898,000 µg/kg from 2 to 3 ft bgs at SUSDP-196W; this is also the maximum BaP-TE detection in all Phase I and Phase II soil samples. The horizontal extent of PSL exceedances are bounded to the west and north by samples. To the west along the southern boundary, the MWATA and highway infrastructural prevent further sampling, just offsite, to bound the western edge of the PSL exceedances. |
| -- | Former Transformer Shop | Buildings #38 and 39 | 6 | A review of historical aerial photos revealed the former transformer shop Buildings #38 and 39. The absence of samples in these areas was identified as a data gap in the Phase I Site characterization. Soil samples collected in this area during the Phase II sample event did not detect PSL exceedances except for arsenic which is below background levels in soil. |

**Operational Areas (OA):**

| | |
|---|---|
| 1 | Timber Pole Storage Areas |
| 2 | Equipment Laydown Areas |
| 3 | Vehicle Fleet Servicing Areas |
| 4 | Coal Pile Area |
| 5 | Fuel Oil Storage Area |
| 6 | Transformer Operations Areas |
| 7 | Chlorinated Solvent Storage and Usage Area |

**Notes:**

TA - Target Area
ERI - Electrical Resistivity Imaging
TEQ - Toxicity Equivalent
DRO - Diesel Range Organics
VC - Vinyl Chloride
MW - Monitoring Well
ORO - Oil Range Organics
ft bgs - feet below ground surface
DCE - Dichloroethene
PSL - Project Screening Level
TCE - Trichloroethylene
PCE - Tetrachloroethylene
UWZ - Upper Water-Bearing Zone
NAPL - Non-Aqueous Phase Liquid
GRO Gasoline Range Organics
PCBs - Polychlorinated Biphenyls
MTBE - Methyl Tertiary-butyl Ether
BTEX - Benzene, Toluene, Ethylbenzene, and Xylenes
SVOCs - Semi-Volatile Organic Compounds
TPHs - Total Petroleum Hydrocarbons
LWZ - Lower Water-Bearing Zone
PAH - Polycyclic Aromatic Hydrocarbon

1. Metals were frequently detected in surface and subsurface soils above screening levels but only vanadium was greater than site specific background levels. For the UWZ, several metals exceed their screening levels but were below site specific background levels. For the LWZ, several metals exceed their screening levels but were below site specific background levels with the exception of dissolved cadmium and total vanadium which do not have a site specific background comparison. Also, cadmium was only detected three times in 32 UWZ and LWZ samples with only one detection slightly above its PSL.
2. Maximum PCB surface soil detection is 8,800,000 µg/kg at SUSDP21-3G is a re-analysis; initial detection was 2,500,000 µg/kg.

**Table 4-48**
**Upgradient and Cross-Gradient Gasoline LUST Cases**
**Benning Road RI/FS Project**

| LUST Case # | Facility Name | Facility Type | Address | Latitude | Longitude | Distance from Site (miles) | Direction |
|---|---|---|---|---|---|---|---|
| 2002059 | DC Public Schools* | DC Govt | 650 ANACOSTIA AVE, NE | 38.901274° | -76.952074° | 0.11 | NE |
| 2009007 | Former Chevron | Gas Station | 3900 BENNING RD | 38.895226° | -76.948542° | 0.17 | SE |
| 89005 | Sunoco | Gas Station | 3916-18 MINNESOTA AVE, NE | 38.893642° | -76.951080° | 0.18 | S |
| 89014, 95039 | Chevron | Gas Station | 3820 MINNESOTA AVE, NE | 38.892949° | -76.951199° | 0.22 | S |
| 95039 | Mobil | Gas Station | 3820 MINNESOTA AVE, NE | 38.892644° | -76.951398° | 0.24 | S |
| 91008 | Allen House | Other | 3760 MINNESOTA AVE, NE | 38.891777° | -76.952007° | 0.29 | S |
| 2012021 | Valero | Gas Station | 3710 MINNESOTA AVE NE | 38.891004° | -76.952696° | 0.34 | S |
| 96068 | Exxon | Gas Station | 4100 HUNT PLACE, NE | 38.900644° | -76.943814° | 0.40 | ENE |
| 90029 | Amoco 2 | Gas Station | 3830 MINNESOTA AVE, SE | 38.890155° | -76.953171° | 0.4 | S |
| 92064 | DC Fire Engine Company 27 | DC Govt | 4201 MINNESOTA AVE, NE | 38.901074° | -76.943244° | 0.43 | ENE |
| 99008 | All Aboard Contracting Inc. | Commercial | 4214 HUNT PLACE, NE | 38.900869° | -76.941727° | 0.50 | ENE |
| 89036 | DPW-FMA 6th District | DC Govt | 100 42ND ST, NE | 38.892645° | -76.942959° | 0.51 | SE |
| 2002003 | Northeast Chevron | Gas Station | 4200 NANNIE HELEN BURROUGHS AVE NE | 38.901987° | -76.942113° | 0.52 | ENE |
| 90084, 2001054 | Amoco | Gas Station | 4251 MINNESOTA AVE, NE | 38.902360° | -76.941698° | 0.55 | ENE |
| 98069, 93096 | Sunoco 2 | Gas Station | 4400 BENNING RD, NE | 38.891563° | -76.938818° | 0.74 | SE |
| 2012004 | Amoco 3 | Gas Station | 4430 BENNING RD, NE | 38.891054° | -76.938100° | 0.79 | SE |
| 94017 | Exxon 2 | Gas Station | 4501 BENNING RD, NE | 38.890156° | -76.938103° | 0.82 | SE |
| 99033 | United Towing Co. | Private | 1221 KENILWORTH AVE, NE | 38.906186° | -76.938488° | 0.86 | NE |
| 90060, 2012023 | Valero 2 | Gas Station | 4519 BENNING RD, NE | 38.889257° | -76.937334° | 0.9 | SE |
| 95037 | Business Funding of FL. (Holman's Towing) | Other | 1325 KENILWORTH AVE, NE | 38.907525° | -76.937565° | 0.96 | NE |
| 92075 | Former Exxon | Gas Station | 4854 NANNIE HELEN BURROUGHS AVE NE | 38.898943° | -76.931982° | 0.98 | E |
| 2001022, 90072 | Soby Inc. (Gulf Oil) | Gas Station | 1329 KENILWORTH AVE NE | 38.908183° | -76.937155° | 1.01 | NE |
| 2000029 | DCFD Engine #30 | DC Govt | 50 49TH ST, NE | 38.890651° | -76.933427° | 1.01 | ESE |
| 91042, 90053 | NPS Ft. Dupont Maintenance Yard | Federal | 3600 F ST, SE | 38.882101° | -76.942610° | 1.09 | SSE |

*Heating Oil LUST case

## Table 5-1
## Summary of Constituents of Potential Concern Properties
## Benning Road Facility RI/FS Project
## 3400 Benning Rd. NE, Washington DC 20019

| Chemical | CAS Number | Properties | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | $K_{oc}$ | $K_d$ | $D_{i,a}$ | $D_{i,w}$ | S | H' | λ high (hours) | λ low (hours) |
| **Inorganics** | | | | | | | | | |
| Aluminum | 7429-90-5 | | 1500 | | | | | | |
| Antimony | 7440-36-0 | | 45 | | | | | | |
| Arsenic | 7440-38-2 | | 29 | | | | | | |
| Barium | 7440-39-3 | | 41 | | | | | | |
| Beryllium | 7440-41-7 | | 790 | | | | | | |
| Cadmium | 7440-43-9 | | 75 | | | | | | |
| Chromium | 7440-47-3 | | 1800000 | | | | | | |
| Copper | 7440-50-8 | | 35 | | | | | | |
| Cobalt | 7440-48-4 | | 45 | | | | | | |
| Cyanide | 57-12-5 | | 9.9 | 0.210954877 | 2.46484E-05 | 95400 | 0.00415 | | |
| Iron | 7439-89-6 | | 25 | | | | | | |
| Lead | 7439-92-1 | | 900 | | | | | | |
| Manganese | 7439-96-5 | | 65 | | | | | | |
| Mercury | 7439-97-6 | | 52 | 0.0307 | 0.0000063 | 0.06 | 0.352 | | |
| Nickel | 7440-02-0 | | 65 | | | | | | |
| Selenium | 7782-49-2 | | 5 | | | | | | |
| Silver | 7440-22-4 | | 8.3 | | | | | | |
| Thallium | 7440-28-0 | | 71 | | | | | | |
| Vanadium | 7440-62-2 | | 1000 | | | | | | |
| Zinc | 7440-66-6 | | 62 | | | | | | |
| **Polycyclic Aromatic Hydrocarbons (PAHs)** | | | | | | | | | |
| 4-Methylphenol CRESOL-p | 106-44-5 | 3.00E+02 | | 7.24E-02 | 9.24E-06 | 2.15E+04 | 4.09E-05 | 6.72E+02 | 2.00E+00 |
| Acetophenone | 98-86-2 | 5.19E+01 | | 6.52E-02 | 8.72E-06 | 6.13E+03 | 4.25E-04 | | |
| Benzaldehyde | 100-52-7 | 1.11E+01 | | 7.44E-02 | 9.46E-06 | 6.95E+03 | 1.09E-03 | | |
| Benzoic acid | 65-85-0 | 6.00E-01 | | 7.02E-02 | 9.79E-06 | 3.40E+03 | 1.56E-06 | | |
| Benzo(a)anthracene | 56-55-3 | 1.77E+05 | | 2.61E-02 | 6.75E-06 | 9.40E-03 | 4.91E-04 | 3.26E+04 | 4.90E+03 |
| Benzo(a)pyrene | 50-32-8 | 5.87E+05 | | 4.76E-02 | 5.56E-06 | 1.62E-03 | 1.87E-05 | 2.54E+04 | 2.74E+03 |
| Benzo(b)fluoranthene | 205-99-2 | 5.99E+05 | | 4.76E-02 | 5.56E-06 | 1.50E-03 | 2.69E-05 | 2.93E+04 | 1.73E+04 |
| Benzo(k)fluoranthene | 207-08-9 | 5.87E+05 | | 4.76E-02 | 5.56E-06 | 8.00E-04 | 2.39E-05 | 1.03E+05 | 4.27E+04 |
| bis-(2-Ethylhexyl)phthalate | 117-81-7 | 1.20E+05 | | 1.73E-02 | 4.18E-06 | 2.70E-01 | 1.10E-05 | | |
| Butylbenzylphthalate | 85-68-7 | 7.16E+03 | | 2.08E-02 | 5.17E-06 | 2.69E+00 | 5.15E-05 | 4.32E+03 | 4.80E+01 |
| Caprolactam | 105-60-2 | 2.45E+01 | | 6.92E-02 | 9.00E-06 | 7.72E+05 | 1.03E-06 | | |
| Carbazole | 86-74-8 | | | | | | | | |
| Chrysene | 218-01-9 | 1.81E+05 | | 2.61E-02 | 6.75E-06 | 2.00E-03 | 2.14E-04 | 4.80E+04 | 1.78E+04 |
| Dibenzo(a,h)anthracene | 53-70-3 | 1.91E+06 | | 4.46E-02 | 5.21E-06 | 2.49E-03 | 5.76E-06 | 4.51E+04 | 1.73E+04 |
| Di-n-octylphthalate | 117-84-0 | 1.41E+05 | | 3.56E-02 | 4.15E-06 | 2.20E-02 | 1.05E-04 | | |
| Pyrene | 129-00-0 | 5.43E+04 | | 2.78E-02 | 7.25E-06 | 1.35E-01 | 4.87E-04 | 9.12E+04 | 1.01E+04 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1.95E+06 | | 4.48E-02 | 5.23E-06 | 1.90E-04 | 1.42E-05 | 3.50E+04 | 2.88E+04 |
| Naphthalene | 91-20-3 | 1.54E+03 | | 6.05E-02 | 8.38E-06 | 3.10E+01 | 1.80E-02 | 6.19E+03 | 2.40E+01 |
| 2,3,5-Trimethylnaphthalene | 2245-38-7 | | | | | | | | |
| 2,6-Dimethylnaphthalene | 581-42-0 | | | | | | | | |
| Total High-molecular-weight PAHs | TOT-PAH-HMW | | | | | | | | |
| Total Low-molecular-weight PAHs | TOT-PAH-LMW | | | | | | | | |
| Total PAHs (sum 16) | TOT-PAH | | | | | | | | |

# Table 5-1
## Summary of Constituents of Potential Concern Properties
## Benning Road Facility RI/FS Project
## 3400 Benning Rd. NE, Washington DC 20019

| Chemical | CAS Number | Properties | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | $K_{oc}$ | $K_d$ | $D_{i,a}$ | $D_{i,w}$ | S | H' | λ high (hours) | λ low (hours) |
| **Polychlorinated Biphenyl (PCB)** | | | | | | | | | |
| Total PCBs (a) | 1336-36-3 | 7.81E+04 | | 2.43E-02 | 6.27E-06 | 7.00E-01 | 1.70E-02 | | |
| **Dioxins and Furans** | | | | | | | | | |
| 2,3,7,8-TCDD-TEQ | 1746-01-6 | 2.49E+05 | | 4.70E-02 | 6.76E-06 | 2.00E-04 | 2.04E-03 | | |
| **Pesticides** | | | | | | | | | |
| 4,4'-DDE | 72-55-9 | 1.18E+05 | | 2.30E-02 | 5.86E-06 | 4.00E-02 | 1.70E-03 | 1.40E+05 | 1.75E+04 |
| 4,4'-DDD | 72-54-8 | 1.18E+05 | | 4.06E-02 | 4.74E-06 | 9.00E-02 | 2.70E-04 | 2.70E+05 | 1.68E+03 |
| 4,4'-DDT | 50-29-3 | 1.69E+05 | | 3.79E-02 | 4.43E-06 | 5.50E-03 | 3.40E-04 | 2.70E+05 | 3.84E+02 |
| Aldrin | 309-00-2 | 8.20E+04 | | 2.28E-02 | 5.84E-06 | 1.70E-02 | 1.80E-03 | 2.84E+04 | 2.40E+01 |
| alpha-Chlordane | 5103-71-9 | | | | | | | | |
| beta-BHC | 319-85-7 | 2.81E+03 | | 2.77E-02 | 7.40E-06 | 2.40E-01 | 1.80E-05 | | |
| cis-Chlordane | 5103-71-9 | | | | | | | | |
| cis-Nonachlor | 5103-73-1 | | | | | | | | |
| Dieldrin | 60-57-1 | 2.01E+04 | | 2.33E-02 | 6.01E-06 | 1.95E-01 | 4.09E-04 | 5.18E+04 | 2.40E+01 |
| Endosulfan Sulfate | 1031-07-8 | | | | | | | | |
| Endrin | 72-20-8 | 2.01E+04 | | 3.62E-02 | 4.22E-06 | 2.50E-01 | 2.60E-04 | | |
| Endrin ketone | 53494-70-5 | | | | | | | | |
| gamma-Chlordane | 5566-34-7 | | | | | | | | |
| Heptachlor Epoxide | 1024-57-3 | 1.01E+04 | | 2.40E-02 | 6.25E-06 | 2.00E-01 | 8.59E-04 | 2.65E+04 | 2.40E+01 |
| Hexachlorobenzene | 118-74-1 | 6.20E+03 | | 2.90E-02 | 7.85E-06 | 6.20E-03 | 6.95E-02 | | |
| Methoxychlor | 72-43-5 | 2.69E+04 | | 2.21E-02 | 5.59E-06 | 1.00E-01 | 8.30E-06 | 8.76E+03 | 1.20E+03 |
| Mirex | 2385-85-5 | 3.57E+05 | | 2.19E-02 | 5.63E-06 | 8.50E-02 | 3.32E-02 | | |
| Oxychlordane | 27304-13-8 | | | | | | | | |
| trans-Chlordane | 5103-74-2 | | | | | | | | |
| trans-Nonachlor | 39765-80-5 | | | | | | | | |
| **Volatile Organic Compounds (VOCs)** | | | | | | | | | |
| Acetone | 67-64-1 | 2.36E+00 | | 1.06E-01 | 1.15E-05 | 1.00E+06 | 1.43E-03 | 3.36E+02 | 4.80E+01 |
| Bromodichloromethane | 75-27-4 | 3.18E+01 | | 5.63E-02 | 1.07E-05 | 3.03E+03 | 8.67E-02 | | |
| Butyl alcohol, tert- | 75-65-0 | | | | | | | 8.64E+03 | 1.34E+03 |
| Chloroform | 67-66-3 | 3.18E+01 | | 7.69E-02 | 1.09E-05 | 7.95E+03 | 1.50E-01 | 4.32E+04 | 1.34E+03 |
| Methyl tert-Butyl Ether (MTBE) | 1634-04-4 | 1.16E+01 | | 7.53E-02 | 8.59E-06 | 5.10E+04 | 2.40E-02 | 8.64E+03 | 1.34E+03 |
| Tetrachloroethylene | 127-18-4 | 9.49E+01 | | 5.05E-02 | 9.46E-06 | 2.06E+02 | 7.24E-01 | 1.73E+04 | 8.64E+03 |
| Trichloroethene | 79-01-6 | 6.07E+01 | | 6.87E-02 | 1.02E-05 | 1.28E+03 | 4.03E-01 | 3.97E+04 | 7.70E+03 |
| Vinyl Chloride | 75-01-4 | 2.17E+01 | | 1.07E-01 | 1.20E-05 | 8.80E+03 | 1.14E+00 | 6.90E+04 | 1.34E+03 |

Notes:

PCB = Polychlorinated biphenyl

SVOC = Semivolatile organic compound

TCDD =TEQ - Dioxin Toxic Equivalence

VOCs - Volatile organic compounds

$K_{oc}$ (L/kg) = Soil organic carbon/water partition coefficient

$D_{i,a}$ (cm2/s) = Diffusivity in air (25$^{o}$C)

$D_{i,w}$ (cm2/s) = Diffusivity in water (25$^{o}$C)

Kd = Soil-water partition coefficient

S (mg/L) = Solubility in water (20-25 oC)

H' = Dimensionless Henry's law constant (HLC[atm-m3/mol]*41) (25 $^{o}$C)

λ= half life used to calculate degradation rates

<u>Table references</u>

USEPA. 2018. Regional Screening Level (RSL) Chemical Parameters Table, May 2018 [online]. US Environmental Protection Agency. Available from: https://www.epa.gov/risk/regional-screening-levels-rsls-generic

USEPA. 2018. Regional Screening Levels (RSLs) - User's Guide. May 2018 [online]. US Environmental Protection Agency. Available from: https://www.epa.gov/risk/regional-screening-levels-rsls-users-guide#chemic

Howard, Philip H., et.al. Handbook of Environmental Degradation Rates.

**Table 5-2**
**Radiochemistry Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Type | Start Depth (ft) | End Depth (ft) | Beryllium-7 Result (pCi/g) | Beryllium-7 Error | Cesium-137 Result (pCi/g) | Cesium-137 Error | Polonium-210 Result (pCi/g) | Polonium-210 Error | Radium-226 Result (pCi/g) | Radium-226 Error |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SED1.5C | SED1.5C00AN | N | 0 | 0.33 | 0.231 | 0.197 | 0.0425 | 0.0165 | 1.94 | 0.369 | 0.975 | 0.123 |
| SED1.5C | SED1.5C00AR | FD | 0 | 0.33 | 0.444 | 0.23 | 0.0733 | 0.0196 | 2.8 | 0.46 | 1.1 | 0.0855 |
| SED1.5C | SED1.5C00BN | N | 0.33 | 0.67 | | | 0.0397 | 0.0163 | 1.54 | 0.317 | 0.994 | 0.0737 |
| SED1.5C | SED1.5C00CN | N | 0.67 | 1 | | | 0.0593 | 0.02 | 1.79 | 0.385 | 0.836 | 0.0927 |
| SED1.5C | SED1.5C01AN | N | 1 | 1.33 | | | 0.045 | 0.0146 | 1.53 | 0.321 | 0.882 | 0.0681 |
| SED1.5C | SED1.5C01BN | N | 1.33 | 1.67 | | | 0.0712 | 0.0185 | 1.49 | 0.319 | 0.933 | 0.0711 |
| SED1.5C | SED1.5C01CN | N | 1.67 | 2 | | | 0.109 | 0.0261 | 2.89 | 0.71 | 1.22 | 0.0861 |
| SED1.5C | SED1.5C02AN | N | 2 | 2.33 | | | 0.0939 | 0.0204 | 2.6 | 0.542 | 1.19 | 0.0872 |
| SED1.5C | SED1.5C02BN | N | 2.33 | 2.67 | | | 0.0831 | 0.018 | 2.12 | 0.421 | 0.975 | 0.0986 |
| SED1.5C | SED1.5C02CN | N | 2.67 | 3 | | | 0.066 | 0.0202 | 2.18 | 0.45 | 1.08 | 0.111 |
| SED1.5C | SED1.5C03AN | N | 3 | 3.33 | | | 0.0905 | 0.0211 | 1.88 | 0.404 | 1.15 | 0.112 |
| SED1.5C | SED1.5C03BN | N | 3.33 | 3.67 | | | 0.095 | 0.0222 | 2.08 | 0.419 | 1.13 | 0.113 |
| SED1.5C | SED1.5C03CN | N | 3.67 | 4 | | | 0.12 | 0.0188 | 2.23 | 0.538 | 1.26 | 0.0858 |
| SED1.5C | SED1.5C04AN | N | 4 | 4.33 | | | 0.107 | 0.0227 | 1.5 | 0.411 | 1.32 | 0.128 |
| SED1.5C | SED1.5C04BN | N | 4.33 | 4.67 | | | 0.1 | 0.019 | 1.22 | 0.307 | 1.41 | 0.136 |
| SED1.5C | SED1.5C04CN | N | 4.67 | 5 | | | 0.0741 | 0.0319 | 1.21 | 0.296 | 2.12 | 0.212 |
| SED1.5C | SED1.5C05AN | N | 5 | 5.33 | | | 0.0204 | 0.0164 | 1.02 | 0.195 | 1.63 | 0.153 |
| SED1.5C | SED1.5C05BN | N | 5.33 | 5.67 | | | < 0.050 | 0.0149 | 1 | 0.262 | 1.28 | 0.143 |
| SED1.5C | SED1.5C05CN | N | 5.67 | 6 | | | < 0.050 | 0.0136 | 0.976 | 0.265 | 1.37 | 0.163 |
| SED1.5C | SED1.5C06AN | N | 6 | 6.33 | | | < 0.050 | 0.0241 | 1.08 | 0.274 | 1.33 | 0.0944 |
| SED1.5C | SED1.5C06BN | N | 6.33 | 6.67 | | | < 0.050 | 0.011 | 1.06 | 0.271 | 1.08 | 0.108 |
| SED1.5C | SED1.5C06CN | N | 6.67 | 7 | | | < 0.050 | 0.0128 | 0.847 | 0.231 | 1.23 | 0.126 |
| SED1.5C | SED1.5C07AN | N | 7 | 7.33 | | | < 0.050 | 0.0139 | 0.602 | 0.169 | 0.773 | 0.0673 |
| SED5B | SED5B00AN | N | 0 | 0.33 | 2.12 | 0.372 | 0.049 | 0.0366 | 3.73 | 0.702 | 1.2 | 0.0933 |
| SED5B | SED5B00BN | N | 0.33 | 0.67 | | | 0.0643 | 0.0267 | 1.89 | 0.382 | 0.765 | 0.0648 |
| SED5B | SED5B00CN | N | 0.67 | 1 | | | < 0.050 | 0.0161 | 1.26 | 0.343 | 1.12 | 0.112 |
| SED5B | SED5B01AN | N | 1 | 1.33 | | | < 0.050 | 0.0208 | 1.27 | 0.335 | 1.26 | 0.13 |
| SED5B | SED5B01AR | FD | 1 | 1.33 | | | < 0.050 | 0.0189 | 1.17 | 0.288 | 1.21 | 0.0896 |
| SED5B | SED5B01BN | N | 1.33 | 1.67 | | | < 0.050 | 0.0145 | 1.45 | 0.343 | 1.32 | 0.132 |
| SED5B | SED5B01BR | FD | 1.33 | 1.67 | | | < 0.050 | 0.014 | 1.19 | 0.333 | 1.33 | 0.0913 |
| SED5B | SED5B01CN | N | 1.67 | 2 | | | < 0.050 | 0.0144 | 0.937 | 0.264 | 1.28 | 0.0899 |
| SED5B | SED5B01CR | FD | 1.67 | 2 | | | < 0.050 | 0.0161 | 1.13 | 0.198 | 1.38 | 0.154 |
| SED5B | SED5B02AN | N | 2 | 2.33 | | | < 0.050 | 0.0127 | 1.31 | 0.317 | 1.35 | 0.131 |
| SED5B | SED5B02BN | N | 2.33 | 2.67 | | | < 0.050 | 0.0179 | 1.61 | 0.424 | 1.4 | 0.163 |
| SED5B | SED5B02CN | N | 2.67 | 3 | | | < 0.050 | 0.0149 | 1.15 | 0.157 | 1.25 | 0.128 |
| SED5B | SED5B03AN | N | 3 | 3.33 | | | < 0.050 | 0.0123 | 1.06 | 0.316 | 1.33 | 0.0839 |
| SED5B | SED5B03BN | N | 3.33 | 3.67 | | | < 0.050 | 0.0132 | 1.15 | 0.304 | 1.31 | 0.0883 |
| SED5B | SED5B03CN | N | 3.67 | 4 | | | < 0.050 | 0.0115 | 1.34 | 0.327 | 1.21 | 0.121 |
| SED5B | SED5B04AN | N | 4 | 4.33 | | | < 0.050 | 0.0124 | 1.11 | 0.267 | 1.25 | 0.122 |
| SED5B | SED5B04BN | N | 4.33 | 4.67 | | | < 0.050 | 0.0141 | 1.23 | 0.325 | 1.41 | 0.0998 |
| SED5B | SED5B04CN | N | 4.67 | 5 | | | < 0.050 | 0.013 | 1 | 0.271 | 1.2 | 0.082 |
| SED5B | SED5B05AN | N | 5 | 5.33 | | | < 0.050 | 0.009 | 0.845 | 0.251 | 0.902 | 0.0942 |
| SED5B | SED5B05BN | N | 5.33 | 5.67 | | | < 0.050 | 0.0095 | 0.582 | 0.105 | 0.682 | 0.0696 |
| SED5B | SED5B05CN | N | 5.67 | 6 | | | < 0.050 | 0.0075 | 0.586 | 0.172 | 0.606 | 0.0667 |
| SED5B | SED5B06AN | N | 6 | 6.33 | | | < 0.050 | 0.0067 | 0.259 | 0.0704 | 0.431 | 0.0522 |
| SED7E | SED7E00AN | N | 0 | 0.33 | < 0.300 | 0.107 | 0.0384 | 0.0122 | 1.12 | 0.238 | 0.69 | 0.055 |
| SED7E | SED7E00BN | N | 0.33 | 0.67 | | | 0.0477 | 0.0159 | 1.01 | 0.226 | 1.3 | 0.0796 |
| SED7E | SED7E00CN | N | 0.67 | 1 | | | 0.071 | 0.0282 | 0.938 | 0.256 | 0.816 | 0.0709 |
| SED7E | SED7E01AN | N | 1 | 1.33 | | | 0.27 | 0.0307 | 1.31 | 0.341 | 1.52 | 0.144 |
| SED7E | SED7E01BN | N | 1.33 | 1.67 | | | 0.283 | 0.0335 | 1.26 | 0.191 | 2.01 | 0.185 |
| SED7E | SED7E01CN | N | 1.67 | 2 | | | 0.268 | 0.0319 | 1.41 | 0.209 | 1.34 | 0.134 |
| SED7E | SED7E02AN | N | 2 | 2.33 | | | 0.474 | 0.0507 | 1.45 | 0.415 | 1.29 | 0.127 |
| SED7E | SED7E02BN | N | 2.33 | 2.67 | | | 0.211 | 0.0288 | 1.3 | 0.343 | 1.47 | 0.0958 |
| SED7E | SED7E02CN | N | 2.67 | 3 | | | 0.12 | 0.0167 | 1.52 | 0.213 | 1.22 | 0.0806 |
| SED7E | SED7E03AN | N | 3 | 3.33 | | | 0.121 | 0.0231 | 1.17 | 0.166 | 1.16 | 0.112 |

**Table 5-2**
**Radiochemistry Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**

| Location ID | Sample ID | Type | Start Depth (ft) | End Depth (ft) | Beryllium-7 | | Cesium-137 | | Polonium-210 | | Radium-226 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Result (pCi/g) | Error | Result (pCi/g) | Error | Result (pCi/g) | Error | Result (pCi/g) | Error |
| SED7E | SED7E03BN | N | 3.33 | 3.67 | | | 0.0628 | 0.0226 | 1.08 | 0.308 | 1.37 | 0.15 |
| SED7E | SED7E03CN | N | 3.67 | 4 | | | 0.0481 | 0.0173 | 0.933 | 0.275 | 1.33 | 0.0887 |
| SED7E | SED7E04AN | N | 4 | 4.33 | | | 0.0363 | 0.0215 | 1.23 | 0.327 | 1.09 | 0.126 |
| SED7E | SED7E04BN | N | 4.33 | 4.67 | | | 0.0442 | 0.0162 | 0.744 | 0.123 | 0.828 | 0.0973 |
| SED7E | SED7E04CN | N | 4.67 | 5 | | | < 0.050 | 0.0151 | 1.29 | 0.356 | 1.27 | 0.0904 |
| SED7E | SED7E05AN | N | 5 | 5.33 | | | 0.0331 | 0.0208 | 1.26 | 0.179 | 1.42 | 0.0963 |
| SED7E | SED7E05BN | N | 5.33 | 5.67 | | | < 0.050 | 0.0221 | 1.11 | 0.164 | 1.3 | 0.126 |
| SED7E | SED7E05CN | N | 5.67 | 6 | | | < 0.050 | 0.0164 | 1.41 | 0.213 | 1.34 | 0.137 |
| SED7E | SED7E06AN | N | 6 | 6.33 | | | < 0.050 | 0.013 | 1.27 | 0.174 | 1.41 | 0.0922 |
| SED7E | SED7E06BN | N | 6.33 | 6.67 | | | < 0.050 | 0.0126 | 1.05 | 0.16 | 1.26 | 0.123 |
| SED7E | SED7E06CN | N | 6.67 | 7 | | | < 0.050 | 0.0106 | 0.686 | 0.128 | 1.18 | 0.113 |
| SED7E | SED7E07AN | N | 7 | 7.33 | | | < 0.050 | 0.0111 | 0.668 | 0.124 | 0.905 | 0.0661 |
| SED7E | SED7E07BN | N | 7.33 | 7.67 | | | < 0.050 | 0.0151 | 1.08 | 0.191 | 1.1 | 0.129 |
| SED7E | SED7E07CN | N | 7.67 | 8 | | | < 0.050 | 0.0147 | 1.04 | 0.161 | 1.28 | 0.0951 |

Notes:
pCi/g = Picocuries Per Gram
N = Normal
FD = Field Duplicate

**Table 5-3**
**Mass Loading Calculations - Groundwater to Surface Water**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd. NE, Washington DC 20019**

| Chemical | CAS Number | MW-1A | | MW-1B | | MW-2A | | MW-2B | | MW-3A | | MW-3B | | MW-4A | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | GW Flux ($m^3$/s) = 0.00003908 | | GW Flux ($m^3$/s) = 0.00001204 | | GW Flux ($m^3$/s) = 0.00002229 | | GW Flux ($m^3$/s) = 0.00107372 | | GW Flux ($m^3$/s) = 0.00020000 | | GW Flux ($m^3$/s) = 0.00002843 | | GW Flux ($m^3$/s) = 0.00008364 | |
| | | Groundwater Concentration (µg/L) | Mass Flux (kg/year) | Groundwater Concentration (µg/L) | Mass Flux (kg/year) | Groundwater Concentration (µg/L) | Mass Flux (kg/year) | Groundwater Concentration (µg/L) | Mass Flux (kg/year) | Groundwater Concentration (µg/L) | Mass Flux (kg/year) | Groundwater Concentration (µg/L) | Mass Flux (kg/year) | Groundwater Concentration (µg/L) | Mass Flux (kg/year) |
| **Inorganics (Dissolved)** | | | | | | | | | | | | | | | |
| Aluminum | 7429-90-5 | 30 | 3.70E-02 | 30 | 1.14E-02 | 30 | 2.11E-02 | 30 | 1.02E+00 | 30 | 1.89E-01 | 30 | 9.50E-01 | 30 | 7.92E-02 |
| Antimony | 7440-36-0 | 2 | 2.47E-03 | 2 | 7.60E-04 | 2 | 1.41E-03 | 2 | 6.78E-02 | 2 | 1.26E-02 | 2 | 6.34E-02 | 2 | 5.28E-03 |
| Arsenic | 7440-38-2 | 1 | 1.23E-03 | 1 | 3.80E-04 | 2.3 | 1.62E-03 | 1 | 3.39E-02 | 1.2 | 7.57E-03 | 0.48 | 1.52E-02 | 1 | 2.64E-03 |
| Barium | 7440-39-3 | 180 | 2.22E-01 | 190 | 7.22E-02 | 16 | 1.13E-02 | 75 | 2.54E+00 | 92 | 5.81E-01 | 150 | 4.75E+00 | 86 | 2.27E-01 |
| Beryllium | 7440-41-7 | 1 | 1.23E-03 | 1 | 3.80E-04 | 1 | 7.04E-04 | 0.51 | 1.73E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 1 | 2.64E-03 |
| Cadmium | 7440-43-9 | 1 | 1.23E-03 | 1 | 3.80E-04 | 1 | 7.04E-04 | 1 | 3.39E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 1 | 2.64E-03 |
| Chromium | 7440-47-3 | 2 | 2.47E-03 | 2 | 7.60E-04 | 2 | 1.41E-03 | 2 | 6.78E-02 | 2 | 1.26E-02 | 2 | 6.34E-02 | 2 | 5.28E-03 |
| Cobalt | 7440-48-4 | 8.5 | 1.05E-02 | 8.2 | 3.12E-03 | 0.5 | 3.52E-04 | 26 | 8.81E-01 | 5.8 | 3.66E-02 | 1.9 | 6.02E-02 | 30 | 7.92E-02 |
| Copper | 7440-50-8 | 2 | 2.47E-03 | 2 | 7.60E-04 | 2 | 1.41E-03 | 2 | 6.78E-02 | 2 | 1.26E-02 | 2 | 6.34E-02 | 2 | 5.28E-03 |
| Iron | 7439-89-6 | 50 | 6.17E-02 | 5800 | 2.20E+00 | 50 | 3.52E-02 | 30000 | 1.02E+03 | 50 | 3.16E-01 | 190 | 6.02E+00 | 50 | 1.32E-01 |
| Lead | 7439-92-1 | 1 | 1.23E-03 | 1 | 3.80E-04 | 1 | 7.04E-04 | 1 | 3.39E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 1 | 2.64E-03 |
| Manganese | 7439-96-5 | 3800 | 4.69E+00 | 3400 | 1.29E+00 | 200 | 1.41E-01 | 1600 | 5.42E+01 | 3800 | 2.40E+01 | 530 | 1.68E+01 | 5000 | 1.32E+01 |
| Mercury | 7439-97-6 | 0.2 | 2.47E-04 | 0.2 | 7.60E-05 | 0.2 | 1.41E-04 | 0.2 | 6.78E-03 | 0.2 | 1.26E-03 | 0.2 | 6.34E-03 | 0.2 | 5.28E-04 |
| Nickel | 7440-02-0 | 0.28 | 3.45E-04 | 4.3 | 1.63E-03 | 0.41 | 2.88E-04 | 11 | 3.73E-01 | 3 | 1.89E-02 | 1.2 | 3.80E-02 | 5.7 | 1.50E-02 |
| Selenium | 7782-49-2 | 5 | 6.17E-03 | 5 | 1.90E-03 | 5 | 3.52E-03 | 5 | 1.69E-01 | 5 | 3.16E-02 | 5 | 1.58E-01 | 5 | 1.32E-02 |
| Silver | 7440-22-4 | 1 | 1.23E-03 | 1 | 3.80E-04 | 1 | 7.04E-04 | 1 | 3.39E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 1 | 2.64E-03 |
| Thallium | 7440-28-0 | 1 | 1.23E-03 | 1 | 3.80E-04 | 1 | 7.04E-04 | 1 | 3.39E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 1 | 2.64E-03 |
| Vanadium | 7440-62-2 | 4.7 | 5.80E-03 | 3.2 | 1.22E-03 | 6.5 | 4.57E-03 | 3.5 | 1.19E-01 | 4.5 | 2.84E-02 | 2.5 | 7.92E-02 | 2.6 | 6.86E-03 |
| Zinc | 7440-66-6 | 5 | 6.17E-03 | 5.4 | 2.05E-03 | 5 | 3.52E-03 | 39 | 1.32E+00 | 5 | 3.16E-02 | 7.5 | 2.38E-01 | 5 | 1.32E-02 |
| **Inorganics (Total)** | | | | | | | | | | | | | | | |
| Aluminum | 7429-90-5 | 730 | 9.00E-01 | 260 | 9.88E-02 | 160 | 1.13E-01 | 900 | 3.05E+01 | 210 | 1.33E+00 | 690 | 2.19E+01 | 500 | 1.32E+00 |
| Antimony | 7440-36-0 | 2 | 2.47E-03 | 2 | 7.60E-04 | 2 | 1.41E-03 | 2 | 6.78E-02 | 2 | 1.26E-02 | 2 | 6.34E-02 | 2 | 5.28E-03 |
| Arsenic | 7440-38-2 | 2.5 | 3.08E-03 | 2 | 7.60E-04 | 3.7 | 2.60E-03 | 1 | 3.39E-02 | 6.1 | 3.85E-02 | 3.6 | 1.14E-01 | 8 | 2.11E-02 |
| Barium | 7440-39-3 | 270 | 3.33E-01 | 240 | 9.12E-02 | 18 | 1.27E-02 | 80 | 2.71E+00 | 98 | 6.19E-01 | 170 | 5.39E+00 | 110 | 2.90E-01 |
| Beryllium | 7440-41-7 | 0.072 | 8.88E-05 | 0.059 | 2.24E-05 | 1 | 7.04E-04 | 0.91 | 3.08E-02 | 1 | 6.31E-03 | 0.096 | 3.04E-03 | 0.041 | 1.08E-04 |
| Cadmium | 7440-43-9 | 1 | 1.23E-03 | 1 | 3.80E-04 | 1 | 7.04E-04 | 1 | 3.39E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 1 | 2.64E-03 |
| Chromium | 7440-47-3 | 3.4 | 4.19E-03 | 2 | 7.60E-04 | 2 | 1.41E-03 | 3 | 1.02E-01 | 4.3 | 2.71E-02 | 6.5 | 2.06E-01 | 4.8 | 1.27E-02 |
| Cobalt | 7440-48-4 | 13 | 1.60E-02 | 8 | 3.04E-03 | 0.74 | 5.21E-04 | 26 | 8.81E-01 | 6.7 | 4.23E-02 | 2.8 | 8.87E-02 | 33 | 8.71E-02 |
| Copper | 7440-50-8 | 2 | 2.47E-03 | 2 | 7.60E-04 | 2 | 1.41E-03 | 2 | 6.78E-02 | 3.1 | 1.96E-02 | 4.8 | 1.52E-01 | 2.4 | 6.33E-03 |
| Iron | 7439-89-6 | 44000 | 5.43E+01 | 37000 | 1.41E+01 | 820 | 5.77E-01 | 41000 | 1.39E+03 | 1900 | 1.20E+01 | 24000 | 7.60E+02 | 12000 | 3.17E+01 |
| Lead | 7439-92-1 | 1.4 | 1.73E-03 | 0.48 | 1.82E-04 | 1 | 7.04E-04 | 1.2 | 4.07E-02 | 0.48 | 3.03E-03 | 1.5 | 4.75E-02 | 0.73 | 1.93E-03 |
| Manganese | 7439-96-5 | 4100 | 5.06E+00 | 3700 | 1.41E+00 | 280 | 1.97E-01 | 1600 | 5.42E+01 | 3900 | 2.46E+01 | 550 | 1.74E+01 | 5700 | 1.50E+01 |
| Mercury | 7439-97-6 | 0.2 | 2.47E-04 | 0.2 | 7.60E-05 | 0.2 | 1.41E-04 | 0.2 | 6.78E-03 | 0.2 | 1.26E-03 | 0.2 | 6.34E-03 | 0.2 | 5.28E-04 |
| Silver | 7440-22-4 | 1 | 1.23E-03 | 1 | 3.80E-04 | 1 | 7.04E-04 | 1 | 3.39E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 1 | 2.64E-03 |
| Thallium | 7440-28-0 | 1 | 1.23E-03 | 1 | 3.80E-04 | 1 | 7.04E-04 | 1 | 3.39E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 1 | 2.64E-03 |
| Vanadium | 7440-62-2 | 9.8 | 1.21E-02 | 20 | 7.60E-03 | 3.1 | 2.18E-03 | 12 | 4.07E-01 | 1 | 6.31E-03 | 3 | 9.50E-02 | 1 | 2.64E-03 |
| Zinc | 7440-66-6 | 6.1 | 7.52E-03 | 6.4 | 2.43E-03 | 5 | 3.52E-03 | 37 | 1.25E+00 | 5 | 3.16E-02 | 9.9 | 3.14E-01 | 5 | 1.32E-02 |
| **Polycyclic Aromatic Hydrocarbons (PAHs)** | | | | | | | | | | | | | | | |
| 4-Methylphenol | 106-44-5 | 0.33 | 4.07E-04 | 1 | 3.80E-04 | 0.96 | 6.75E-04 | 1 | 3.39E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 1.1 | 2.90E-03 |
| Acetophenone | 98-86-2 | 2 | 2.47E-03 | 2 | 7.60E-04 | 1.9 | 1.34E-03 | 2 | 6.78E-02 | 2.1 | 1.33E-02 | 2 | 6.34E-02 | 2.2 | 5.81E-03 |
| Benzaldehyde | 100-52-7 | 2 | 2.47E-03 | 2 | 7.60E-04 | 1.9 | 1.34E-03 | 2 | 6.78E-02 | 2.1 | 1.33E-02 | 2 | 6.34E-02 | 2.2 | 5.81E-03 |
| Benzo(a)anthracene | 56-55-3 | 0.2 | 2.47E-04 | 0.18 | 6.84E-05 | 0.18 | 1.27E-04 | 0.18 | 6.10E-03 | 0.21 | 1.33E-03 | 0.2 | 6.34E-03 | 0.22 | 5.81E-04 |
| Benzo(a)pyrene | 50-32-8 | 0.2 | 2.47E-04 | 0.18 | 6.84E-05 | 0.18 | 1.27E-04 | 0.18 | 6.10E-03 | 0.21 | 1.33E-03 | 0.2 | 6.34E-03 | 0.22 | 5.81E-04 |
| Benzo(b)fluoranthene | 205-99-2 | 0.2 | 2.47E-04 | 0.18 | 6.84E-05 | 0.18 | 1.27E-04 | 0.18 | 6.10E-03 | 0.21 | 1.33E-03 | 0.2 | 6.34E-03 | 0.22 | 5.81E-04 |
| Benzo(k)fluoranthene | 207-08-9 | 0.2 | 2.47E-04 | 0.18 | 6.84E-05 | 0.18 | 1.27E-04 | 0.18 | 6.10E-03 | 0.21 | 1.33E-03 | 0.2 | 6.34E-03 | 0.22 | 5.81E-04 |
| bis-(2-Ethylhexyl)phthalate | 117-81-7 | 2 | 2.47E-03 | 2 | 7.60E-04 | 1.9 | 1.34E-03 | 2 | 6.78E-02 | 2.1 | 1.33E-02 | 2 | 6.34E-02 | 2.2 | 5.81E-03 |

**Table 5-3**
**Mass Loading Calculations - Groundwater to Surface Water**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd. NE, Washington DC 20019**

| Chemical | CAS Number | MW-1A GW Flux ($m^3/s$) = 0.00003908 | | MW-1B GW Flux ($m^3/s$) = 0.00001204 | | MW-2A GW Flux ($m^3/s$) = 0.00002229 | | MW-2B GW Flux ($m^3/s$) = 0.00107372 | | MW-3A GW Flux ($m^3/s$) = 0.00020000 | | MW-3B GW Flux ($m^3/s$) = 0.00002843 | | MW-4A GW Flux ($m^3/s$) = 0.00008364 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Groundwater Concentration (µg/L) | Mass Flux (kg/year) | Groundwater Concentration (µg/L) | Mass Flux (kg/year) | Groundwater Concentration (µg/L) | Mass Flux (kg/year) | Groundwater Concentration (µg/L) | Mass Flux (kg/year) | Groundwater Concentration (µg/L) | Mass Flux (kg/year) | Groundwater Concentration (µg/L) | Mass Flux (kg/year) | Groundwater Concentration (µg/L) | Mass Flux (kg/year) |
| Butylbenzylphthalate | 85-68-7 | 1 | 1.23E-03 | 1 | 3.80E-04 | 0.96 | 6.75E-04 | 1 | 3.39E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 1.1 | 2.90E-03 |
| Caprolactam | 105-60-2 | 5 | 6.17E-03 | 5 | 1.90E-03 | 4.8 | 3.38E-03 | 5 | 1.69E-01 | 5.2 | 3.28E-02 | 5 | 1.58E-01 | 5.4 | 1.43E-02 |
| Carbazole | 86-74-8 | 1 | 1.23E-03 | 1 | 3.80E-04 | 0.27 | 1.90E-04 | 1 | 3.39E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 1.1 | 2.90E-03 |
| Chrysene | 218-01-9 | 0.2 | 2.47E-04 | 0.18 | 6.84E-05 | 0.18 | 1.27E-04 | 0.18 | 6.10E-03 | 0.21 | 1.33E-03 | 0.2 | 6.34E-03 | 0.22 | 5.81E-04 |
| Dibenzo(a,h)anthracene | 53-70-3 | 0.2 | 2.47E-04 | 0.18 | 6.84E-05 | 0.18 | 1.27E-04 | 0.18 | 6.10E-03 | 0.21 | 1.33E-03 | 0.2 | 6.34E-03 | 0.22 | 5.81E-04 |
| Di-n-octylphthalate | 117-84-0 | 1 | 1.23E-03 | 1 | 3.80E-04 | 0.96 | 6.75E-04 | 1 | 3.39E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 1.1 | 2.90E-03 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.2 | 2.47E-04 | 0.18 | 6.84E-05 | 0.18 | 1.27E-04 | 0.18 | 6.10E-03 | 0.21 | 1.33E-03 | 0.2 | 6.34E-03 | 0.22 | 5.81E-04 |
| Naphthalene | 91-20-3 | 0.2 | 2.47E-04 | 0.18 | 6.84E-05 | 0.18 | 1.27E-04 | 0.18 | 6.10E-03 | 0.21 | 1.33E-03 | 0.2 | 6.34E-03 | 0.22 | 5.81E-04 |
| Pyrene | 129-00-0 | 0.2 | 2.47E-04 | 0.18 | 6.84E-05 | 0.18 | 1.27E-04 | 0.18 | 6.10E-03 | 0.21 | 1.33E-03 | 0.2 | 6.34E-03 | 0.22 | 5.81E-04 |
| Total High-molecular-weight PAHs | TOT-PAH-HMW | 0.2 | 2.47E-04 | 0.18 | 6.84E-05 | 0.18 | 1.27E-04 | 0.18 | 6.10E-03 | 0.21 | 1.33E-03 | 0.2 | 6.34E-03 | 0.22 | 5.81E-04 |
| Total Low-molecular-weight PAHs | TOT-PAH-LMW | 0.2 | 2.47E-04 | 0.18 | 6.84E-05 | 0.18 | 1.27E-04 | 0.18 | 6.10E-03 | 0.21 | 1.33E-03 | 0.2 | 6.34E-03 | 0.22 | 5.81E-04 |
| Total PAHs (sum 16) | TOT-PAH | 0.2 | 2.47E-04 | 0.18 | 6.84E-05 | 0.18 | 1.27E-04 | 0.18 | 6.10E-03 | 0.21 | 1.33E-03 | 0.2 | 6.34E-03 | 0.22 | 5.81E-04 |
| **Polychlorinated Biphenyl (PCB)** | | | | | | | | | | | | | | | |
| PCB-TEQ | PCBTEQ-HH | | 0.00E+00 | | 0.00E+00 | | 0.00E+00 | | 0.00E+00 | | 0.00E+00 | | 0.00E+00 | 6.52E-10 | 1.72E-12 |
| Total PCBs | TOT-PCB-ARO-C | 0.0095 | 1.17E-05 | 0.0096 | 3.65E-06 | 0.0096 | 6.75E-06 | 0.0095 | 3.22E-04 | 0.0095 | 6.00E-05 | 0.0097 | 3.07E-04 | 0.0098 | 2.59E-05 |
| **Pesticides** | | | | | | | | | | | | | | | |
| 4,4'-DDD | 72-54-8 | 0.0012 | 1.48E-06 | 0.0013 | 4.94E-07 | 0.0013 | 9.15E-07 | 0.0012 | 4.07E-05 | 0.0012 | 7.57E-06 | 0.0013 | 4.12E-05 | 0.0013 | 3.43E-06 |
| 4,4'-DDE | 72-55-9 | 0.0012 | 1.48E-06 | 0.0013 | 4.94E-07 | 0.0013 | 9.15E-07 | 0.0012 | 4.07E-05 | 0.0012 | 7.57E-06 | 0.0013 | 4.12E-05 | 0.0013 | 3.43E-06 |
| 4,4'-DDT | 50-29-3 | 0.0012 | 1.48E-06 | 0.0013 | 4.94E-07 | 0.0013 | 9.15E-07 | 0.0012 | 4.07E-05 | 0.0012 | 7.57E-06 | 0.0013 | 4.12E-05 | 0.0013 | 3.43E-06 |
| Aldrin | 309-00-2 | 0.0012 | 1.48E-06 | 0.0013 | 4.94E-07 | 0.0013 | 9.15E-07 | 0.0012 | 4.07E-05 | 0.0012 | 7.57E-06 | 0.0013 | 4.12E-05 | 0.0013 | 3.43E-06 |
| alpha-Chlordane | 5103-71-9 | 0.0012 | 1.48E-06 | 0.0013 | 4.94E-07 | 0.0013 | 9.15E-07 | 0.0012 | 4.07E-05 | 0.0012 | 7.57E-06 | 0.0013 | 4.12E-05 | 0.0013 | 3.43E-06 |
| beta-BHC | 319-85-7 | 0.0012 | 1.48E-06 | 0.0013 | 4.94E-07 | 0.0013 | 9.15E-07 | 0.0011 | 3.73E-05 | 0.00095 | 6.00E-06 | 0.0013 | 4.12E-05 | 0.0013 | 3.43E-06 |
| cis-Chlordane | 5103-71-9 | 0.0012 | 1.48E-06 | 0.0013 | 4.94E-07 | 0.0013 | 9.15E-07 | 0.0012 | 4.07E-05 | 0.0012 | 7.57E-06 | 0.0013 | 4.12E-05 | 0.0013 | 3.43E-06 |
| Dieldrin | 60-57-1 | 0.0012 | 1.48E-06 | 0.0013 | 4.94E-07 | 0.0013 | 9.15E-07 | 0.0012 | 4.07E-05 | 0.0012 | 7.57E-06 | 0.0013 | 4.12E-05 | 0.0013 | 3.43E-06 |
| Endosulfan Sulfate | 1031-07-8 | 0.0012 | 1.48E-06 | 0.0013 | 4.94E-07 | 0.0013 | 9.15E-07 | 0.0012 | 4.07E-05 | 0.0012 | 7.57E-06 | 0.0013 | 4.12E-05 | 0.0013 | 3.43E-06 |
| Endrin | 72-20-8 | 0.0012 | 1.48E-06 | 0.0013 | 4.94E-07 | 0.0013 | 9.15E-07 | 0.0012 | 4.07E-05 | 0.0012 | 7.57E-06 | 0.0013 | 4.12E-05 | 0.0013 | 3.43E-06 |
| Endrin ketone | 53494-70-5 | 0.0012 | 1.48E-06 | 0.0013 | 4.94E-07 | 0.0013 | 9.15E-07 | 0.0012 | 4.07E-05 | 0.0012 | 7.57E-06 | 0.0013 | 4.12E-05 | 0.0013 | 3.43E-06 |
| Heptachlor Epoxide | 1024-57-3 | 0.0012 | 1.48E-06 | 0.0013 | 4.94E-07 | 0.0013 | 9.15E-07 | 0.0012 | 4.07E-05 | 0.0012 | 7.57E-06 | 0.0013 | 4.12E-05 | 0.0013 | 3.43E-06 |
| Hexachlorobenzene | 118-74-1 | 1 | 1.23E-03 | 1 | 3.80E-04 | 0.96 | 6.75E-04 | 1 | 3.39E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 1.1 | 2.90E-03 |
| Methoxychlor | 72-43-5 | 0.0024 | 2.96E-06 | 0.0024 | 9.12E-07 | 0.0024 | 1.69E-06 | 0.0024 | 8.13E-05 | 0.0024 | 1.51E-05 | 0.0024 | 7.60E-05 | 0.0025 | 6.60E-06 |
| trans-Chlordane | 5103-74-2 | 0.0012 | 1.48E-06 | 0.0013 | 4.94E-07 | 0.0013 | 9.15E-07 | 0.0012 | 4.07E-05 | 0.0012 | 7.57E-06 | 0.0013 | 4.12E-05 | 0.0013 | 3.43E-06 |
| **Dioxins and Furans** | | | | | | | | | | | | | | | |
| 2,3,7,8-TCDD-TEQ | DFTEQ-HH | 2.77E-09 | 3.42E-12 | 7.11E-09 | 2.70E-12 | | | | | 1.25E-08 | 7.89E-11 | 8.49E-09 | 2.69E-10 | 1.28E-09 | 3.38E-12 |
| **Volatile Organic Compounds (VOCs)** | | | | | | | | | | | | | | | |
| Acetone | 67-64-1 | 5 | 6.17E-03 | 5 | 1.90E-03 | 5 | 3.52E-03 | 5 | 1.69E-01 | 4.1 | 2.59E-02 | 5 | 1.58E-01 | 5 | 1.32E-02 |
| Bromodichloromethane | 75-27-4 | 1 | 1.23E-03 | 1 | 3.80E-04 | 1 | 7.04E-04 | 1 | 3.39E-02 | 1 | 6.31E-03 | 0.65 | 2.06E-02 | 1 | 2.64E-03 |
| Butyl alcohol, tert- | 75-65-0 | 40 | 4.93E-02 | 200 | 7.60E-02 | 40 | 2.81E-02 | | 0.00E+00 | | 0.00E+00 | | 0.00E+00 | | 0.00E+00 |
| Chloroform | 67-66-3 | 1 | 1.23E-03 | 1 | 3.80E-04 | 1 | 7.04E-04 | 1 | 3.39E-02 | 1.2 | 7.57E-03 | 3.2 | 1.01E-01 | 0.22 | 5.81E-04 |
| Methyl tert-Butyl Ether (MTBE) | 1634-04-4 | 1.7 | 2.10E-03 | 3.4 | 1.29E-03 | 1 | 7.04E-04 | 0.39 | 1.32E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 0.29 | 7.65E-04 |
| Tetrachloroethylene | 127-18-4 | 5.5 | 6.78E-03 | 78 | 2.96E-02 | 1.8 | 1.27E-03 | 1 | 3.39E-02 | 0.32 | 2.02E-03 | 1 | 3.17E-02 | 0.25 | 6.60E-04 |
| Trichloroethene | 79-01-6 | 1.2 | 1.48E-03 | 48 | 1.82E-02 | 0.22 | 1.55E-04 | 1 | 3.39E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 1 | 2.64E-03 |
| Vinyl Chloride | 75-01-4 | 1 | 1.23E-03 | 1 | 3.80E-04 | 1 | 7.04E-04 | 1 | 3.39E-02 | 1 | 6.31E-03 | 1 | 3.17E-02 | 1 | 2.64E-03 |

**Table 5-3**
**Mass Loading Calculations - Groundwater to Surface Water**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd. NE, Washington DC 20019**

| Chemical | CAS Number | MW-4B | | MW-8A | | MW-8B | | MW-11A | | MW-11B | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | GW Flux ($m^3/s$) = 0.00001943 | | GW Flux ($m^3/s$) = 0.00001641 | | GW Flux ($m^3/s$) = 0.00003023 | | GW Flux ($m^3/s$) = 0.00007572 | | GW Flux ($m^3/s$) = 0.00004742 | | |
| | | **Groundwater Concentration (µg/L)** | **Mass Flux (kg/year)** | **Groundwater Concentration (µg/L)** | **Mass Flux (kg/year)** | **Groundwater Concentration (µg/L)** | **Mass Flux (kg/year)** | **Groundwater Concentration (µg/L)** | **Mass Flux (kg/year)** | **Groundwater Concentration (µg/L)** | **Mass Flux (kg/year)** | **TOTAL MASS (kg/year)** |
| **Inorganics (Dissolved)** | | | | | | | | | | | | |
| Aluminum | 7429-90-5 | 55 | 3.37E-02 | 30 | 1.55E-02 | 30 | 2.86E-02 | 30 | 7.17E-02 | 30 | 4.49E-02 | 2.499411 |
| Antimony | 7440-36-0 | 2 | 1.23E-03 | 2 | 1.04E-03 | 2 | 1.91E-03 | 2 | 4.78E-03 | 2 | 2.99E-03 | 0.165605 |
| Arsenic | 7440-38-2 | 0.91 | 5.58E-04 | 1.2 | 6.21E-04 | 1 | 9.54E-04 | 1 | 2.39E-03 | 2.2 | 3.29E-03 | 0.070350 |
| Barium | 7440-39-3 | 100 | 6.13E-02 | 58 | 3.00E-02 | 140 | 1.34E-01 | 38 | 9.08E-02 | 120 | 1.80E-01 | 8.901671 |
| Beryllium | 7440-41-7 | 1 | 6.13E-04 | 1 | 5.18E-04 | 1 | 9.54E-04 | 1 | 2.39E-03 | 1 | 1.50E-03 | 0.066199 |
| Cadmium | 7440-43-9 | 1 | 6.13E-04 | 1 | 5.18E-04 | 1 | 9.54E-04 | 1 | 2.39E-03 | 1 | 1.50E-03 | 0.082803 |
| Chromium | 7440-47-3 | 2 | 1.23E-03 | 2 | 1.04E-03 | 2 | 1.91E-03 | 2 | 4.78E-03 | 2 | 2.99E-03 | 0.165605 |
| Cobalt | 7440-48-4 | 1.9 | 1.17E-03 | 5.3 | 2.74E-03 | 0.83 | 7.92E-04 | 2.2 | 5.26E-03 | 0.2 | 2.99E-04 | 1.081179 |
| Copper | 7440-50-8 | 2 | 1.23E-03 | 2 | 1.04E-03 | 2 | 1.91E-03 | 2 | 4.78E-03 | 2 | 2.99E-03 | 0.165605 |
| Iron | 7439-89-6 | 570 | 3.50E-01 | 50 | 2.59E-02 | 50 | 4.77E-02 | 50 | 1.19E-01 | 50 | 7.48E-02 | 1025.908802 |
| Lead | 7439-92-1 | 1 | 6.13E-04 | 1 | 5.18E-04 | 1 | 9.54E-04 | 1 | 2.39E-03 | 1 | 1.50E-03 | 0.082803 |
| Manganese | 7439-96-5 | 950 | 5.83E-01 | 1300 | 6.73E-01 | 280 | 2.67E-01 | 430 | 1.03E+00 | 360 | 5.39E-01 | 117.394378 |
| Mercury | 7439-97-6 | 0.2 | 1.23E-04 | 0.2 | 1.04E-04 | 0.2 | 1.91E-04 | 0.2 | 4.78E-04 | 0.2 | 2.99E-04 | 0.016561 |
| Nickel | 7440-02-0 | 1.6 | 9.81E-04 | 2 | 1.04E-03 | 0.87 | 8.30E-04 | 1.1 | 2.63E-03 | 0.33 | 4.94E-04 | 0.452958 |
| Selenium | 7782-49-2 | 5 | 3.07E-03 | 5 | 2.59E-03 | 5 | 4.77E-03 | 5 | 1.19E-02 | 5 | 7.48E-03 | 0.414013 |
| Silver | 7440-22-4 | 1 | 6.13E-04 | 1 | 5.18E-04 | 1 | 9.54E-04 | 1 | 2.39E-03 | 1 | 1.50E-03 | 0.082803 |
| Thallium | 7440-28-0 | 1 | 6.13E-04 | 0.043 | 2.23E-05 | 1 | 9.54E-04 | 1 | 2.39E-03 | 1 | 1.50E-03 | 0.082307 |
| Vanadium | 7440-62-2 | 1.4 | 8.59E-04 | 4.1 | 2.12E-03 | 4.2 | 4.01E-03 | 5.8 | 1.39E-02 | 3.8 | 5.69E-03 | 0.271177 |
| Zinc | 7440-66-6 | 5 | 3.07E-03 | 5 | 2.59E-03 | 5 | 4.77E-03 | 5 | 1.19E-02 | 5 | 7.48E-03 | 1.645425 |
| **Inorganics (Total)** | | | | | | | | | | | | |
| Aluminum | 7429-90-5 | 600 | 3.68E-01 | 1600 | 8.28E-01 | 990 | 9.44E-01 | 320 | 7.65E-01 | 1300 | 1.95E+00 | 60.962511 |
| Antimony | 7440-36-0 | 2 | 1.23E-03 | 20 | 1.04E-02 | 2 | 1.91E-03 | 2 | 4.78E-03 | 2 | 2.99E-03 | 0.174926 |
| Arsenic | 7440-38-2 | 5.2 | 3.19E-03 | 14 | 7.25E-03 | 3.3 | 3.15E-03 | 3.4 | 8.12E-03 | 5.4 | 8.08E-03 | 0.243785 |
| Barium | 7440-39-3 | 120 | 7.36E-02 | 100 | 5.18E-02 | 180 | 1.72E-01 | 42 | 1.00E-01 | 180 | 2.69E-01 | 10.108828 |
| Beryllium | 7440-41-7 | 0.064 | 3.93E-05 | 10 | 5.18E-03 | 0.053 | 5.06E-05 | 0.048 | 1.15E-04 | 0.14 | 2.10E-04 | 0.046702 |
| Cadmium | 7440-43-9 | 1 | 6.13E-04 | 10 | 5.18E-03 | 1 | 9.54E-04 | 1 | 2.39E-03 | 1 | 1.50E-03 | 0.087463 |
| Chromium | 7440-47-3 | 6.1 | 3.74E-03 | 20 | 1.04E-02 | 2.2 | 2.10E-03 | 8.1 | 1.94E-02 | 7.8 | 1.17E-02 | 0.400963 |
| Cobalt | 7440-48-4 | 2.8 | 1.72E-03 | 7.9 | 4.09E-03 | 2.1 | 2.00E-03 | 2.6 | 6.21E-03 | 2.5 | 3.74E-03 | 1.136439 |
| Copper | 7440-50-8 | 2.7 | 1.66E-03 | 20 | 1.04E-02 | 4.5 | 4.29E-03 | 3.2 | 7.65E-03 | 5 | 7.48E-03 | 0.281798 |
| Iron | 7439-89-6 | 7600 | 4.66E+00 | 7900 | 4.09E+00 | 5700 | 5.44E+00 | 1800 | 4.30E+00 | 17000 | 2.54E+01 | 2306.061852 |
| Lead | 7439-92-1 | 0.75 | 4.60E-04 | 10 | 5.18E-03 | 3.2 | 3.05E-03 | 1 | 2.39E-03 | 2.2 | 3.29E-03 | 0.110122 |
| Manganese | 7439-96-5 | 1000 | 6.13E-01 | 1500 | 7.77E-01 | 330 | 3.15E-01 | 440 | 1.05E+00 | 520 | 7.78E-01 | 121.492314 |
| Mercury | 7439-97-6 | 0.2 | 1.23E-04 | 0.2 | 1.04E-04 | 0.2 | 1.91E-04 | 0.2 | 4.78E-04 | 0.2 | 2.99E-04 | 0.016561 |
| Silver | 7440-22-4 | 1 | 6.13E-04 | 10 | 5.18E-03 | 1 | 9.54E-04 | 1 | 2.39E-03 | 1 | 1.50E-03 | 0.087463 |
| Thallium | 7440-28-0 | 1 | 6.13E-04 | 10 | 5.18E-03 | 1 | 9.54E-04 | 1 | 2.39E-03 | 1 | 1.50E-03 | 0.087463 |
| Vanadium | 7440-62-2 | 1 | 6.13E-04 | 52 | 2.69E-02 | 23 | 2.19E-02 | 3.6 | 8.60E-03 | 4.8 | 7.18E-03 | 0.597732 |
| Zinc | 7440-66-6 | 6.7 | 4.11E-03 | 50 | 2.59E-02 | 7.5 | 7.15E-03 | 5 | 1.19E-02 | 8.5 | 1.27E-02 | 1.687390 |
| **Polycyclic Aromatic Hydrocarbons (PAHs)** | | | | | | | | | | | | |
| 4-Methylphenol | 106-44-5 | 1 | 6.13E-04 | 1 | 5.18E-04 | 1 | 9.54E-04 | 1 | 2.39E-03 | 0.96 | 1.44E-03 | 0.082152 |
| Acetophenone | 98-86-2 | 2.1 | 1.29E-03 | 2 | 1.04E-03 | 2.1 | 2.00E-03 | 2 | 4.78E-03 | 1.9 | 2.84E-03 | 0.166701 |
| Benzaldehyde | 100-52-7 | 2.1 | 1.29E-03 | 2 | 1.04E-03 | 2.1 | 2.00E-03 | 2 | 4.78E-03 | 1.9 | 2.84E-03 | 0.166701 |
| Benzo(a)anthracene | 56-55-3 | 0.21 | 1.29E-04 | 0.2 | 1.04E-04 | 0.21 | 2.00E-04 | 0.2 | 4.78E-04 | 0.19 | 2.84E-04 | 0.015978 |
| Benzo(a)pyrene | 50-32-8 | 0.21 | 1.29E-04 | 0.2 | 1.04E-04 | 0.21 | 2.00E-04 | 0.2 | 4.78E-04 | 0.19 | 2.84E-04 | 0.015978 |
| Benzo(b)fluoranthene | 205-99-2 | 0.21 | 1.29E-04 | 0.2 | 1.04E-04 | 0.21 | 2.00E-04 | 0.2 | 4.78E-04 | 0.19 | 2.84E-04 | 0.015978 |
| Benzo(k)fluoranthene | 207-08-9 | 0.21 | 1.29E-04 | 0.2 | 1.04E-04 | 0.21 | 2.00E-04 | 0.2 | 4.78E-04 | 0.19 | 2.84E-04 | 0.015978 |
| bis-(2-Ethylhexyl)phthalate | 117-81-7 | 2.1 | 1.29E-03 | 2 | 1.04E-03 | 2.1 | 2.00E-03 | 2 | 4.78E-03 | 1.9 | 2.84E-03 | 0.166701 |

**Table 5-3**
**Mass Loading Calculations - Groundwater to Surface Water**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd. NE, Washington DC 20019**

| Chemical | CAS Number | MW-4B | | MW-8A | | MW-8B | | MW-11A | | MW-11B | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | GW Flux ($m^3/s$) = 0.00001943 | | GW Flux ($m^3/s$) = 0.00001641 | | GW Flux ($m^3/s$) = 0.00003023 | | GW Flux ($m^3/s$) = 0.00007572 | | GW Flux ($m^3/s$) = 0.00004742 | | |
| | | **Groundwater Concentration (µg/L)** | **Mass Flux (kg/year)** | **Groundwater Concentration (µg/L)** | **Mass Flux (kg/year)** | **Groundwater Concentration (µg/L)** | **Mass Flux (kg/year)** | **Groundwater Concentration (µg/L)** | **Mass Flux (kg/year)** | **Groundwater Concentration (µg/L)** | **Mass Flux (kg/year)** | **TOTAL MASS (kg/year)** |
| Butylbenzylphthalate | 85-68-7 | 1 | 6.13E-04 | 1 | 5.18E-04 | 1 | 9.54E-04 | 1 | 2.39E-03 | 0.96 | 1.44E-03 | 0.082979 |
| Caprolactam | 105-60-2 | 5.2 | 3.19E-03 | 5 | 2.59E-03 | 5.2 | 4.96E-03 | 5 | 1.19E-02 | 4.8 | 7.18E-03 | 0.416205 |
| Carbazole | 86-74-8 | 1 | 6.13E-04 | 1 | 5.18E-04 | 1 | 9.54E-04 | 1 | 2.39E-03 | 0.96 | 1.44E-03 | 0.082493 |
| Chrysene | 218-01-9 | 0.21 | 1.29E-04 | 0.2 | 1.04E-04 | 0.21 | 2.00E-04 | 0.2 | 4.78E-04 | 0.19 | 2.84E-04 | 0.015978 |
| Dibenzo(a,h)anthracene | 53-70-3 | 0.21 | 1.29E-04 | 0.2 | 1.04E-04 | 0.21 | 2.00E-04 | 0.2 | 4.78E-04 | 0.19 | 2.84E-04 | 0.015978 |
| Di-n-octylphthalate | 117-84-0 | 1 | 6.13E-04 | 1 | 5.18E-04 | 1 | 9.54E-04 | 1 | 2.39E-03 | 0.96 | 1.44E-03 | 0.082979 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 0.21 | 1.29E-04 | 0.2 | 1.04E-04 | 0.21 | 2.00E-04 | 0.2 | 4.78E-04 | 0.19 | 2.84E-04 | 0.015978 |
| Naphthalene | 91-20-3 | 0.21 | 1.29E-04 | 0.046 | 2.38E-05 | 0.21 | 2.00E-04 | 0.2 | 4.78E-04 | 0.19 | 2.84E-04 | 0.015898 |
| Pyrene | 129-00-0 | 0.21 | 1.29E-04 | 0.2 | 1.04E-04 | 0.21 | 2.00E-04 | 0.2 | 4.78E-04 | 0.19 | 2.84E-04 | 0.015978 |
| Total High-molecular-weight PAHs | TOT-PAH-HMW | 0.21 | 1.29E-04 | 0.2 | 1.04E-04 | 0.21 | 2.00E-04 | 0.2 | 4.78E-04 | 0.19 | 2.84E-04 | 0.015978 |
| Total Low-molecular-weight PAHs | TOT-PAH-LMW | 0.21 | 1.29E-04 | 0.046 | 2.38E-05 | 0.21 | 2.00E-04 | 0.2 | 4.78E-04 | 0.19 | 2.84E-04 | 0.015898 |
| Total PAHs (sum 16) | TOT-PAH | 0.21 | 1.29E-04 | 0.046 | 2.38E-05 | 0.21 | 2.00E-04 | 0.2 | 4.78E-04 | 0.19 | 2.84E-04 | 0.015898 |
| **Polychlorinated Biphenyl (PCB)** | | | | | | | | | | | | |
| PCB-TEQ | PCBTEQ-HH | | 0.00E+00 | | 0.00E+00 | 6.92E-06 | 6.60E-09 | 1.31E-09 | 3.13E-12 | | 0.00E+00 | 0.000000 |
| Total PCBs | TOT-PCB-ARO-C | 0.0094 | 5.76E-06 | 0.0097 | 5.02E-06 | 0.11 | 1.05E-04 | 0.0095 | 2.27E-05 | 0.0096 | 1.44E-05 | 0.000890 |
| **Pesticides** | | | | | | | | | | | | |
| 4,4'-DDD | 72-54-8 | 0.0013 | 7.97E-07 | 0.0013 | 6.73E-07 | 0.0013 | 1.24E-06 | 0.0012 | 2.87E-06 | 0.0013 | 1.95E-06 | 0.000103 |
| 4,4'-DDE | 72-55-9 | 0.0013 | 7.97E-07 | 0.0013 | 6.73E-07 | 0.001 | 9.54E-07 | 0.0012 | 2.87E-06 | 0.0013 | 1.95E-06 | 0.000103 |
| 4,4'-DDT | 50-29-3 | 0.0013 | 7.97E-07 | 0.0013 | 6.73E-07 | 0.0037 | 3.53E-06 | 0.0012 | 2.87E-06 | 0.0028 | 4.19E-06 | 0.000108 |
| Aldrin | 309-00-2 | 0.0013 | 7.97E-07 | 0.0013 | 6.73E-07 | 0.0013 | 1.24E-06 | 0.0012 | 2.87E-06 | 0.0013 | 1.95E-06 | 0.000103 |
| alpha-Chlordane | 5103-71-9 | 0.0013 | 7.97E-07 | 0.0013 | 6.73E-07 | 0.0013 | 1.24E-06 | 0.0012 | 2.87E-06 | 0.0013 | 1.95E-06 | 0.000103 |
| beta-BHC | 319-85-7 | 0.0013 | 7.97E-07 | 0.0013 | 6.73E-07 | 0.0013 | 1.24E-06 | 0.0012 | 2.87E-06 | 0.0013 | 1.95E-06 | 0.000098 |
| cis-Chlordane | 5103-71-9 | 0.0013 | 7.97E-07 | 0.0013 | 6.73E-07 | 0.0013 | 1.24E-06 | 0.0012 | 2.87E-06 | 0.0013 | 1.95E-06 | 0.000103 |
| Dieldrin | 60-57-1 | 0.0013 | 7.97E-07 | 0.0013 | 6.73E-07 | 0.0022 | 2.10E-06 | 0.0012 | 2.87E-06 | 0.0013 | 1.95E-06 | 0.000104 |
| Endosulfan Sulfate | 1031-07-8 | 0.0013 | 7.97E-07 | 0.0013 | 6.73E-07 | 0.0013 | 1.24E-06 | 0.0012 | 2.87E-06 | 0.0013 | 1.95E-06 | 0.000103 |
| Endrin | 72-20-8 | 0.0013 | 7.97E-07 | 0.0013 | 6.73E-07 | 0.002 | 1.91E-06 | 0.0012 | 2.87E-06 | 0.0013 | 1.95E-06 | 0.000104 |
| Endrin ketone | 53494-70-5 | 0.0013 | 7.97E-07 | 0.0013 | 6.73E-07 | 0.0013 | 1.24E-06 | 0.0012 | 2.87E-06 | 0.0013 | 1.95E-06 | 0.000103 |
| Heptachlor Epoxide | 1024-57-3 | 0.0013 | 7.97E-07 | 0.0013 | 6.73E-07 | 0.0013 | 1.24E-06 | 0.00081 | 1.94E-06 | 0.0013 | 1.95E-06 | 0.000102 |
| Hexachlorobenzene | 118-74-1 | 1 | 6.13E-04 | 1 | 5.18E-04 | 1 | 9.54E-04 | 1 | 2.39E-03 | 0.96 | 1.44E-03 | 0.082979 |
| Methoxychlor | 72-43-5 | 0.0013 | 7.97E-07 | 0.0024 | 1.24E-06 | 0.0025 | 2.38E-06 | 0.0012 | 2.87E-06 | 0.0024 | 3.59E-06 | 0.000196 |
| trans-Chlordane | 5103-74-2 | 0.0013 | 7.97E-07 | 0.0013 | 6.73E-07 | 0.0012 | 1.14E-06 | 0.0012 | 2.87E-06 | 0.0013 | 1.95E-06 | 0.000103 |
| **Dioxins and Furans** | | | | | | | | | | | | |
| 2,3,7,8-TCDD-TEQ | DFTEQ-HH | 2.53E-06 | 1.55E-09 | | 0.00E+00 | | | 9.81E-07 | 2.34E-09 | 1.35E-06 | 2.02E-09 | 0.000000 |
| **Volatile Organic Compounds (VOCs)** | | | | | | | | | | | | |
| Acetone | 67-64-1 | 2.8 | 1.72E-03 | 5 | 2.59E-03 | 5 | 4.77E-03 | 5 | 1.19E-02 | 5 | 7.48E-03 | 0.406984 |
| Bromodichloromethane | 75-27-4 | 1 | 6.13E-04 | 1 | 5.18E-04 | 1 | 9.54E-04 | 1 | 2.39E-03 | 1 | 1.50E-03 | 0.071715 |
| Butyl alcohol, tert- | 75-65-0 | | 0.00E+00 | | 0.00E+00 | | 0.00E+00 | | 0.00E+00 | 40 | 5.99E-02 | 0.213340 |
| Chloroform | 67-66-3 | 1.4 | 8.59E-04 | 1.2 | 6.21E-04 | 3.2 | 3.05E-03 | 1 | 2.39E-03 | 1 | 1.50E-03 | 0.154149 |
| Methyl tert-Butyl Ether (MTBE) | 1634-04-4 | 1 | 6.13E-04 | 1 | 5.18E-04 | 1 | 9.54E-04 | 1 | 2.39E-03 | 1 | 1.50E-03 | 0.062035 |
| Tetrachloroethylene | 127-18-4 | 1 | 6.13E-04 | 1 | 5.18E-04 | 1 | 9.54E-04 | 0.18 | 4.30E-04 | 1 | 1.50E-03 | 0.109947 |
| Trichloroethene | 79-01-6 | 1 | 6.13E-04 | 1 | 5.18E-04 | 1 | 9.54E-04 | 1 | 2.39E-03 | 1 | 1.50E-03 | 0.100362 |
| Vinyl Chloride | 75-01-4 | 1 | 6.13E-04 | 1 | 5.18E-04 | 1 | 9.54E-04 | 1 | 2.39E-03 | 1 | 1.50E-03 | 0.082803 |

Notes:

Contaminant Mass Flux (kg/yr) = (Groundwater flux [$m^3/s$])*(Concentration [µg/L])*(60 [sec/min])*(60 [min/hr])*(24 [hr/day])*(365 [day/yr])*(0.000000001 [kg/µg)*(1000 [L/$m^3$])

N/A - Not Applicable

For non-detected concentrations, detection limit is used.

For duplicate samples the higher of the parent and duplicate concentrations is used.

ug/L = microgram per liter

kg/year = kilogram per liter

$m^3/s$ = cubic meter per second

Table 5-4
Estimated Surface Water Concentrations from Groundwater Discharge
Benning Road Facility RI/FS Project
3400 Benning Rd. NE, Washington DC 20019

| Chemical | CAS Number | HHRA Surface Water Screening Level (µg/L) | ERA Surface Water Screening Level (µg/L) | MW-1A DAF = 0.000099288 | | MW-1B DAF = 0.00005664 | | MW-2A DAF = 0.0000143884 | | MW-2B DAF = 0.0000060173 | | MW-3A DAF = 0.000041686 | | MW-3B DAF = 0.00019236 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) |
| **Inorganics (Dissolved)** | | | | | | | | | | | | | | | |
| Aluminum | 7429-90-5 | 2.00E+03 | 87 | 30 | 2.98E-03 | 30 | 1.70E-03 | 30 | 4.32E-04 | 30 | 1.81E-04 | 30 | 1.25E-03 | 30 | 5.77E-03 |
| Antimony | 7440-36-0 | 6.40E+02 | 30 | 2 | 1.99E-04 | 2 | 1.13E-04 | 2 | 2.88E-05 | 2 | 1.20E-05 | 2 | 8.34E-05 | 2 | 3.85E-04 |
| Arsenic | 7440-38-2 | 1.40E-01 | 150 | 1 | 9.93E-05 | 1 | 5.66E-05 | 2.3 | 3.31E-05 | 1 | 6.02E-06 | 1.2 | 5.00E-05 | 0.48 | 9.23E-05 |
| Barium | 7440-39-3 | 3.80E+02 | 4 | 180 | 1.79E-02 | 190 | 1.08E-02 | 16 | 2.30E-04 | 75 | 4.51E-04 | 92 | 3.84E-03 | 150 | 2.89E-02 |
| Beryllium | 7440-41-7 | 2.50E+00 | 0.66 | 1 | 9.93E-05 | 1 | 5.66E-05 | 1 | 1.44E-05 | 0.51 | 3.07E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |
| Cadmium | 7440-43-9 | 9.20E-01 | 0.17 | 1 | 9.93E-05 | 1 | 5.66E-05 | 1 | 1.44E-05 | 1 | 6.02E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |
| Chromium | 7440-47-3 | 2.20E+03 | 11 | 2 | 1.99E-04 | 2 | 1.13E-04 | 2 | 2.88E-05 | 2 | 1.20E-05 | 2 | 8.34E-05 | 2 | 3.85E-04 |
| Cobalt | 7440-48-4 | 6.00E-01 | 23 | 8.5 | 8.44E-04 | 8.2 | 4.64E-04 | 0.5 | 7.19E-06 | 26 | 1.56E-04 | 5.8 | 2.42E-04 | 1.9 | 3.65E-04 |
| Copper | 7440-50-8 | 8.00E+01 | 5.79 | 2 | 1.99E-04 | 2 | 1.13E-04 | 2 | 2.88E-05 | 2 | 1.20E-05 | 2 | 8.34E-05 | 2 | 3.85E-04 |
| Iron | 7439-89-6 | | 1000 | 50 | 4.96E-03 | 5800 | 3.29E-01 | 50 | 7.19E-04 | 30000 | 1.81E-01 | 50 | 2.08E-03 | 190 | 3.65E-02 |
| Lead | 7439-92-1 | 1.50E+01 | 1.4 | 1 | 9.93E-05 | 1 | 5.66E-05 | 1 | 1.44E-05 | 1 | 6.02E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |
| Manganese | 7439-96-5 | 1.00E+02 | 120 | 3800 | 3.77E-01 | 3400 | 1.93E-01 | 200 | 2.88E-03 | 1600 | 9.63E-03 | 3800 | 1.58E-01 | 530 | 1.02E-01 |
| Mercury | 7439-97-6 | 1.50E-01 | | 0.2 | 1.99E-05 | 0.2 | 1.13E-05 | 0.2 | 2.88E-06 | 0.2 | 1.20E-06 | 0.2 | 8.34E-06 | 0.2 | 3.85E-05 |
| Nickel | 7440-02-0 | 4.60E+03 | 33.8 | 0.28 | 2.78E-05 | 4.3 | 2.44E-04 | 0.41 | 5.90E-06 | 11 | 6.62E-05 | 3 | 1.25E-04 | 1.2 | 2.31E-04 |
| Selenium | 7782-49-2 | 4.20E+03 | | 5 | 4.96E-04 | 5 | 2.83E-04 | 5 | 7.19E-05 | 5 | 3.01E-05 | 5 | 2.08E-04 | 5 | 9.62E-04 |
| Silver | 7440-22-4 | 6.50E+04 | 1.34 | 1 | 9.93E-05 | 1 | 5.66E-05 | 1 | 1.44E-05 | 1 | 6.02E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |
| Thallium | 7440-28-0 | 4.70E-01 | | 1 | 9.93E-05 | 1 | 5.66E-05 | 1 | 1.44E-05 | 1 | 6.02E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |
| Vanadium | 7440-62-2 | 8.60E+00 | 20 | 4.7 | 4.67E-04 | 3.2 | 1.81E-04 | 6.5 | 9.35E-05 | 3.5 | 2.11E-05 | 4.5 | 1.88E-04 | 2.5 | 4.81E-04 |
| Zinc | 7440-66-6 | 2.60E+04 | 76.6 | 5 | 4.96E-04 | 5.4 | 3.06E-04 | 5 | 7.19E-05 | 39 | 2.35E-04 | 5 | 2.08E-04 | 7.5 | 1.44E-03 |
| **Inorganics (Total)** | | | | | | | | | | | | | | | |
| Aluminum | 7429-90-5 | 2.00E+03 | | 730 | 7.25E-02 | 260 | 1.47E-02 | 160 | 2.30E-03 | 900 | 5.42E-03 | 210 | 8.75E-03 | 690 | 1.33E-01 |
| Antimony | 7440-36-0 | 6.40E+02 | | 2 | 1.99E-04 | 2 | 1.13E-04 | 2 | 2.88E-05 | 2 | 1.20E-05 | 2 | 8.34E-05 | 2 | 3.85E-04 |
| Arsenic | 7440-38-2 | 1.40E-01 | | 2.5 | 2.48E-04 | 2 | 1.13E-04 | 3.7 | 5.32E-05 | 1 | 6.02E-06 | 6.1 | 2.54E-04 | 3.6 | 6.92E-04 |
| Barium | 7440-39-3 | 3.80E+02 | | 270 | 2.68E-02 | 240 | 1.36E-02 | 18 | 2.59E-04 | 80 | 4.81E-04 | 98 | 4.09E-03 | 170 | 3.27E-02 |
| Beryllium | 7440-41-7 | 2.50E+00 | | 0.072 | 7.15E-06 | 0.059 | 3.34E-06 | 1 | 1.44E-05 | 0.91 | 5.48E-06 | 1 | 4.17E-05 | 0.096 | 1.85E-05 |
| Cadmium | 7440-43-9 | 9.20E-01 | | 1 | 9.93E-05 | 1 | 5.66E-05 | 1 | 1.44E-05 | 1 | 6.02E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |
| Chromium | 7440-47-3 | 2.20E+03 | | 3.4 | 3.38E-04 | 2 | 1.13E-04 | 2 | 2.88E-05 | 3 | 1.81E-05 | 4.3 | 1.79E-04 | 6.5 | 1.25E-03 |
| Cobalt | 7440-48-4 | 6.00E-01 | | 13 | 1.29E-03 | 8 | 4.53E-04 | 0.74 | 1.06E-05 | 26 | 1.56E-04 | 6.7 | 2.79E-04 | 2.8 | 5.39E-04 |
| Copper | 7440-50-8 | 8.00E+01 | | 2 | 1.99E-04 | 2 | 1.13E-04 | 2 | 2.88E-05 | 2 | 1.20E-05 | 3.1 | 1.29E-04 | 4.8 | 9.23E-04 |
| Iron | 7439-89-6 | | 300 | 44000 | 4.37E+00 | 37000 | 2.10E+00 | 820 | 1.18E-02 | 41000 | 2.47E-01 | 1900 | 7.92E-02 | 24000 | 4.62E+00 |
| Lead | 7439-92-1 | 1.50E+01 | | 1.4 | 1.39E-04 | 0.48 | 2.72E-05 | 1 | 1.44E-05 | 1.2 | 7.22E-06 | 0.48 | 2.00E-05 | 1.5 | 2.89E-04 |
| Manganese | 7439-96-5 | 1.00E+02 | | 4100 | 4.07E-01 | 3700 | 2.10E-01 | 280 | 4.03E-03 | 1600 | 9.63E-03 | 3900 | 1.63E-01 | 550 | 1.06E-01 |
| Mercury | 7439-97-6 | 1.50E-01 | 0.77 | 0.2 | 1.99E-05 | 0.2 | 1.13E-05 | 0.2 | 2.88E-06 | 0.2 | 1.20E-06 | 0.2 | 8.34E-06 | 0.2 | 3.85E-05 |
| Silver | 7440-22-4 | 6.50E+04 | | 1 | 9.93E-05 | 1 | 5.66E-05 | 1 | 1.44E-05 | 1 | 6.02E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |
| Thallium | 7440-28-0 | 4.70E-01 | 0.8 | 1 | 9.93E-05 | 1 | 5.66E-05 | 1 | 1.44E-05 | 1 | 6.02E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |
| Vanadium | 7440-62-2 | 8.60E+00 | | 9.8 | 9.73E-04 | 20 | 1.13E-03 | 3.1 | 4.46E-05 | 12 | 7.22E-05 | 1 | 4.17E-05 | 3 | 5.77E-04 |
| Zinc | 7440-66-6 | 2.60E+04 | | 6.1 | 6.06E-04 | 6.4 | 3.62E-04 | 5 | 7.19E-05 | 37 | 2.23E-04 | 5 | 2.08E-04 | 9.9 | 1.90E-03 |
| **Polycyclic Aromatic Hydrocarbons (PAHs)** | | | | | | | | | | | | | | | |
| 4-Methylphenol | 106-44-5 | 1.90E+02 | 543 | 0.33 | 3.28E-05 | 1 | 5.66E-05 | 0.96 | 1.38E-05 | 1 | 6.02E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |
| Acetophenone | 98-86-2 | 1.90E+02 | | 2 | 1.99E-04 | 2 | 1.13E-04 | 1.9 | 2.73E-05 | 2 | 1.20E-05 | 2.1 | 8.75E-05 | 2 | 3.85E-04 |
| Benzaldehyde | 100-52-7 | 1.90E+01 | | 2 | 1.99E-04 | 2 | 1.13E-04 | 1.9 | 2.73E-05 | 2 | 1.20E-05 | 2.1 | 8.75E-05 | 2 | 3.85E-04 |
| Benzo(a)anthracene | 56-55-3 | 1.80E-02 | | 0.2 | 1.99E-05 | 0.18 | 1.02E-05 | 0.18 | 2.59E-06 | 0.18 | 1.08E-06 | 0.21 | 8.75E-06 | 0.2 | 3.85E-05 |
| Benzo(a)pyrene | 50-32-8 | 1.80E-02 | | 0.2 | 1.99E-05 | 0.18 | 1.02E-05 | 0.18 | 2.59E-06 | 0.18 | 1.08E-06 | 0.21 | 8.75E-06 | 0.2 | 3.85E-05 |
| Benzo(b)fluoranthene | 205-99-2 | 1.80E-02 | 9.07 | 0.2 | 1.99E-05 | 0.18 | 1.02E-05 | 0.18 | 2.59E-06 | 0.18 | 1.08E-06 | 0.21 | 8.75E-06 | 0.2 | 3.85E-05 |
| Benzo(k)fluoranthene | 207-08-9 | 1.80E-02 | 0.015 | 0.2 | 1.99E-05 | 0.18 | 1.02E-05 | 0.18 | 2.59E-06 | 0.18 | 1.08E-06 | 0.21 | 8.75E-06 | 0.2 | 3.85E-05 |
| bis-(2-Ethylhexyl)phthalate | 117-81-7 | 2.20E+00 | 16 | 2 | 1.99E-04 | 2 | 1.13E-04 | 1.9 | 2.73E-05 | 2 | 1.20E-05 | 2.1 | 8.75E-05 | 2 | 3.85E-04 |
| Butylbenzylphthalate | 85-68-7 | 1.90E+03 | 19 | 1 | 9.93E-05 | 1 | 5.66E-05 | 0.96 | 1.38E-05 | 1 | 6.02E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |
| Caprolactam | 105-60-2 | 9.90E+02 | | 5 | 4.96E-04 | 5 | 2.83E-04 | 4.8 | 6.91E-05 | 5 | 3.01E-05 | 5.2 | 2.17E-04 | 5 | 9.62E-04 |

**Table 5-4**
**Estimated Surface Water Concentrations from Groundwater Discharge**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd. NE, Washington DC 20019**

| Chemical | CAS Number | HHRA Surface Water Screening Level (µg/L) | ERA Surface Water Screening Level (µg/L) | MW-1A DAF = 0.000099288 | | MW-1B DAF = 0.00005664 | | MW-2A DAF = 0.0000143884 | | MW-2B DAF = 0.0000060173 | | MW-3A DAF = 0.000041686 | | MW-3B DAF = 0.00019236 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) |
| Carbazole | 86-74-8 | 2.90E+01 | | 1 | 9.93E-05 | 1 | 5.66E-05 | 0.27 | 3.88E-06 | 1 | 6.02E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |
| Chrysene | 218-01-9 | 1.80E-02 | 0.015 | 0.2 | 1.99E-05 | 0.18 | 1.02E-05 | 0.18 | 2.59E-06 | 0.18 | 1.08E-06 | 0.21 | 8.75E-06 | 0.2 | 3.85E-05 |
| Dibenzo(a,h)anthracene | 53-70-3 | 1.80E-02 | 0.015 | 0.2 | 1.99E-05 | 0.18 | 1.02E-05 | 0.18 | 2.59E-06 | 0.18 | 1.08E-06 | 0.21 | 8.75E-06 | 0.2 | 3.85E-05 |
| Di-n-octylphthalate | 117-84-0 | 2.00E+01 | 22 | 1 | 9.93E-05 | 1 | 5.66E-05 | 0.96 | 1.38E-05 | 1 | 6.02E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1.80E-02 | 4.31 | 0.2 | 1.99E-05 | 0.18 | 1.02E-05 | 0.18 | 2.59E-06 | 0.18 | 1.08E-06 | 0.21 | 8.75E-06 | 0.2 | 3.85E-05 |
| Naphthalene | 91-20-3 | 1.70E-01 | 600 | 0.2 | 1.99E-05 | 0.18 | 1.02E-05 | 0.18 | 2.59E-06 | 0.18 | 1.08E-06 | 0.21 | 8.75E-06 | 0.2 | 3.85E-05 |
| Pyrene | 129-00-0 | 4.00E+03 | 0.025 | 0.2 | 1.99E-05 | 0.18 | 1.02E-05 | 0.18 | 2.59E-06 | 0.18 | 1.08E-06 | 0.21 | 8.75E-06 | 0.2 | 3.85E-05 |
| Total High-molecular-weight PAHs | TOT-PAH-HMW | | 0.015 | 0.2 | 1.99E-05 | 0.18 | 1.02E-05 | 0.18 | 2.59E-06 | 0.18 | 1.08E-06 | 0.21 | 8.75E-06 | 0.2 | 3.85E-05 |
| Total Low-molecular-weight PAHs | TOT-PAH-LMW | | 0.012 | 0.2 | 1.99E-05 | 0.18 | 1.02E-05 | 0.18 | 2.59E-06 | 0.18 | 1.08E-06 | 0.21 | 8.75E-06 | 0.2 | 3.85E-05 |
| Total PAHs (sum 16) | TOT-PAH | | 0.012 | 0.2 | 1.99E-05 | 0.18 | 1.02E-05 | 0.18 | 2.59E-06 | 0.18 | 1.08E-06 | 0.21 | 8.75E-06 | 0.2 | 3.85E-05 |
| **Polychlorinated Biphenyl (PCB)** | | | | | | | | | | | | | | | |
| PCB-TEQ | PCBTEQ-HH | | | | 0.00E+00 | | 0.00E+00 | | 0.00E+00 | | 0.00E+00 | | 0.00E+00 | | 0.00E+00 |
| Total PCBs | TOT-PCB-ARO-C | 6.40E-05 | 0.014 | 0.0095 | 9.43E-07 | 0.0096 | 5.44E-07 | 0.0096 | 1.38E-07 | 0.0095 | 5.72E-08 | 0.0095 | 3.96E-07 | 0.0097 | 1.87E-06 |
| **Pesticides** | | | | | | | | | | | | | | | |
| 4,4'-DDD | 72-54-8 | 3.10E-04 | 0.001 | 0.0012 | 1.19E-07 | 0.0013 | 7.36E-08 | 0.0013 | 1.87E-08 | 0.0012 | 7.22E-09 | 0.0012 | 5.00E-08 | 0.0013 | 2.50E-07 |
| 4,4'-DDE | 72-55-9 | 2.20E-04 | 0.001 | 0.0012 | 1.19E-07 | 0.0013 | 7.36E-08 | 0.0013 | 1.87E-08 | 0.0012 | 7.22E-09 | 0.0012 | 5.00E-08 | 0.0013 | 2.50E-07 |
| 4,4'-DDT | 50-29-3 | 2.20E-04 | 0.001 | 0.0012 | 1.19E-07 | 0.0013 | 7.36E-08 | 0.0013 | 1.87E-08 | 0.0012 | 7.22E-09 | 0.0012 | 5.00E-08 | 0.0013 | 2.50E-07 |
| Aldrin | 309-00-2 | 5.00E-05 | 3 | 0.0012 | 1.19E-07 | 0.0013 | 7.36E-08 | 0.0013 | 1.87E-08 | 0.0012 | 7.22E-09 | 0.0012 | 5.00E-08 | 0.0013 | 2.50E-07 |
| alpha-Chlordane | 5103-71-9 | 8.10E-04 | 0.0022 | 0.0012 | 1.19E-07 | 0.0013 | 7.36E-08 | 0.0013 | 1.87E-08 | 0.0012 | 7.22E-09 | 0.0012 | 5.00E-08 | 0.0013 | 2.50E-07 |
| beta-BHC | 319-85-7 | 1.70E-02 | 2.2 | 0.0012 | 1.19E-07 | 0.0013 | 7.36E-08 | 0.0013 | 1.87E-08 | 0.0011 | 6.62E-09 | 0.00095 | 3.96E-08 | 0.0013 | 2.50E-07 |
| cis-Chlordane | 5103-71-9 | 8.10E-04 | 0.0022 | 0.0012 | 1.19E-07 | 0.0013 | 7.36E-08 | 0.0013 | 1.87E-08 | 0.0012 | 7.22E-09 | 0.0012 | 5.00E-08 | 0.0013 | 2.50E-07 |
| Dieldrin | 60-57-1 | 5.40E-05 | 0.056 | 0.0012 | 1.19E-07 | 0.0013 | 7.36E-08 | 0.0013 | 1.87E-08 | 0.0012 | 7.22E-09 | 0.0012 | 5.00E-08 | 0.0013 | 2.50E-07 |
| Endosulfan Sulfate | 1031-07-8 | 8.90E+01 | 0.056 | 0.0012 | 1.19E-07 | 0.0013 | 7.36E-08 | 0.0013 | 1.87E-08 | 0.0012 | 7.22E-09 | 0.0012 | 5.00E-08 | 0.0013 | 2.50E-07 |
| Endrin | 72-20-8 | 6.00E-02 | 0.036 | 0.0012 | 1.19E-07 | 0.0013 | 7.36E-08 | 0.0013 | 1.87E-08 | 0.0012 | 7.22E-09 | 0.0012 | 5.00E-08 | 0.0013 | 2.50E-07 |
| Endrin ketone | 53494-70-5 | 2.30E-01 | 0.036 | 0.0012 | 1.19E-07 | 0.0013 | 7.36E-08 | 0.0013 | 1.87E-08 | 0.0012 | 7.22E-09 | 0.0012 | 5.00E-08 | 0.0013 | 2.50E-07 |
| Heptachlor Epoxide | 1024-57-3 | 3.90E-05 | 0.0038 | 0.0012 | 1.19E-07 | 0.0013 | 7.36E-08 | 0.0013 | 1.87E-08 | 0.0012 | 7.22E-09 | 0.0012 | 5.00E-08 | 0.0013 | 2.50E-07 |
| Hexachlorobenzene | 118-74-1 | 2.90E-04 | 0.0003 | 1 | 9.93E-05 | 1 | 5.66E-05 | 0.96 | 1.38E-05 | 1 | 6.02E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |
| Methoxychlor | 72-43-5 | 2.00E-02 | 0.03 | 0.0024 | 2.38E-07 | 0.0024 | 1.36E-07 | 0.0024 | 3.45E-08 | 0.0024 | 1.44E-08 | 0.0024 | 1.00E-07 | 0.0024 | 4.62E-07 |
| trans-Chlordane | 5103-74-2 | 8.10E-04 | 0.0022 | 0.0012 | 1.19E-07 | 0.0013 | 7.36E-08 | 0.0013 | 1.87E-08 | 0.0012 | 7.22E-09 | 0.0012 | 5.00E-08 | 0.0013 | 2.50E-07 |
| **Dioxins and Furans** | | | | | | | | | | | | | | | |
| 2,3,7,8-TCDD-TEQ | DFTEQ-HH | 5.10E-08 | | 2.77E-09 | 2.75E-13 | 7.11E-09 | 4.03E-13 | | | | | 1.25E-08 | 5.21E-13 | 8.49E-09 | 1.63E-12 |
| **Volatile Organic Compounds (VOCs)** | | | | | | | | | | | | | | | |
| Acetone | 67-64-1 | 1.40E+03 | 1500 | 5 | 4.96E-04 | 5 | 2.83E-04 | 5 | 7.19E-05 | 5 | 3.01E-05 | 4.1 | 1.71E-04 | 5 | 9.62E-04 |
| Bromodichloromethane | 75-27-4 | 1.70E+01 | | 1 | 9.93E-05 | 1 | 5.66E-05 | 1 | 1.44E-05 | 1 | 6.02E-06 | 1 | 4.17E-05 | 0.65 | 1.25E-04 |
| Butyl alcohol, tert- | 75-65-0 | | | 40 | 3.97E-03 | 200 | 1.13E-02 | 40 | 5.76E-04 | | 0.00E+00 | | 0.00E+00 | | 0.00E+00 |
| Chloroform | 67-66-3 | 4.70E+02 | 3000 | 1 | 9.93E-05 | 1 | 5.66E-05 | 1 | 1.44E-05 | 1 | 6.02E-06 | 1.2 | 5.00E-05 | 3.2 | 6.16E-04 |
| Methyl tert-Butyl Ether (MTBE) | 1634-04-4 | 1.40E+01 | 11070 | 1.7 | 1.69E-04 | 3.4 | 1.93E-04 | 1 | 1.44E-05 | 0.39 | 2.35E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |
| Tetrachloroethylene | 127-18-4 | 3.30E+00 | 800 | 5.5 | 5.46E-04 | 78 | 4.42E-03 | 1.8 | 2.59E-05 | 1 | 6.02E-06 | 0.32 | 1.33E-05 | 1 | 1.92E-04 |
| Trichloroethene | 79-01-6 | 3.00E+01 | 21 | 1.2 | 1.19E-04 | 48 | 2.72E-03 | 0.22 | 3.17E-06 | 1 | 6.02E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |
| Vinyl Chloride | 75-01-4 | 2.40E+00 | 930 | 1 | 9.93E-05 | 1 | 5.66E-05 | 1 | 1.44E-05 | 1 | 6.02E-06 | 1 | 4.17E-05 | 1 | 1.92E-04 |

**Table 5-4**
**Estimated Surface Water Concentrations from Groundwater Discharge**
**Benning Road Facility RI/FS Project**
**3400 Benning Rd. NE, Washington DC 20019**

| Chemical | CAS Number | HHRA Surface Water Screening Level (μg/L) | MW-4A DAF = 0.000030595 | | MW-4B DAF = 0.000077246 | | | MW-8A DAF = 0.000072221 | | MW-8B DAF = 0.0000493739 | | MW-11A DAF = 0.0000768 | | MW-11B DAF = 0.000120482 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Groundwater Concentration (μg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (μg/L) | Estimated Surface Water Concentration (ug/L) | Mass Flux (kg/year) | Groundwater Concentration (μg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (μg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (μg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (μg/L) | Estimated Surface Water Concentration (ug/L) |
| **Inorganics (Dissolved)** | | | | | | | | | | | | | | | |
| Aluminum | 7429-90-5 | 2.00E+03 | 30 | 9.18E-04 | 55 | 4.25E-03 | 3.37E-02 | 30 | 2.17E-03 | 30 | 1.48E-03 | 30 | 2.30E-03 | 30 | 3.61E-03 |
| Antimony | 7440-36-0 | 6.40E+02 | 2 | 6.12E-05 | 2 | 1.54E-04 | 1.23E-03 | 2 | 1.44E-04 | 2 | 9.87E-05 | 2 | 1.54E-04 | 2 | 2.41E-04 |
| Arsenic | 7440-38-2 | 1.40E-01 | 1 | 3.06E-05 | 0.91 | 7.03E-05 | 5.58E-04 | 1.2 | 8.67E-05 | 1 | 4.94E-05 | 1 | 7.68E-05 | 2.2 | 2.65E-04 |
| Barium | 7440-39-3 | 3.80E+02 | 86 | 2.63E-03 | 100 | 7.72E-03 | 6.13E-02 | 58 | 4.19E-03 | 140 | 6.91E-03 | 38 | 2.92E-03 | 120 | 1.45E-02 |
| Beryllium | 7440-41-7 | 2.50E+00 | 1 | 3.06E-05 | 1 | 7.72E-05 | 6.13E-04 | 1 | 7.22E-05 | 1 | 4.94E-05 | 1 | 7.68E-05 | 1 | 1.20E-04 |
| Cadmium | 7440-43-9 | 9.20E-01 | 1 | 3.06E-05 | 1 | 7.72E-05 | 6.13E-04 | 1 | 7.22E-05 | 1 | 4.94E-05 | 1 | 7.68E-05 | 1 | 1.20E-04 |
| Chromium | 7440-47-3 | 2.20E+03 | 2 | 6.12E-05 | 2 | 1.54E-04 | 1.23E-03 | 2 | 1.44E-04 | 2 | 9.87E-05 | 2 | 1.54E-04 | 2 | 2.41E-04 |
| Cobalt | 7440-48-4 | 6.00E-01 | 30 | 9.18E-04 | 1.9 | 1.47E-04 | 1.17E-03 | 5.3 | 3.83E-04 | 0.83 | 4.10E-05 | 2.2 | 1.69E-04 | 0.2 | 2.41E-05 |
| Copper | 7440-50-8 | 8.00E+01 | 2 | 6.12E-05 | 2 | 1.54E-04 | 1.23E-03 | 2 | 1.44E-04 | 2 | 9.87E-05 | 2 | 1.54E-04 | 2 | 2.41E-04 |
| Iron | 7439-89-6 | | 50 | 1.53E-03 | 570 | 4.40E-02 | 3.50E-01 | 50 | 3.61E-03 | 50 | 2.47E-03 | 50 | 3.84E-03 | 50 | 6.02E-03 |
| Lead | 7439-92-1 | 1.50E+01 | 1 | 3.06E-05 | 1 | 7.72E-05 | 6.13E-04 | 1 | 7.22E-05 | 1 | 4.94E-05 | 1 | 7.68E-05 | 1 | 1.20E-04 |
| Manganese | 7439-96-5 | 1.00E+02 | 5000 | 1.53E-01 | 950 | 7.34E-02 | 5.83E-01 | 1300 | 9.39E-02 | 280 | 1.38E-02 | 430 | 3.30E-02 | 360 | 4.34E-02 |
| Mercury | 7439-97-6 | 1.50E-01 | 0.2 | 6.12E-06 | 0.2 | 1.54E-05 | 1.23E-04 | 0.2 | 1.44E-05 | 0.2 | 9.87E-06 | 0.2 | 1.54E-05 | 0.2 | 2.41E-05 |
| Nickel | 7440-02-0 | 4.60E+03 | 5.7 | 1.74E-04 | 1.6 | 1.24E-04 | 9.81E-04 | 2 | 1.44E-04 | 0.87 | 4.30E-05 | 1.1 | 8.45E-05 | 0.33 | 3.98E-05 |
| Selenium | 7782-49-2 | 4.20E+03 | 5 | 1.53E-04 | 5 | 3.86E-04 | 3.07E-03 | 5 | 3.61E-04 | 5 | 2.47E-04 | 5 | 3.84E-04 | 5 | 6.02E-04 |
| Silver | 7440-22-4 | 6.50E+04 | 1 | 3.06E-05 | 1 | 7.72E-05 | 6.13E-04 | 1 | 7.22E-05 | 1 | 4.94E-05 | 1 | 7.68E-05 | 1 | 1.20E-04 |
| Thallium | 7440-28-0 | 4.70E-01 | 1 | 3.06E-05 | 1 | 7.72E-05 | 6.13E-04 | 0.043 | 3.11E-06 | 1 | 4.94E-05 | 1 | 7.68E-05 | 1 | 1.20E-04 |
| Vanadium | 7440-62-2 | 8.60E+00 | 2.6 | 7.95E-05 | 1.4 | 1.08E-04 | 8.59E-04 | 4.1 | 2.96E-04 | 4.2 | 2.07E-04 | 5.8 | 4.45E-04 | 3.8 | 4.58E-04 |
| Zinc | 7440-66-6 | 2.60E+04 | 5 | 1.53E-04 | 5 | 3.86E-04 | 3.07E-03 | 5 | 3.61E-04 | 5 | 2.47E-04 | 5 | 3.84E-04 | 5 | 6.02E-04 |
| **Inorganics (Total)** | | | | | | | | | | | | | | | |
| Aluminum | 7429-90-5 | 2.00E+03 | 500 | 1.53E-02 | 600 | 4.63E-02 | 3.68E-01 | 1600 | 1.16E-01 | 990 | 4.89E-02 | 320 | 2.46E-02 | 1300 | 1.57E-01 |
| Antimony | 7440-36-0 | 6.40E+02 | 2 | 6.12E-05 | 2 | 1.54E-04 | 1.23E-03 | 20 | 1.44E-03 | 2 | 9.87E-05 | 2 | 1.54E-04 | 2 | 2.41E-04 |
| Arsenic | 7440-38-2 | 1.40E-01 | 8 | 2.45E-04 | 5.2 | 4.02E-04 | 3.19E-03 | 14 | 1.01E-03 | 3.3 | 1.63E-04 | 3.4 | 2.61E-04 | 5.4 | 6.51E-04 |
| Barium | 7440-39-3 | 3.80E+02 | 110 | 3.37E-03 | 120 | 9.27E-03 | 7.36E-02 | 100 | 7.22E-03 | 180 | 8.89E-03 | 42 | 3.23E-03 | 180 | 2.17E-02 |
| Beryllium | 7440-41-7 | 2.50E+00 | 0.041 | 1.25E-06 | 0.064 | 4.94E-06 | 3.93E-05 | 10 | 7.22E-04 | 0.053 | 2.62E-06 | 0.048 | 3.69E-06 | 0.14 | 1.69E-05 |
| Cadmium | 7440-43-9 | 9.20E-01 | 1 | 3.06E-05 | 1 | 7.72E-05 | 6.13E-04 | 10 | 7.22E-04 | 1 | 4.94E-05 | 1 | 7.68E-05 | 1 | 1.20E-04 |
| Chromium | 7440-47-3 | 2.20E+03 | 4.8 | 1.47E-04 | 6.1 | 4.71E-04 | 3.74E-03 | 20 | 1.44E-03 | 2.2 | 1.09E-04 | 8.1 | 6.22E-04 | 7.8 | 9.40E-04 |
| Cobalt | 7440-48-4 | 6.00E-01 | 33 | 1.01E-03 | 2.8 | 2.16E-04 | 1.72E-03 | 7.9 | 5.71E-04 | 2.1 | 1.04E-04 | 2.6 | 2.00E-04 | 2.5 | 3.01E-04 |
| Copper | 7440-50-8 | 8.00E+01 | 2.4 | 7.34E-05 | 2.7 | 2.09E-04 | 1.66E-03 | 20 | 1.44E-03 | 4.5 | 2.22E-04 | 3.2 | 2.46E-04 | 5 | 6.02E-04 |
| Iron | 7439-89-6 | | 12000 | 3.67E-01 | 7600 | 5.87E-01 | 4.66E+00 | 7900 | 5.71E-01 | 5700 | 2.81E-01 | 1800 | 1.38E-01 | 17000 | 2.05E+00 |
| Lead | 7439-92-1 | 1.50E+01 | 0.73 | 2.23E-05 | 0.75 | 5.79E-05 | 4.60E-04 | 10 | 7.22E-04 | 3.2 | 1.58E-04 | 1 | 7.68E-05 | 2.2 | 2.65E-04 |
| Manganese | 7439-96-5 | 1.00E+02 | 5700 | 1.74E-01 | 1000 | 7.72E-02 | 6.13E-01 | 1500 | 1.08E-01 | 330 | 1.63E-02 | 440 | 3.38E-02 | 520 | 6.27E-02 |
| Mercury | 7439-97-6 | 1.50E-01 | 0.2 | 6.12E-06 | 0.2 | 1.54E-05 | 1.23E-04 | 0.2 | 1.44E-05 | 0.2 | 9.87E-06 | 0.2 | 1.54E-05 | 0.2 | 2.41E-05 |
| Silver | 7440-22-4 | 6.50E+04 | 1 | 3.06E-05 | 1 | 7.72E-05 | 6.13E-04 | 10 | 7.22E-04 | 1 | 4.94E-05 | 1 | 7.68E-05 | 1 | 1.20E-04 |
| Thallium | 7440-28-0 | 4.70E-01 | 1 | 3.06E-05 | 1 | 7.72E-05 | 6.13E-04 | 10 | 7.22E-04 | 1 | 4.94E-05 | 1 | 7.68E-05 | 1 | 1.20E-04 |
| Vanadium | 7440-62-2 | 8.60E+00 | 1 | 3.06E-05 | 1 | 7.72E-05 | 6.13E-04 | 52 | 3.76E-03 | 23 | 1.14E-03 | 3.6 | 2.76E-04 | 4.8 | 5.78E-04 |
| Zinc | 7440-66-6 | 2.60E+04 | 5 | 1.53E-04 | 6.7 | 5.18E-04 | 4.11E-03 | 50 | 3.61E-03 | 7.5 | 3.70E-04 | 5 | 3.84E-04 | 8.5 | 1.02E-03 |
| **Polycyclic Aromatic Hydrocarbons (PAHs)** | | | | | | | | | | | | | | | |
| 4-Methylphenol | 106-44-5 | 1.90E+02 | 1.1 | 3.37E-05 | 1 | 7.72E-05 | 6.13E-04 | 1 | 7.22E-05 | 1 | 4.94E-05 | 1 | 7.68E-05 | 0.96 | 1.16E-04 |
| Acetophenone | 98-86-2 | 1.90E+02 | 2.2 | 6.73E-05 | 2.1 | 1.62E-04 | 1.29E-03 | 2 | 1.44E-04 | 2.1 | 1.04E-04 | 2 | 1.54E-04 | 1.9 | 2.29E-04 |
| Benzaldehyde | 100-52-7 | 1.90E+01 | 2.2 | 6.73E-05 | 2.1 | 1.62E-04 | 1.29E-03 | 2 | 1.44E-04 | 2.1 | 1.04E-04 | 2 | 1.54E-04 | 1.9 | 2.29E-04 |
| Benzo(a)anthracene | 56-55-3 | 1.80E-02 | 0.22 | 6.73E-06 | 0.21 | 1.62E-05 | 1.29E-04 | 0.2 | 1.44E-05 | 0.21 | 1.04E-05 | 0.2 | 1.54E-05 | 0.19 | 2.29E-05 |
| Benzo(a)pyrene | 50-32-8 | 1.80E-02 | 0.22 | 6.73E-06 | 0.21 | 1.62E-05 | 1.29E-04 | 0.2 | 1.44E-05 | 0.21 | 1.04E-05 | 0.2 | 1.54E-05 | 0.19 | 2.29E-05 |
| Benzo(b)fluoranthene | 205-99-2 | 1.80E-02 | 0.22 | 6.73E-06 | 0.21 | 1.62E-05 | 1.29E-04 | 0.2 | 1.44E-05 | 0.21 | 1.04E-05 | 0.2 | 1.54E-05 | 0.19 | 2.29E-05 |
| Benzo(k)fluoranthene | 207-08-9 | 1.80E-02 | 0.22 | 6.73E-06 | 0.21 | 1.62E-05 | 1.29E-04 | 0.2 | 1.44E-05 | 0.21 | 1.04E-05 | 0.2 | 1.54E-05 | 0.19 | 2.29E-05 |
| bis-(2-Ethylhexyl)phthalate | 117-81-7 | 2.20E+00 | 2.2 | 6.73E-05 | 2.1 | 1.62E-04 | 1.29E-03 | 2 | 1.44E-04 | 2.1 | 1.04E-04 | 2 | 1.54E-04 | 1.9 | 2.29E-04 |
| Butylbenzylphthalate | 85-68-7 | 1.90E+03 | 1.1 | 3.37E-05 | 1 | 7.72E-05 | 6.13E-04 | 1 | 7.22E-05 | 1 | 4.94E-05 | 1 | 7.68E-05 | 0.96 | 1.16E-04 |
| Caprolactam | 105-60-2 | 9.90E+02 | 5.4 | 1.65E-04 | 5.2 | 4.02E-04 | 3.19E-03 | 5 | 3.61E-04 | 5.2 | 2.57E-04 | 5 | 3.84E-04 | 4.8 | 5.78E-04 |

# Table 5-4
## Estimated Surface Water Concentrations from Groundwater Discharge Benning Road Facility RI/FS Project
## 3400 Benning Rd. NE, Washington DC 20019

| Chemical | CAS Number | HHRA Surface Water Screening Level (µg/L) | MW-4A | | MW-4B | | | MW-8A | | MW-8B | | MW-11A | | MW-11B | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | DAF = 0.000030595 | | DAF = 0.000077246 | | | DAF = 0.000072221 | | DAF = 0.0000493739 | | DAF = 0.0000768 | | DAF = 0.000120482 | |
| | | | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) | Mass Flux (kg/year) | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) | Groundwater Concentration (µg/L) | Estimated Surface Water Concentration (ug/L) |
| Carbazole | 86-74-8 | 2.90E+01 | 1.1 | 3.37E-05 | 1 | 7.72E-05 | 6.13E-04 | 1 | 7.22E-05 | 1 | 4.94E-05 | 1 | 7.68E-05 | 0.96 | 1.16E-04 |
| Chrysene | 218-01-9 | 1.80E-02 | 0.22 | 6.73E-06 | 0.21 | 1.62E-05 | 1.29E-04 | 0.2 | 1.44E-05 | 0.21 | 1.04E-05 | 0.2 | 1.54E-05 | 0.19 | 2.29E-05 |
| Dibenzo(a,h)anthracene | 53-70-3 | 1.80E-02 | 0.22 | 6.73E-06 | 0.21 | 1.62E-05 | 1.29E-04 | 0.2 | 1.44E-05 | 0.21 | 1.04E-05 | 0.2 | 1.54E-05 | 0.19 | 2.29E-05 |
| Di-n-octylphthalate | 117-84-0 | 2.00E+01 | 1.1 | 3.37E-05 | 1 | 7.72E-05 | 6.13E-04 | 1 | 7.22E-05 | 1 | 4.94E-05 | 1 | 7.68E-05 | 0.96 | 1.16E-04 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | 1.80E-02 | 0.22 | 6.73E-06 | 0.21 | 1.62E-05 | 1.29E-04 | 0.2 | 1.44E-05 | 0.21 | 1.04E-05 | 0.2 | 1.54E-05 | 0.19 | 2.29E-05 |
| Naphthalene | 91-20-3 | 1.70E-01 | 0.22 | 6.73E-06 | 0.21 | 1.62E-05 | 1.29E-04 | 0.046 | 3.32E-06 | 0.21 | 1.04E-05 | 0.2 | 1.54E-05 | 0.19 | 2.29E-05 |
| Pyrene | 129-00-0 | 4.00E+03 | 0.22 | 6.73E-06 | 0.21 | 1.62E-05 | 1.29E-04 | 0.2 | 1.44E-05 | 0.21 | 1.04E-05 | 0.2 | 1.54E-05 | 0.19 | 2.29E-05 |
| Total High-molecular-weight PAHs | TOT-PAH-HMW | | 0.22 | 6.73E-06 | 0.21 | 1.62E-05 | 1.29E-04 | 0.2 | 1.44E-05 | 0.21 | 1.04E-05 | 0.2 | 1.54E-05 | 0.19 | 2.29E-05 |
| Total Low-molecular-weight PAHs | TOT-PAH-LMW | | 0.22 | 6.73E-06 | 0.21 | 1.62E-05 | 1.29E-04 | 0.046 | 3.32E-06 | 0.21 | 1.04E-05 | 0.2 | 1.54E-05 | 0.19 | 2.29E-05 |
| Total PAHs (sum 16) | TOT-PAH | | 0.22 | 6.73E-06 | 0.21 | 1.62E-05 | 1.29E-04 | 0.046 | 3.32E-06 | 0.21 | 1.04E-05 | 0.2 | 1.54E-05 | 0.19 | 2.29E-05 |
| **Polychlorinated Biphenyl (PCB)** | | | | | | | | | | | | | | | |
| PCB-TEQ | PCBTEQ-HH | | 6.52E-10 | 1.99E-14 | | 0.00E+00 | 0.00E+00 | | 0.00E+00 | 6.92E-06 | 3.42E-10 | 1.31E-09 | 1.01E-13 | | 0.00E+00 |
| Total PCBs | TOT-PCB-ARO-C | 6.40E-05 | 0.0098 | 3.00E-07 | 0.0094 | 7.26E-07 | 5.76E-06 | 0.0097 | 7.01E-07 | 0.11 | 5.43E-06 | 0.0095 | 7.30E-07 | 0.0096 | 1.16E-06 |
| **Pesticides** | | | | | | | | | | | | | | | |
| 4,4'-DDD | 72-54-8 | 3.10E-04 | 0.0013 | 3.98E-08 | 0.0013 | 1.00E-07 | 7.97E-07 | 0.0013 | 9.39E-08 | 0.0013 | 6.42E-08 | 0.0012 | 9.22E-08 | 0.0013 | 1.57E-07 |
| 4,4'-DDE | 72-55-9 | 2.20E-04 | 0.0013 | 3.98E-08 | 0.0013 | 1.00E-07 | 7.97E-07 | 0.0013 | 9.39E-08 | 0.001 | 4.94E-08 | 0.0012 | 9.22E-08 | 0.0013 | 1.57E-07 |
| 4,4'-DDT | 50-29-3 | 2.20E-04 | 0.0013 | 3.98E-08 | 0.0013 | 1.00E-07 | 7.97E-07 | 0.0013 | 9.39E-08 | 0.0037 | 1.83E-07 | 0.0012 | 9.22E-08 | 0.0028 | 3.37E-07 |
| Aldrin | 309-00-2 | 5.00E-05 | 0.0013 | 3.98E-08 | 0.0013 | 1.00E-07 | 7.97E-07 | 0.0013 | 9.39E-08 | 0.0013 | 6.42E-08 | 0.0012 | 9.22E-08 | 0.0013 | 1.57E-07 |
| alpha-Chlordane | 5103-71-9 | 8.10E-04 | 0.0013 | 3.98E-08 | 0.0013 | 1.00E-07 | 7.97E-07 | 0.0013 | 9.39E-08 | 0.0013 | 6.42E-08 | 0.0012 | 9.22E-08 | 0.0013 | 1.57E-07 |
| beta-BHC | 319-85-7 | 1.70E-02 | 0.0013 | 3.98E-08 | 0.0013 | 1.00E-07 | 7.97E-07 | 0.0013 | 9.39E-08 | 0.0013 | 6.42E-08 | 0.0012 | 9.22E-08 | 0.0013 | 1.57E-07 |
| cis-Chlordane | 5103-71-9 | 8.10E-04 | 0.0013 | 3.98E-08 | 0.0013 | 1.00E-07 | 7.97E-07 | 0.0013 | 9.39E-08 | 0.0013 | 6.42E-08 | 0.0012 | 9.22E-08 | 0.0013 | 1.57E-07 |
| Dieldrin | 60-57-1 | 5.40E-05 | 0.0013 | 3.98E-08 | 0.0013 | 1.00E-07 | 7.97E-07 | 0.0013 | 9.39E-08 | 0.0022 | 1.09E-07 | 0.0012 | 9.22E-08 | 0.0013 | 1.57E-07 |
| Endosulfan Sulfate | 1031-07-8 | 8.90E+01 | 0.0013 | 3.98E-08 | 0.0013 | 1.00E-07 | 7.97E-07 | 0.0013 | 9.39E-08 | 0.0013 | 6.42E-08 | 0.0012 | 9.22E-08 | 0.0013 | 1.57E-07 |
| Endrin | 72-20-8 | 6.00E-02 | 0.0013 | 3.98E-08 | 0.0013 | 1.00E-07 | 7.97E-07 | 0.0013 | 9.39E-08 | 0.002 | 9.87E-08 | 0.0012 | 9.22E-08 | 0.0013 | 1.57E-07 |
| Endrin ketone | 53494-70-5 | 2.30E-01 | 0.0013 | 3.98E-08 | 0.0013 | 1.00E-07 | 7.97E-07 | 0.0013 | 9.39E-08 | 0.0013 | 6.42E-08 | 0.0012 | 9.22E-08 | 0.0013 | 1.57E-07 |
| Heptachlor Epoxide | 1024-57-3 | 3.90E-05 | 0.0013 | 3.98E-08 | 0.0013 | 1.00E-07 | 7.97E-07 | 0.0013 | 9.39E-08 | 0.0013 | 6.42E-08 | 0.00081 | 6.22E-08 | 0.0013 | 1.57E-07 |
| Hexachlorobenzene | 118-74-1 | 2.90E-04 | 1.1 | 3.37E-05 | 1 | 7.72E-05 | 6.13E-04 | 1 | 7.22E-05 | 1 | 4.94E-05 | 1 | 7.68E-05 | 0.96 | 1.16E-04 |
| Methoxychlor | 72-43-5 | 2.00E-02 | 0.0025 | 7.65E-08 | 0.0013 | 1.00E-07 | 7.97E-07 | 0.0024 | 1.73E-07 | 0.0025 | 1.23E-07 | 0.0012 | 9.22E-08 | 0.0024 | 2.89E-07 |
| trans-Chlordane | 5103-74-2 | 8.10E-04 | 0.0013 | 3.98E-08 | 0.0013 | 1.00E-07 | 7.97E-07 | 0.0013 | 9.39E-08 | 0.0012 | 5.92E-08 | 0.0012 | 9.22E-08 | 0.0013 | 1.57E-07 |
| **Dioxins and Furans** | | | | | | | | | | | | | | | |
| 2,3,7,8-TCDD-TEQ | DFTEQ-HH | 5.10E-08 | 1.28E-09 | 3.92E-14 | 2.53E-06 | 1.95E-10 | 1.55E-09 | | 0.00E+00 | | | 9.81E-07 | 7.53E-11 | 1.35E-06 | 1.63E-10 |
| **Volatile Organic Compounds (VOCs)** | | | | | | | | | | | | | | | |
| Acetone | 67-64-1 | 1.40E+03 | 5 | 1.53E-04 | 2.8 | 2.16E-04 | 1.72E-03 | 5 | 3.61E-04 | 5 | 2.47E-04 | 5 | 3.84E-04 | 5 | 6.02E-04 |
| Bromodichloromethane | 75-27-4 | 1.70E+01 | 1 | 3.06E-05 | 1 | 7.72E-05 | 6.13E-04 | 1 | 7.22E-05 | 1 | 4.94E-05 | 1 | 7.68E-05 | 1 | 1.20E-04 |
| Butyl alcohol, tert- | 75-65-0 | | | 0.00E+00 | | 0.00E+00 | 0.00E+00 | | 0.00E+00 | | 0.00E+00 | | 0.00E+00 | 40 | 4.82E-03 |
| Chloroform | 67-66-3 | 4.70E+02 | 0.22 | 6.73E-06 | 1.4 | 1.08E-04 | 8.59E-04 | 1.2 | 8.67E-05 | 3.2 | 1.58E-04 | 1 | 7.68E-05 | 1 | 1.20E-04 |
| Methyl tert-Butyl Ether (MTBE) | 1634-04-4 | 1.40E+01 | 0.29 | 8.87E-06 | 1 | 7.72E-05 | 6.13E-04 | 1 | 7.22E-05 | 1 | 4.94E-05 | 1 | 7.68E-05 | 1 | 1.20E-04 |
| Tetrachloroethylene | 127-18-4 | 3.30E+00 | 0.25 | 7.65E-06 | 1 | 7.72E-05 | 6.13E-04 | 1 | 7.22E-05 | 1 | 4.94E-05 | 0.18 | 1.38E-05 | 1 | 1.20E-04 |
| Trichloroethene | 79-01-6 | 3.00E+01 | 1 | 3.06E-05 | 1 | 7.72E-05 | 6.13E-04 | 1 | 7.22E-05 | 1 | 4.94E-05 | 1 | 7.68E-05 | 1 | 1.20E-04 |
| Vinyl Chloride | 75-01-4 | 2.40E+00 | 1 | 3.06E-05 | 1 | 7.72E-05 | 6.13E-04 | 1 | 7.22E-05 | 1 | 4.94E-05 | 1 | 7.68E-05 | 1 | 1.20E-04 |

Notes:

Dilution Attenuation Factor (DAF) = (Groundwater flux [$ft^3/s$])/7Q10[13.9 $ft^3/s$)

N/A = Not Applicable

For non-detected concentrations, detection limit is used.

For duplicate samples the higher of the parent and duplicate concentrations is used.

Refer to the HHRA and ERA Appendices for the screening level sources and determination process.

ug/L = microgram per liter

$ft^3/s$ = cubic feet per second

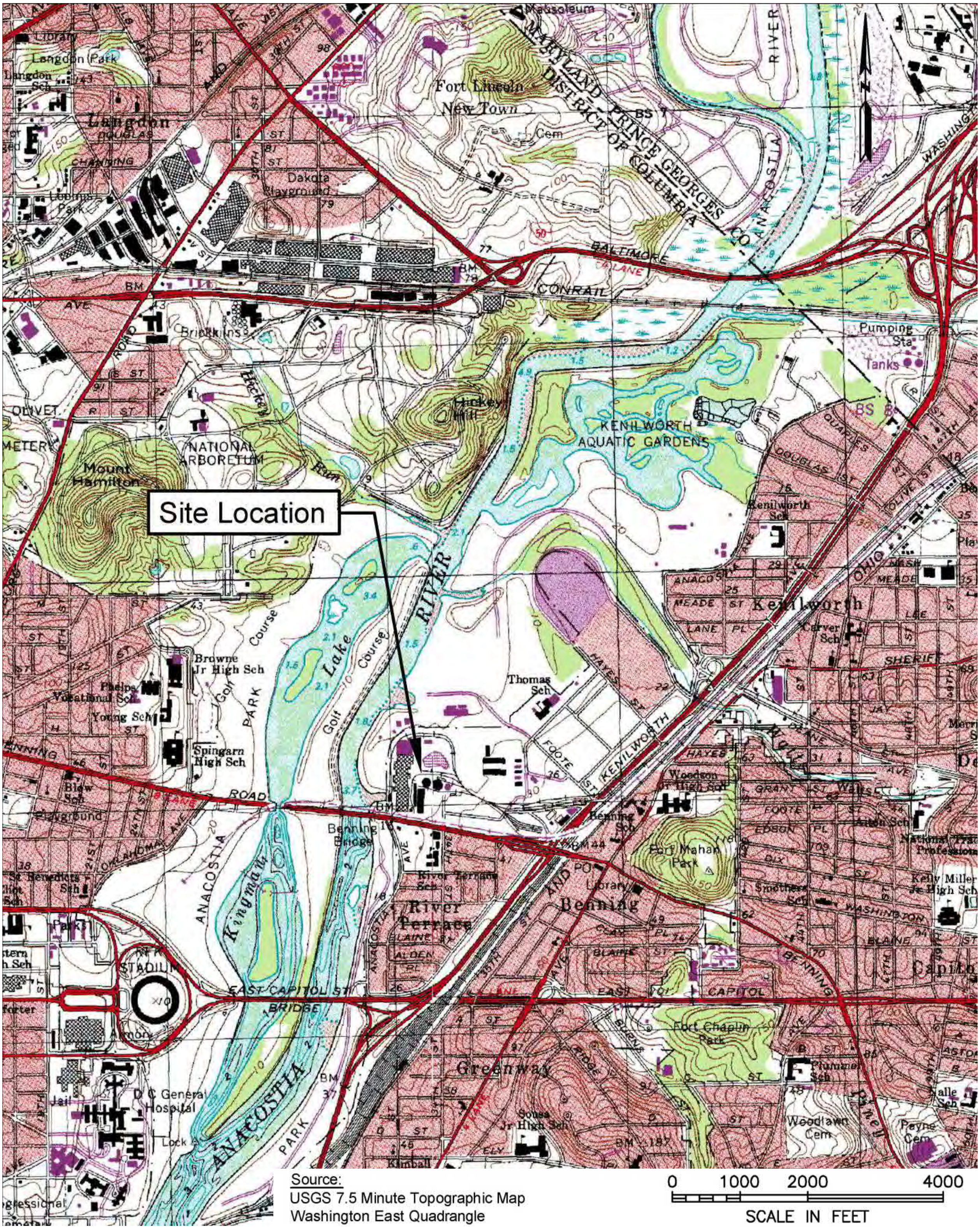
HHRA = Human Health Risk Assessment

ERA = Environmental Risk Assessment

Highlighted cells indicate exceedance of the HHRA or ERA Screening Levels in the estimated surface water concentratior

An Exelon Company

# FIGURES




AECOM

Benning Road Facility RI/FS Project
3400 Benning Rd., NE
Washington, DC 20019

**Site Location Map**

**Figure 1-1**

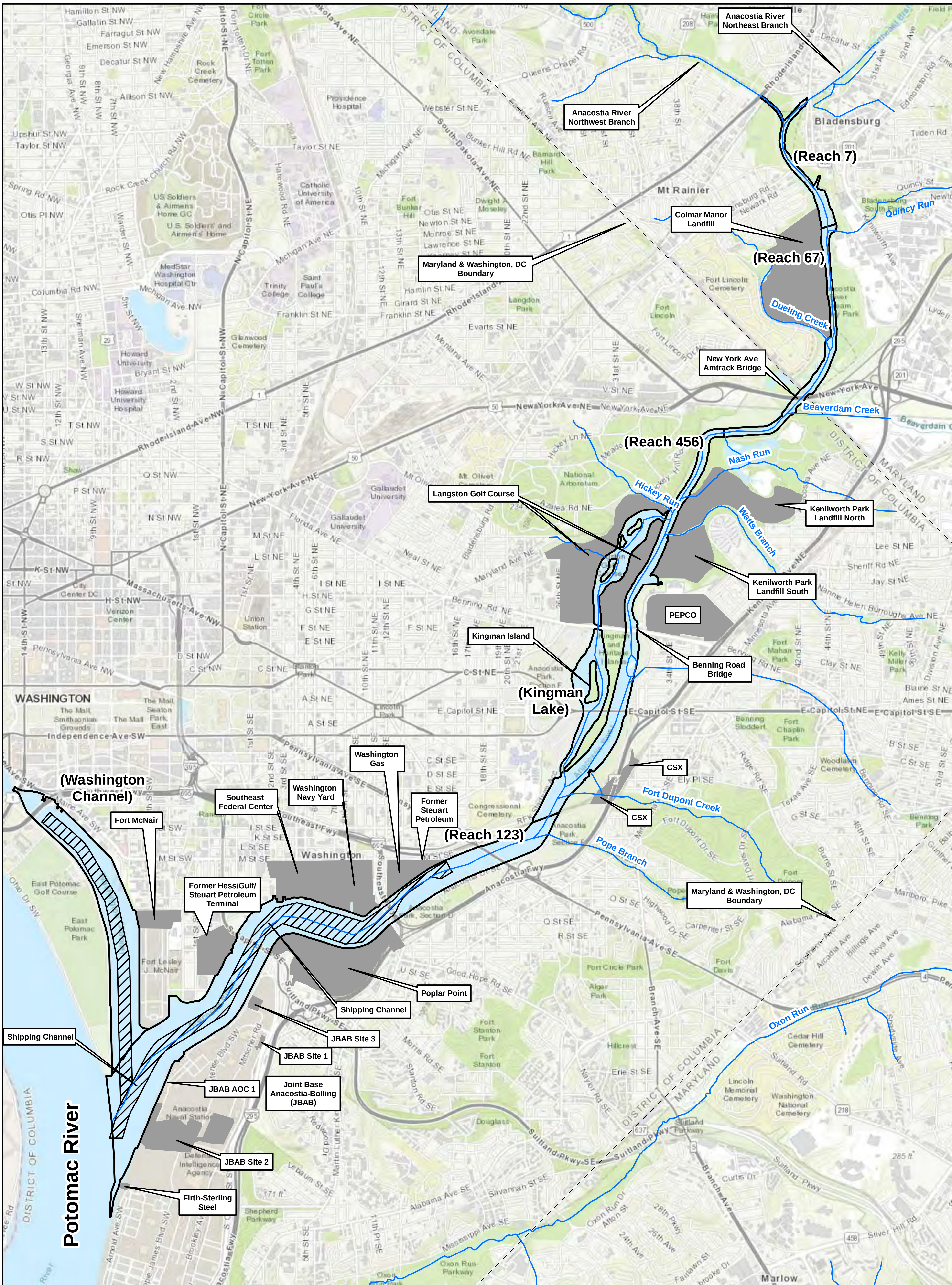

LEGEND

- Outfalls
- National Park Service Kenilworth Maintenance Yard
- D.C. Department of Public Works Solid Waste Transfer Station
- Waterside Investigation Area
- Benning Road Facility Property Boundary

AECOM

0 400 Feet

| | | | |
|---|---|---|---|
| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | SITE PLAN AND<br>INVESTIGATION AREAS |
| Date: 10/18/2018 | Drawn By: KNS | Checked By: SED | FIGURE 1-2 |




AECOM

0 4,000 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

SITE VICINITY MAP

| Date: 9/19/2018 | Drawn By: KNS | Checked By: SED | | FIGURE 1-3 |
|---|---|---|---|---|

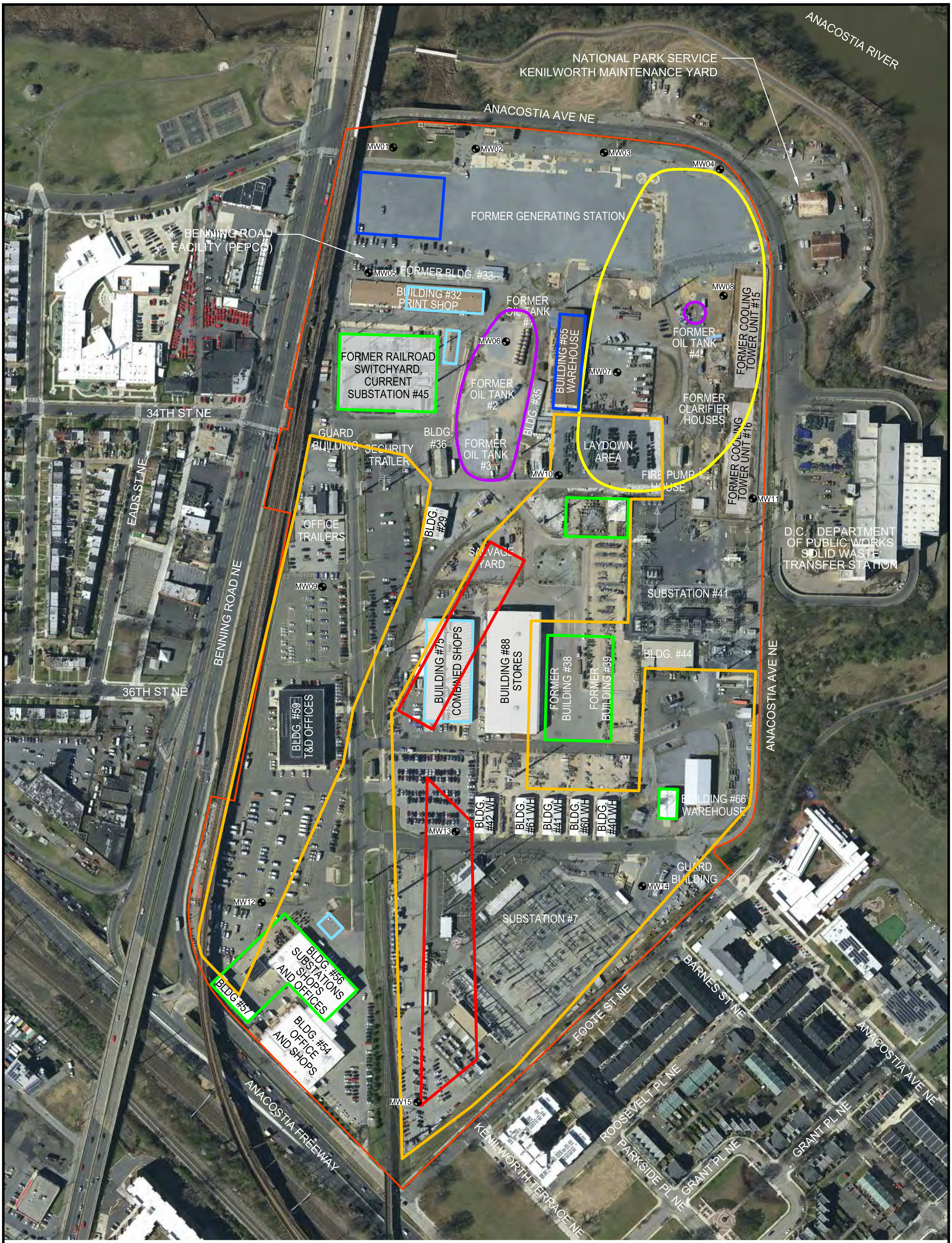

LEGEND:

- CURRENT BUILDING, STRUCTURE, OR AREA
- FORMER BUILDING, STRUCTURE, OR AREA
- PROPERTY BOUNDARY

AECOM

0 125 250 Feet

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | CURRENT AND HISTORICAL<br>SITE BUILDINGS | |
|---|---|---|---|---|
| DATE: 09/19/2018 | DRAWN BY: LAD | CHECKED BY: RD | | FIGURE 1-4 |




LEGEND:

- PROPERTY BOUNDARY
- EQUIPMENT LAYDOWN AREA (FORMER)
- VEHICLE FLEET SERVICING (REPAIR SHOPS, WASTE OIL STORAGE, FUELING FACILITIES) [CURRENT AND FORMER]
- UTILITY POLE STORAGE AREA (FORMER)
- COAL PILE AREA (FORMER)
- FUEL OIL STORAGE AREA (FORMER)
- TRANSFORMER OPERATIONS AREA (OIL STORAGE, SERVICING, EQUIPMENT SALVAGE) [CURRENT AND FORMER]
- CHLORINATED SOLVENT STORAGE AND/OR USAGE AREA (FORMER)
- MONITORING WELL LOCATION

AECOM

0 125 250 Feet

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | CURRENT AND FORMER SITE OPERATIONS AREAS |
|---|---|
| DATE: 09/19/2018 · DRAWN BY: LAD · CHECKED BY: RD | FIGURE 1-5 |


LEGEND:

- (18) TARGET AREA #
- TARGET AREA
- NPDES OUTFALL TO ANACOSTIA RIVER
- BENNING RD FACILITY PROPERTY BOUNDARY
- WATERSIDE INVESTIGATION AREA
- STORM WATER UTILITY
- APPROXIMATE FORMER CONSTRUCTED WETLANDS BOUNDARY
- APPROXIMATE LOCATION OF SEA WALL
- 15,000 GALLON TRANSFORMER OIL UST

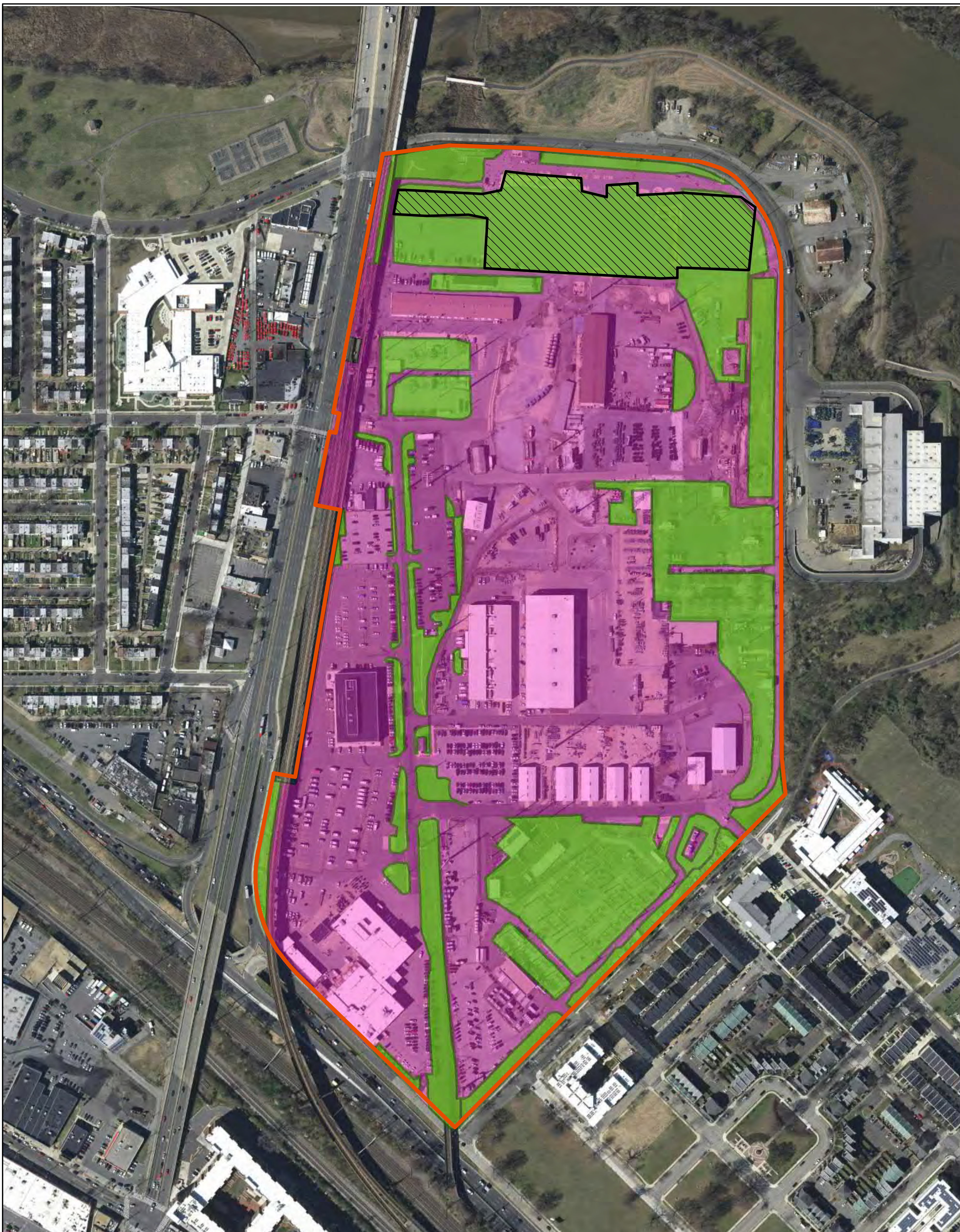
TARGET AREA KEY:

1. FORMER SLUDGE DEWATERING AREA
2. BENNING FUELING ISLAND
3. FORMER 50,000 GAL. AST AND 15,000 GAL. UST No. 2 FUEL OIL
4. 2003 SALVAGE YARD INVESTIGATION
5. 1995 CLEANUP AREA
6. 1991 CLEANUP AREA
7. 1988 PARKING LOT CLEANUP AREA
8. 1985 EXCAVATION AREA
9. GREEN TAG STORAGE AREA
10. RED TAG STORAGE AREA
11. BUILDING #68 (PCB BUILDING)
12. BUILDING #57
13. FORMER BULK STORAGE ASTs WITH LOADING RACK 550 GALLON FUEL OIL UST AND 2,000 GALLON USED OIL UST
14. FORMER RAILROAD SWITCHYARD
15. GENERATING STATION TRANSFORMERS
16. PRINT SHOP
17. STORM DRAIN SYSTEM
18. KENILWORTH FUELING ISLAND MTBE PLUME
19. PCE AND NAPHTHALENE IN GROUNDWATER
20. PAHs IN SOIL

AECOM

0 150 300 Feet

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | TARGET INVESTIGATION AREAS | |
|---|---|---|---|
| DATE: 09/19/2018 | DRAWN BY: JB | CHECKED BY: RD | FIGURE 1-6 |



LEGEND

- Benning Road Facility Property Boundary
- Pervious (Grass and Loose Stone)
- Impervious (Paved and Hard-Packed Gravel)
- Former Power Plant Building Foundation

AECOM

0 400 Feet

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | PERVIOUS VS IMPERVIOUS<br>SITE SURFACE COVER |
|---|---|---|---|
| Date: 9/20/2018 | Drawn By: KNS | Checked By: SED | FIGURE 1-7 |



| | | |
|---|---|---|
| AECOM | Benning Road Facility RI/FS Project<br>3400 Benning Rd., NE<br>Washington, DC 20019 | **Outfall 013 and Adjacent Outfalls**<br>Figure 1-8A |


AECOM

Benning Road Facility RI/FS Project
3400 Benning Rd., NE
Washington, DC 20019

**Outfall 101 and Adjacent Outfall**

Figure 1-8B

LEGEND

SURFACE SOILS

SUBSURFACE SOILS

DIRECT PUSH WATER

MONITORING WELL WATER

GEOTECHNICAL BORING

PROPERTY BOUNDARY

ELECTRICAL RESISTIVE IMAGING (ERI) TRANSECTS

AECOM

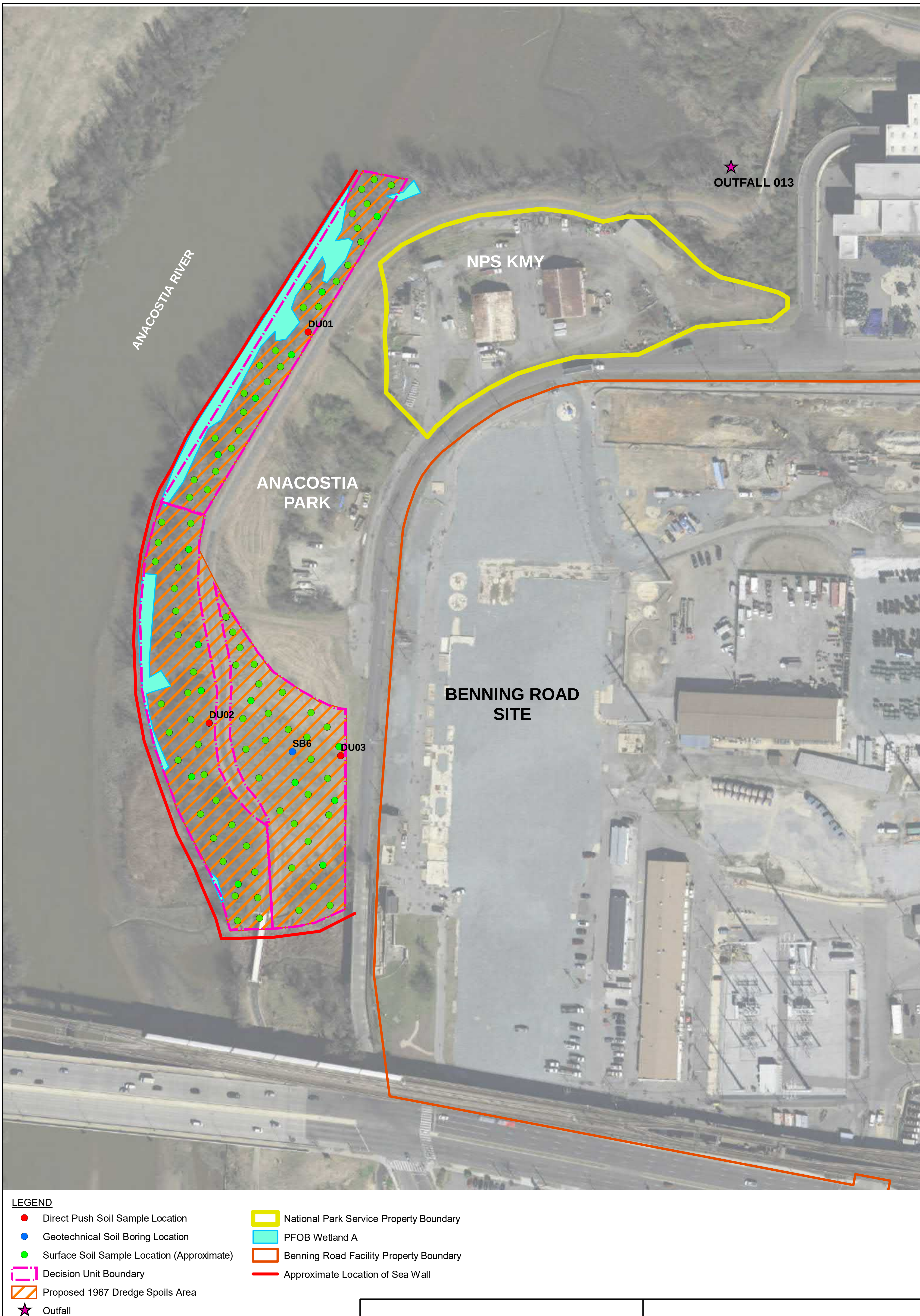
0 400 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

LANDSIDE SAMPLE LOCATIONS

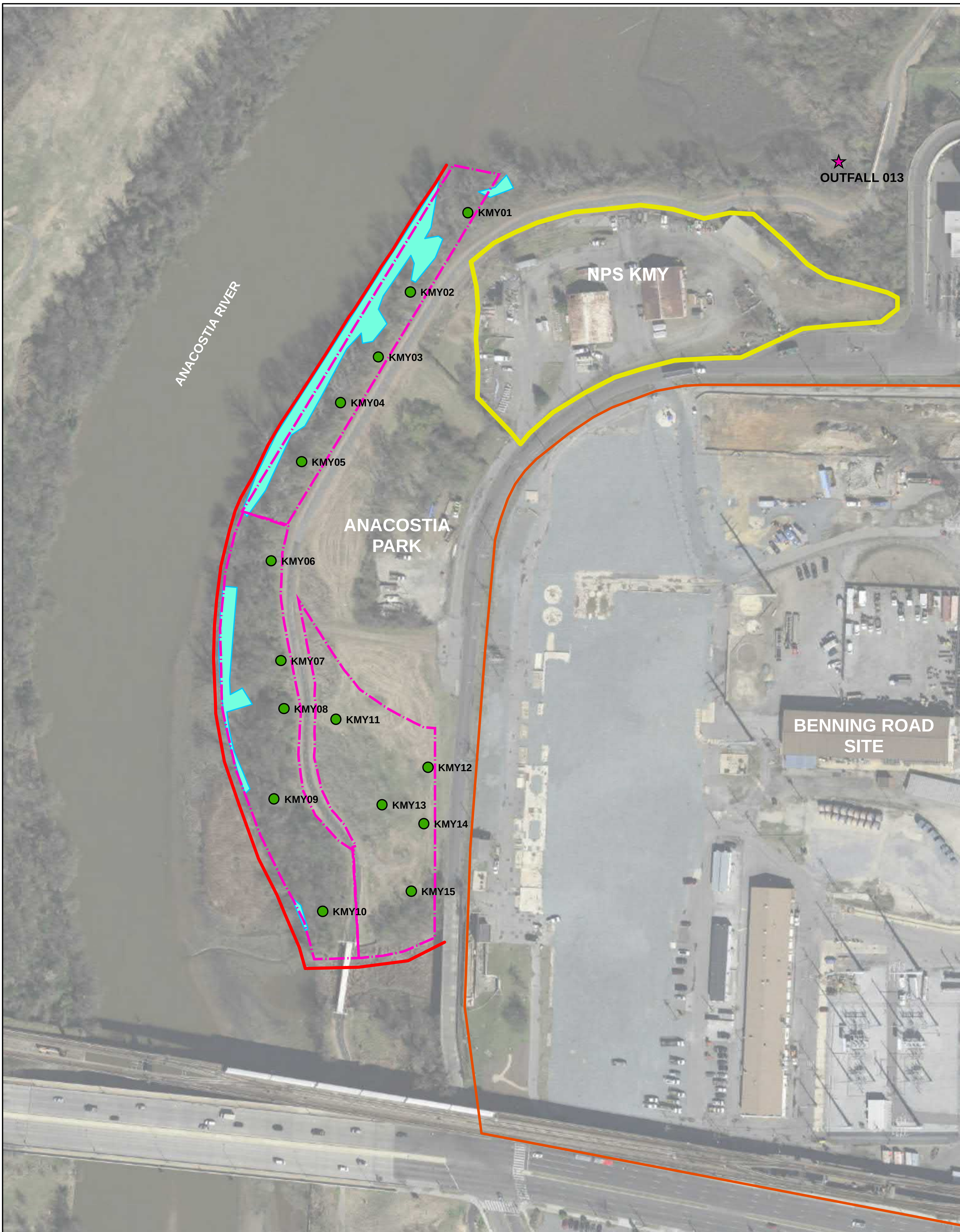
Date: 9/19/2018 | Drawn By: KNS | Checked By: SED

FIGURE 2-1




AECOM

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | ANACOSTIA PARK ISM<br>SAMPLE LOCATIONS |
|---|---|---|---|
| Date: 10/30/2018 | Drawn By: KNS | Checked By: SED | FIGURE 2-2 |



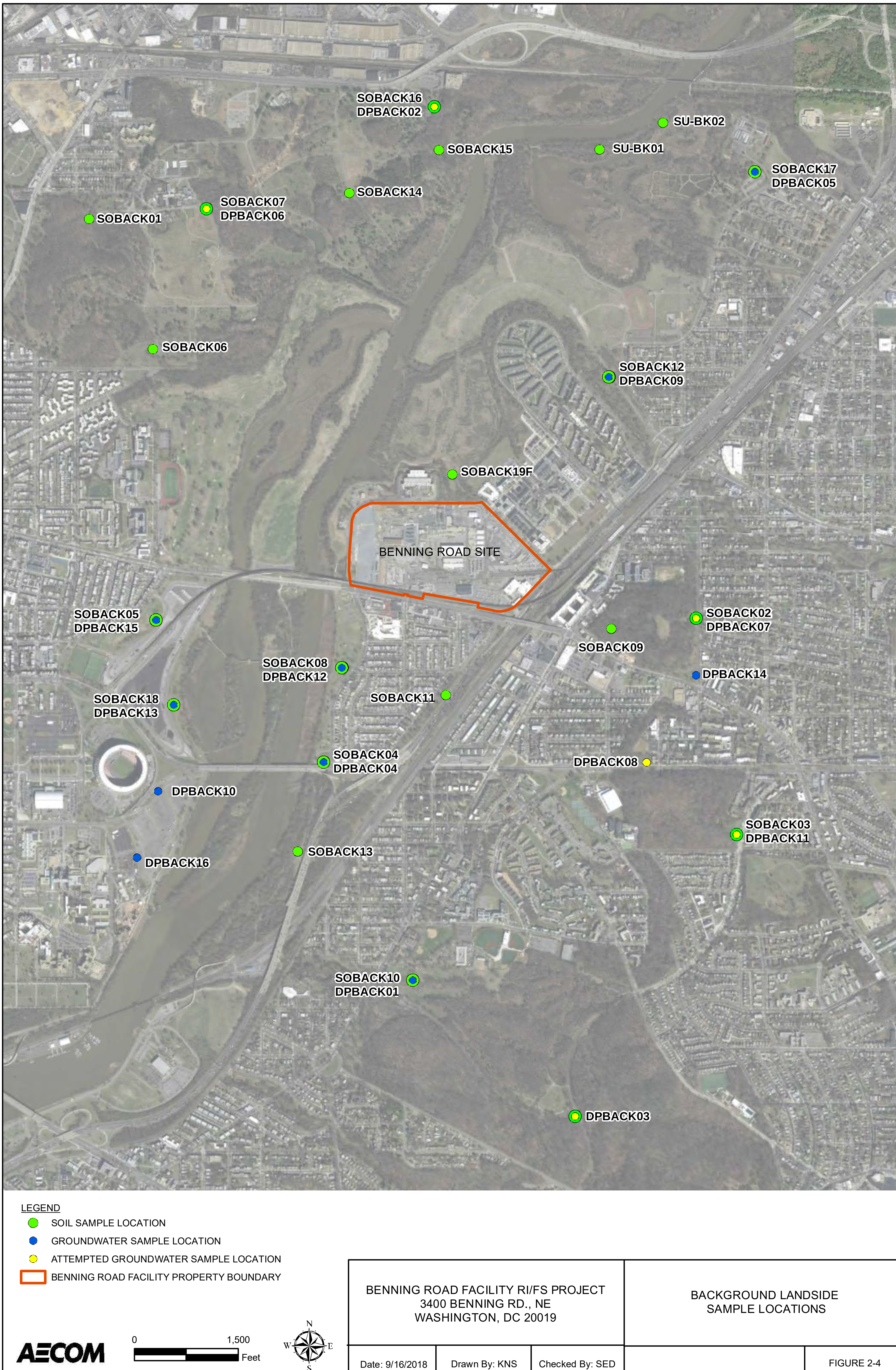

LEGEND
- Soil Sample Location
- Approximate Location of Sea Wall
- National Park Service Property Boundary
- Benning Road Facility Property Boundary
- Decision Unit Boundary
- Wetland
- Outfall

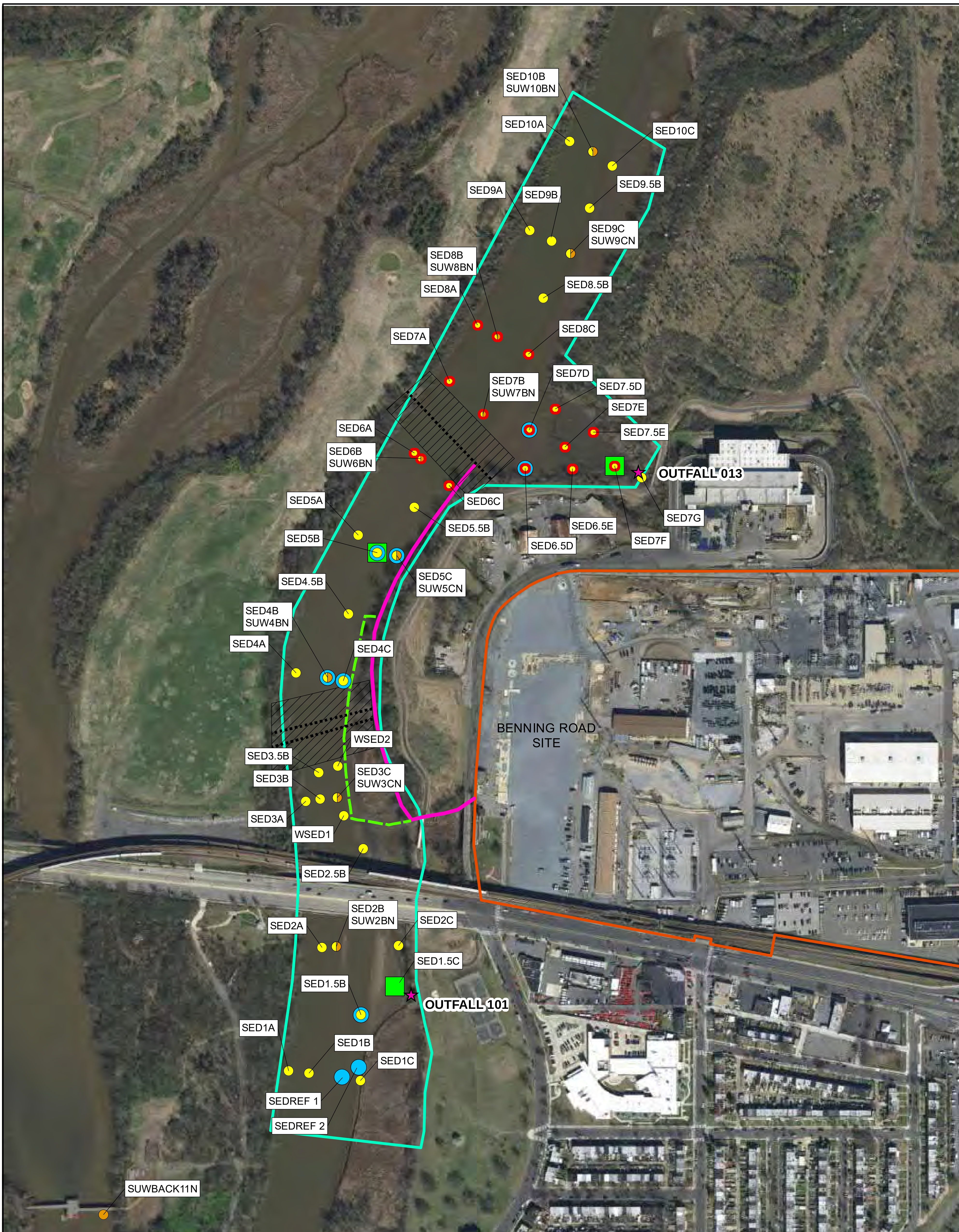
AECOM

0 150 Feet

N W E S

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | ANACOSTIA PARK DISCRETE SAMPLE LOCATIONS | |
|---|---|---|---|---|
| Date: 10/18/2018 | Drawn By: KNS | Checked By: SED | | FIGURE 2-3 |


SOBACK16
DPBACK02
SU-BK02
SOBACK15
SU-BK01
SOBACK17
DPBACK05
SOBACK14
SOBACK07
DPBACK06
SOBACK01
SOBACK06
SOBACK12
DPBACK09
SOBACK19F
BENNING ROAD SITE
SOBACK05
DPBACK15
SOBACK02
DPBACK07
SOBACK09
SOBACK08
DPBACK12
DPBACK14
SOBACK11
SOBACK18
DPBACK13
SOBACK04
DPBACK04
DPBACK08
DPBACK10
SOBACK03
DPBACK11
SOBACK13
DPBACK16
SOBACK10
DPBACK01
DPBACK03
LEGEND
SOIL SAMPLE LOCATION
GROUNDWATER SAMPLE LOCATION
ATTEMPTED GROUNDWATER SAMPLE LOCATION
BENNING ROAD FACILITY PROPERTY BOUNDARY
AECOM
0
1,500
Feet
N
W
E
S
BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019
BACKGROUND LANDSIDE
SAMPLE LOCATIONS
Date: 9/16/2018
Drawn By: KNS
Checked By: SED
FIGURE 2-4




LEGEND

- Outfalls
- 2017 Surface Sediment Sample Location and SPI Survey Location*
- Surface Water Sampling Location
- 2013-2014 Surface and Subsurface Sediment Sample Location
- 2017 Forensics Sediment Sample Location
- 2017 High Resolution Coring Location
- Utility Crossing
- Approximate Former Constructed Wetlands Boundary
- 100' Utility Buffer Zone
- Approximate Location of Sea Wall
- Waterside Investigation Area
- Benning Road Facility Property Boundary

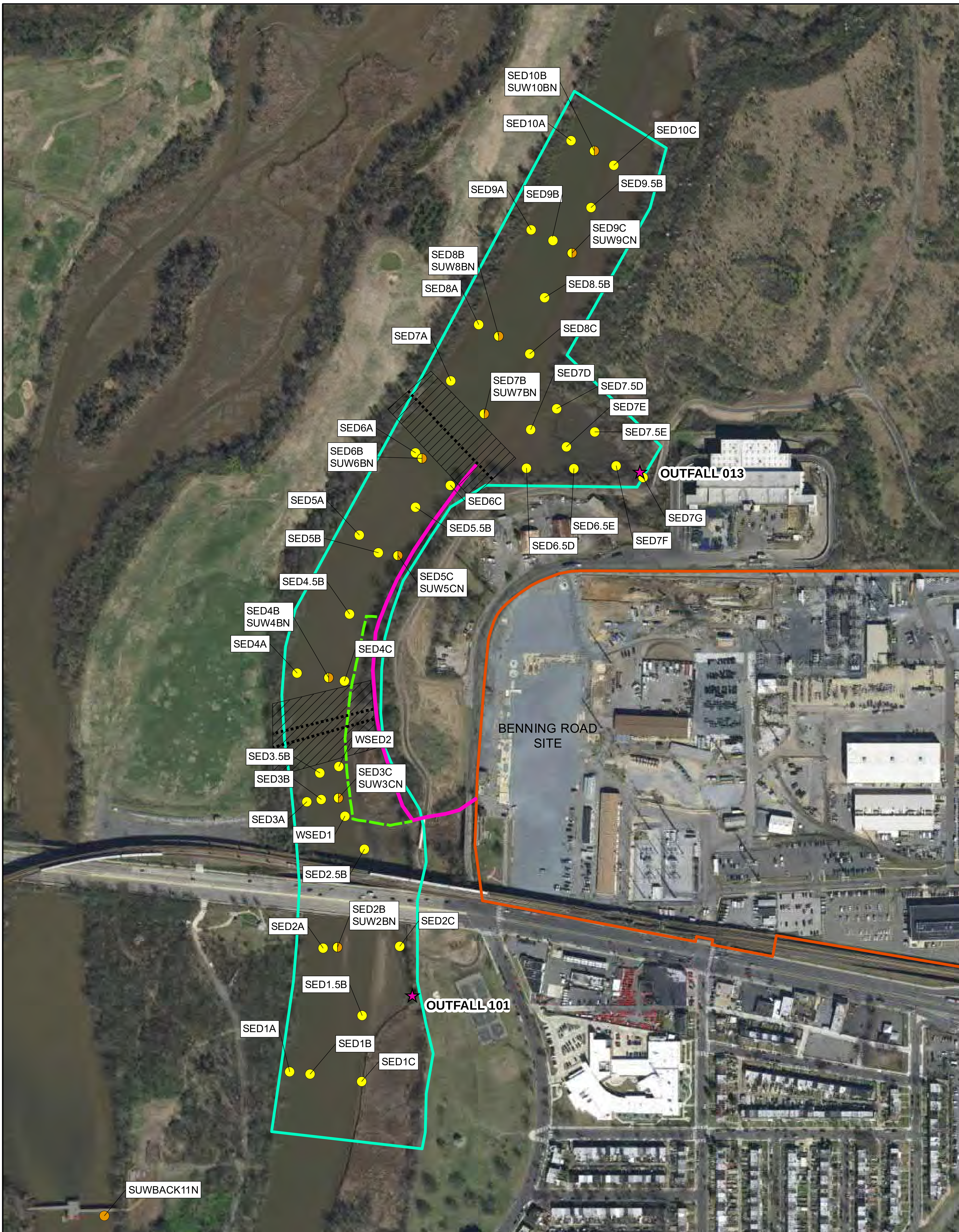
*Sample analyses include bulk sediment chemistry, pore water analysis, benthic macroinvertebrate analysis, and laboratory toxicity testing

AECOM

0 400 Feet

N E S W

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | WATERSIDE INVESTIGATION AREAS |
|---|---|---|---|
| Date: 2/13/2020 | Drawn By: KNS | Checked By: SED | FIGURE 2-5a |




LEGEND

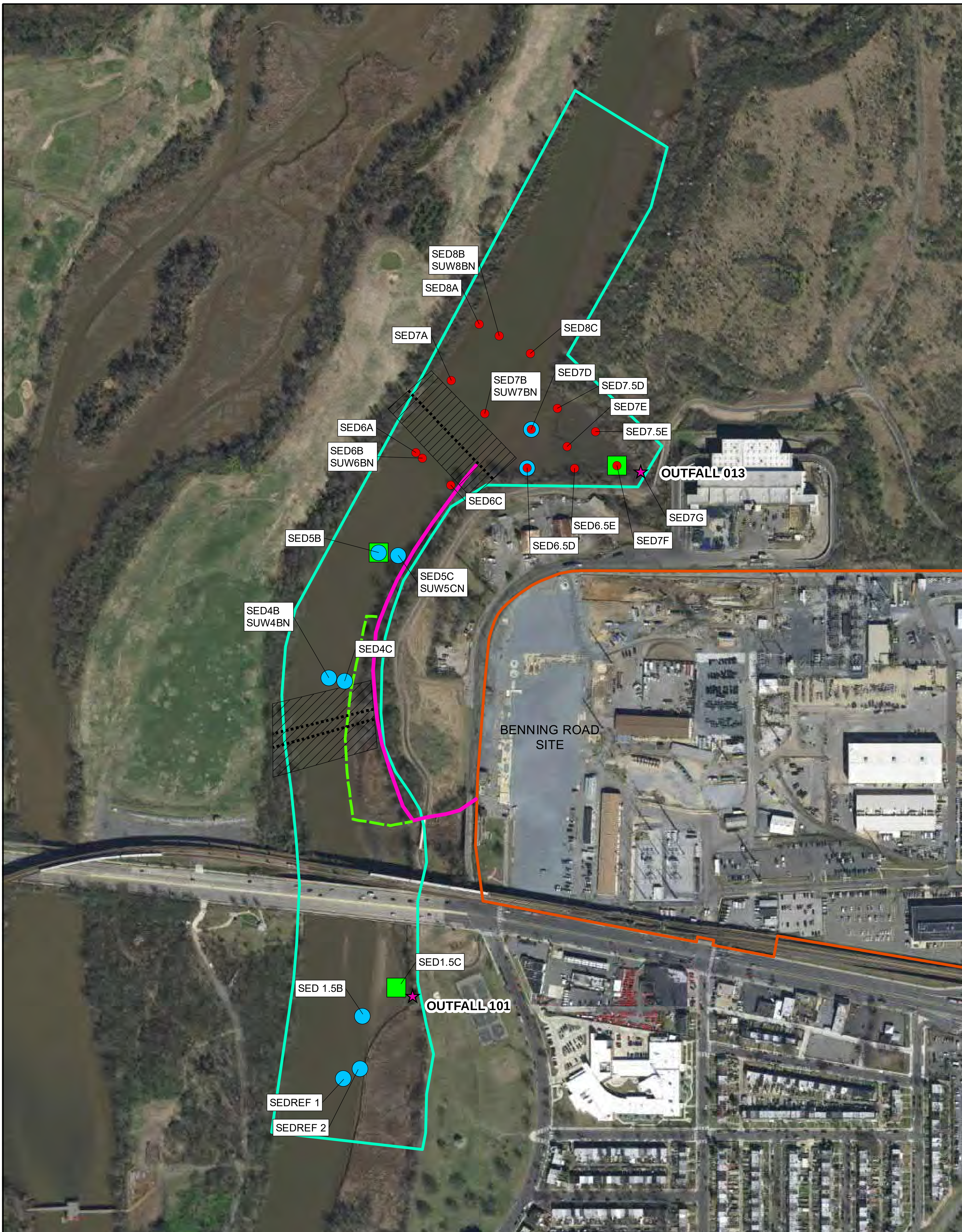
- Outfalls
- Surface Water Sampling Location
- 2013-2014 Surface and Subsurface Sediment Sample Location
- Utility Crossing
- Approximate Former Constructed Wetlands Boundary
- 100' Utility Buffer Zone
- Approximate Location of Sea Wall
- Waterside Investigation Area
- Benning Road Facility Property Boundary

AECOM

0 400 Feet

N S W E

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | WATERSIDE PHASE I<br>SAMPLE LOCATIONS |
|---|---|---|---|
| Date: 1/15/2020 | Drawn By: KNS | Checked By: SED | FIGURE 2-5b |




LEGEND

- Outfalls
- 2017 Surface Sediment Sample Location and SPI Survey Location*
- 2017 Forensics Sediment Sample Location
- 2017 High Resolution Coring Location
- Utility Crossing
- Approximate Former Constructed Wetlands Boundary
- 100' Utility Buffer Zone
- Approximate Location of Sea Wall
- Waterside Investigation Area
- Benning Road Facility Property Boundary

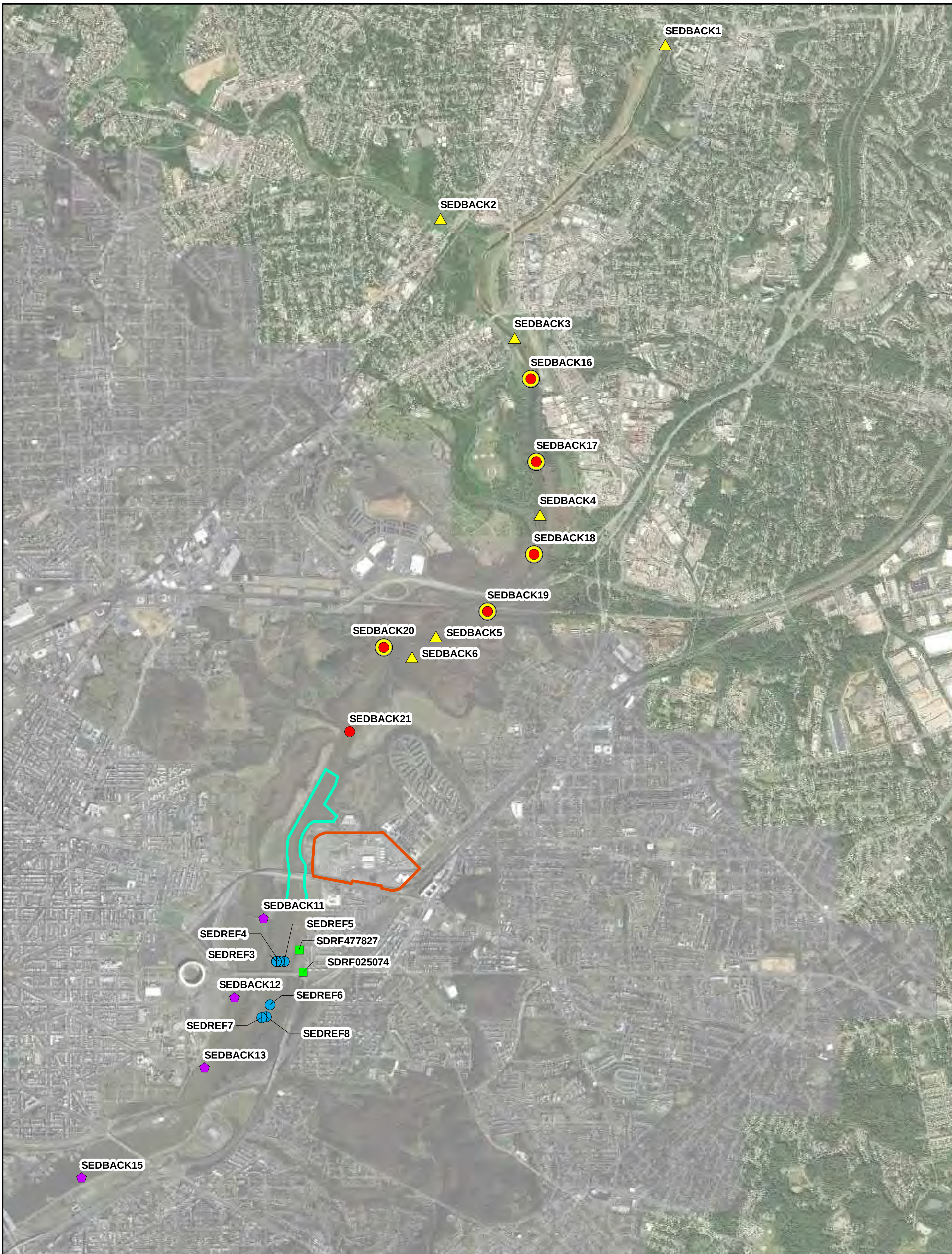
* Sample analyses include bulk sediment chemistry, pore water analysis, benthic macroinvertebrate analysis, and laboratory toxicity testing

AECOM

0 400 Feet

N W E S

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | WATERSIDE PHASE II<br>SAMPLE LOCATIONS |
|---|---|---|---|
| Date: 2/13/2020 | Drawn By: KNS | Checked By: SED | FIGURE 2-5c |




LEGEND

- City Storm Drain Sediment Sample Location
- 2017 Background Sediment Sample Location, SPI Survey Location and Bioactive Zone Sampling*
- 2017 Background Sediment Sample Location
- 2017 Forensics Sediment Sample Location
- 2013 Background Sediment and Surface Water Sample Location
- 2013 Reference Sediment and Surface Water Sample Location (not used to calculate BTVs)
- Waterside Investigation Area
- Benning Road Facility Property Boundary

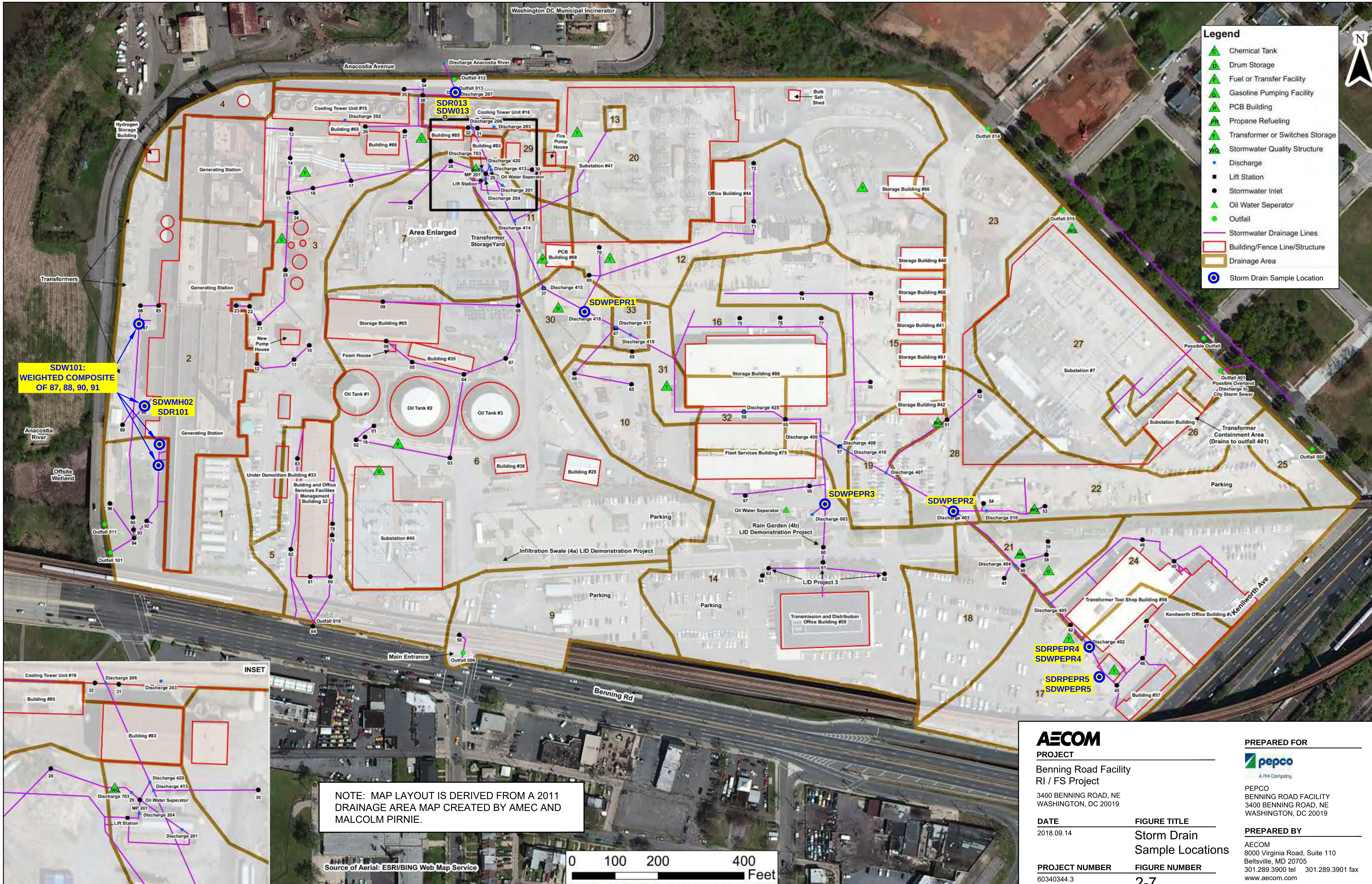
AECOM

0 3,000 Feet

N W E S

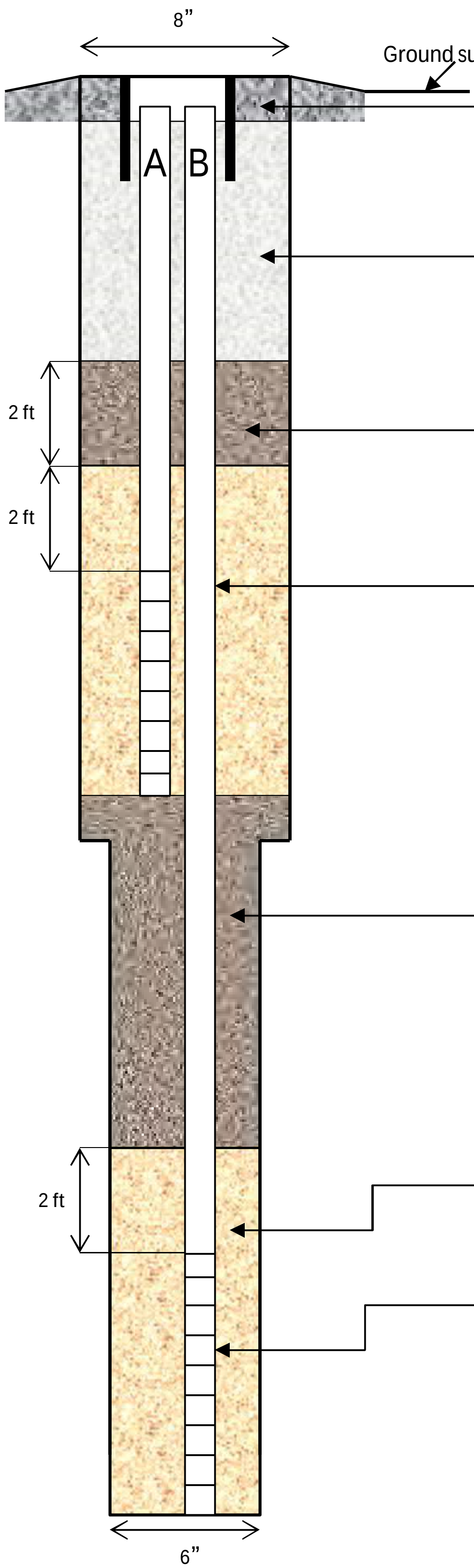
* Bioactive zone sampling includes pore water, benthic macroinvertebrate, and laboratory toxicity testing

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | BACKGROUND WATERSIDE<br>SAMPLE LOCATIONS | |
|---|---|---|---|---|
| Date: 2/19/2020 | Drawn By: KNS | Checked By: SED | | FIGURE 2-6 |



Legend
Chemical Tank
Drum Storage
Fuel or Transfer Facility
Gasoline Pumping Facility
PCB Building
Propane Refueling
Transformer or Switches Storage
Stormwater Quality Structure
Discharge
Lift Station
Stormwater Inlet
Oil Water Seperator
Outfall
Stormwater Drainage Lines
Building/Fence Line/Structure
Drainage Area
Storm Drain Sample Location
N
Washington DC Municipal Incinerator
Anacostia Avenue
Discharge Anacostia River
Outfall 412
Outfall 013
Discharge 207
SDR013
SDW013
Cooling Tower Unit #15
Cooling Tower Unit #16
Discharge 202
Discharge 206
Discharge 203
Building #65
Building #66
Building #85
Building #83
Discharge 703
Discharge 420
Discharge 413
Oil Water Seperator
MP 201
Lift Station
Discharge 201
Discharge 204
Fire Pump House
Substation #41
Bulk Salt Shed
Office Building #44
Storage Building #66
Outfall 014
Outfall 015
Hydrogen Storage Building
Generating Station
Transformers
Area Enlarged
Transformer StorageYard
Discharge 414
PCB Building #68
Discharge 415
SDWPEPR1
Discharge 416
Discharge 417
Discharge 419
Storage Building #65
Foam House
Building #35
New Pump House
SDW101:
WEIGHTED COMPOSITE
OF 87, 88, 90, 91
SDWMH02
SDR101
Anacostia River
Offsite Wetland
Oil Tank #1
Oil Tank #2
Oil Tank #3
Building #36
Building #29
Under Demolition Building #33
Building and Office Services Facilities Management Building 32
Substation #45
Outfall 011
Outfall 101
Outfall 016
Infiltration Swale (4a) LID Demonstration Project
Storage Building #40
Storage Building #60
Storage Building #41
Storage Building #61
Storage Building #42
Storage Building #88
Discharge 425
Fleet Services Building #75
Discharge 406
Discharge 408
Discharge 418
Discharge 407
SDWPEPR3
SDWPEPR2
Discharge 403
Discharge 010
Discharge 003
Oil Water Seperator
Rain Garden (4b) LID Demonstration Project
LID Project 3
Transmission and Distribution Office Building #59
Substation #7
Substation Building
Possible Outfall
Outfall 401 Possible Overland Discharge to City Storm Sewer
Transformer Containment Area (Drains to outfall 401)
Outfall 005
Parking
Discharge 404
Discharge 405
Transformer Test Shop Building #56
Kenilworth Office Building #1
Kenilworth Ave
Discharge 402
SDRPEPR4
SDWPEPR4
SDRPEPR5
SDWPEPR5
Building #57
Main Entrance
Outfall 006
Benning Rd
INSET
NOTE: MAP LAYOUT IS DERIVED FROM A 2011 DRAINAGE AREA MAP CREATED BY AMEC AND MALCOLM PIRNIE.
Source of Aerial: ESRI/BING Web Map Service
0 100 200 400
Feet
AECOM
PROJECT
Benning Road Facility
RI / FS Project
3400 BENNING ROAD, NE
WASHINGTON, DC 20019
DATE
2018.09.14
FIGURE TITLE
Storm Drain Sample Locations
PROJECT NUMBER
60340344.3
FIGURE NUMBER
2-7
PREPARED FOR
pepco
A PHI Company
PEPCO
BENNING ROAD FACILITY
3400 BENNING ROAD, NE
WASHINGTON, DC 20019
PREPARED BY
AECOM
8000 Virginia Road, Suite 110
Beltsville, MD 20705
301.289.3900 tel 301.289.3901 fax
www.aecom.com

## Figure 2-8
## Monitoring Well Construction Schematic
## (Typical) Benning Road Facility RI/FS Project
## 3400 Benning Road, NE
## Washington, DC 20019




CONCRETE PAD
TOP OF CASING TO GROUND SURFACE: 4-inches
PAD DIMENSIONS: 2 ft x 2 ft
HEIGHT ABOVE GROUND: Flush

GROUT AROUND CASING
MATERIAL: Bentonite-Cement Mixture
MIX RATIO OF SOLIDS: 60 lbs bentonite powder: 40 lbs cement
MIX RATIO SOLIDS:WATER: 3:1

LOW PERMEABILITY SEAL
MATERIAL: Fully Hydrated Bentonite Chips
HEIGHT ABOVE FILTER PACK: 2 ft

WELL CASING
MATERIAL: Schedule 40 PVC
INTERNAL DIAMETER: 2-inches
JOINT TYPE: Threaded
LENGTH: See Table 2-4

BENTONITE SEAL

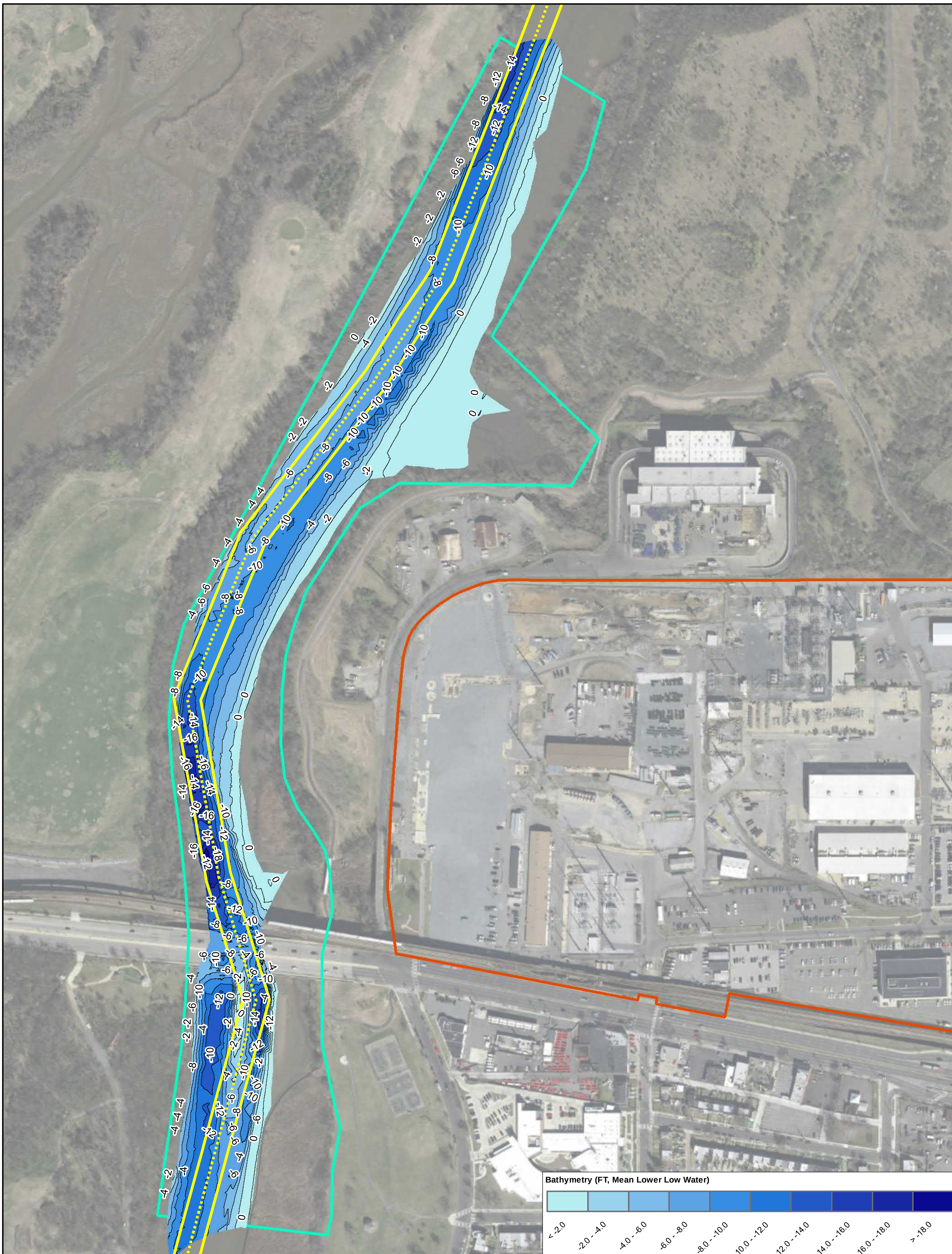
FILTER PACK
TYPE OF FILTER: #2 Sand
HEIGHT ABOVE SCREEN: 2 ft

WELL SCREEN
SCREEN MATERIAL: Schedule 40 PVC
LENGTH: See Table 2-4
SLOT SIZE: 0.010-inches

DEPTH TO THE BOTTOM OF WELL: See Table 2-4

DIAMETER OF BOREHOLE: 8-inches (upper), 6-inches (lower)

WELL ANNULUS: 4-inches




LEGEND

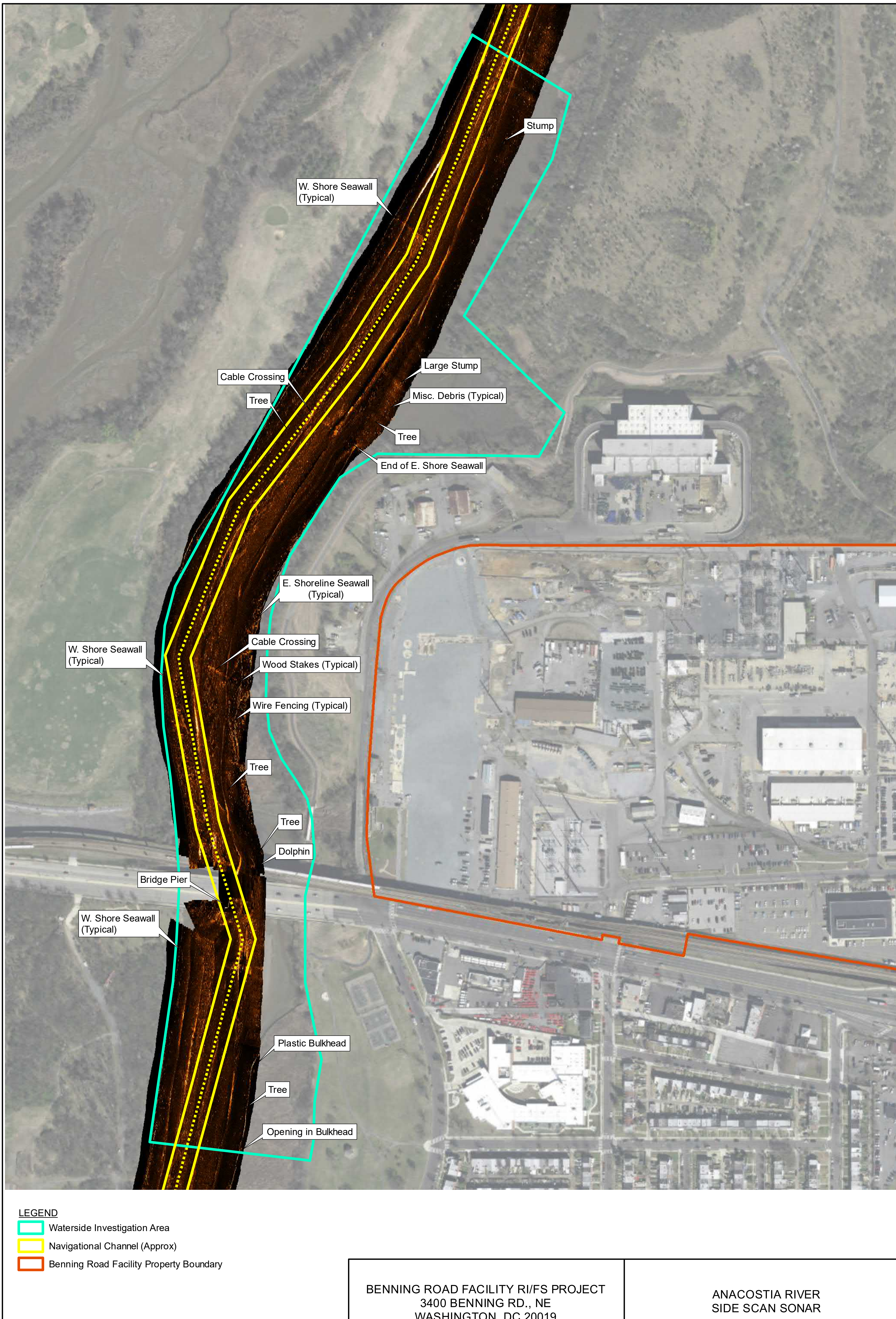
2.0 ' Contour

Navigational Channel (Approx)

Waterside Investigation Area

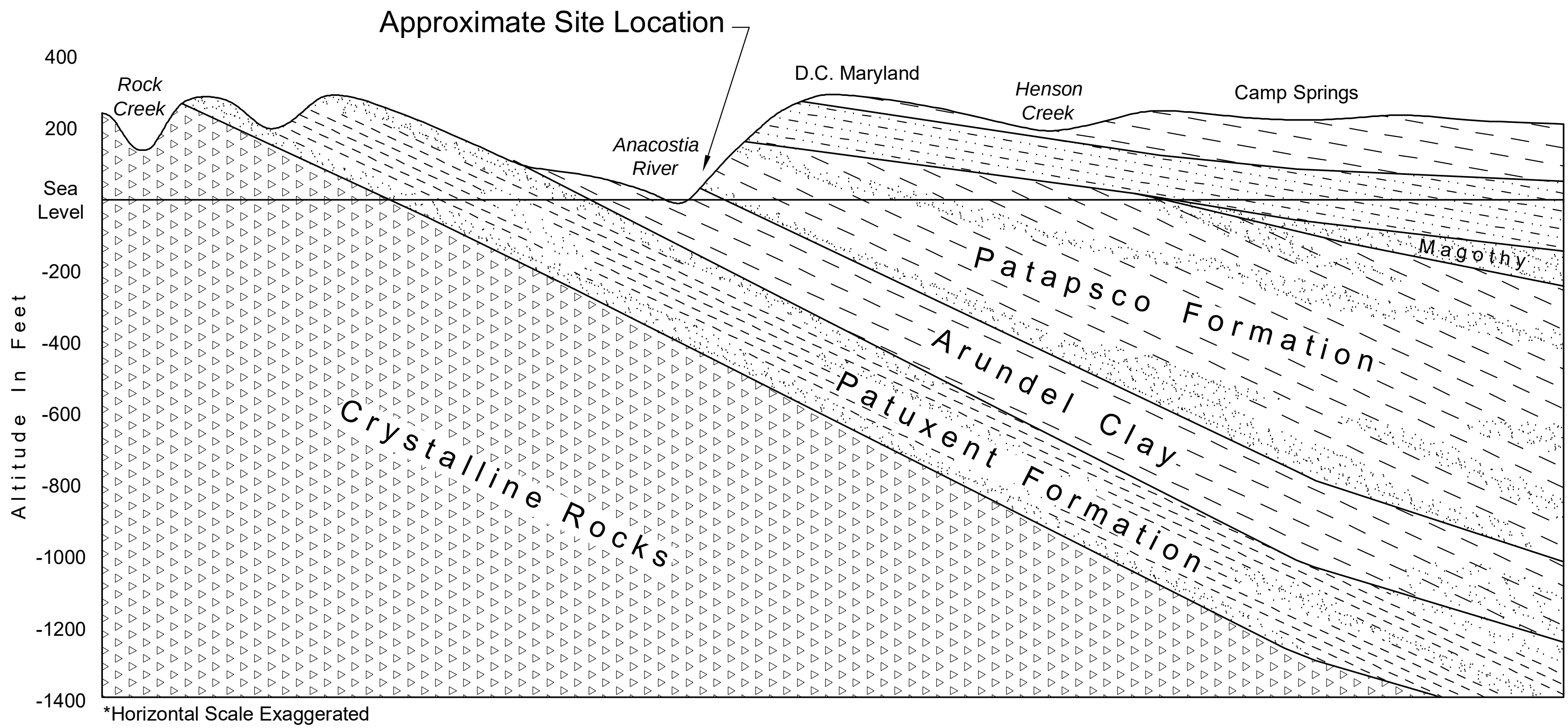
Benning Road Facility Property Boundary

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | ANACOSTIA RIVER<br>BATHYMETRY | |
|---|---|---|---|---|
| Date: 9/17/2018 | Drawn By: KNS | Checked By: SED | | FIGURE 3-1 |




AECOM

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | ANACOSTIA RIVER<br>SIDE SCAN SONAR |
|---|---|---|---|
| Date: 9/17/2018 | Drawn By: KNS | Checked By: SED | FIGURE 3-2 |




Source: Mack, KM. 1966.
Groundwater in Prince Georges County,
Bulletin 29: Maryland Geological Survey

AECOM

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | REGIONAL GEOLOGIC PROFILE |
|---|---|---|---|
| DATE: 03/10/2015 | DRAWN BY: LAD | CHECKED BY: RD | FIGURE 3-3 |


LEGEND

**Silt/ Clay Layer Thickness (Ft)**

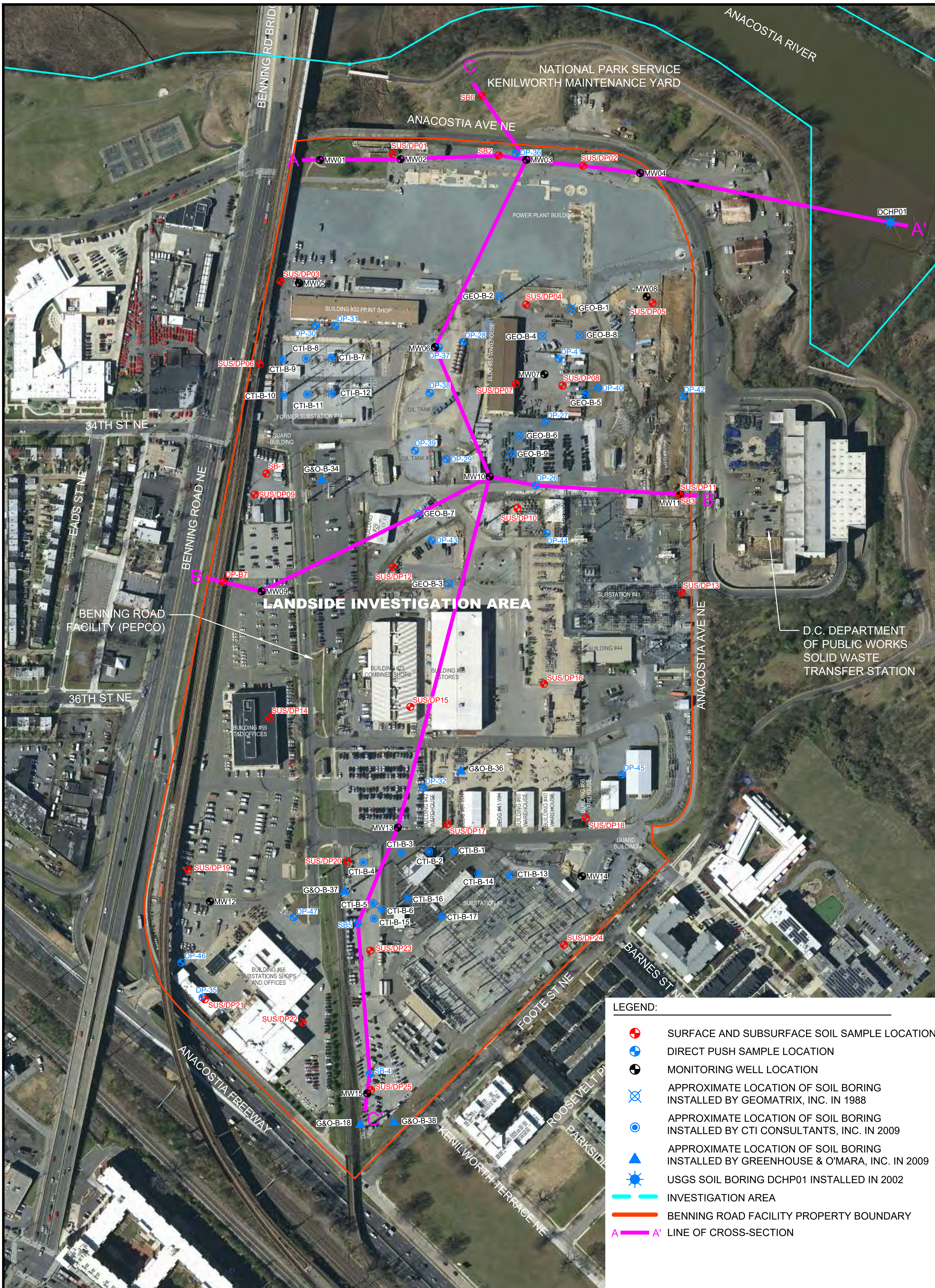
< 3
3.1 - 6
6.1 - 9
9.1 - 12
12.1 - 15
15.1 - 18
18.1 - 21
21.1 - 24
> 24.1

Benning Road Facility Property Boundary

AECOM

0 400 Feet

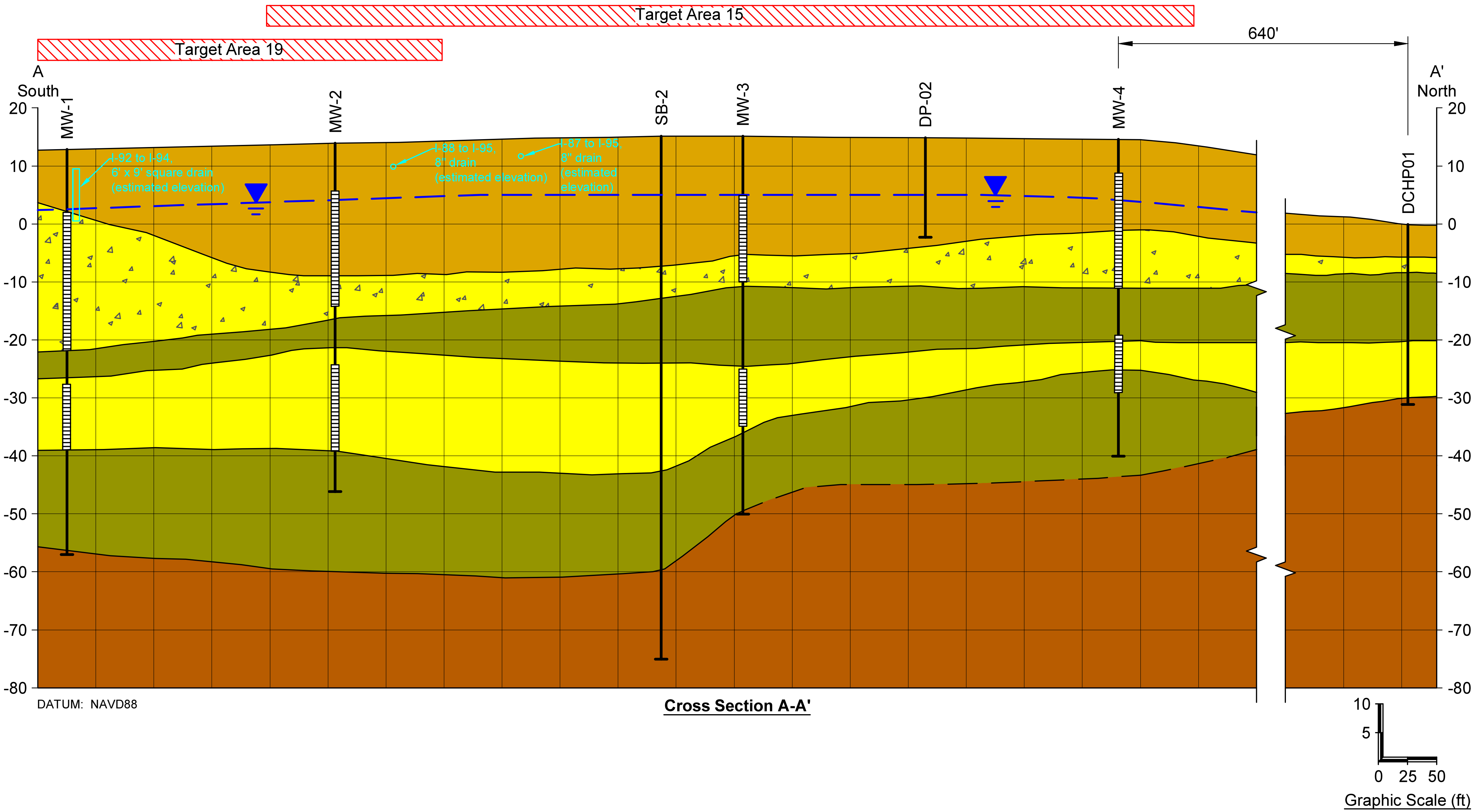
| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | SILT-CLAY LAYER<br>ISOPACH MAP |
|---|---|---|---|
| Date: 9/19/2018 | Drawn By: KNS | Checked By: SED | FIGURE 3-4 |




AECOM

0 125 250 Feet

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | GEOLOGIC CROSS SECTION<br>TRANSECT LOCATION MAP |
|---|---|---|---|
| DATE: 09/19/2018 | DRAWN BY: LAD | CHECKED BY: RD | FIGURE 3-5 |



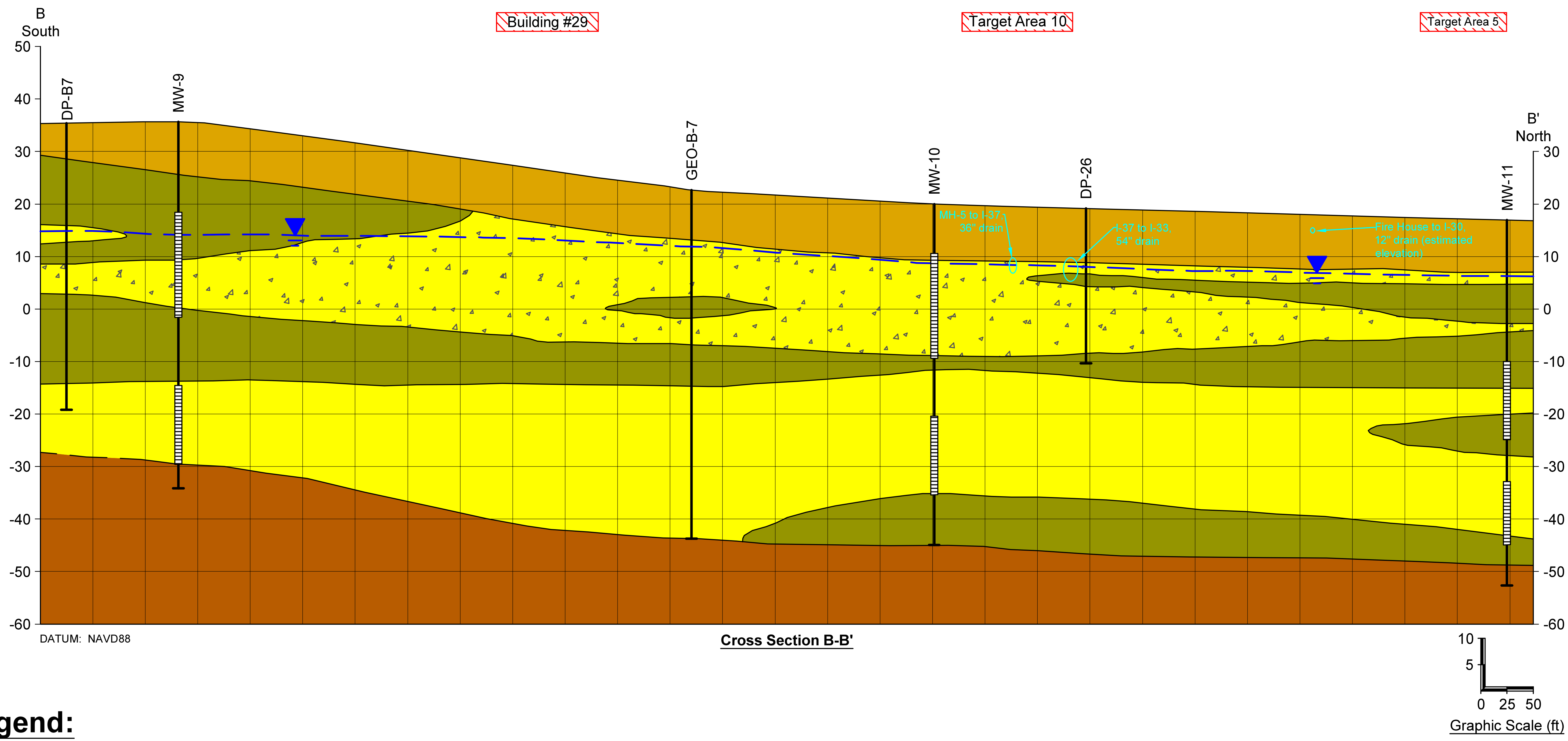

# Legend:

- Boring Location and Total Depth (B-38)
- Alluvium/Fill
- Sand
- Sand/Gravel
- Clay, Silt, and Sand Intermixed
- Arundel Clay
- — — Inferred Lithology
- NAVD88 North American Vertical Datum of 1988
- Depth To Water (Encountered during drilling.)
- — — Approximate Water Table
- Screened Interval

AECOM

NOTE: GEOLOGIC CROSS-SECTIONS ARE GENERALIZED

| | | | |
|---|---|---|---|
| Benning Road Facility RI/FS Project<br>3400 Benning Rd., NE<br>Washington, DC 20019 | | | Geologic Cross Section A-A' |
| DATE: 09/14/2018 | DRAWN BY: LAD | CHECKED BY: RD | FIGURE 3-6 |




**Cross Section B-B'**

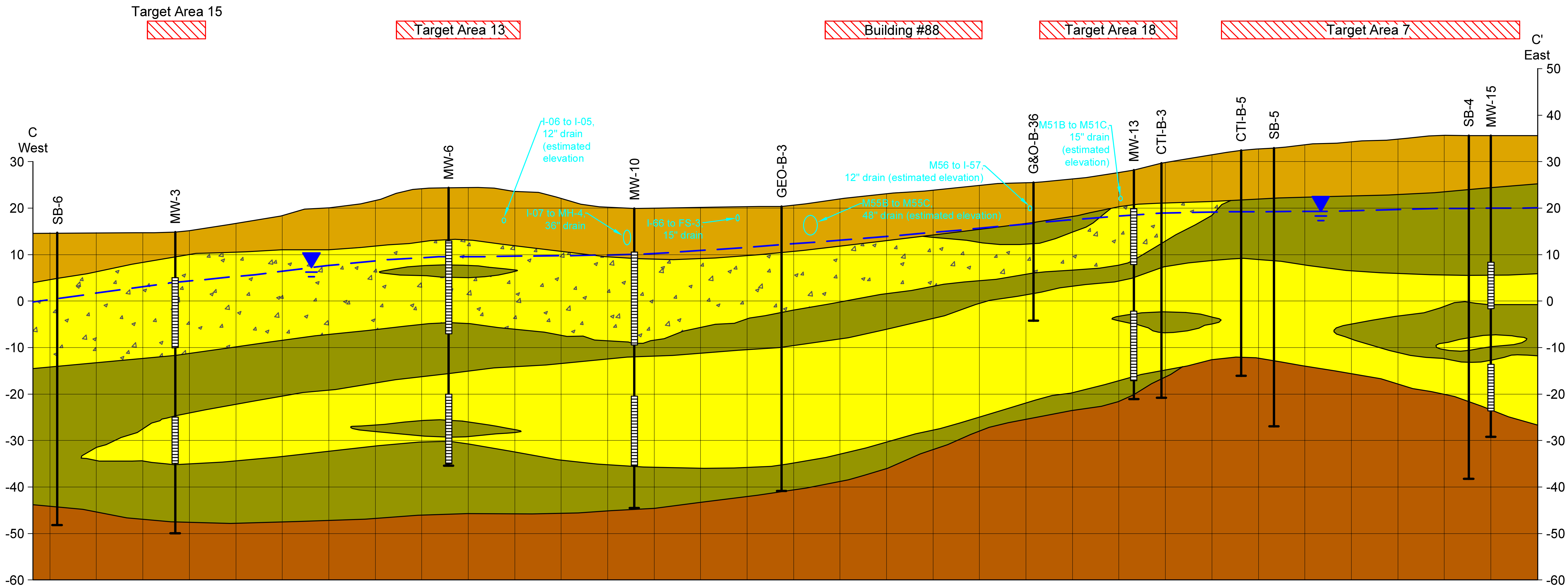
# Legend:

- Boring Location and Total Depth
- Alluvium/Fill
- Sand
- Sand/Gravel
- Clay, Silt, and Sand Intermixed
- Arundel Clay
- Inferred Lithology
- NAVD88 North American Vertical Datum of 1988
- Depth To Water (Encountered during drilling.)
- Approximate Water Table
- Screened Interval

NOTE: GEOLOGIC CROSS-SECTIONS ARE GENERALIZED

AECOM

| Benning Road Facility RI/FS Project<br>3400 Benning Rd., NE<br>Washington, DC 20019 | | | Geologic Cross Section B-B' |
|---|---|---|---|
| DATE: 09/14/2018 | DRAWN BY: LAD | CHECKED BY: RD | FIGURE 3-7 |




**Cross Section C-C'**

10
5
0 50 100
Graphic Scale (ft)

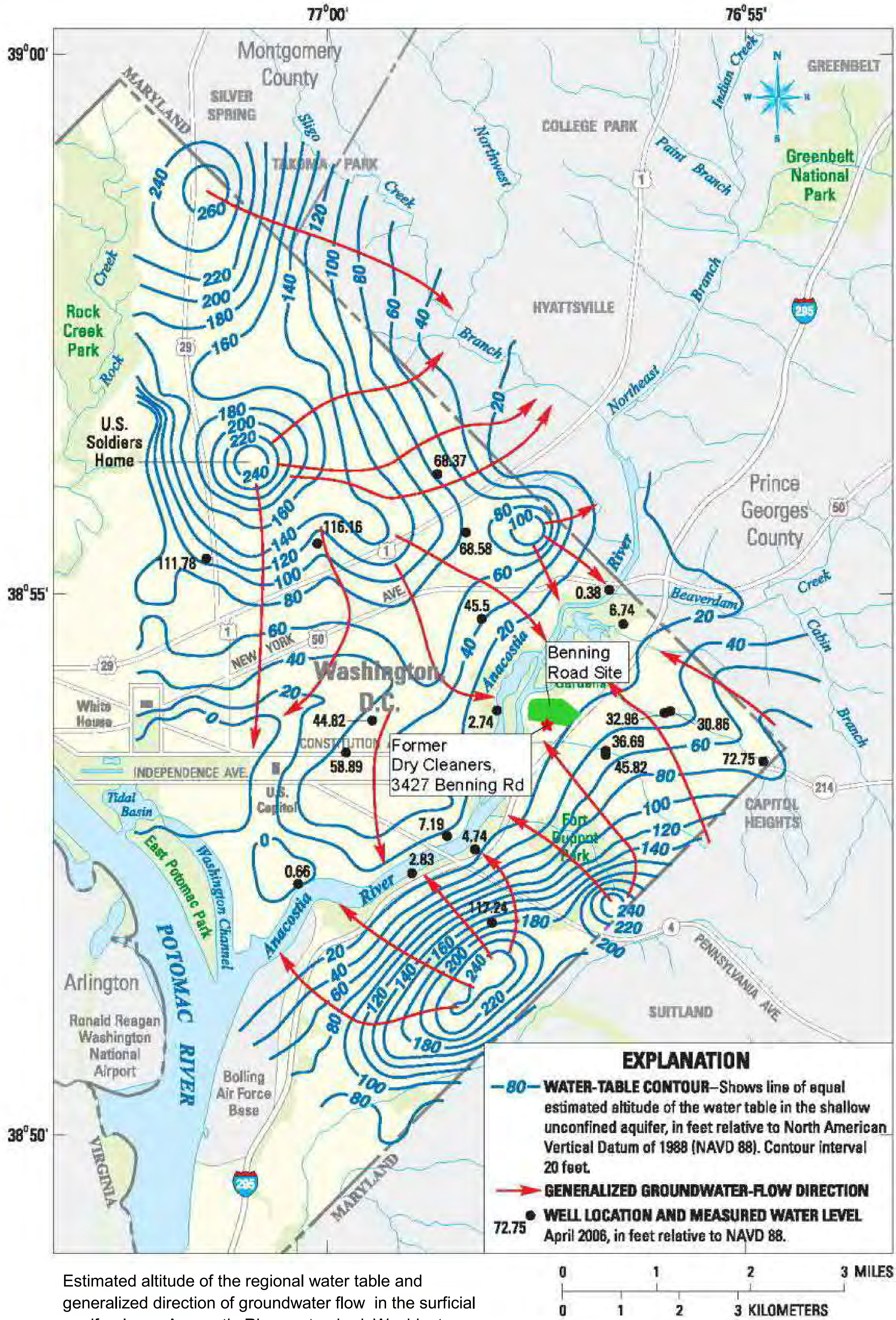
## Legend:

- Boring Location and Total Depth
- Alluvium/Fill
- Sand
- Sand/Gravel
- Clay, Silt, and Sand Intermixed
- Arundel Clay
- Inferred Lithology
- NAVD88 North American Vertical Datum of 1988
- Depth To Water (Encountered during drilling.)
- Approximate Water Table
- Screened Interval

NOTE: GEOLOGIC CROSS-SECTIONS ARE GENERALIZED

NOTE: GEOLOGIC CROSS-SECTIONS ARE GENERALIZED

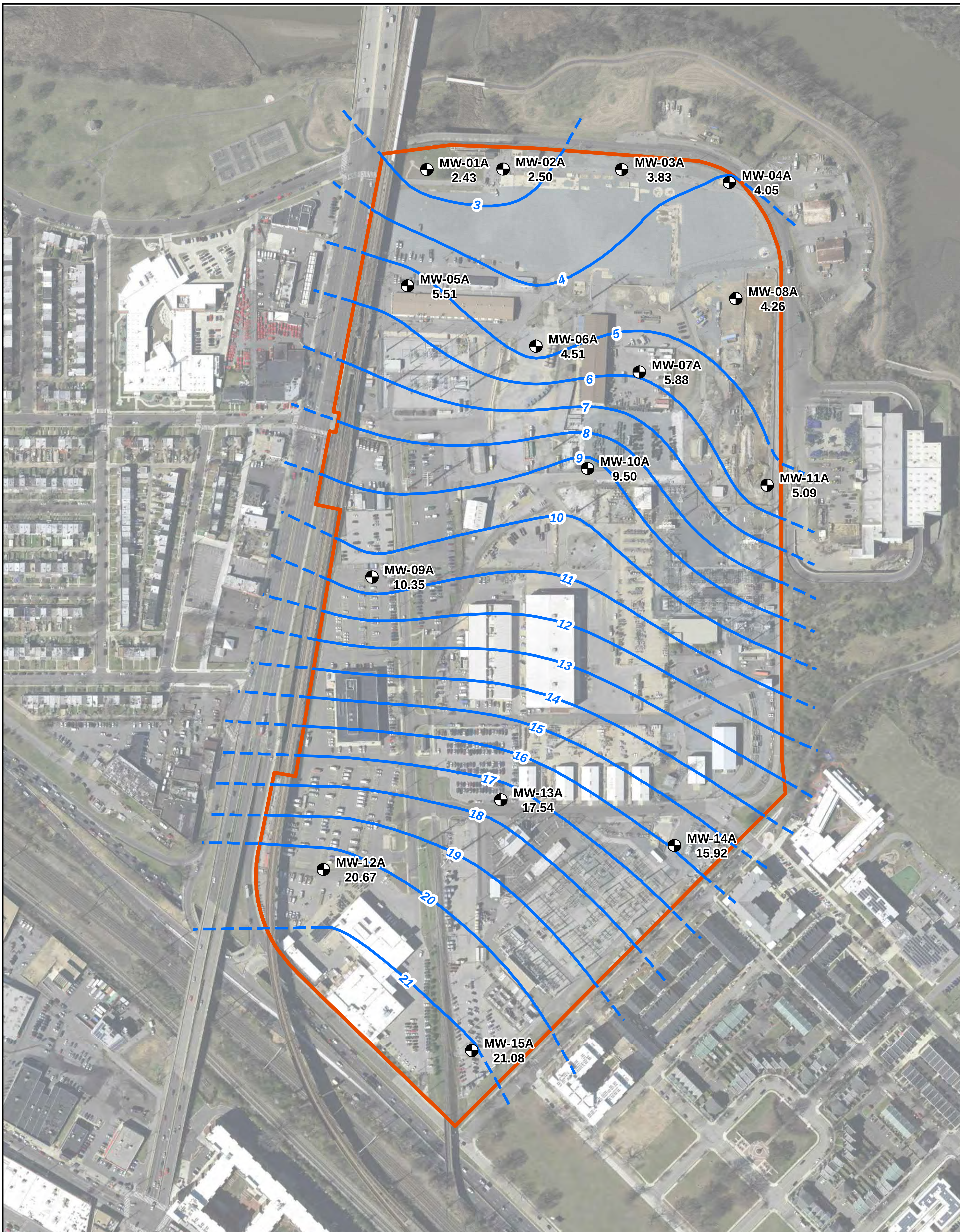
| Benning Road Facility RI/FS Project<br>3400 Benning Rd., NE<br>Washington, DC 20019 | | | Geologic Cross Section C-C' |
|---|---|---|---|
| DATE: 09/14/2018 | DRAWN BY: LAD | CHECKED BY: RD | FIGURE 3-8 |




Estimated altitude of the regional water table and generalized direction of groundwater flow in the surficial aquifer, lower Anacostia River watershed, Washington, D.C., April 2006

Source: Annotated from U.S Geologic Survey. *Scientific Investigations Report 2010–5130*. Reston, Virginia, 2010, pp. 13.

| AECOM | Benning Road Facility RI/FS Project<br>3400 Benning Rd., NE<br>Washington, DC 20019 | **Regional Groundwater Flow**<br>**Figure 3-9** |
|---|---|---|




LEGEND

Monitoring Well

Groundwater Contour

Inferred Groundwater Contour

Benning Road Facility Property Boundary

AECOM

0 400 Feet

| | |
|---|---|
| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | UWZ GROUNDWATER CONTOUR MAP |
| Date: 9/17/2018 · Drawn By: KNS · Checked By: SED | FIGURE 3-10 |


LEGEND

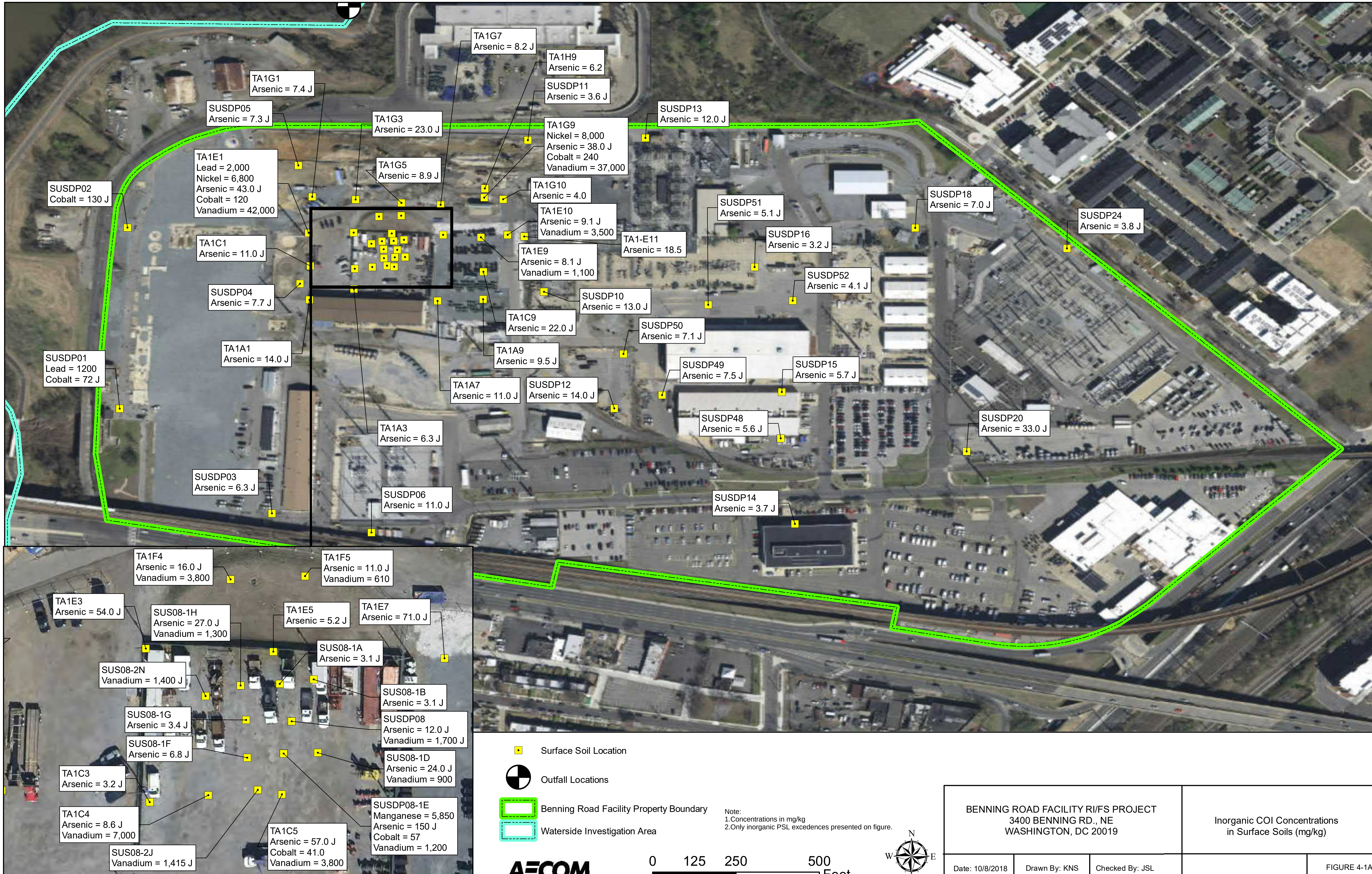
- Monitoring Well
- Groundwater Contour
- Inferred Groundwater Contour
- Benning Road Facility Property Boundary

AECOM

0 400 Feet

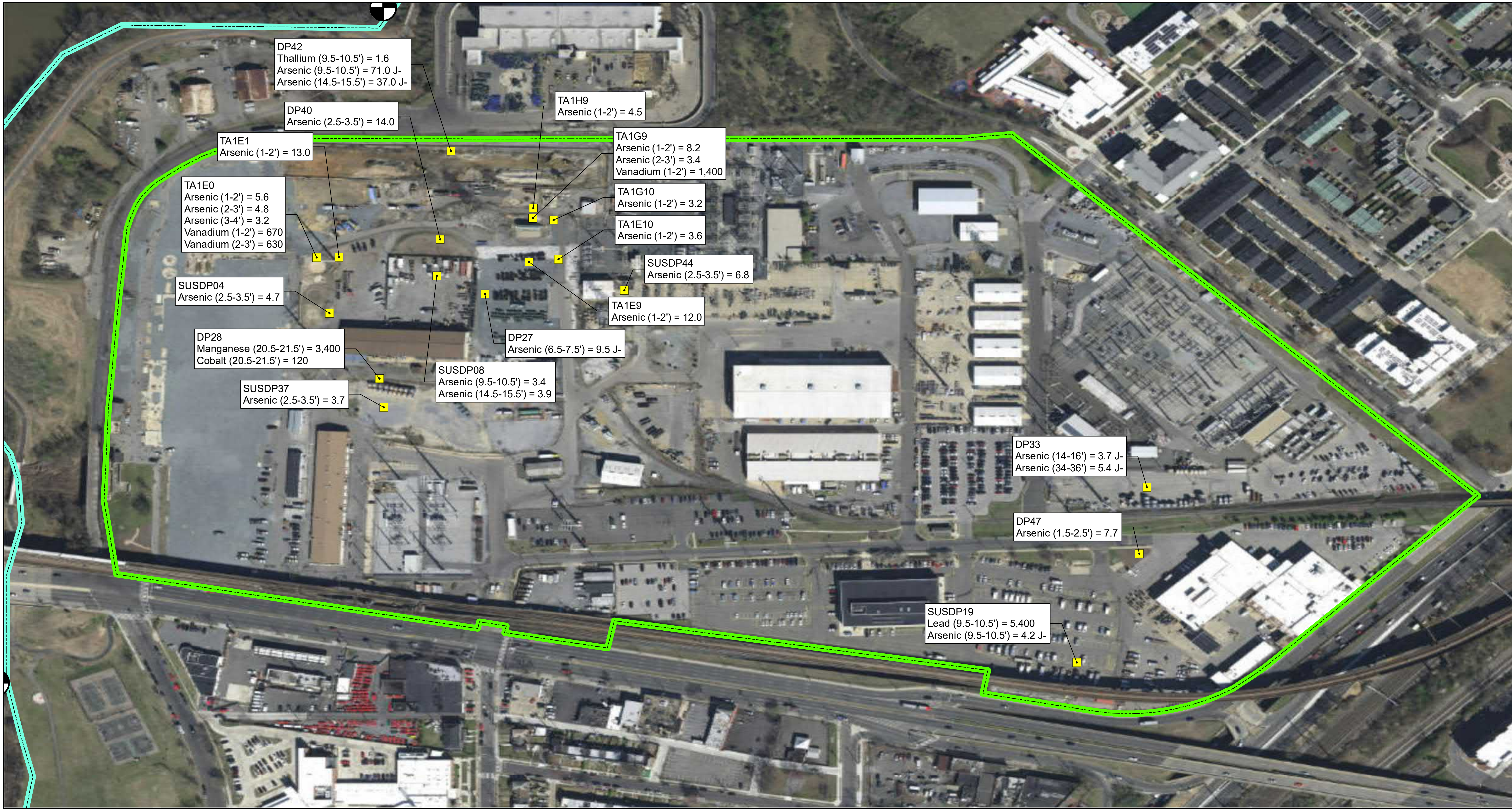
| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | LWZ GROUNDWATER CONTOUR MAP |
|---|---|---|---|
| Date: 9/17/2018 | Drawn By: KNS | Checked By: SED | FIGURE 3-11 |

Path: P:\Projects\Jobs\Water\QA_Group\Pepco\GIS\MXD\2018Revisions\Figure4_1InorganicCOPCSurfaceSoil.mxd




| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | Inorganic COI Concentrations<br>in Surface Soils (mg/kg) |
|---|---|---|---|
| Date: 10/8/2018 | Drawn By: KNS | Checked By: JSL | FIGURE 4-1A |

Path: P:\Projects\Jobs\Water\QA_Group\Pepco\GIS\MXD\2018Revisions\Figure4_2InorganicCOPCSubSurfaceSoil.mxd




Subsurface Soil Location

Outfall Locations

Benning Road Facility Property Boundary

Waterside Investigation Area

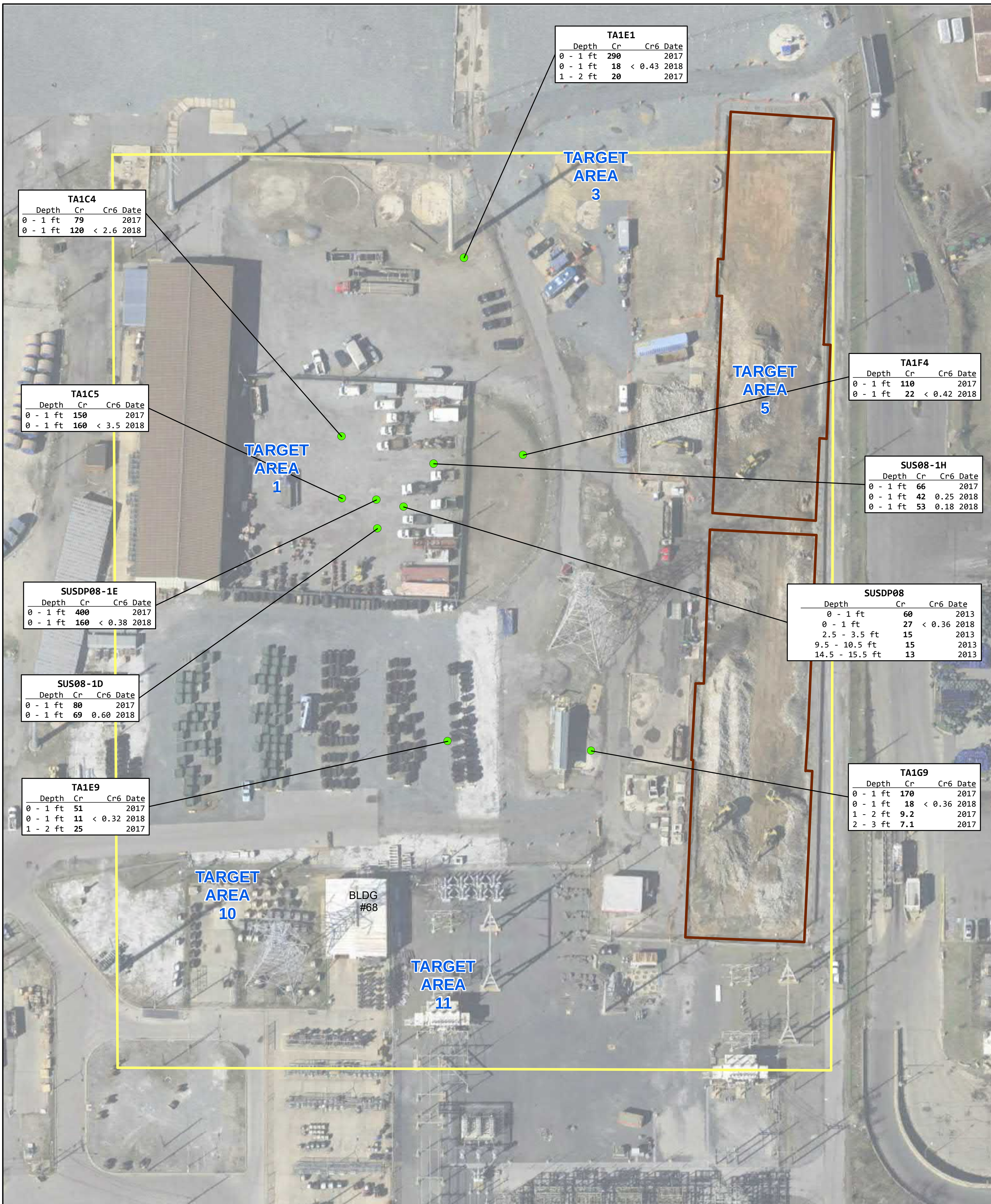
Note:
1.Concentrations in mg/kg
2.Only inorganic PSL excedences presented on figure.

0 125 250 500 Feet

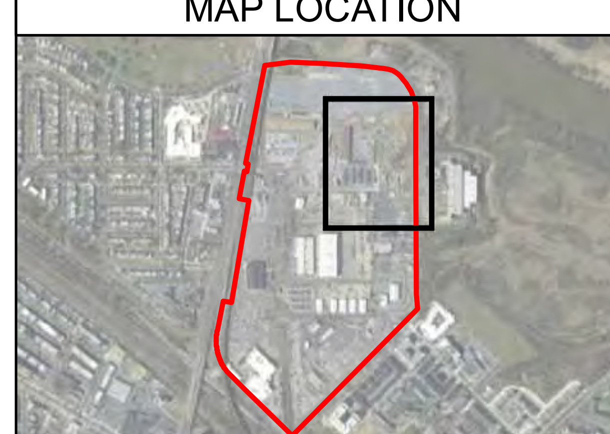
N W E S

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | Inorganic COI Concentrations<br>in Subsurface Soils (mg/kg) | |
|---|---|---|---|---|
| Date: 10/8/2018 | Drawn By: KNS | Checked By: JSL | | FIGURE 4-1B |

AECOM




MAP LOCATION



LEGEND

- < 6.3 mg/kg Hex Chromium (Cr6) and 180,000 mg/kg Total Chromium (Cr)
- COOLING TOWER SOIL EXCAVATION AREA
- GROUP LOCATION

NOTE
UNITS ARE MG/KG.
Note - there is no history of using chromium at the Site, such that it is likely that the form of chromium present in soil is trivalent. To verify this assumption, soil sample results shown here were collected and analyzed for both total chromium and hexavalent chromium at the Pepco Site and Anacostia Park Site. The percent of hexavalent chromium was calculated in several ways, both including and excluding non-detected results, and based on the combined Pepco Site and Anacostia Park datasets. The calculated averages range from less than 1% to about 1.5%. Based on the assessment, the total chromium is evaluated as trivalent chromium in with a PSL of 180,000 mg/kg.

AECOM

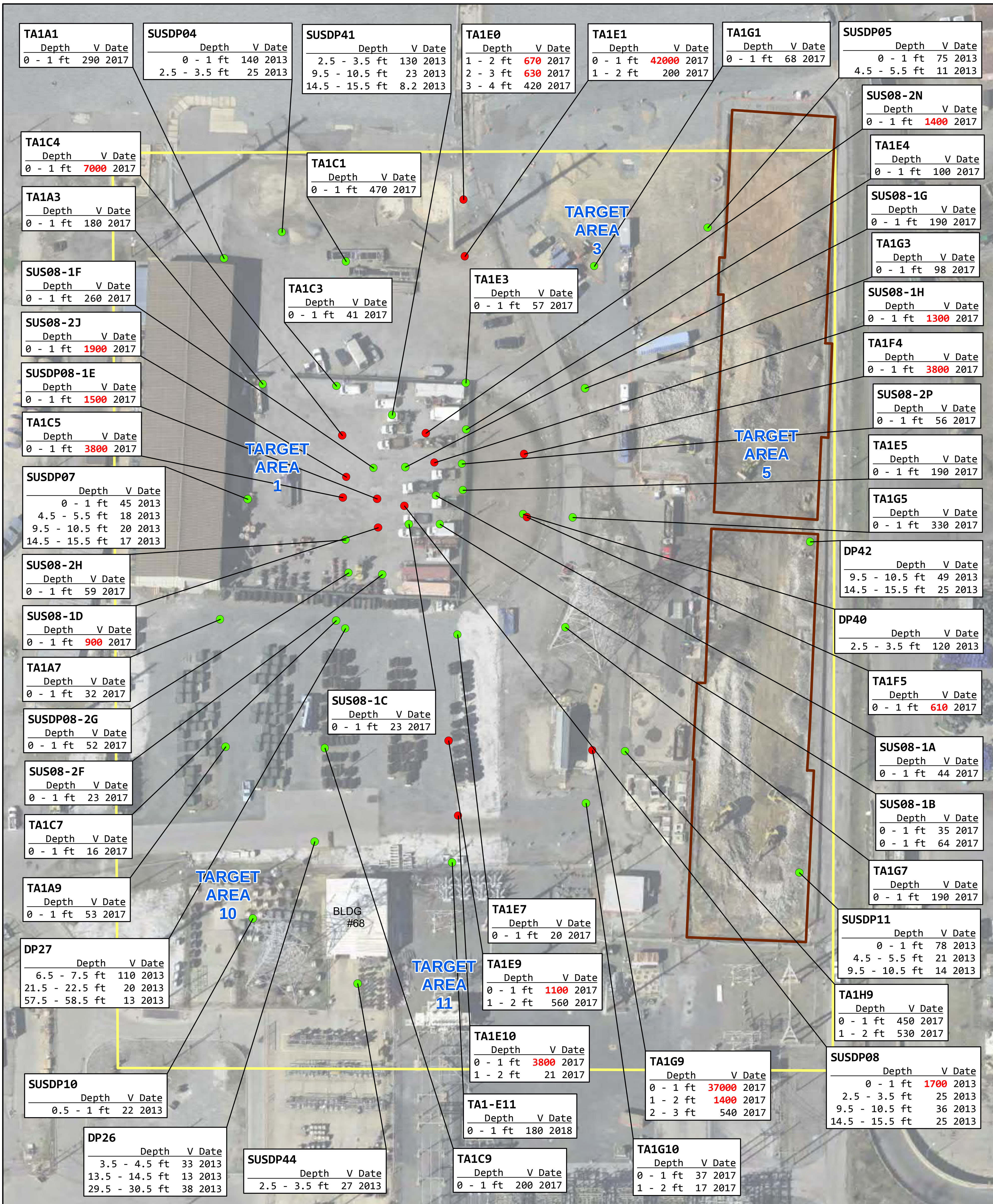
0 80 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

TEN HIGHEST ONSITE TOTAL CHROMIUM DETECTIONS

Date: 11/1/2018 | Drawn By: JB | Checked By: JL

FIGURE 4-2




MAP LOCATION

LEGEND

VANADIUM

- < 580 mg/kg
- > 580 mg/kg
- COOLING TOWER SOIL EXCAVATION AREA
- GROUP LOCATION

NOTE
VANADIUM SCREENING LEVEL = 580 mg/kg
1.5x SCREENING LEVEL = 870 mg/kg

NOTE
TARGET AREA 1 – FORMER SLUDGE DEWATERING AREA
TARGET AREA 3 - FORMER 15,000 GAL UST & 50,000 GAL AST (No. 2 Fuel Oil)
TARGET AREA 5 – FORMER COOLING TOWERS (1995 & 2017 Cleanup Area)
TARGET AREA 10 – RED TAG STORAGE AREA
TARGET AREA 11 – BUILDING #68 (PCB Building)

AECOM

0 80
Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

VANADIUM SOIL CONCENTRATIONS
IN TARGET AREAS 1, 3, 5, 10, & 11

| Date: 11/2/2018 | Drawn By: JB | Checked By: JL | | FIGURE 4-3 |
|---|---|---|---|---|


**BaP TE (ug/kg)**

- <2,100 (PSL)
- 2,100 - 5,000
- 5,000 - 7,500
- 7,500 - 10,000
- >10,000

Cooling Tower Soil Excavation Area

Benning Road Facility Property Boundary

Note:
When multiple soil samples were collected at the same location (duplicate or different sample events), the concentration used on the figure is the maximum concentration.

AECOM

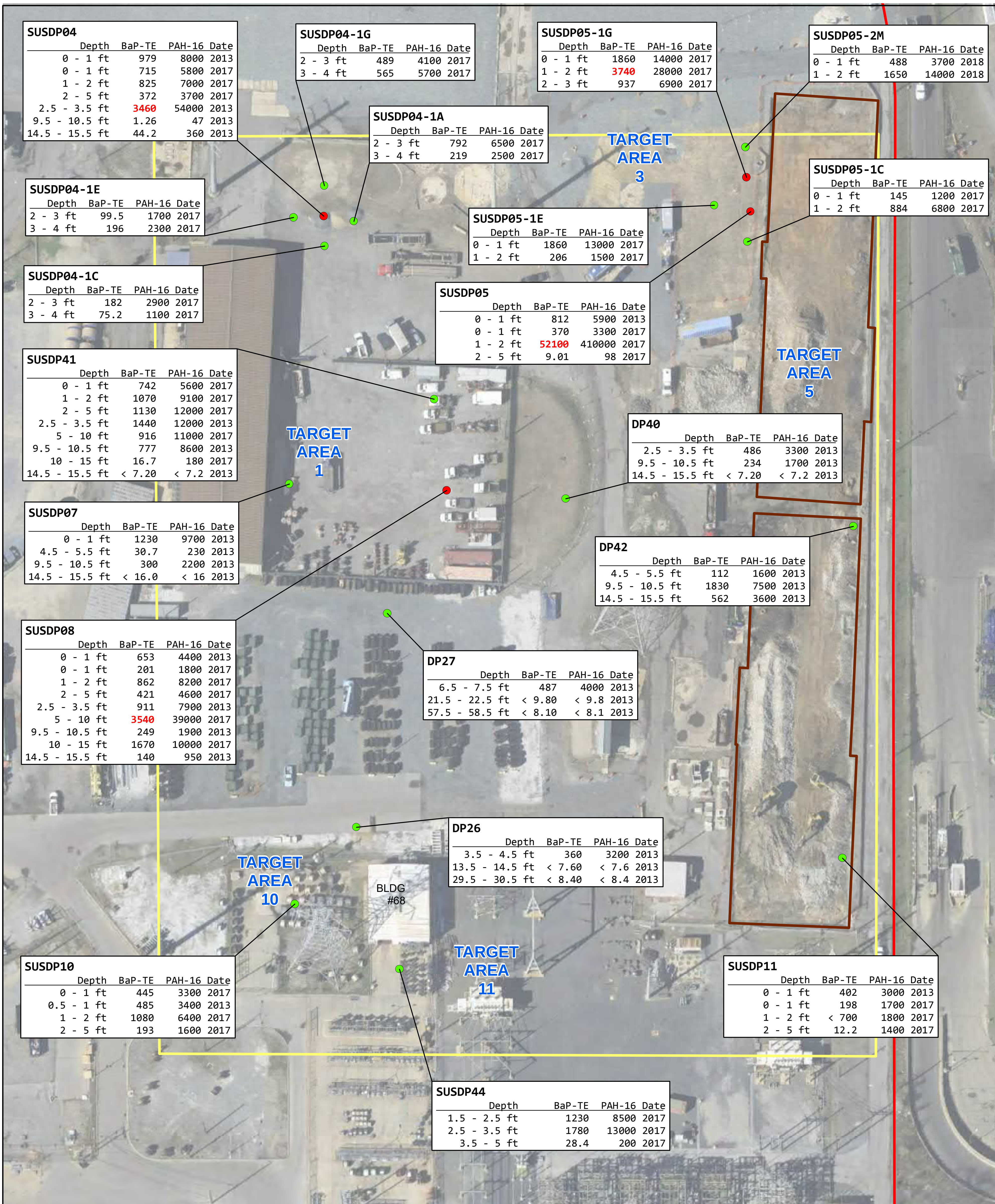
0 400 Feet

W N E S

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

TOTAL PAH CONCENTRATIONS IN SURFACE SOILS

| Date: 10/25/2018 | Drawn By: KNS | Checked By: SED | | FIGURE 4-4 |
|---|---|---|---|---|




LEGEND

**BaP-TE**

- < 2100 µg/kg
- > 2100 µg/kg
- COOLING TOWER SOIL EXCAVATION AREA
- GROUP LOCATION
- PROPERTY BOUNDARY

NOTE
BaP-TE SCREENING LEVEL = 2100 µg/kg
1.5x SCREENING LEVEL = 3150 µg/kg
TARGET AREA 1 – FORMER SLUDGE DEWATERING AREA
TARGET AREA 3 - FORMER 15,000 GAL UST & 50,000 GAL AST (No. 2 Fuel Oil)
TARGET AREA 5 – FORMER COOLING TOWERS (1995 & 2017 Cleanup Area)
TARGET AREA 10 – RED TAG STORAGE AREA
TARGET AREA 11 – BUILDING #68 (PCB Building)

MAP LOCATION

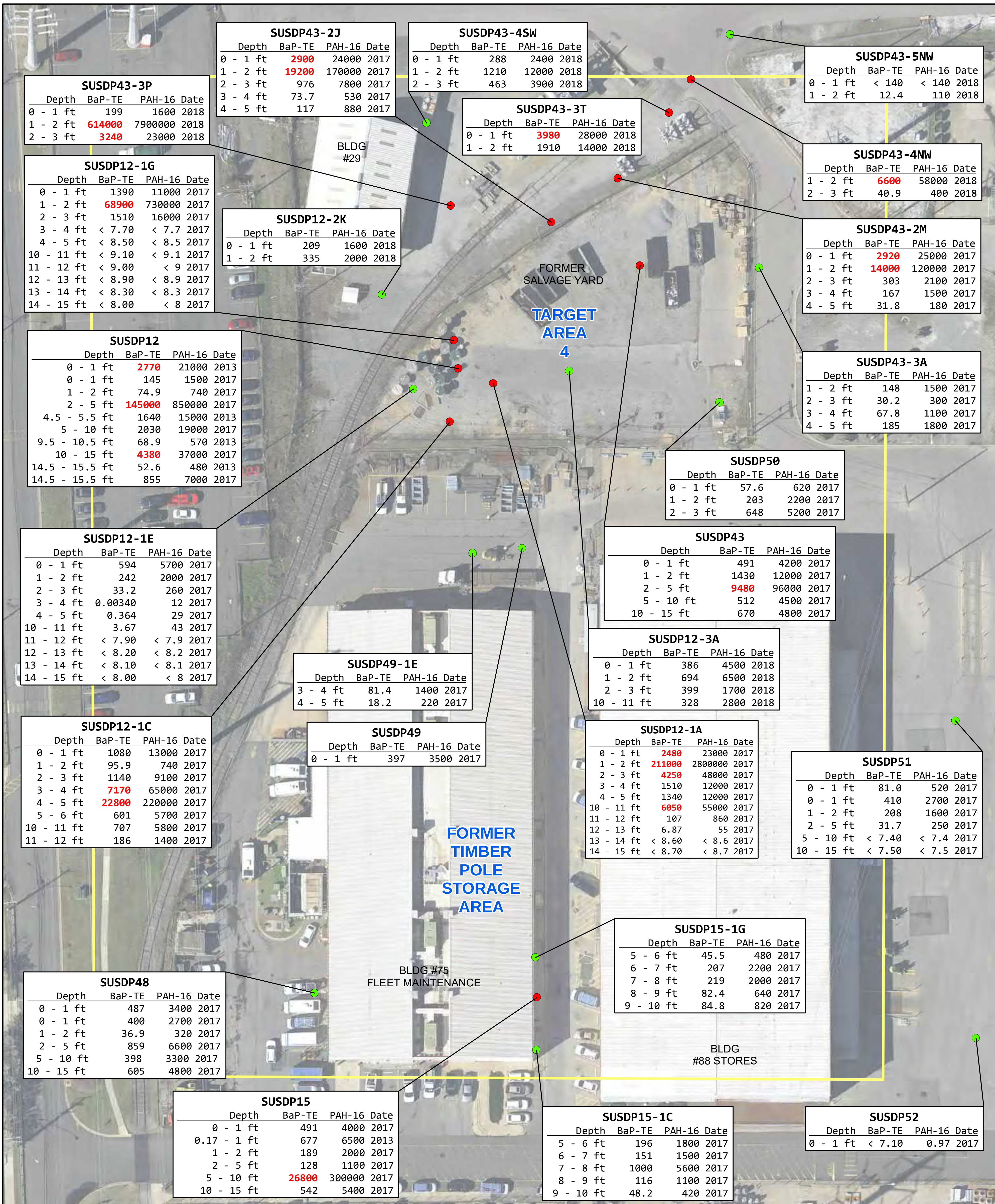
AECOM

0 80 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

PAH SOIL CONCENTRATIONS
IN TARGET AREAS 1, 3, 5, 10, & 11

Date: 11/1/2018 | Drawn By: JB | Checked By: JL | FIGURE 4-5




**SUSDP43-3P**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 199 | 1600 | 2018 |
| 1 - 2 ft | 614000 | 7900000 | 2018 |
| 2 - 3 ft | 3240 | 23000 | 2018 |

**SUSDP43-2J**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 2900 | 24000 | 2017 |
| 1 - 2 ft | 19200 | 170000 | 2017 |
| 2 - 3 ft | 976 | 7800 | 2017 |
| 3 - 4 ft | 73.7 | 530 | 2017 |
| 4 - 5 ft | 117 | 880 | 2017 |

**SUSDP43-4SW**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 288 | 2400 | 2018 |
| 1 - 2 ft | 1210 | 12000 | 2018 |
| 2 - 3 ft | 463 | 3900 | 2018 |

**SUSDP43-5NW**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | < 140 | < 140 | 2018 |
| 1 - 2 ft | 12.4 | 110 | 2018 |

**SUSDP43-3T**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 3980 | 28000 | 2018 |
| 1 - 2 ft | 1910 | 14000 | 2018 |

**SUSDP43-4NW**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 1 - 2 ft | 6600 | 58000 | 2018 |
| 2 - 3 ft | 40.9 | 400 | 2018 |

**SUSDP12-1G**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 1390 | 11000 | 2017 |
| 1 - 2 ft | 68900 | 730000 | 2017 |
| 2 - 3 ft | 1510 | 16000 | 2017 |
| 3 - 4 ft | < 7.70 | < 7.7 | 2017 |
| 4 - 5 ft | < 8.50 | < 8.5 | 2017 |
| 10 - 11 ft | < 9.10 | < 9.1 | 2017 |
| 11 - 12 ft | < 9.00 | < 9 | 2017 |
| 12 - 13 ft | < 8.90 | < 8.9 | 2017 |
| 13 - 14 ft | < 8.30 | < 8.3 | 2017 |
| 14 - 15 ft | < 8.00 | < 8 | 2017 |

**SUSDP12-2K**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 209 | 1600 | 2018 |
| 1 - 2 ft | 335 | 2000 | 2018 |

**SUSDP43-2M**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 2920 | 25000 | 2017 |
| 1 - 2 ft | 14000 | 120000 | 2017 |
| 2 - 3 ft | 303 | 2100 | 2017 |
| 3 - 4 ft | 167 | 1500 | 2017 |
| 4 - 5 ft | 31.8 | 180 | 2017 |

**SUSDP12**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 2770 | 21000 | 2013 |
| 0 - 1 ft | 145 | 1500 | 2017 |
| 1 - 2 ft | 74.9 | 740 | 2017 |
| 2 - 5 ft | 145000 | 850000 | 2017 |
| 4.5 - 5.5 ft | 1640 | 15000 | 2013 |
| 5 - 10 ft | 2030 | 19000 | 2017 |
| 9.5 - 10.5 ft | 68.9 | 570 | 2013 |
| 10 - 15 ft | 4380 | 37000 | 2017 |
| 14.5 - 15.5 ft | 52.6 | 480 | 2013 |
| 14.5 - 15.5 ft | 855 | 7000 | 2017 |

**SUSDP43-3A**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 1 - 2 ft | 148 | 1500 | 2017 |
| 2 - 3 ft | 30.2 | 300 | 2017 |
| 3 - 4 ft | 67.8 | 1100 | 2017 |
| 4 - 5 ft | 185 | 1800 | 2017 |

**SUSDP50**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 57.6 | 620 | 2017 |
| 1 - 2 ft | 203 | 2200 | 2017 |
| 2 - 3 ft | 648 | 5200 | 2017 |

**SUSDP12-1E**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 594 | 5700 | 2017 |
| 1 - 2 ft | 242 | 2000 | 2017 |
| 2 - 3 ft | 33.2 | 260 | 2017 |
| 3 - 4 ft | 0.00340 | 12 | 2017 |
| 4 - 5 ft | 0.364 | 29 | 2017 |
| 10 - 11 ft | 3.67 | 43 | 2017 |
| 11 - 12 ft | < 7.90 | < 7.9 | 2017 |
| 12 - 13 ft | < 8.20 | < 8.2 | 2017 |
| 13 - 14 ft | < 8.10 | < 8.1 | 2017 |
| 14 - 15 ft | < 8.00 | < 8 | 2017 |

**SUSDP43**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 491 | 4200 | 2017 |
| 1 - 2 ft | 1430 | 12000 | 2017 |
| 2 - 5 ft | 9480 | 96000 | 2017 |
| 5 - 10 ft | 512 | 4500 | 2017 |
| 10 - 15 ft | 670 | 4800 | 2017 |

**SUSDP12-3A**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 386 | 4500 | 2018 |
| 1 - 2 ft | 694 | 6500 | 2018 |
| 2 - 3 ft | 399 | 1700 | 2018 |
| 10 - 11 ft | 328 | 2800 | 2018 |

**SUSDP49-1E**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 3 - 4 ft | 81.4 | 1400 | 2017 |
| 4 - 5 ft | 18.2 | 220 | 2017 |

**SUSDP12-1C**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 1080 | 13000 | 2017 |
| 1 - 2 ft | 95.9 | 740 | 2017 |
| 2 - 3 ft | 1140 | 9100 | 2017 |
| 3 - 4 ft | 7170 | 65000 | 2017 |
| 4 - 5 ft | 22800 | 220000 | 2017 |
| 5 - 6 ft | 601 | 5700 | 2017 |
| 10 - 11 ft | 707 | 5800 | 2017 |
| 11 - 12 ft | 186 | 1400 | 2017 |

**SUSDP49**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 397 | 3500 | 2017 |

**SUSDP12-1A**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 2480 | 23000 | 2017 |
| 1 - 2 ft | 211000 | 2800000 | 2017 |
| 2 - 3 ft | 4250 | 48000 | 2017 |
| 3 - 4 ft | 1510 | 12000 | 2017 |
| 4 - 5 ft | 1340 | 12000 | 2017 |
| 10 - 11 ft | 6050 | 55000 | 2017 |
| 11 - 12 ft | 107 | 860 | 2017 |
| 12 - 13 ft | 6.87 | 55 | 2017 |
| 13 - 14 ft | < 8.60 | < 8.6 | 2017 |
| 14 - 15 ft | < 8.70 | < 8.7 | 2017 |

**SUSDP51**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 81.0 | 520 | 2017 |
| 0 - 1 ft | 410 | 2700 | 2017 |
| 1 - 2 ft | 208 | 1600 | 2017 |
| 2 - 5 ft | 31.7 | 250 | 2017 |
| 5 - 10 ft | < 7.40 | < 7.4 | 2017 |
| 10 - 15 ft | < 7.50 | < 7.5 | 2017 |

**SUSDP15-1G**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 5 - 6 ft | 45.5 | 480 | 2017 |
| 6 - 7 ft | 207 | 2200 | 2017 |
| 7 - 8 ft | 219 | 2000 | 2017 |
| 8 - 9 ft | 82.4 | 640 | 2017 |
| 9 - 10 ft | 84.8 | 820 | 2017 |

**SUSDP48**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 487 | 3400 | 2017 |
| 0 - 1 ft | 400 | 2700 | 2017 |
| 1 - 2 ft | 36.9 | 320 | 2017 |
| 2 - 5 ft | 859 | 6600 | 2017 |
| 5 - 10 ft | 398 | 3300 | 2017 |
| 10 - 15 ft | 605 | 4800 | 2017 |

**SUSDP15**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 491 | 4000 | 2017 |
| 0.17 - 1 ft | 677 | 6500 | 2013 |
| 1 - 2 ft | 189 | 2000 | 2017 |
| 2 - 5 ft | 128 | 1100 | 2017 |
| 5 - 10 ft | 26800 | 300000 | 2017 |
| 10 - 15 ft | 542 | 5400 | 2017 |

**SUSDP15-1C**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 5 - 6 ft | 196 | 1800 | 2017 |
| 6 - 7 ft | 151 | 1500 | 2017 |
| 7 - 8 ft | 1000 | 5600 | 2017 |
| 8 - 9 ft | 116 | 1100 | 2017 |
| 9 - 10 ft | 48.2 | 420 | 2017 |

**SUSDP52**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | < 7.10 | 0.97 | 2017 |

LEGEND

**BAP-TE**

- < 2100 µg/kg
- > 2100 µg/kg
- GROUP LOCATION
- SAMPLING GRID

NOTE
BaP-TE SCREENING LEVEL = 2100 µg/kg
1.5x SCREENING LEVEL = 3150 µg/kg

MAP LOCATION

AECOM

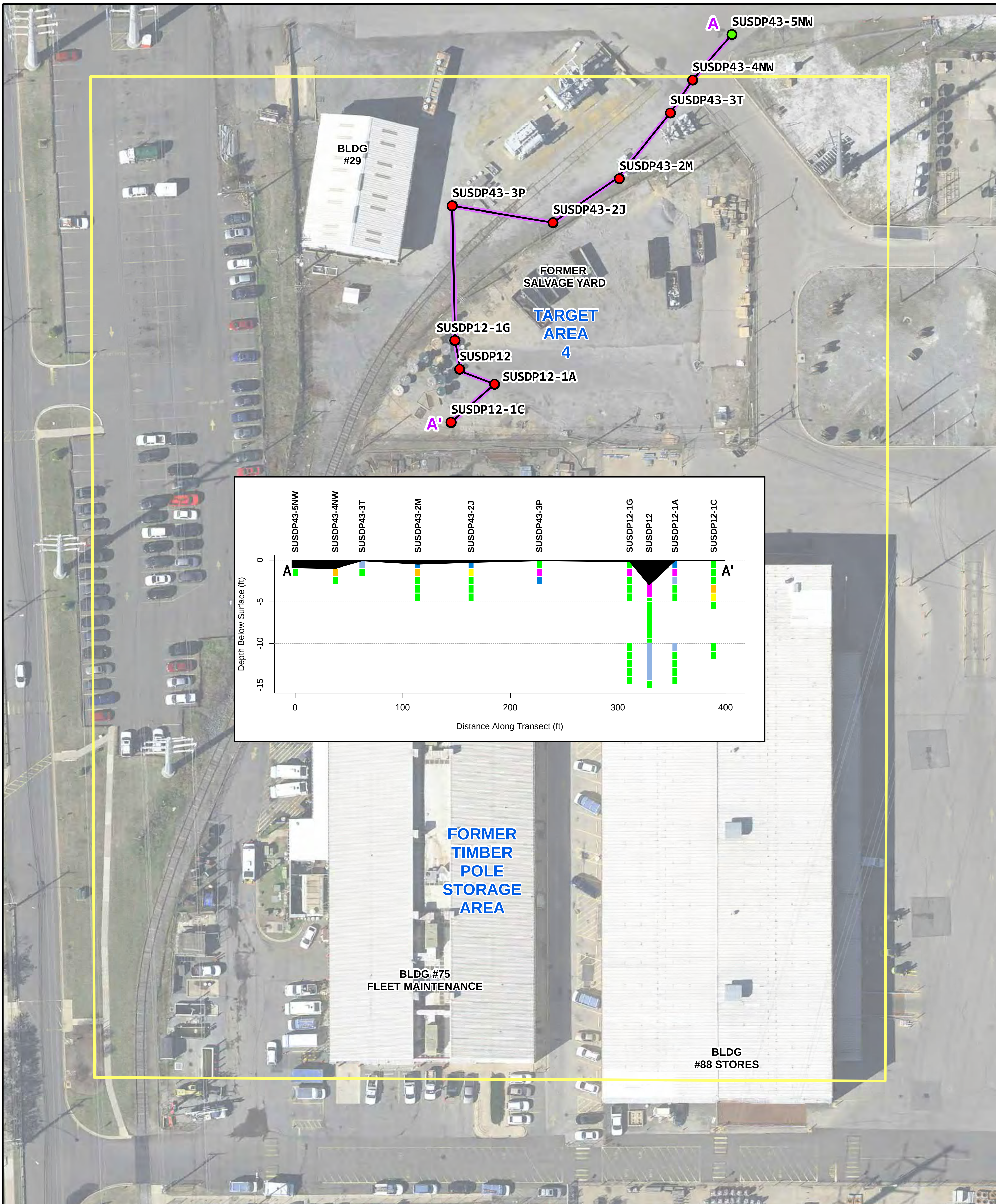
0 60 Feet

W N S E

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

PAH SOIL CONCENTRATIONS
IN TARGET AREA 4 (FORMER SALVAGE YARD)
AND FORMER TIMBER POLE STORAGE AREAS

| Date: 10/24/2018 | Drawn By: JB | Checked By: JL | FIGURE 4-6A |
|---|---|---|---|




MAP LEGEND

**BAP-TE**

- < 2100 µg/kg
- > 2100 µg/kg
- GROUP LOCATION
- SAMPLING GRID
- Transect

TRANSECT GRAPH LEGEND

**BAP-TE**

- < 2100 µg/kg
- 2100 - 3682 µg/kg
- 3682 - 6260 µg/kg
- 6260 - 14200 µg/kg
- 14200 - 26940 µg/kg
- 26940 - 898000 µg/kg
- LOOSE STONE SURFACE COVER
- ASPHALT, CONCRETE OR HARD-PACKED GRAVEL SURFACE COVER
- SOIL SURFACE COVER

NOTE
BaP-TE SCREENING LEVEL = 2100 µg/kg
1.5x SCREENING LEVEL = 3150 µg/kg

MAP LOCATION

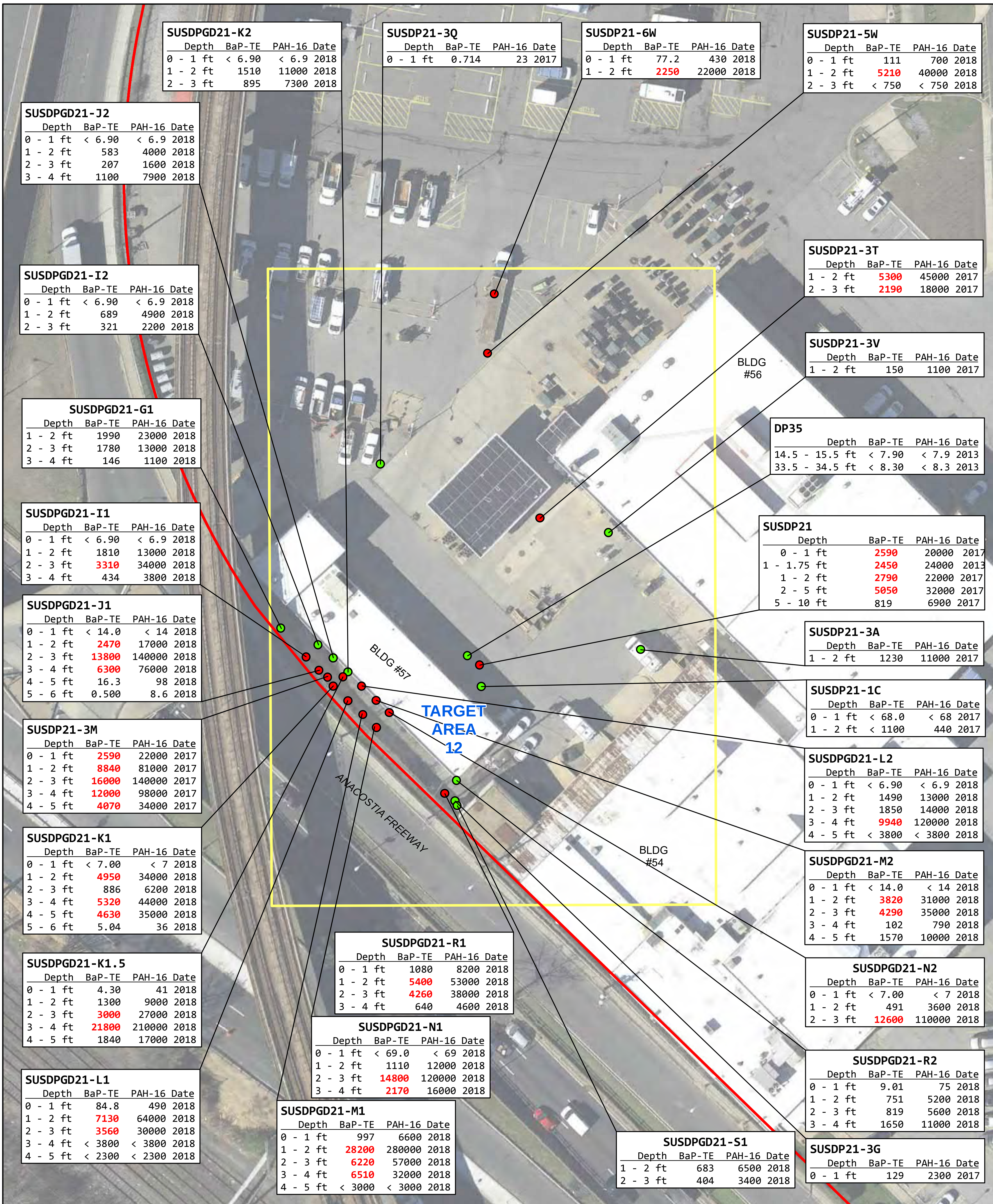
AECOM

0 60
Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

TRANSECT GRAPHS FOR PAH SOIL CONCENTRATIONS
IN TARGET AREA 4 (FORMER SALVAGE YARD)
AND FORMER TIMBER POLE STORAGE AREAS

| Date: 6/5/2019 | Drawn By: JB/DB | Checked By: EF/RK | FIGURE 4-6B |
|---|---|---|---|




**SUSDPGD21-K2**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | < 6.90 | < 6.9 | 2018 |
| 1 - 2 ft | 1510 | 11000 | 2018 |
| 2 - 3 ft | 895 | 7300 | 2018 |

**SUSDP21-3Q**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 0.714 | 23 | 2017 |

**SUSDP21-6W**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 77.2 | 430 | 2018 |
| 1 - 2 ft | 2250 | 22000 | 2018 |

**SUSDP21-5W**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 111 | 700 | 2018 |
| 1 - 2 ft | 5210 | 40000 | 2018 |
| 2 - 3 ft | < 750 | < 750 | 2018 |

**SUSDPGD21-J2**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | < 6.90 | < 6.9 | 2018 |
| 1 - 2 ft | 583 | 4000 | 2018 |
| 2 - 3 ft | 207 | 1600 | 2018 |
| 3 - 4 ft | 1100 | 7900 | 2018 |

**SUSDP21-3T**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 1 - 2 ft | 5300 | 45000 | 2017 |
| 2 - 3 ft | 2190 | 18000 | 2017 |

**SUSDPGD21-I2**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | < 6.90 | < 6.9 | 2018 |
| 1 - 2 ft | 689 | 4900 | 2018 |
| 2 - 3 ft | 321 | 2200 | 2018 |

**SUSDP21-3V**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 1 - 2 ft | 150 | 1100 | 2017 |

**SUSDPGD21-G1**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 1 - 2 ft | 1990 | 23000 | 2018 |
| 2 - 3 ft | 1780 | 13000 | 2018 |
| 3 - 4 ft | 146 | 1100 | 2018 |

**DP35**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 14.5 - 15.5 ft | < 7.90 | < 7.9 | 2013 |
| 33.5 - 34.5 ft | < 8.30 | < 8.3 | 2013 |

**SUSDPGD21-I1**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | < 6.90 | < 6.9 | 2018 |
| 1 - 2 ft | 1810 | 13000 | 2018 |
| 2 - 3 ft | 3310 | 34000 | 2018 |
| 3 - 4 ft | 434 | 3800 | 2018 |

**SUSDP21**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 2590 | 20000 | 2017 |
| 1 - 1.75 ft | 2450 | 24000 | 2013 |
| 1 - 2 ft | 2790 | 22000 | 2017 |
| 2 - 5 ft | 5050 | 32000 | 2017 |
| 5 - 10 ft | 819 | 6900 | 2017 |

**SUSDPGD21-J1**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | < 14.0 | < 14 | 2018 |
| 1 - 2 ft | 2470 | 17000 | 2018 |
| 2 - 3 ft | 13800 | 140000 | 2018 |
| 3 - 4 ft | 6300 | 76000 | 2018 |
| 4 - 5 ft | 16.3 | 98 | 2018 |
| 5 - 6 ft | 0.500 | 8.6 | 2018 |

**SUSDP21-3A**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 1 - 2 ft | 1230 | 11000 | 2017 |

**SUSDP21-1C**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | < 68.0 | < 68 | 2017 |
| 1 - 2 ft | < 1100 | 440 | 2017 |

**SUSDP21-3M**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 2590 | 22000 | 2017 |
| 1 - 2 ft | 8840 | 81000 | 2017 |
| 2 - 3 ft | 16000 | 140000 | 2017 |
| 3 - 4 ft | 12000 | 98000 | 2017 |
| 4 - 5 ft | 4070 | 34000 | 2017 |

**SUSDPGD21-L2**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | < 6.90 | < 6.9 | 2018 |
| 1 - 2 ft | 1490 | 13000 | 2018 |
| 2 - 3 ft | 1850 | 14000 | 2018 |
| 3 - 4 ft | 9940 | 120000 | 2018 |
| 4 - 5 ft | < 3800 | < 3800 | 2018 |

**SUSDPGD21-K1**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | < 7.00 | < 7 | 2018 |
| 1 - 2 ft | 4950 | 34000 | 2018 |
| 2 - 3 ft | 886 | 6200 | 2018 |
| 3 - 4 ft | 5320 | 44000 | 2018 |
| 4 - 5 ft | 4630 | 35000 | 2018 |
| 5 - 6 ft | 5.04 | 36 | 2018 |

**SUSDPGD21-M2**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | < 14.0 | < 14 | 2018 |
| 1 - 2 ft | 3820 | 31000 | 2018 |
| 2 - 3 ft | 4290 | 35000 | 2018 |
| 3 - 4 ft | 102 | 790 | 2018 |
| 4 - 5 ft | 1570 | 10000 | 2018 |

**SUSDPGD21-R1**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 1080 | 8200 | 2018 |
| 1 - 2 ft | 5400 | 53000 | 2018 |
| 2 - 3 ft | 4260 | 38000 | 2018 |
| 3 - 4 ft | 640 | 4600 | 2018 |

**SUSDPGD21-K1.5**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 4.30 | 41 | 2018 |
| 1 - 2 ft | 1300 | 9000 | 2018 |
| 2 - 3 ft | 3000 | 27000 | 2018 |
| 3 - 4 ft | 21800 | 210000 | 2018 |
| 4 - 5 ft | 1840 | 17000 | 2018 |

**SUSDPGD21-N2**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | < 7.00 | < 7 | 2018 |
| 1 - 2 ft | 491 | 3600 | 2018 |
| 2 - 3 ft | 12600 | 110000 | 2018 |

**SUSDPGD21-N1**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | < 69.0 | < 69 | 2018 |
| 1 - 2 ft | 1110 | 12000 | 2018 |
| 2 - 3 ft | 14800 | 120000 | 2018 |
| 3 - 4 ft | 2170 | 16000 | 2018 |

**SUSDPGD21-L1**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 84.8 | 490 | 2018 |
| 1 - 2 ft | 7130 | 64000 | 2018 |
| 2 - 3 ft | 3560 | 30000 | 2018 |
| 3 - 4 ft | < 3800 | < 3800 | 2018 |
| 4 - 5 ft | < 2300 | < 2300 | 2018 |

**SUSDPGD21-M1**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 997 | 6600 | 2018 |
| 1 - 2 ft | 28200 | 280000 | 2018 |
| 2 - 3 ft | 6220 | 57000 | 2018 |
| 3 - 4 ft | 6510 | 32000 | 2018 |
| 4 - 5 ft | < 3000 | < 3000 | 2018 |

**SUSDPGD21-R2**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 9.01 | 75 | 2018 |
| 1 - 2 ft | 751 | 5200 | 2018 |
| 2 - 3 ft | 819 | 5600 | 2018 |
| 3 - 4 ft | 1650 | 11000 | 2018 |

**SUSDPGD21-S1**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 1 - 2 ft | 683 | 6500 | 2018 |
| 2 - 3 ft | 404 | 3400 | 2018 |

**SUSDP21-3G**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 129 | 2300 | 2017 |

MAP LOCATION

LEGEND

**BAP-TE**

< 2100 μg/kg

> 2100 μg/kg

GROUP LOCATION

PROPERTY BOUNDARY

SAMPLING GRID

NOTE
BaP-TE SCREENING LEVEL = 2100 μg/kg
1.5x SCREENING LEVEL = 3150 μg/kg

AECOM

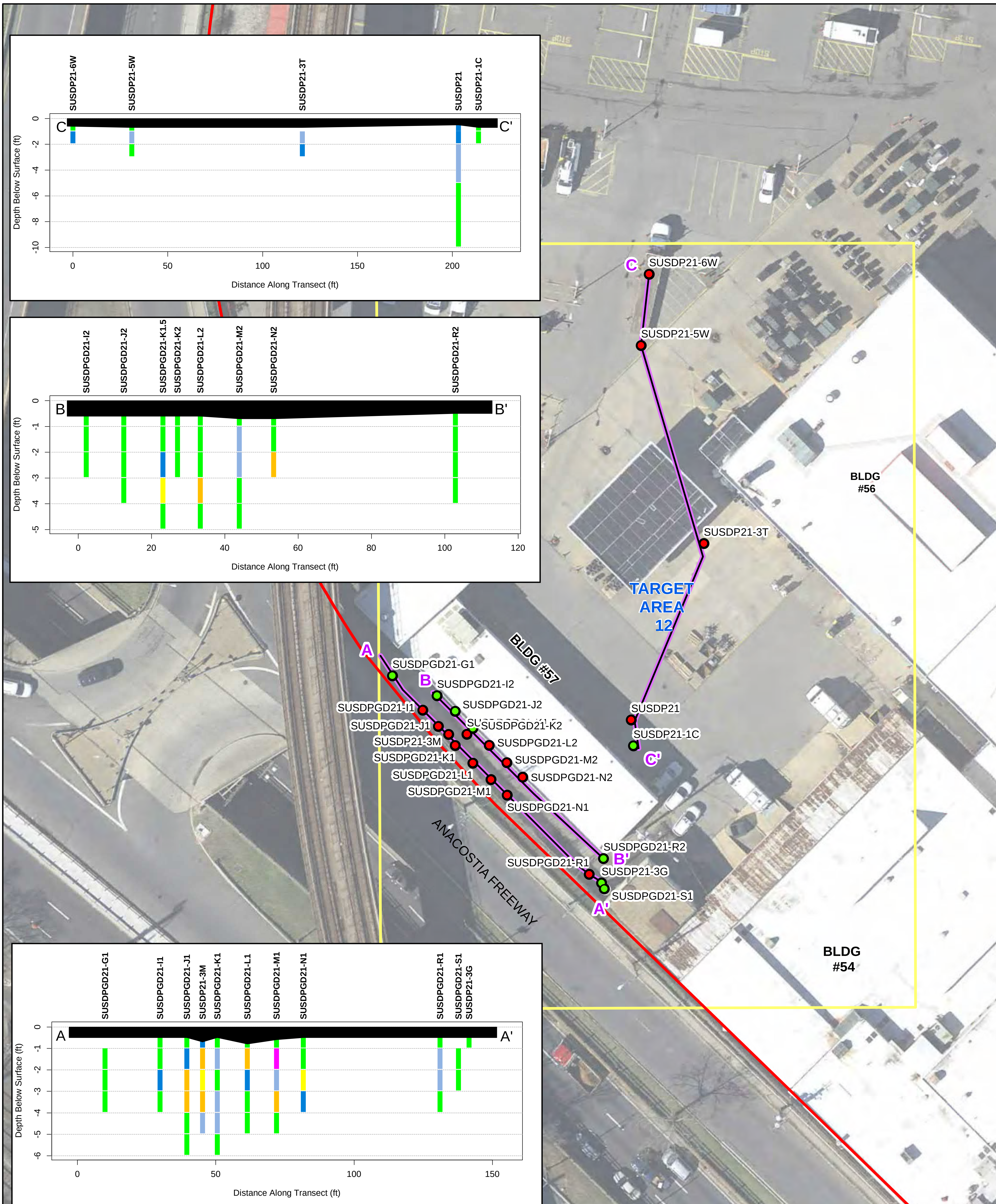
0 50 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

PAH SOIL CONCENTRATIONS
IN TARGET AREA 12 (BUILDING #57)

Date: 10/2/2018 | Drawn By: JB | Checked By: JL

FIGURE 4-7A




MAP LEGEND

**BAP-TE**

- < 2100 µg/kg
- > 2100 µg/kg
- GROUP LOCATION
- PROPERTY BOUNDARY
- SAMPLING GRID
- Transect

TRANSECT GRAPH LEGEND

**BAP-TE**

- < 2100 µg/kg
- 2100 - 3682 µg/kg
- 3682 - 6260 µg/kg
- 6260 - 14200 µg/kg
- 14200 - 26940 µg/kg
- 26940 - 898000 µg/kg
- LOOSE STONE SURFACE COVER
- ASPHALT, CONCRETE OR HARD-PACKED GRAVEL SURFACE COVER
- SOIL SURFACE COVER

NOTE
BaP-TE SCREENING LEVEL = 2100 µg/kg
1.5x SCREENING LEVEL = 3150 µg/kg

MAP LOCATION

AECOM

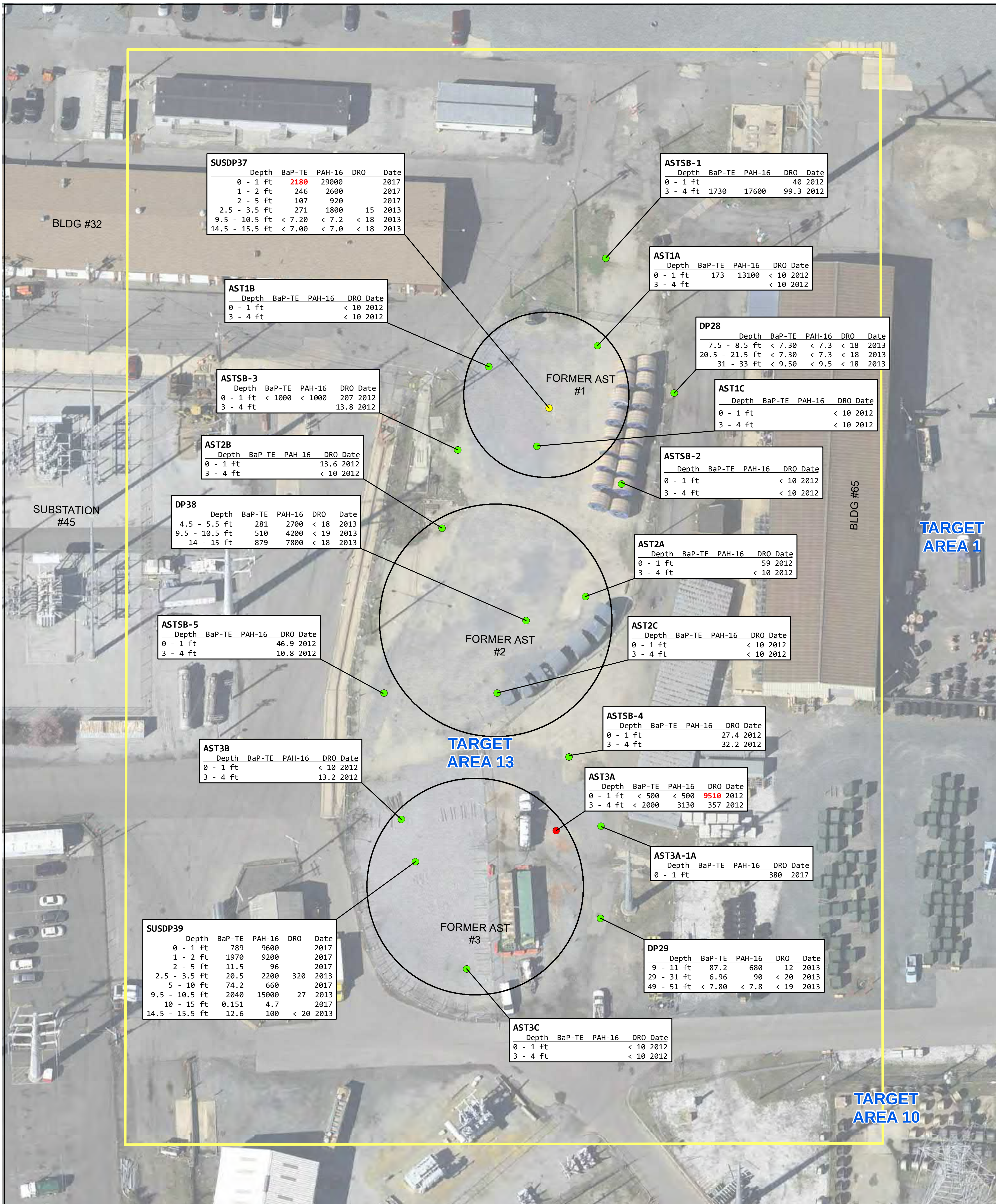
0 50 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

TRANSECT GRAPHS FOR PAH SOIL CONCENTRATIONS IN TARGET AREA 12 (BUILDING #57)

Date: 6/5/2019 | Drawn By: JB/DB | Checked By: EF/RK

FIGURE 4-7B




LEGEND

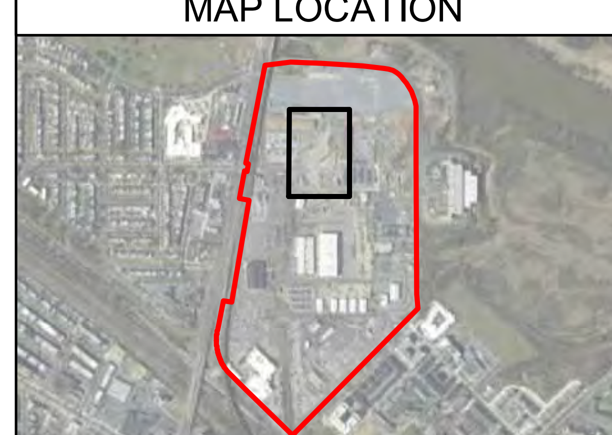
**BaP-TE SCREENING LEVEL**

- < 2100 µg/kg
- >2100 µg/kg, all individual PAHs <SLs
- > 2100 µg/kg

**DRO SCREENING LEVEL**

- < 440 mg/kg
- > 440 mg/kg
- GROUP LOCATION
- PROPERTY BOUNDARY
- SAMPLING GRID

MAP LOCATION



AECOM

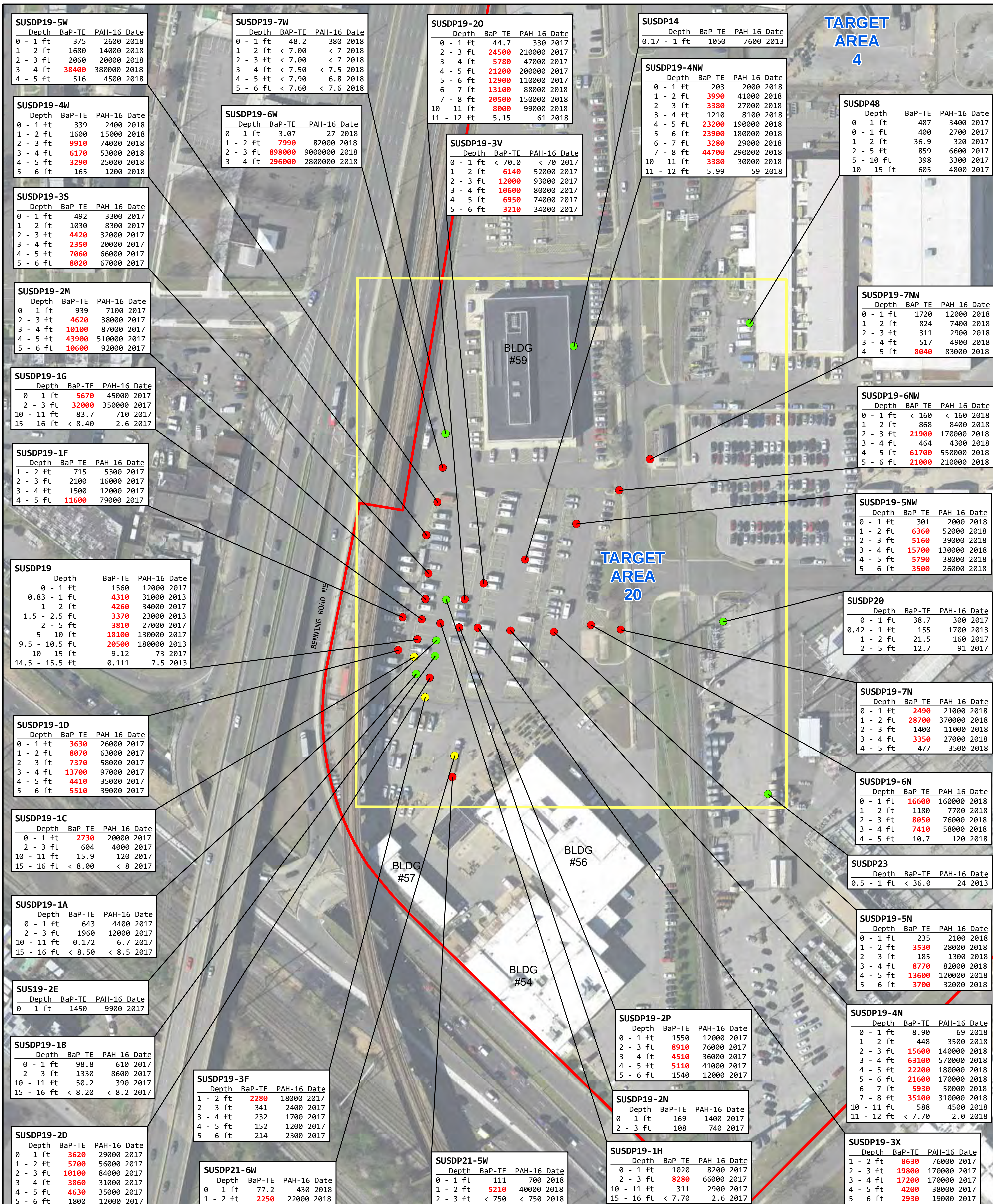
0 60 Feet

W N E S

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

PAH AND DRO SOIL CONCENTRATIONS
IN TARGET AREA 13 (FORMER AST AREA)

| Date: 10/2/2018 | Drawn By: JB | Checked By: JL | FIGURE 4-8 |
|---|---|---|---|




**SUSDP19-5W**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 375 | 2600 | 2018 |
| 1 - 2 ft | 1680 | 14000 | 2018 |
| 2 - 3 ft | 2060 | 20000 | 2018 |
| 3 - 4 ft | 38400 | 380000 | 2018 |
| 4 - 5 ft | 516 | 4500 | 2018 |

**SUSDP19-4W**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 339 | 2400 | 2018 |
| 1 - 2 ft | 1600 | 15000 | 2018 |
| 2 - 3 ft | 9910 | 74000 | 2018 |
| 3 - 4 ft | 6170 | 53000 | 2018 |
| 4 - 5 ft | 3290 | 25000 | 2018 |
| 5 - 6 ft | 165 | 1200 | 2018 |

**SUSDP19-3S**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 492 | 3300 | 2017 |
| 1 - 2 ft | 1030 | 8300 | 2017 |
| 2 - 3 ft | 4420 | 32000 | 2017 |
| 3 - 4 ft | 2350 | 20000 | 2017 |
| 4 - 5 ft | 7060 | 66000 | 2017 |
| 5 - 6 ft | 8020 | 67000 | 2017 |

**SUSDP19-2M**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 939 | 7100 | 2017 |
| 2 - 3 ft | 4620 | 38000 | 2017 |
| 3 - 4 ft | 10100 | 87000 | 2017 |
| 4 - 5 ft | 43900 | 510000 | 2017 |
| 5 - 6 ft | 10600 | 92000 | 2017 |

**SUSDP19-1G**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 5670 | 45000 | 2017 |
| 2 - 3 ft | 32000 | 350000 | 2017 |
| 10 - 11 ft | 83.7 | 710 | 2017 |
| 15 - 16 ft | < 8.40 | 2.6 | 2017 |

**SUSDP19-1F**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 1 - 2 ft | 715 | 5300 | 2017 |
| 2 - 3 ft | 2100 | 16000 | 2017 |
| 3 - 4 ft | 1500 | 12000 | 2017 |
| 4 - 5 ft | 11600 | 79000 | 2017 |

**SUSDP19**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 1560 | 12000 | 2017 |
| 0.83 - 1 ft | 4310 | 31000 | 2013 |
| 1 - 2 ft | 4260 | 34000 | 2017 |
| 1.5 - 2.5 ft | 3370 | 23000 | 2013 |
| 2 - 5 ft | 3810 | 27000 | 2017 |
| 5 - 10 ft | 18100 | 130000 | 2017 |
| 9.5 - 10.5 ft | 20500 | 180000 | 2013 |
| 10 - 15 ft | 9.12 | 73 | 2017 |
| 14.5 - 15.5 ft | 0.111 | 7.5 | 2013 |

**SUSDP19-1D**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 3630 | 26000 | 2017 |
| 1 - 2 ft | 8070 | 63000 | 2017 |
| 2 - 3 ft | 7370 | 58000 | 2017 |
| 3 - 4 ft | 13700 | 97000 | 2017 |
| 4 - 5 ft | 4410 | 35000 | 2017 |
| 5 - 6 ft | 5510 | 39000 | 2017 |

**SUSDP19-1C**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 2730 | 20000 | 2017 |
| 2 - 3 ft | 604 | 4000 | 2017 |
| 10 - 11 ft | 15.9 | 120 | 2017 |
| 15 - 16 ft | < 8.00 | < 8 | 2017 |

**SUSDP19-1A**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 643 | 4400 | 2017 |
| 2 - 3 ft | 1960 | 12000 | 2017 |
| 10 - 11 ft | 0.172 | 6.7 | 2017 |
| 15 - 16 ft | < 8.50 | < 8.5 | 2017 |

**SUS19-2E**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 1450 | 9900 | 2017 |

**SUSDP19-1B**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 98.8 | 610 | 2017 |
| 2 - 3 ft | 1330 | 8600 | 2017 |
| 10 - 11 ft | 50.2 | 390 | 2017 |
| 15 - 16 ft | < 8.20 | < 8.2 | 2017 |

**SUSDP19-2D**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 3620 | 29000 | 2017 |
| 1 - 2 ft | 5700 | 56000 | 2017 |
| 2 - 3 ft | 10100 | 84000 | 2017 |
| 3 - 4 ft | 3860 | 31000 | 2017 |
| 4 - 5 ft | 4630 | 35000 | 2017 |
| 5 - 6 ft | 1800 | 12000 | 2017 |

**SUSDP19-7W**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 48.2 | 380 | 2018 |
| 1 - 2 ft | < 7.00 | < 7 | 2018 |
| 2 - 3 ft | < 7.00 | < 7 | 2018 |
| 3 - 4 ft | < 7.50 | < 7.5 | 2018 |
| 4 - 5 ft | < 7.90 | 6.8 | 2018 |
| 5 - 6 ft | < 7.60 | < 7.6 | 2018 |

**SUSDP19-6W**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 3.07 | 27 | 2018 |
| 1 - 2 ft | 7990 | 82000 | 2018 |
| 2 - 3 ft | 898000 | 9000000 | 2018 |
| 3 - 4 ft | 296000 | 2800000 | 2018 |

**SUSDP19-2O**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 44.7 | 330 | 2017 |
| 2 - 3 ft | 24500 | 210000 | 2017 |
| 3 - 4 ft | 5780 | 47000 | 2017 |
| 4 - 5 ft | 21200 | 200000 | 2017 |
| 5 - 6 ft | 12900 | 110000 | 2017 |
| 6 - 7 ft | 13100 | 88000 | 2018 |
| 7 - 8 ft | 20500 | 150000 | 2018 |
| 10 - 11 ft | 8000 | 99000 | 2018 |
| 11 - 12 ft | 5.15 | 61 | 2018 |

**SUSDP19-3V**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | < 70.0 | < 70 | 2017 |
| 1 - 2 ft | 6140 | 52000 | 2017 |
| 2 - 3 ft | 12000 | 93000 | 2017 |
| 3 - 4 ft | 10600 | 80000 | 2017 |
| 4 - 5 ft | 6950 | 74000 | 2017 |
| 5 - 6 ft | 3210 | 34000 | 2017 |

**SUSDP14**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0.17 - 1 ft | 1050 | 7600 | 2013 |

**SUSDP19-4NW**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 203 | 2000 | 2018 |
| 1 - 2 ft | 3990 | 41000 | 2018 |
| 2 - 3 ft | 3380 | 27000 | 2018 |
| 3 - 4 ft | 1210 | 8100 | 2018 |
| 4 - 5 ft | 23200 | 190000 | 2018 |
| 5 - 6 ft | 23900 | 180000 | 2018 |
| 6 - 7 ft | 3280 | 29000 | 2018 |
| 7 - 8 ft | 44700 | 290000 | 2018 |
| 10 - 11 ft | 3380 | 30000 | 2018 |
| 11 - 12 ft | 5.99 | 59 | 2018 |

**SUSDP48**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 487 | 3400 | 2017 |
| 0 - 1 ft | 400 | 2700 | 2017 |
| 1 - 2 ft | 36.9 | 320 | 2017 |
| 2 - 5 ft | 859 | 6600 | 2017 |
| 5 - 10 ft | 398 | 3300 | 2017 |
| 10 - 15 ft | 605 | 4800 | 2017 |

**SUSDP19-7NW**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 1720 | 12000 | 2018 |
| 1 - 2 ft | 824 | 7400 | 2018 |
| 2 - 3 ft | 311 | 2900 | 2018 |
| 3 - 4 ft | 517 | 4900 | 2018 |
| 4 - 5 ft | 8040 | 83000 | 2018 |

**SUSDP19-6NW**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | < 160 | < 160 | 2018 |
| 1 - 2 ft | 868 | 8400 | 2018 |
| 2 - 3 ft | 21900 | 170000 | 2018 |
| 3 - 4 ft | 464 | 4300 | 2018 |
| 4 - 5 ft | 61700 | 550000 | 2018 |
| 5 - 6 ft | 21000 | 210000 | 2018 |

**SUSDP19-5NW**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 301 | 2000 | 2018 |
| 1 - 2 ft | 6360 | 52000 | 2018 |
| 2 - 3 ft | 5160 | 39000 | 2018 |
| 3 - 4 ft | 15700 | 130000 | 2018 |
| 4 - 5 ft | 5790 | 38000 | 2018 |
| 5 - 6 ft | 3500 | 26000 | 2018 |

**SUSDP20**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 38.7 | 300 | 2017 |
| 0.42 - 1 ft | 155 | 1700 | 2013 |
| 1 - 2 ft | 21.5 | 160 | 2017 |
| 2 - 5 ft | 12.7 | 91 | 2017 |

**SUSDP19-7N**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 2490 | 21000 | 2018 |
| 1 - 2 ft | 28700 | 370000 | 2018 |
| 2 - 3 ft | 1400 | 11000 | 2018 |
| 3 - 4 ft | 3350 | 27000 | 2018 |
| 4 - 5 ft | 477 | 3500 | 2018 |

**SUSDP19-6N**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 16600 | 160000 | 2018 |
| 1 - 2 ft | 1180 | 7700 | 2018 |
| 2 - 3 ft | 8050 | 76000 | 2018 |
| 3 - 4 ft | 7410 | 58000 | 2018 |
| 4 - 5 ft | 10.7 | 120 | 2018 |

**SUSDP23**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0.5 - 1 ft | < 36.0 | 24 | 2013 |

**SUSDP19-5N**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 235 | 2100 | 2018 |
| 1 - 2 ft | 3530 | 28000 | 2018 |
| 2 - 3 ft | 185 | 1300 | 2018 |
| 3 - 4 ft | 8770 | 82000 | 2018 |
| 4 - 5 ft | 13600 | 120000 | 2018 |
| 5 - 6 ft | 3700 | 32000 | 2018 |

**SUSDP19-4N**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 8.90 | 69 | 2018 |
| 1 - 2 ft | 448 | 3500 | 2018 |
| 2 - 3 ft | 15600 | 140000 | 2018 |
| 3 - 4 ft | 63100 | 570000 | 2018 |
| 4 - 5 ft | 22200 | 180000 | 2018 |
| 5 - 6 ft | 21600 | 170000 | 2018 |
| 6 - 7 ft | 5930 | 50000 | 2018 |
| 7 - 8 ft | 35100 | 310000 | 2018 |
| 10 - 11 ft | 588 | 4500 | 2018 |
| 11 - 12 ft | < 7.70 | 2.0 | 2018 |

**SUSDP19-3X**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 1 - 2 ft | 8630 | 76000 | 2017 |
| 2 - 3 ft | 19800 | 170000 | 2017 |
| 3 - 4 ft | 17200 | 170000 | 2017 |
| 4 - 5 ft | 4200 | 38000 | 2017 |
| 5 - 6 ft | 2930 | 19000 | 2017 |

**SUSDP19-2P**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 1550 | 12000 | 2017 |
| 2 - 3 ft | 8910 | 76000 | 2017 |
| 3 - 4 ft | 4510 | 36000 | 2017 |
| 4 - 5 ft | 5110 | 41000 | 2017 |
| 5 - 6 ft | 1540 | 12000 | 2017 |

**SUSDP19-2N**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 169 | 1400 | 2017 |
| 2 - 3 ft | 108 | 740 | 2017 |

**SUSDP19-1H**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 1020 | 8200 | 2017 |
| 2 - 3 ft | 8280 | 66000 | 2017 |
| 10 - 11 ft | 311 | 2900 | 2017 |
| 15 - 16 ft | < 7.70 | 2.6 | 2017 |

**SUSDP19-3F**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 1 - 2 ft | 2280 | 18000 | 2017 |
| 2 - 3 ft | 341 | 2400 | 2017 |
| 3 - 4 ft | 232 | 1700 | 2017 |
| 4 - 5 ft | 152 | 1200 | 2017 |
| 5 - 6 ft | 214 | 2300 | 2017 |

**SUSDP21-6W**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 77.2 | 430 | 2018 |
| 1 - 2 ft | 2250 | 22000 | 2018 |

**SUSDP21-5W**

| Depth | BaP-TE | PAH-16 | Date |
|---|---|---|---|
| 0 - 1 ft | 111 | 700 | 2018 |
| 1 - 2 ft | 5210 | 40000 | 2018 |
| 2 - 3 ft | < 750 | < 750 | 2018 |

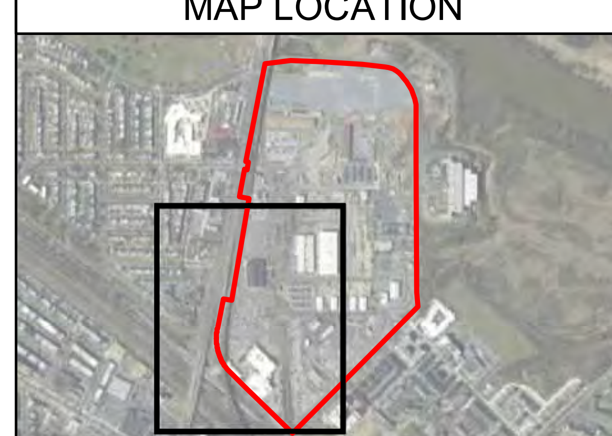
LEGEND

**BAP-TE**

- < 2100 µg/kg
- >2100 µg/kg, all individual PAHs <SLs
- > 2100 µg/kg
- GROUP LOCATION
- SAMPLING GRID
- PROPERTY BOUNDARY

NOTE
BaP-TE SCREENING LEVEL = 2100 µg/kg
1.5x SCREENING LEVEL = 3150 µg/kg

MAP LOCATION



AECOM

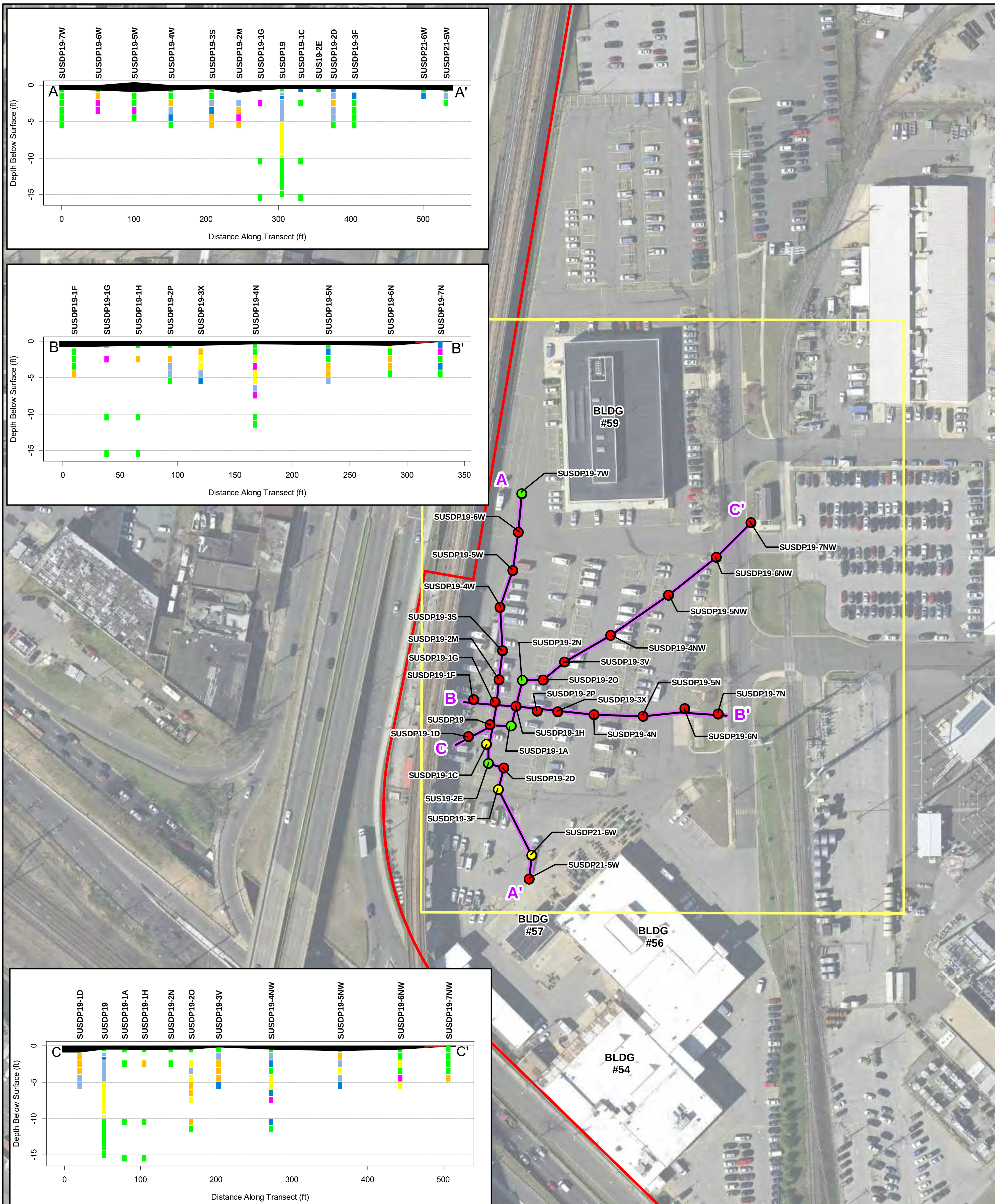
0 120 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

PAH SOIL CONCENTRATIONS
IN TARGET AREA 20
(FORMER RAIL YARD)

Date: 10/24/2018 | Drawn By: JB | Checked By: JL

FIGURE 4-9A




MAP LEGEND

GROUP LOCATION

**BAP-TE**

- < 2100 µg/kg
- > 2100 µg/kg, all individual PAHs <SLs
- > 2100 µg/kg

SAMPLING GRID

PROPERTY BOUNDARY

NOTE
BaP-TE SCREENING LEVEL = 2100 µg/kg
1.5x SCREENING LEVEL = 3150 µg/kg

TRANSECT GRAPH LEGEND

**BAP-TE**

- < 2100 µg/kg
- 2100 - 3682 µg/kg
- 3682 - 6260 µg/kg
- 6260 - 14200 µg/kg
- 14200 - 26940 µg/kg
- 26940 - 898000 µg/kg

LOOSE STONE SURFACE COVER

ASPHALT, CONCRETE OR HARD-PACKED GRAVEL SURFACE COVER

SOIL SURFACE COVER

AECOM

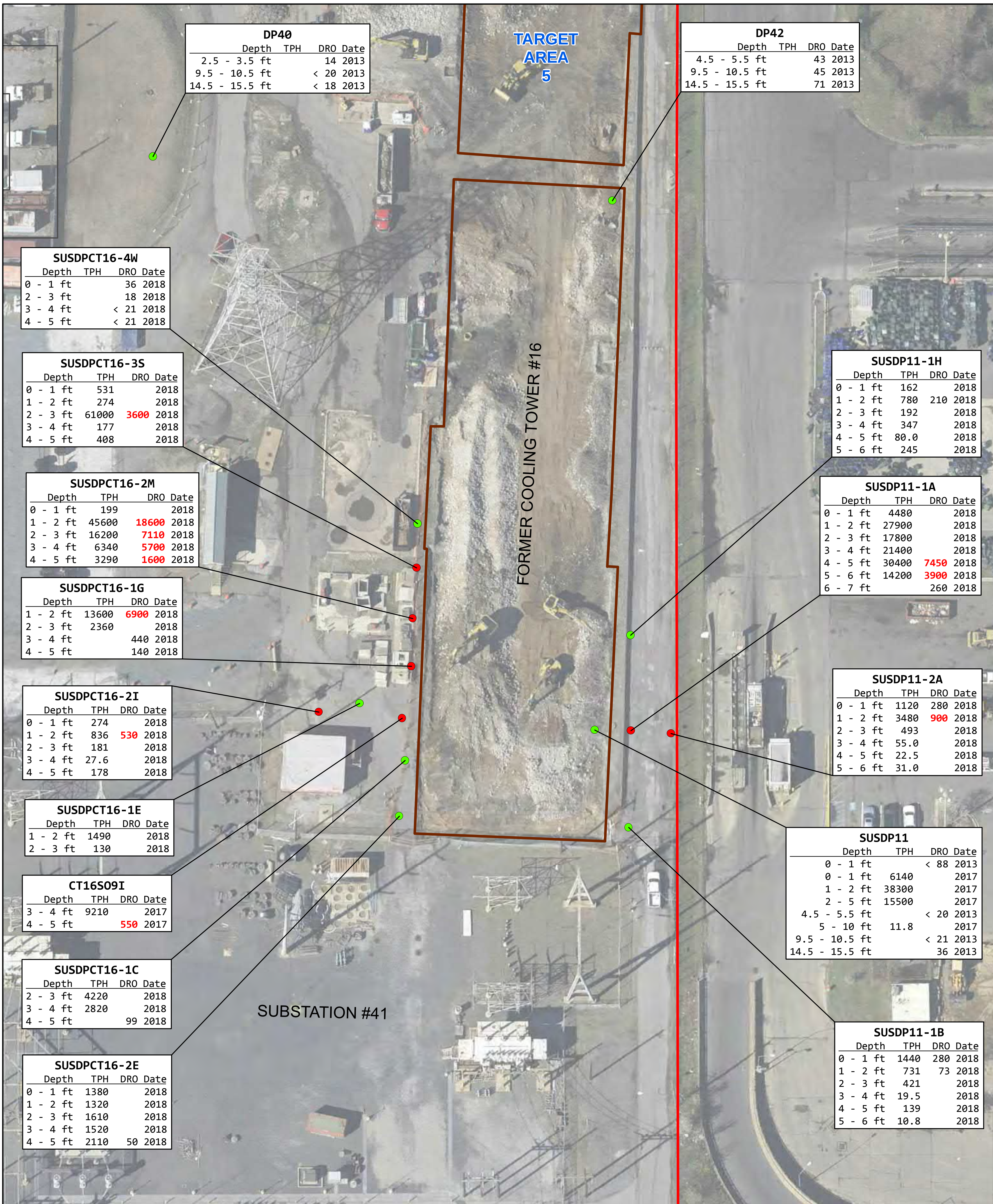
0 120 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

TRANSECT GRAPHS FOR PAH SOIL CONCENTRATIONS IN TARGET AREA 20 (FORMER RAIL YARD)

Date: 6/28/2019 | Drawn By: JB/DB | Checked By: EF/RK

FIGURE 4-9B




LEGEND

**DRO**

- < 440 mg/kg
- > 440 mg/kg
- COOLING TOWER SOIL EXCAVATION AREA
- PROPERTY BOUNDARY

NOTE
DRO SCREENING LEVEL = 440 mg/kg
1.5x SCREENING LEVEL = 660 mg/kg

## MAP LOCATION

AECOM

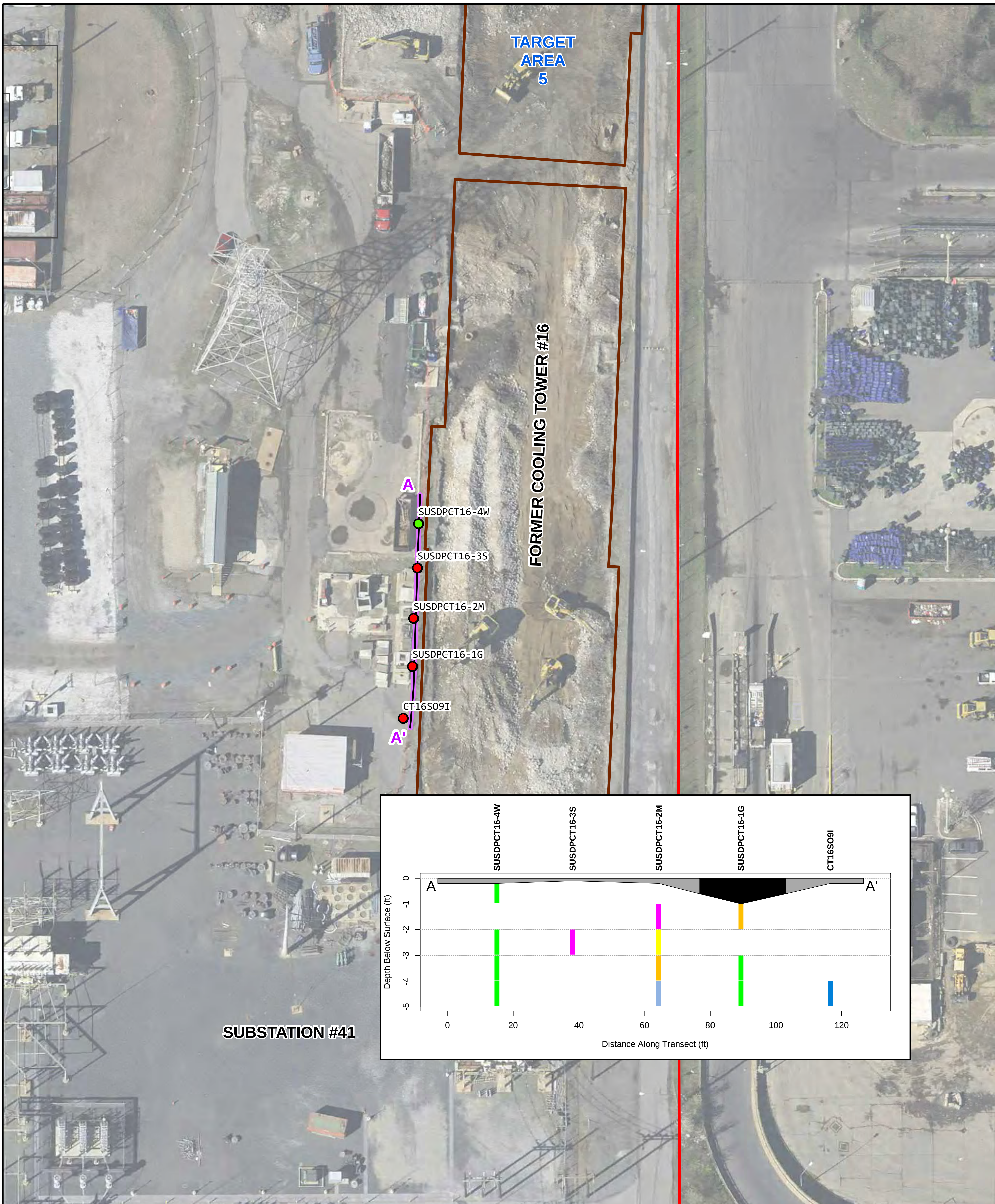
0 50 Feet

W N S E

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

TPH AND DRO SOIL CONCENTRATIONS
IN TARGET AREA 5 (Former Cooling Towers)

| Date: 10/2/2018 | Drawn By: JB | Checked By: JL | | FIGURE 4-10A |
|---|---|---|---|---|




MAP LEGEND

**DRO**

- < 440 mg/kg
- > 440 mg/kg
- COOLING TOWER SOIL EXCAVATION AREA
- PROPERTY BOUNDARY
- Transect

NOTE
DRO SCREENING LEVEL = 440 mg/kg
1.5x SCREENING LEVEL = 660 mg/kg

TRANSECT GRAPH LEGEND

**DRO**

- < 440 µg/kg
- 440 - 1250 µg/kg
- 1250 - 3900 µg/kg
- 3900 - 7175 µg/kg
- 7175 - 11140 µg/kg
- 11140 - 18600 µg/kg
- LOOSE STONE SURFACE COVER
- ASPHALT, CONCRETE OR HARD-PACKED GRAVEL SURFACE COVER
- SOIL SURFACE COVER

MAP LOCATION

AECOM

0 50 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

TRANSECT GRAPHS FOR DRO SOIL CONCENTRATIONS IN TARGET AREA 5 (FORMER COOLING TOWERS)

| Date: 6/5/2019 | Drawn By: JB/DB | Checked By: EH/RK | FIGURE 4-10B |
|---|---|---|---|


LEGEND

**DRO**

- < 440 mg/kg
- > 440 mg/kg
- GROUP LOCATION
- SAMPLING GRID

NOTE
DRO SCREENING LEVEL = 440 mg/kg
1.5x SCREENING LEVEL = 660 mg/kg

MAP LOCATION

AECOM

0 60
Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

DRO SOIL CONCENTRATIONS
IN TARGET AREA 4 (Former Salvage Yard)
AND FORMER TIMBER POLE STORAGE AREAS

Date: 10/3/2018 | Drawn By: JL | Checked By: | FIGURE 4-11


**Total PCBs (ug/kg)**

- <970 (PSL)
- 970 - 2,000
- 2,000 - 5,000
- 5,000 - 10,000
- >10,000

Cooling Tower Soil Excavation Area

Benning Road Facility Property Boundary

Note:
When multiple soil samples were collected at the same location (duplicate or different sample events), the concentration used on the figure is the maximum concentration.

AECOM

0 400 Feet

W N E S

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | TOTAL PCB CONCENTRATIONS<br>IN SURFACE SOIL | |
|---|---|---|---|---|
| Date: 10/25/2018 | Drawn By: KNS | Checked By: SED | | FIGURE 4-12A |


**Total PCBs (ug/kg)**

- <970 (PSL)
- 970 - 2,000
- 2,000 - 5,000
- 5,000 - 10,000
- >10,000

Cooling Tower Soil Excavation Area

Benning Road Facility Property Boundary

Note:
When multiple soil samples were collected at the same location (duplicate or different sample events), the concentration used on the figure is the maximum concentration.

AECOM

0 400 Feet

W N S E

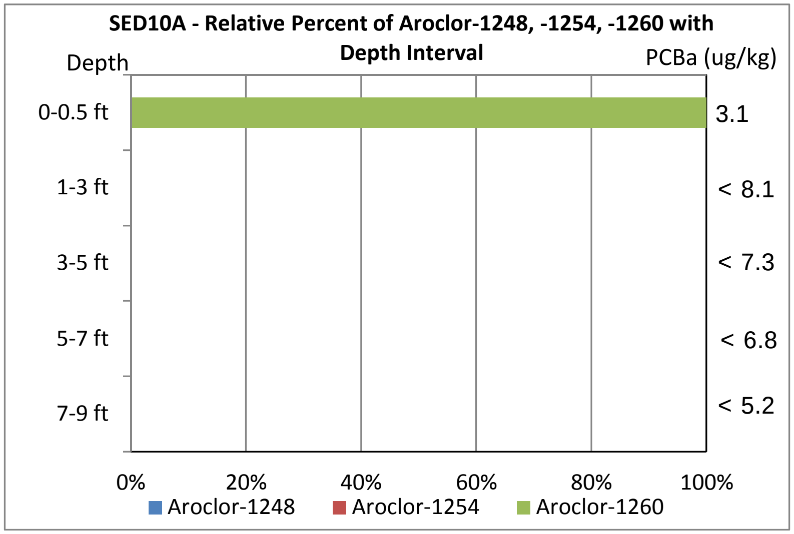
| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | TOTAL PCB CONCENTRATIONS<br>IN SURFACE SOIL |
|---|---|---|---|
| Date: 10/25/2018 | Drawn By: KNS | Checked By: SED | FIGURE 4-12A |

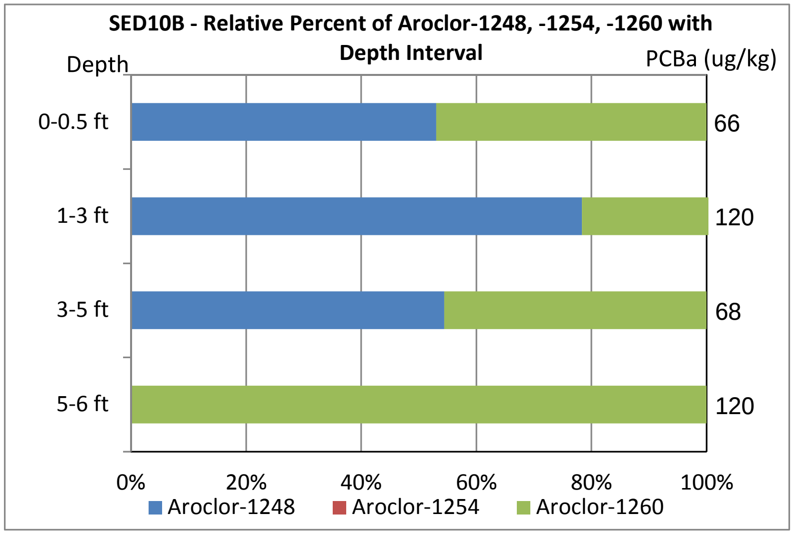

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

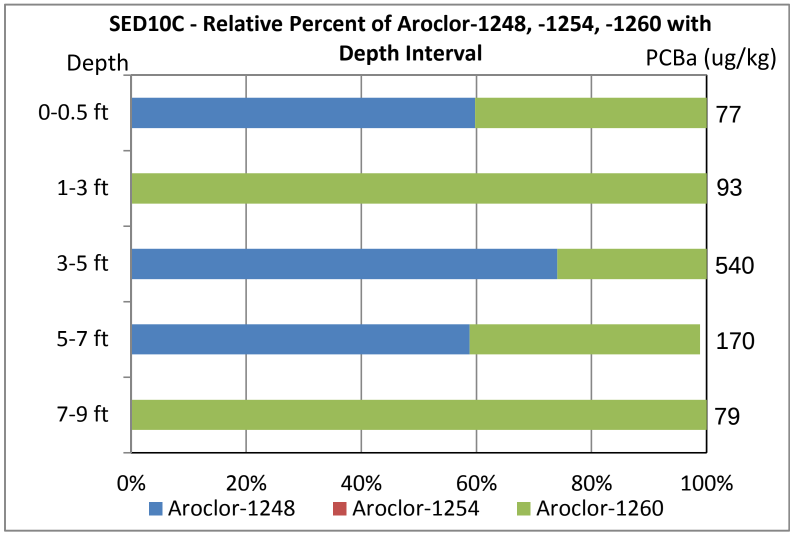
AROCLOR TYPE ABUNDANCE IN NEAR-SITE SURFACE SOIL AND SURFICIAL SEDIMENTS

| Date: 9/27/2018 | Drawn By: KNS | Checked By: SED | FIGURE 4-12B |
|---|---|---|---|

Figure 4-12C Relative Aroclor Adundance by Depth in Near-Site Sediment Cores
Benning Road Facility RI/FS Project
3400 Benning Road, NE Washington, DC 20019



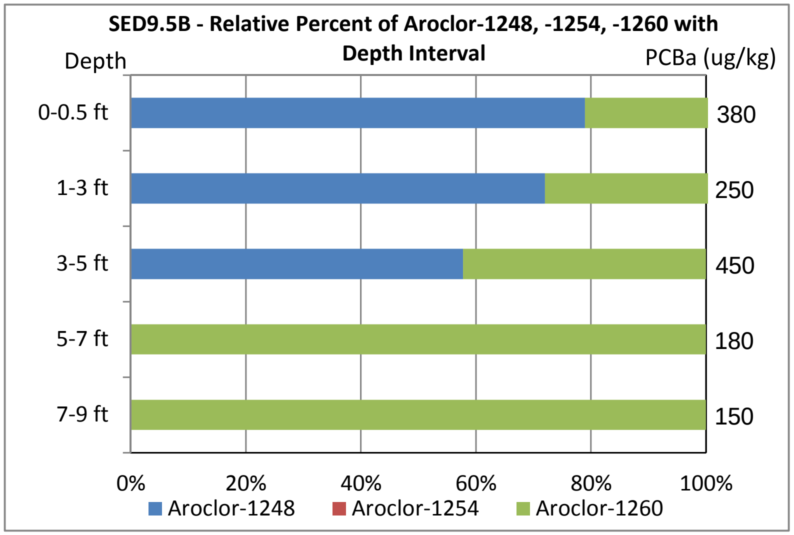
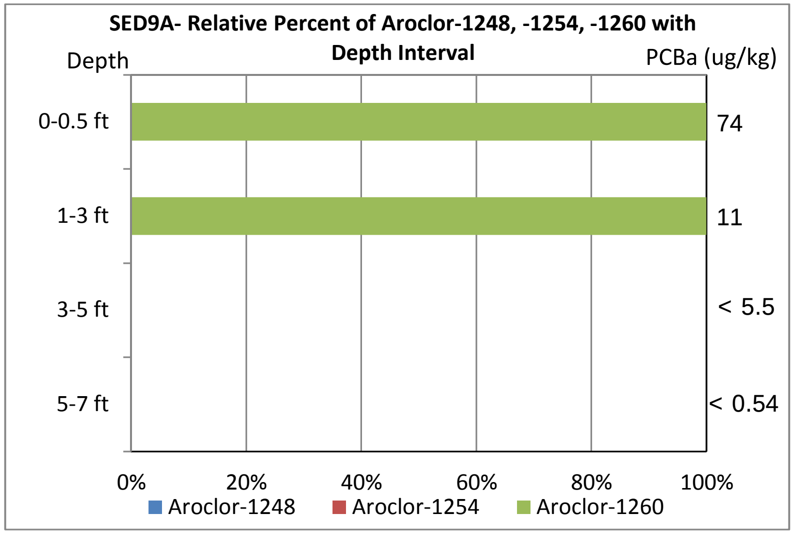
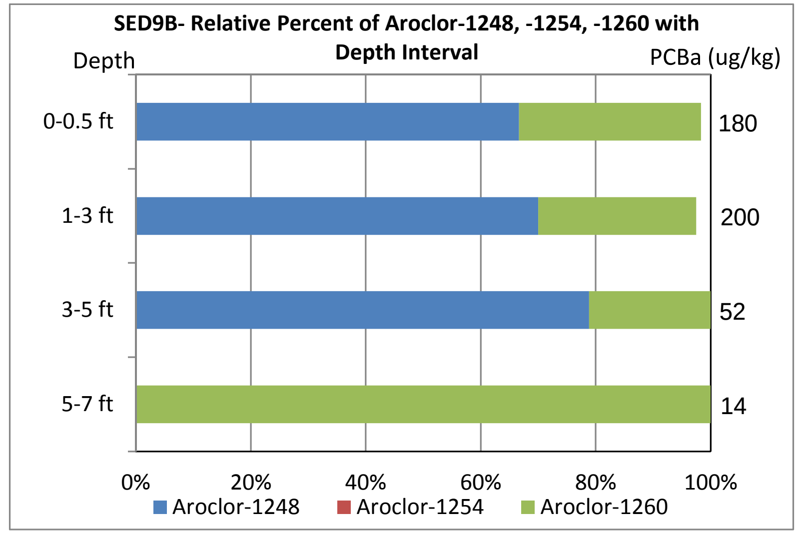
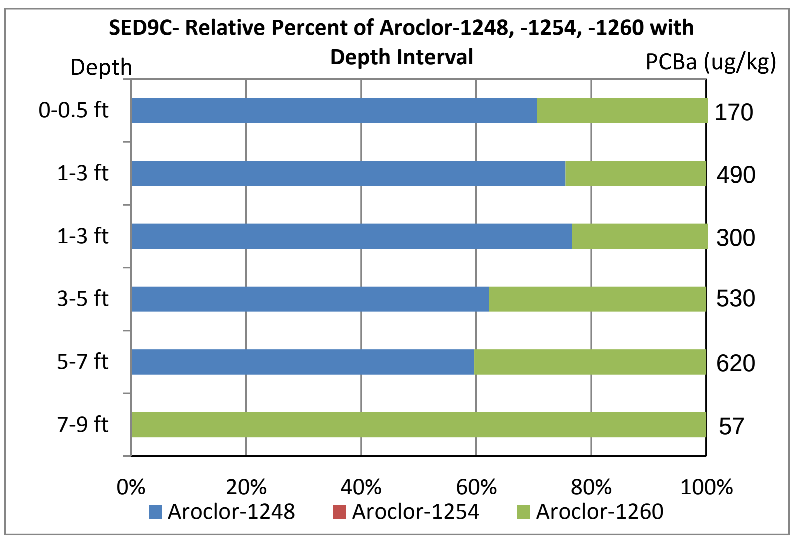



Figure 4-12C Relative Aroclor Adundance by Depth in Near-Site Sediment Cores
Benning Road Facility RI/FS Project
3400 Benning Road, NE Washington, DC 20019



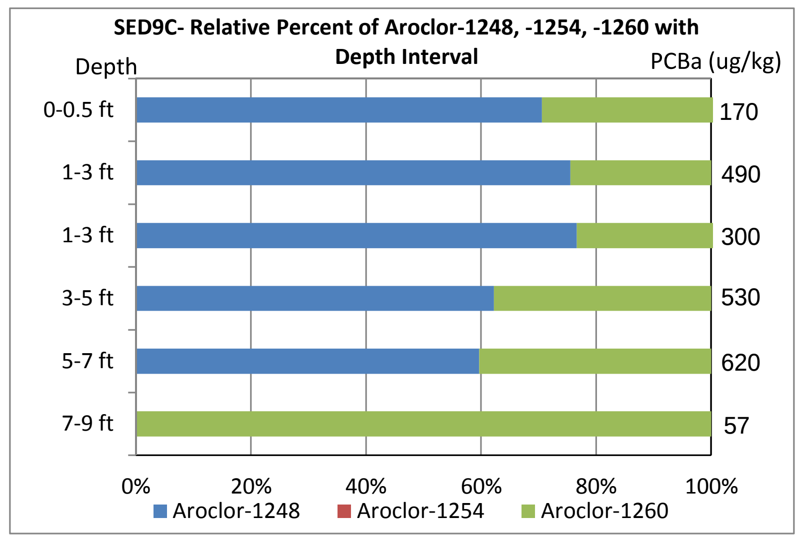
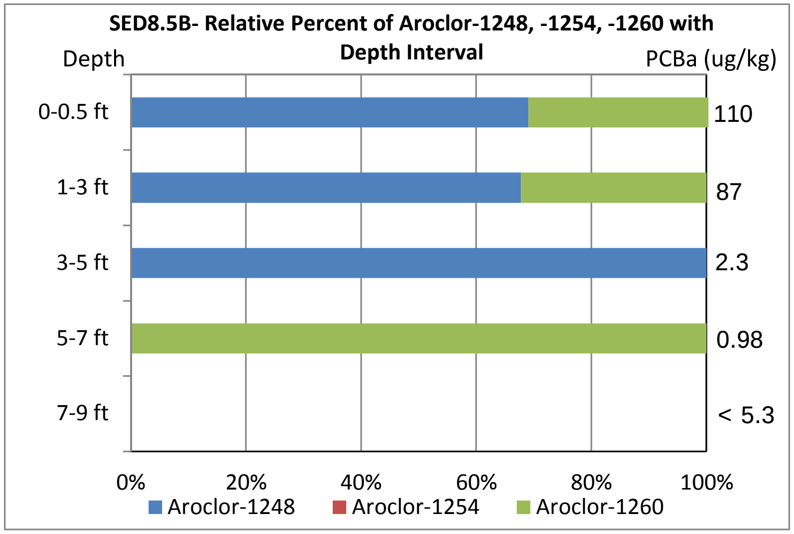
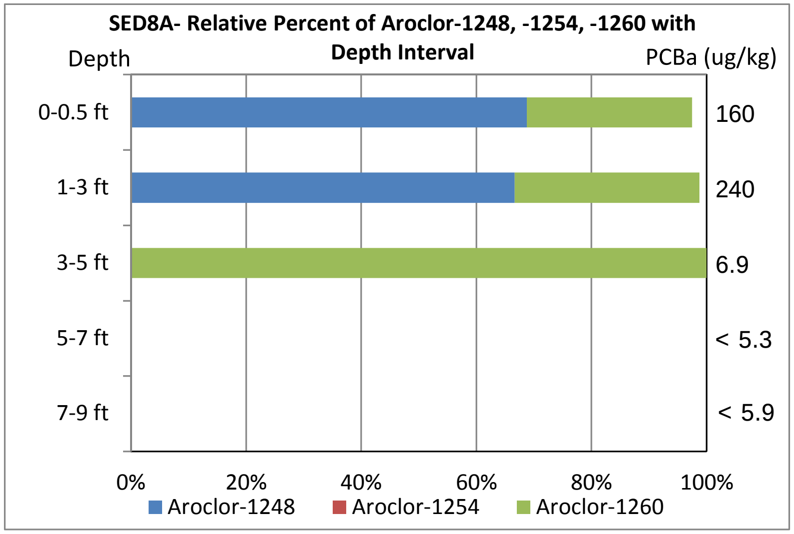
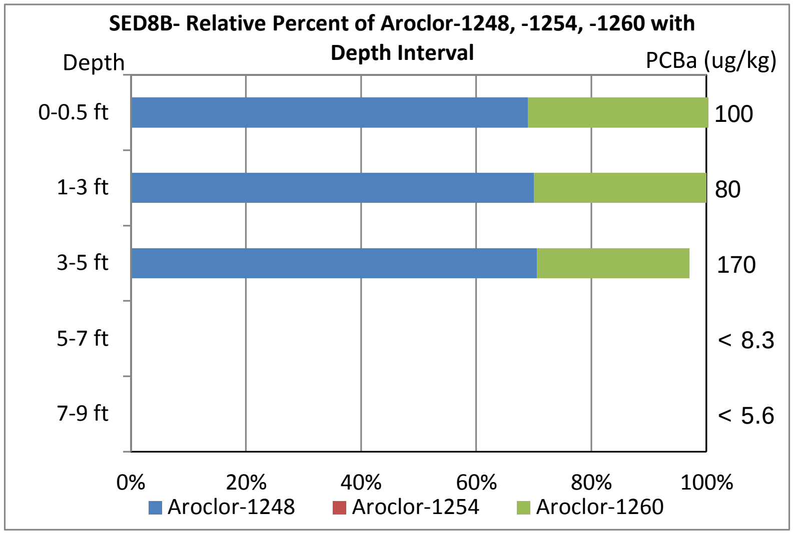



Figure 4-12C Relative Aroclor Adundance by Depth in Near-Site Sediment Cores
Benning Road Facility RI/FS Project
3400 Benning Road, NE Washington, DC 20019



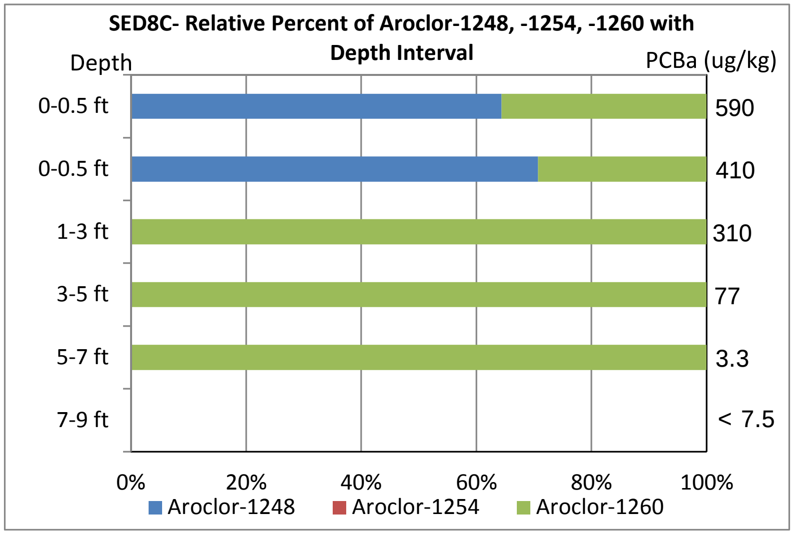



Figure 4-12C Relative Aroclor Adundance by Depth in Near-Site Sediment Cores
Benning Road Facility RI/FS Project
3400 Benning Road, NE Washington, DC 20019

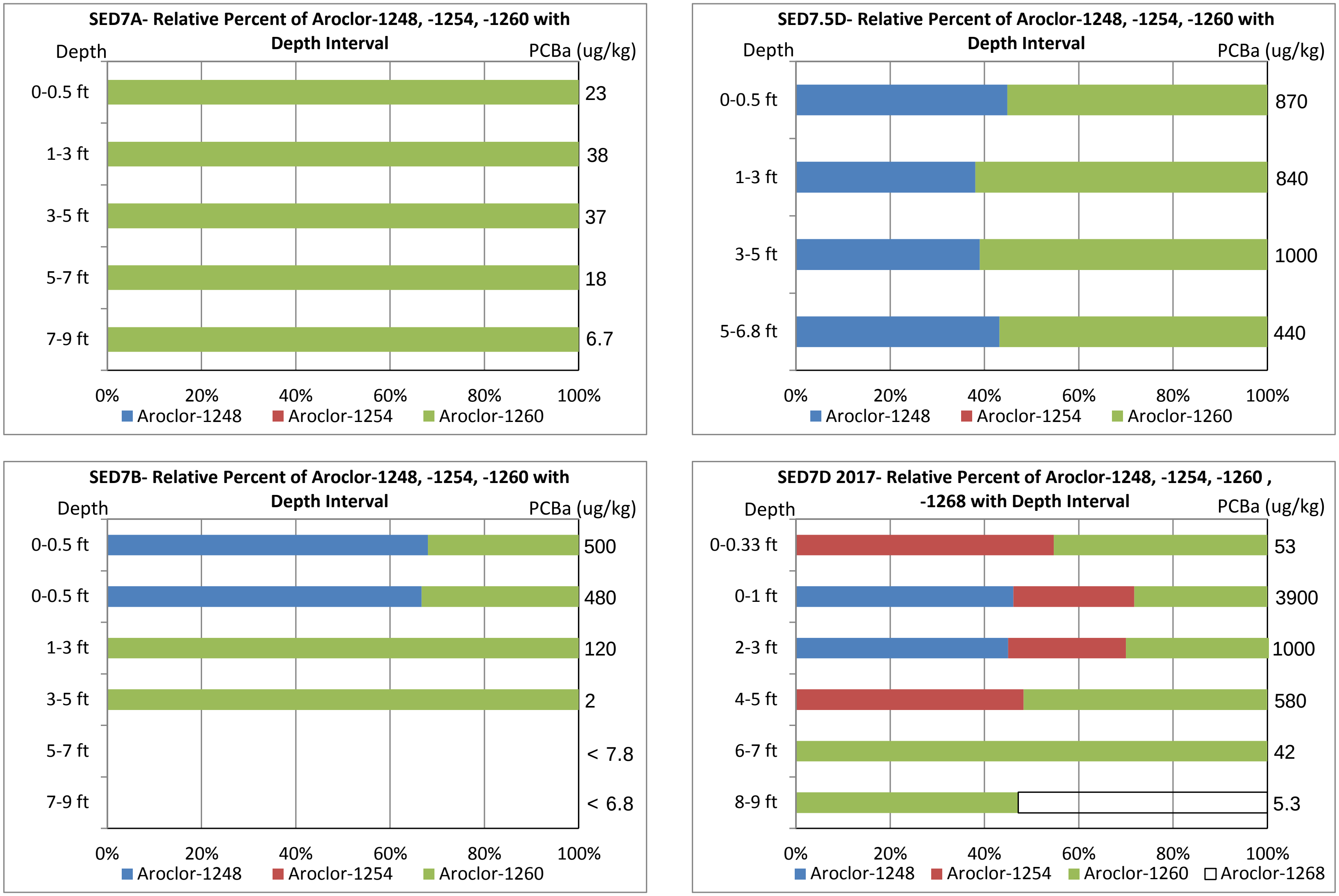


Figure 4-12C Relative Aroclor Adundance by Depth in Near-Site Sediment Cores
Benning Road Facility RI/FS Project
3400 Benning Road, NE Washington, DC 20019

Figure 4-12C Relative Aroclor Adundance by Depth in Near-Site Sediment Cores
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3400 Benning Road, NE Washington, DC 20019

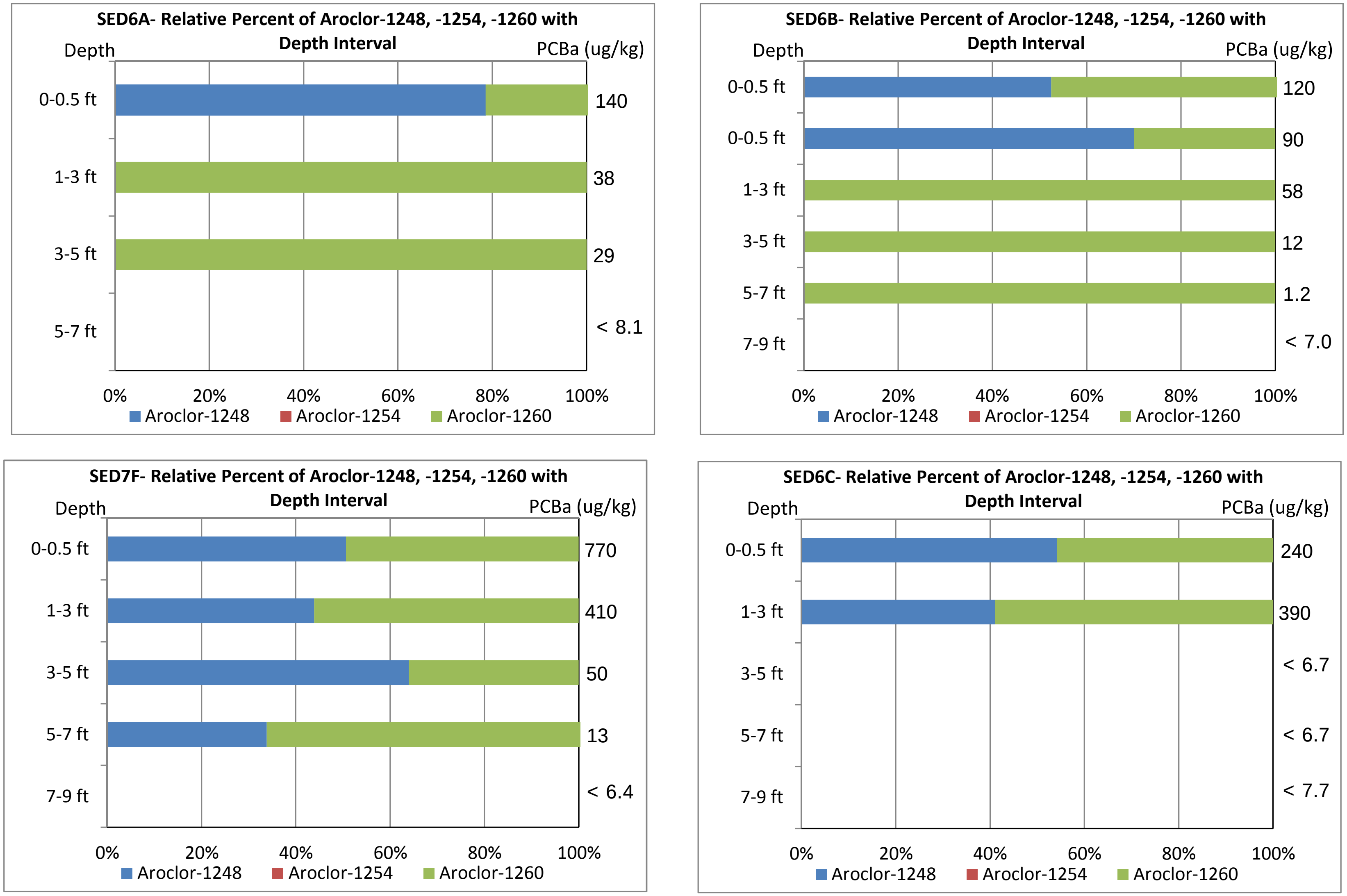
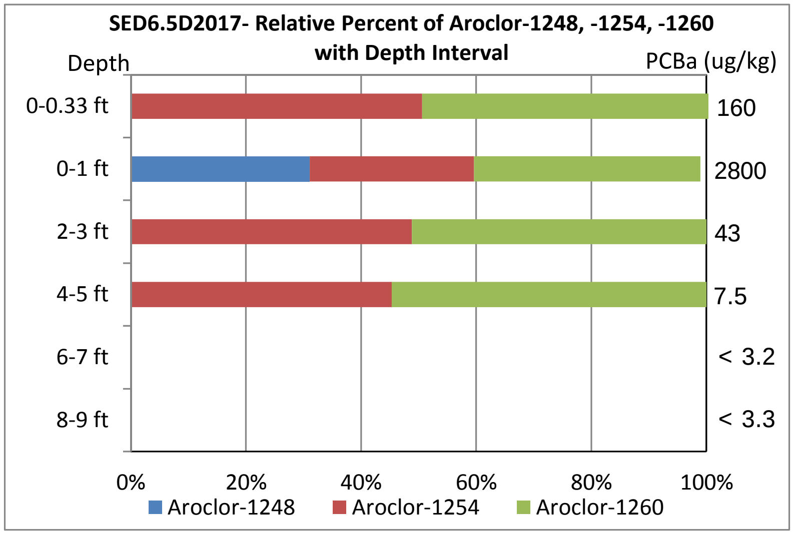
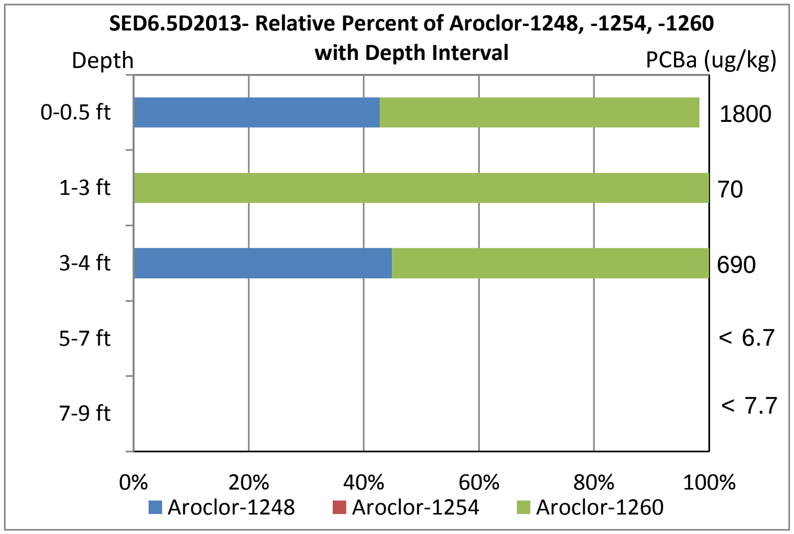
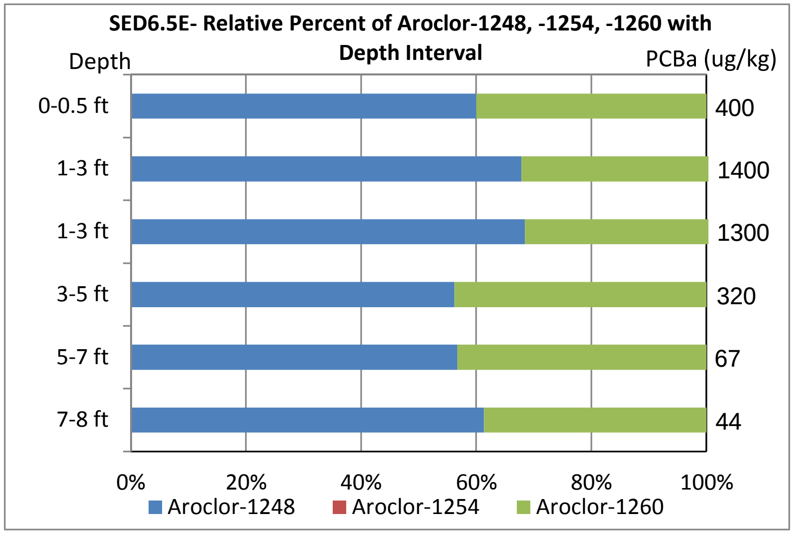


Figure 4-12C Relative Aroclor Adundance by Depth in Near-Site Sediment Cores
Benning Road Facility RI/FS Project
3400 Benning Road, NE Washington, DC 20019



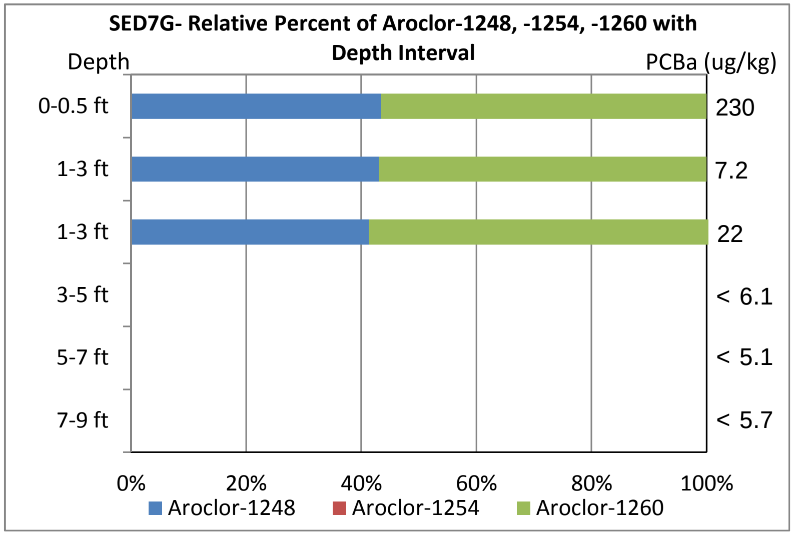
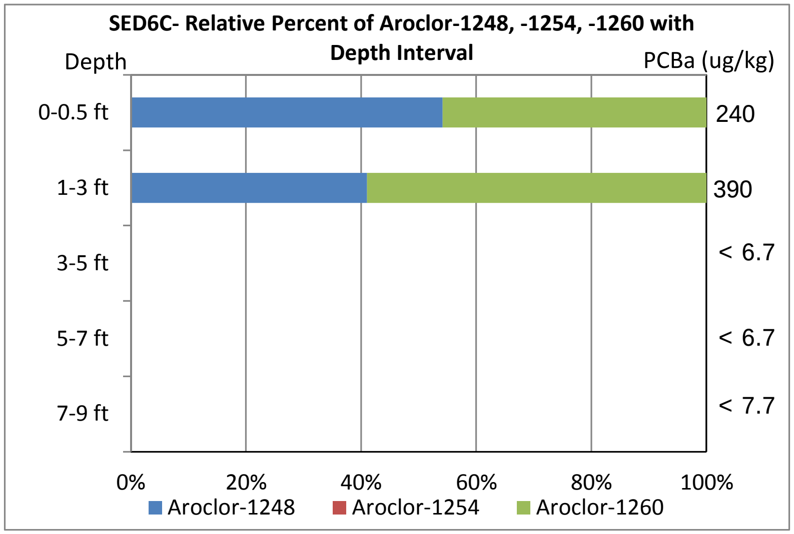
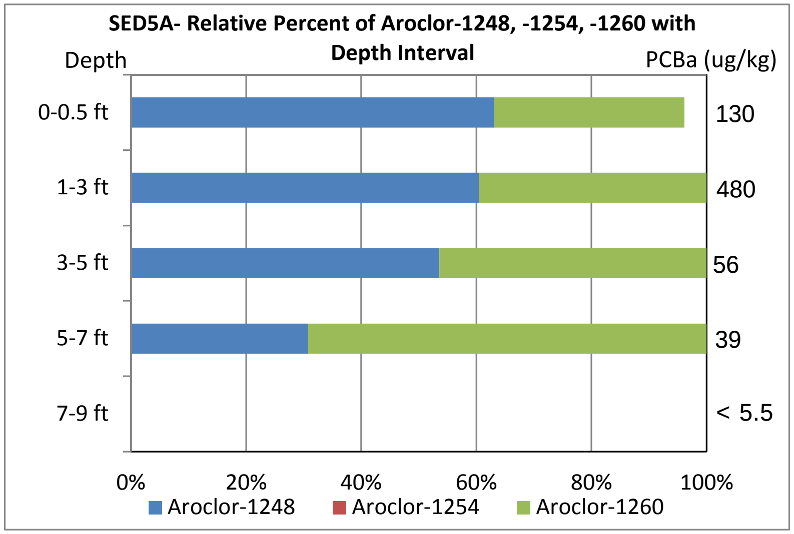
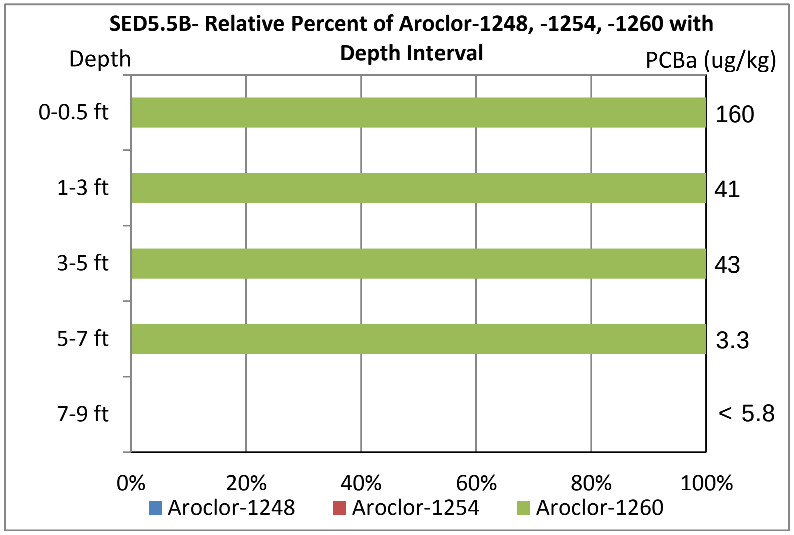



Figure 4-12C Relative Aroclor Adundance by Depth in Near-Site Sediment Cores
Benning Road Facility RI/FS Project
3400 Benning Road, NE Washington, DC 20019



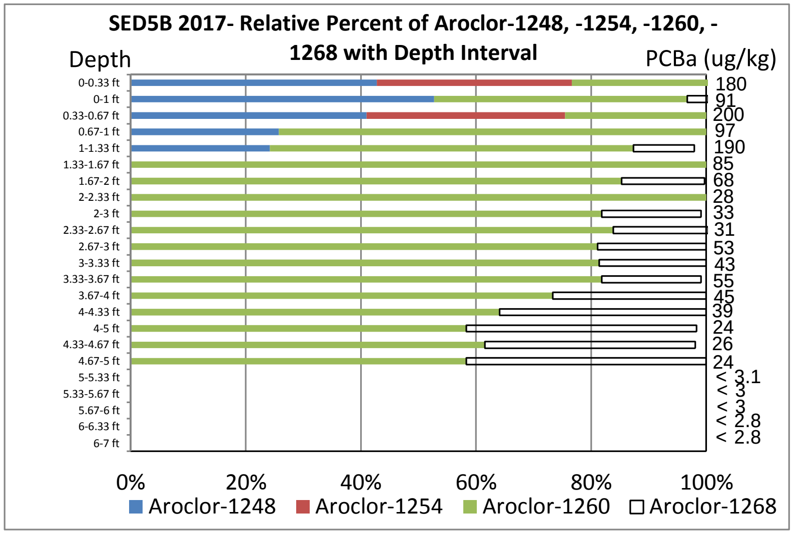
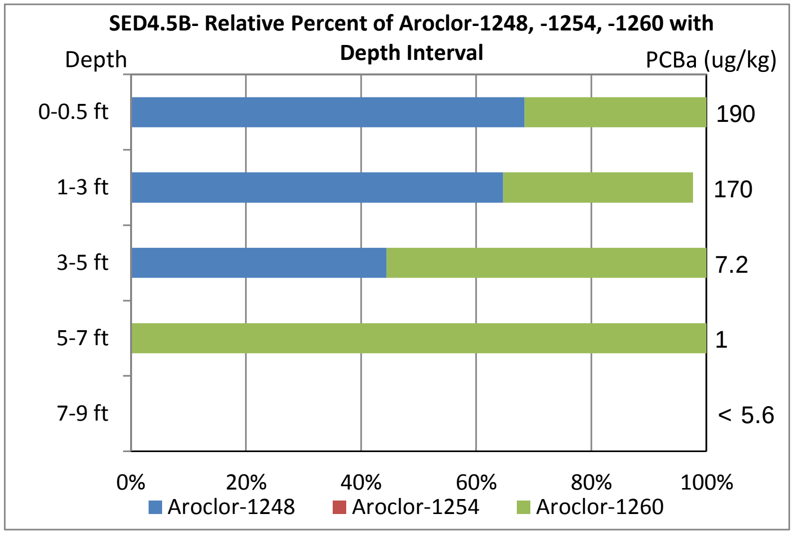
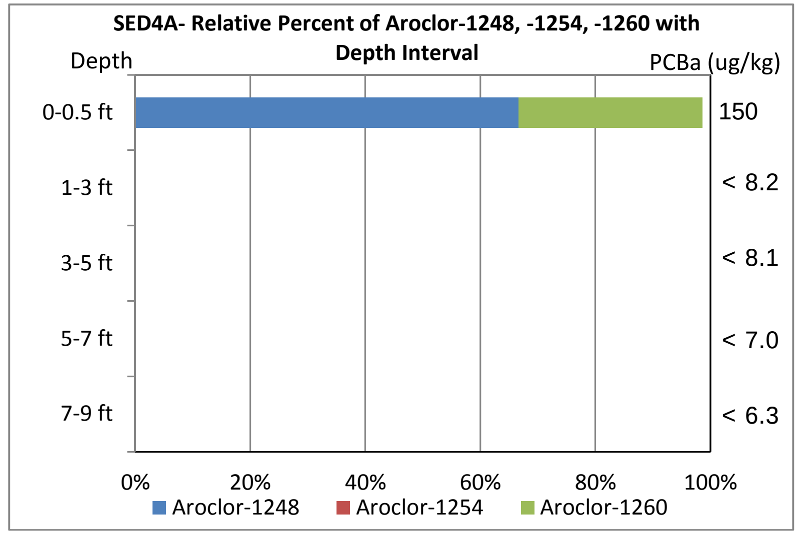
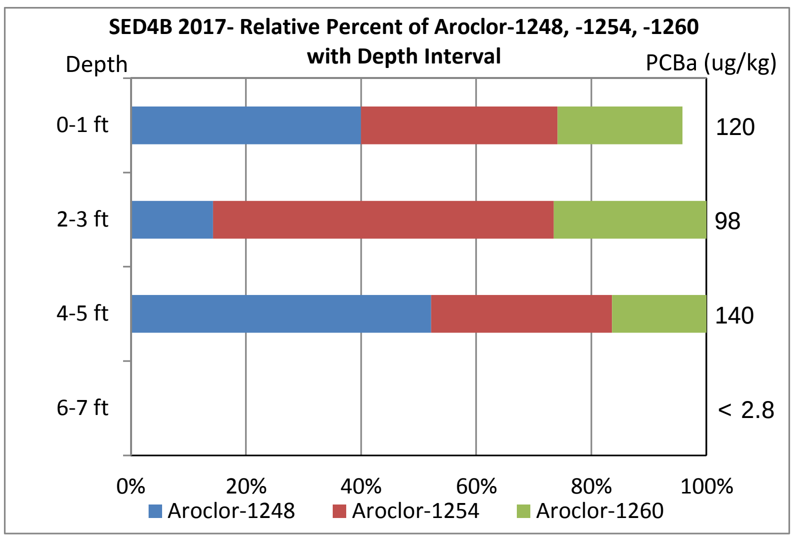



Figure 4-12C Relative Aroclor Adundance by Depth in Near-Site Sediment Cores
Benning Road Facility RI/FS Project
3400 Benning Road, NE Washington, DC 20019



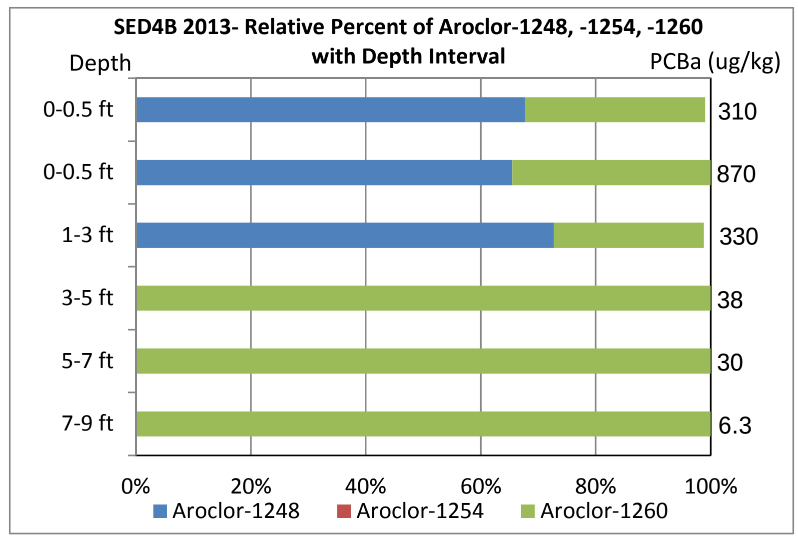



Figure 4-12C Relative Aroclor Adundance by Depth in Near-Site Sediment Cores
Benning Road Facility RI/FS Project
3400 Benning Road, NE Washington, DC 20019

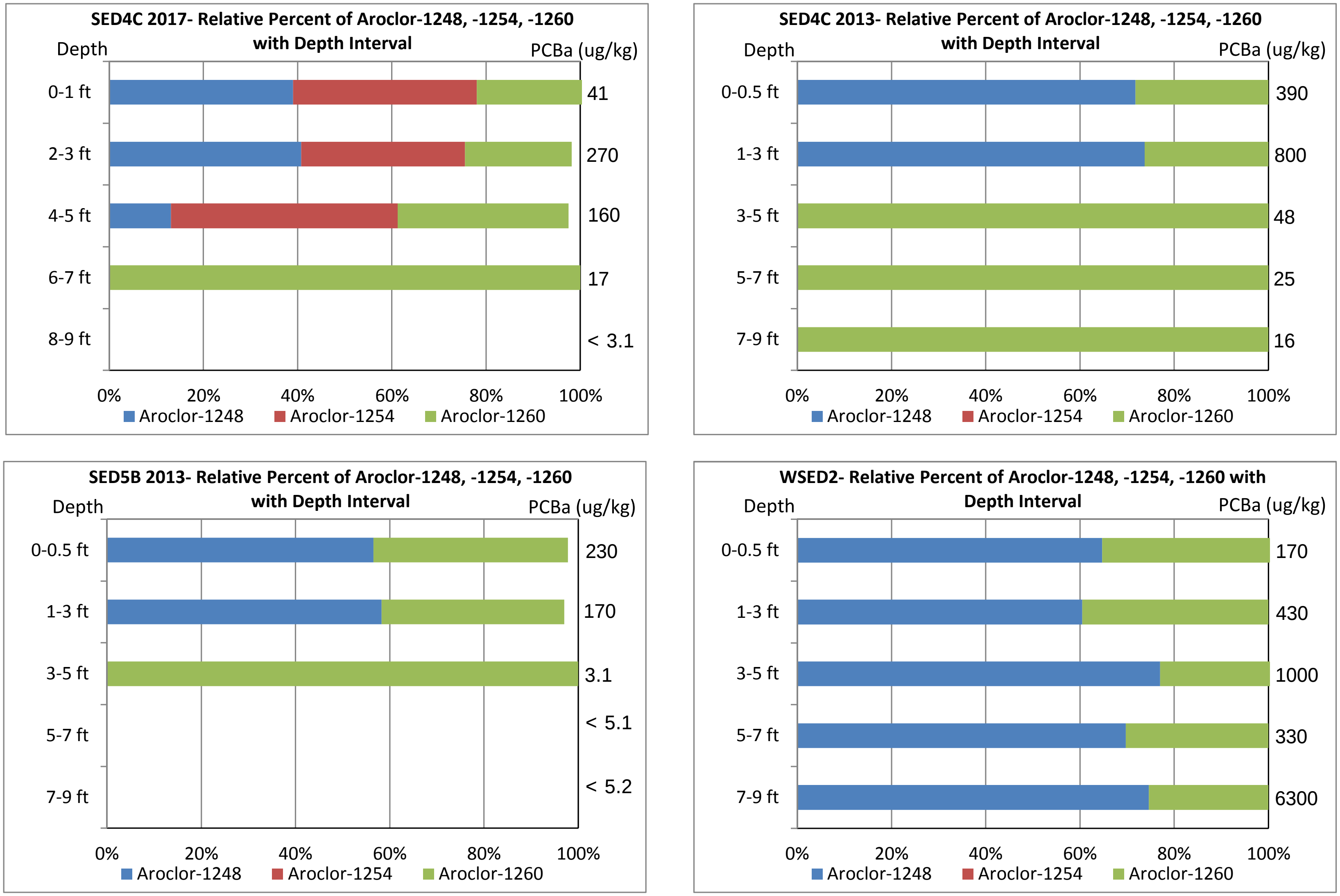
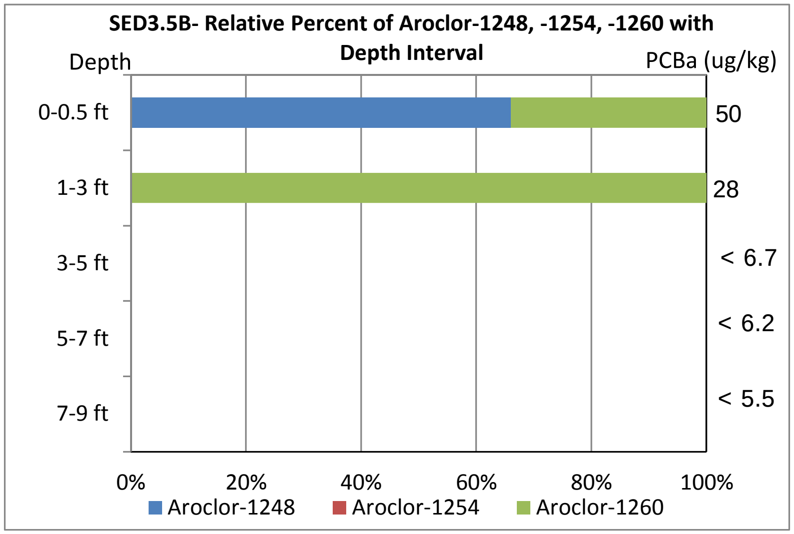
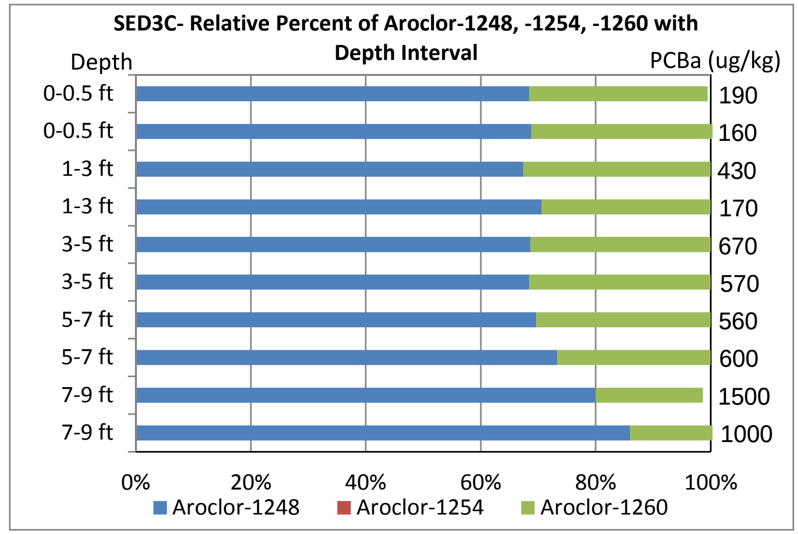
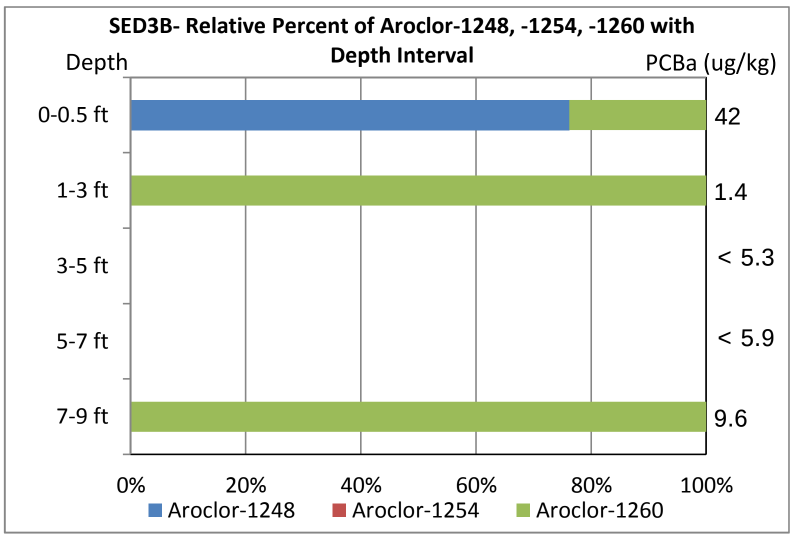


Figure 4-12C Relative Aroclor Adundance by Depth in Near-Site Sediment Cores
Benning Road Facility RI/FS Project
3400 Benning Road, NE Washington, DC 20019



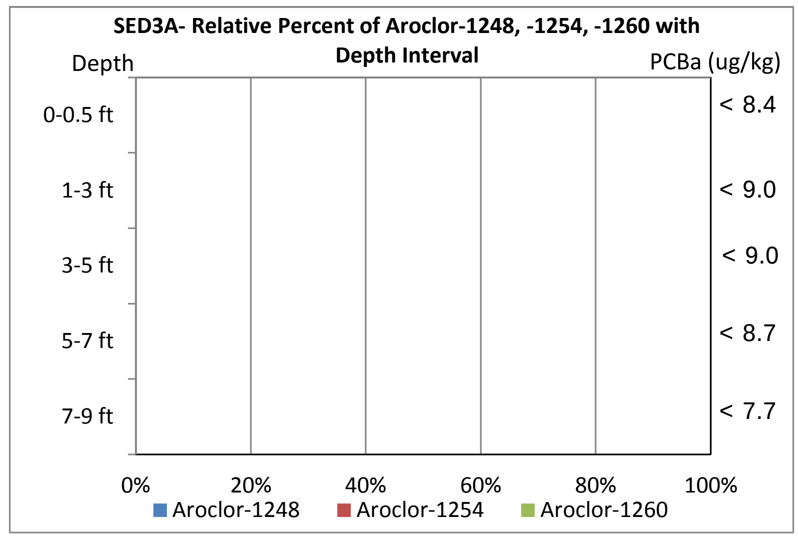
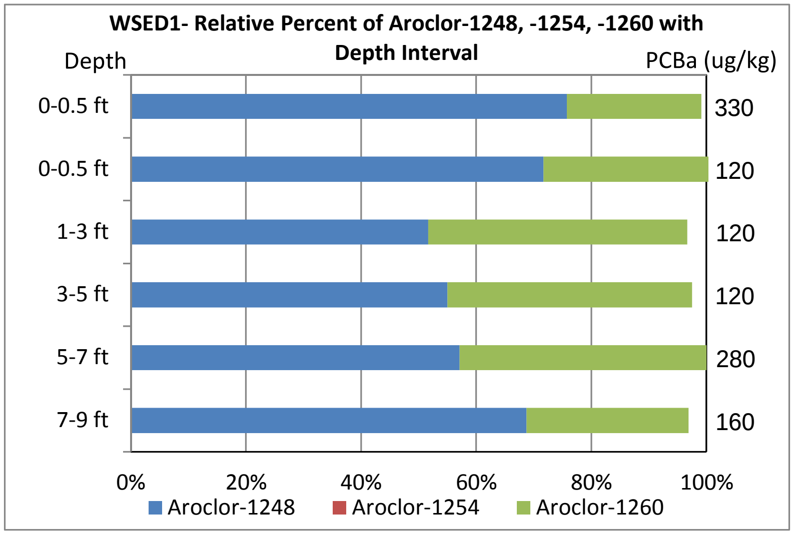
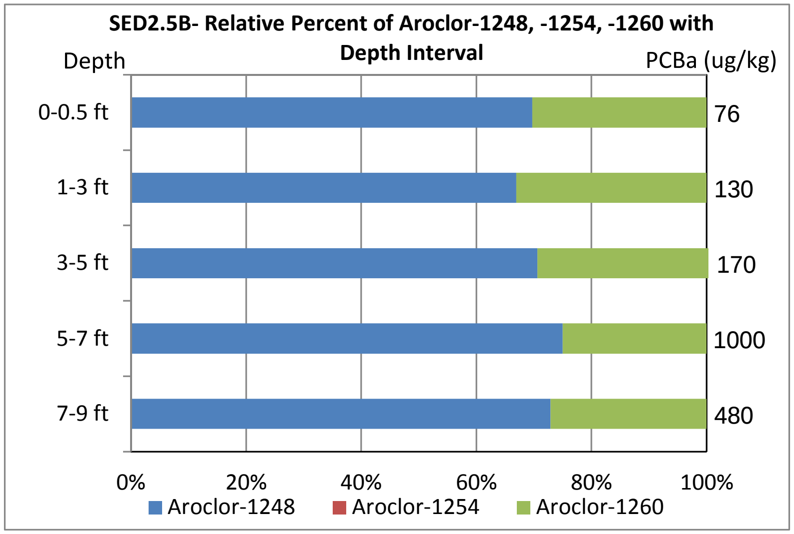
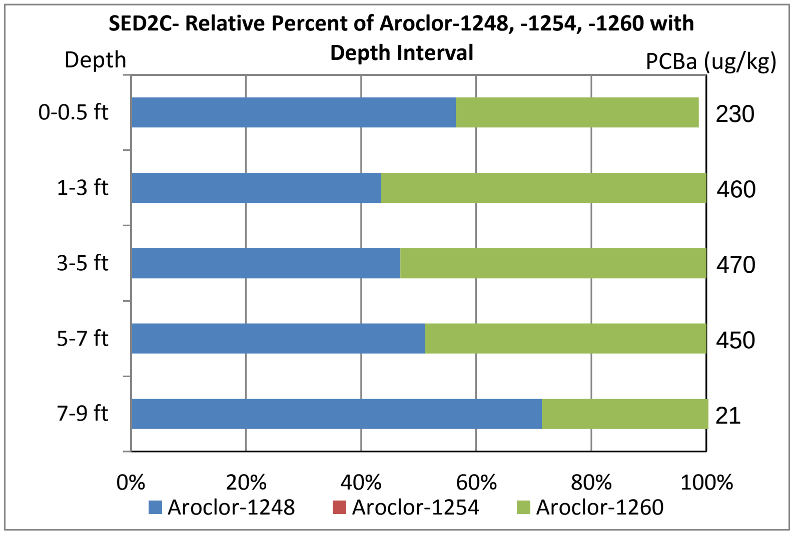



Figure 4-12C Relative Aroclor Adundance by Depth in Near-Site Sediment Cores
Benning Road Facility RI/FS Project
3400 Benning Road, NE Washington, DC 20019



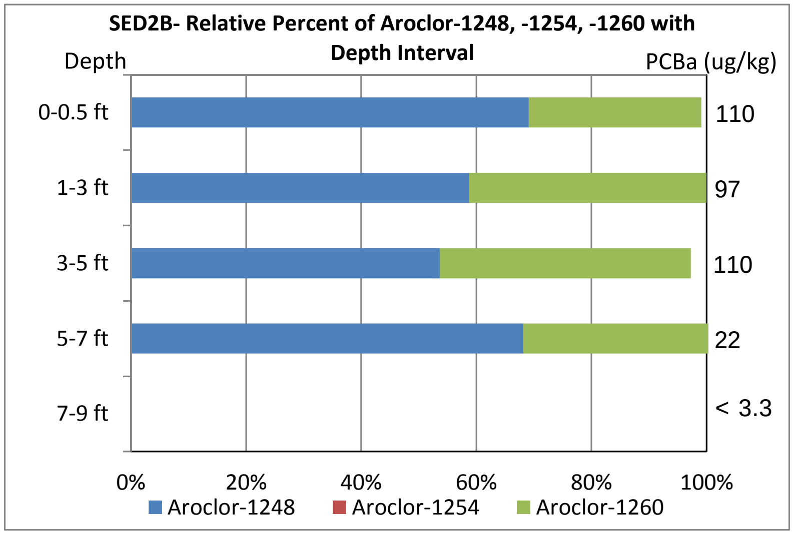



Figure 4-12C Relative Aroclor Adundance by Depth in Near-Site Sediment Cores
Benning Road Facility RI/FS Project
3400 Benning Road, NE Washington, DC 20019

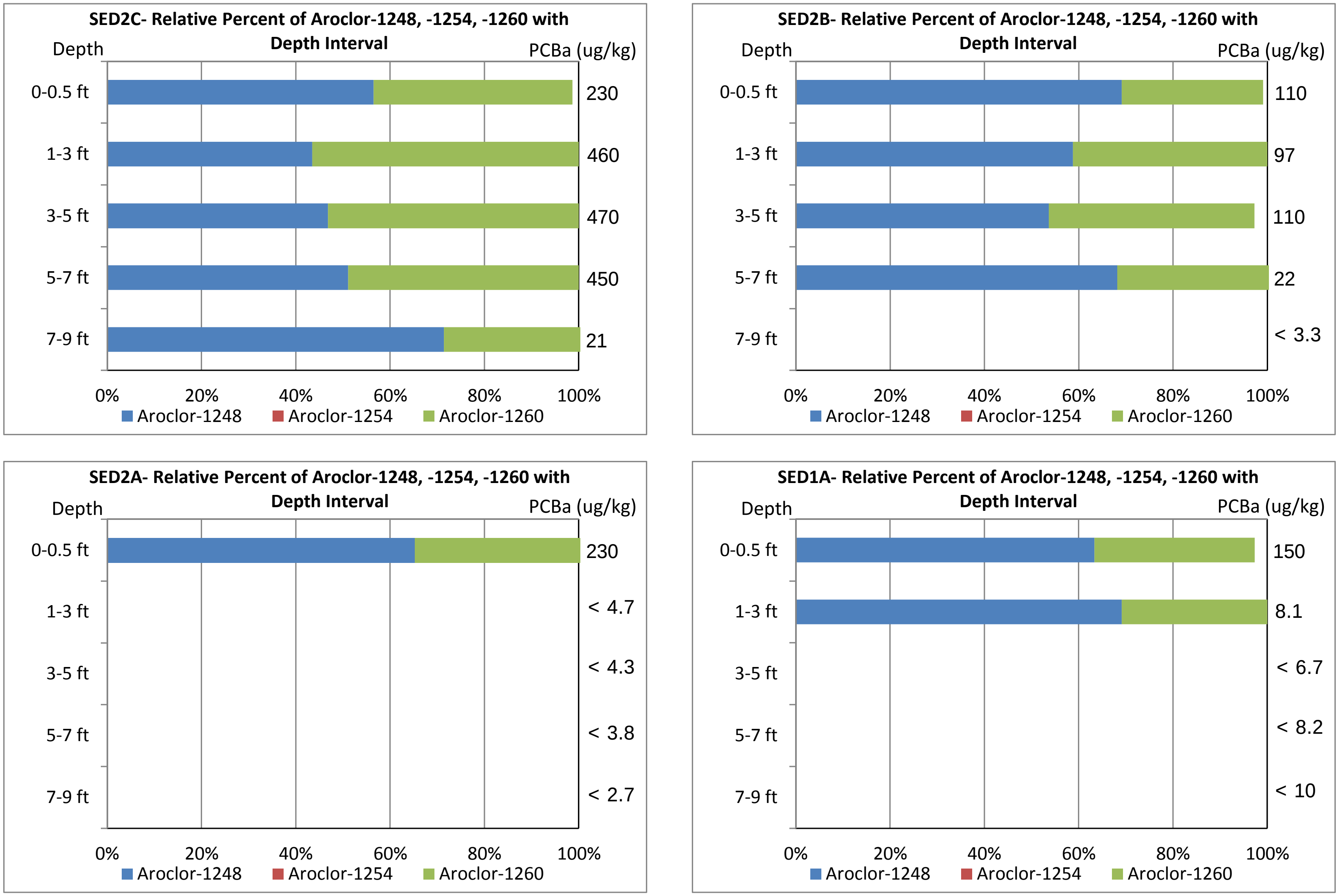
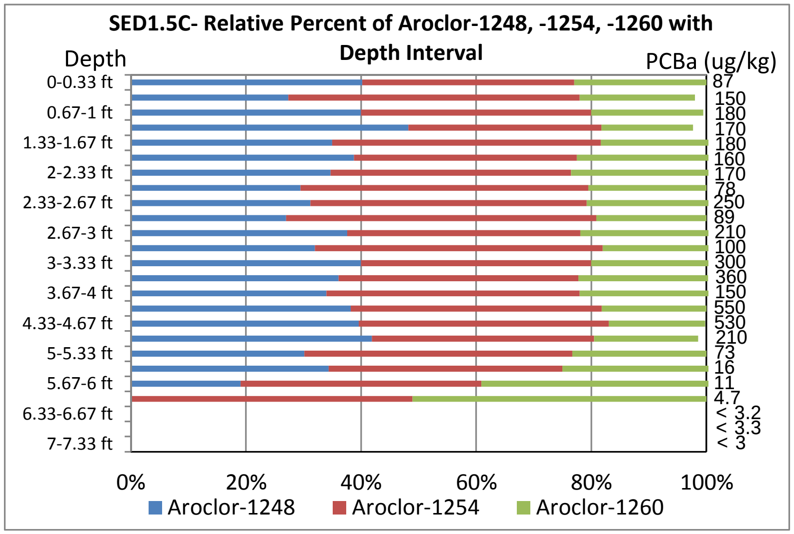
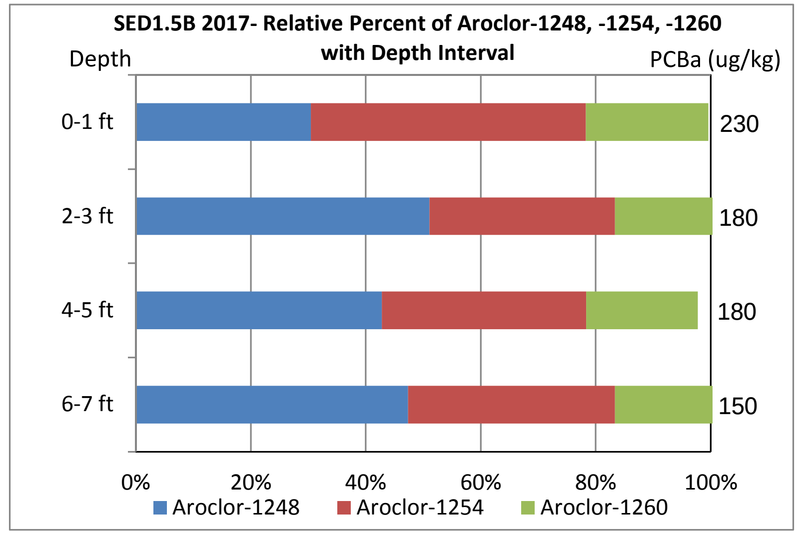
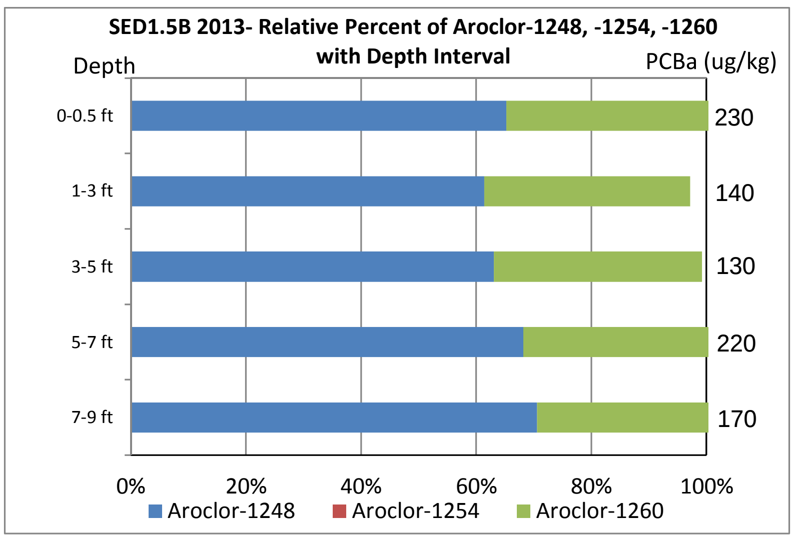


Figure 4-12C Relative Aroclor Adundance by Depth in Near-Site Sediment Cores
Benning Road Facility RI/FS Project
3400 Benning Road, NE Washington, DC 20019



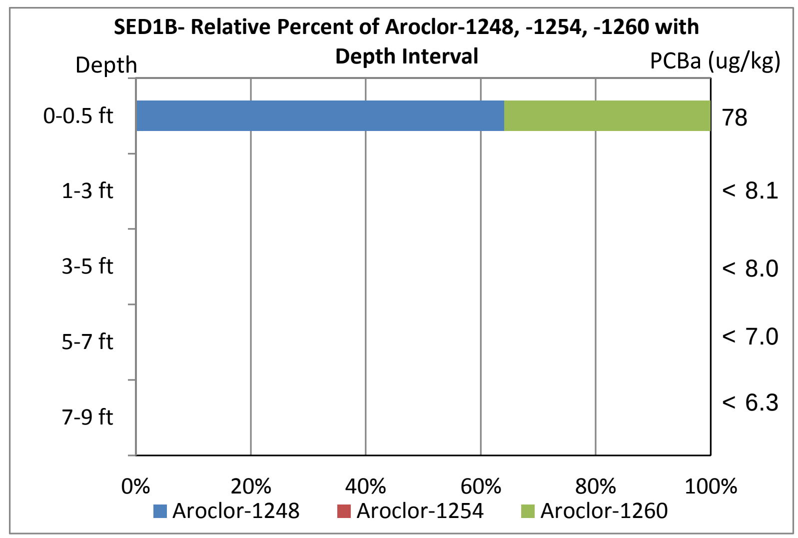
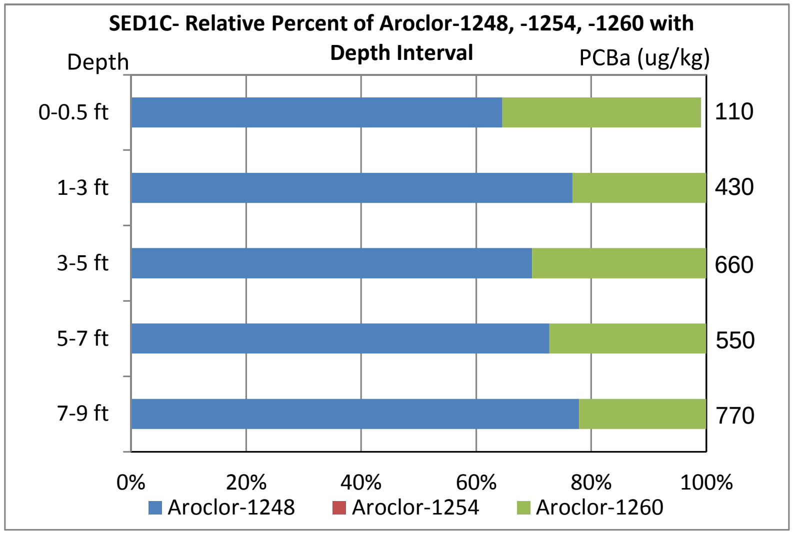
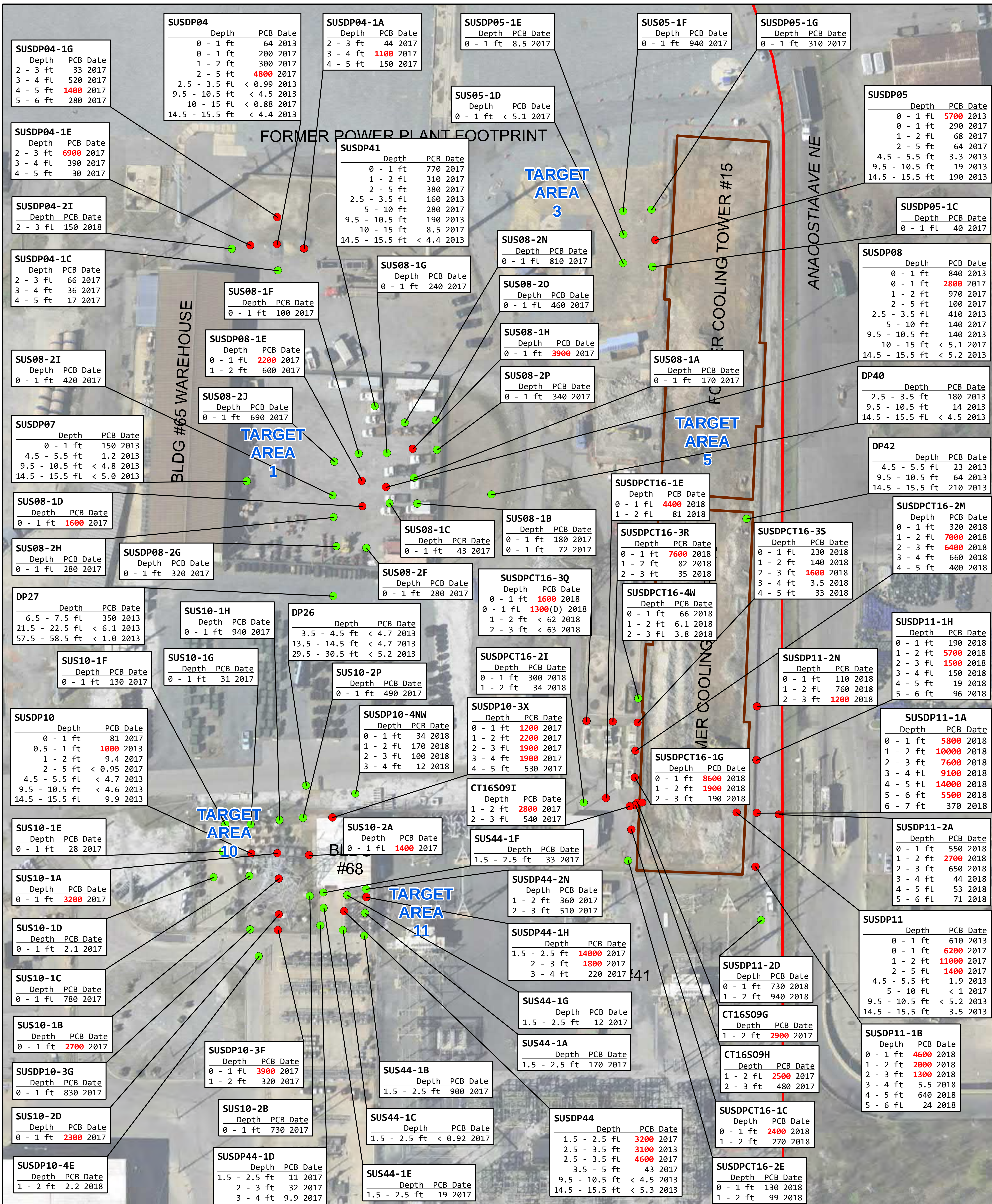
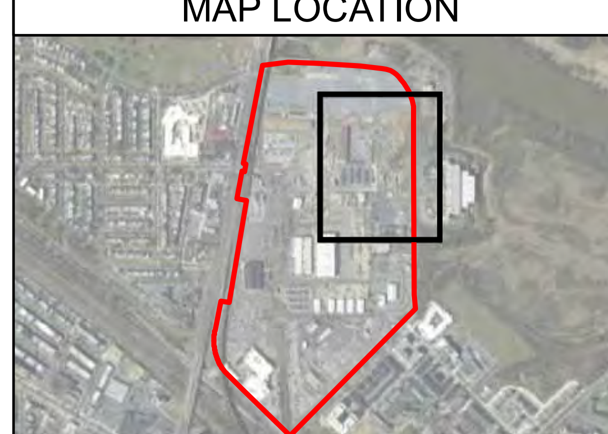



Figure 4-12C Relative Aroclor Adundance by Depth in Near-Site Sediment Cores
Benning Road Facility RI/FS Project
3400 Benning Road, NE Washington, DC 20019






MAP LOCATION



LEGEND

**TOTAL PCB**

- < 970 ug/kg
- > 970 ug/kg
- COOLING TOWER SOIL EXCAVATION AREA
- PROPERTY BOUNDARY
- SAMPLING GRID
- (D) DUPLICATE SAMPLE

NOTE
PCB SCREENING LEVEL = 970 μg/kg
1.5x SCREENING LEVEL = 1455 μg/kg

NOTE
TARGET AREA 1 – FORMER SLUDGE DEWATERING AREA
TARGET AREA 3 - FORMER 15,000 GAL UST & 50,000 GAL AST (No. 2 Fuel Oil)
TARGET AREA 5 – FORMER COOLING TOWERS (1995 & 2017 Cleanup Area)
TARGET AREA 10 – RED TAG STORAGE AREA
TARGET AREA 11 – BUILDING #68 (PCB Building)

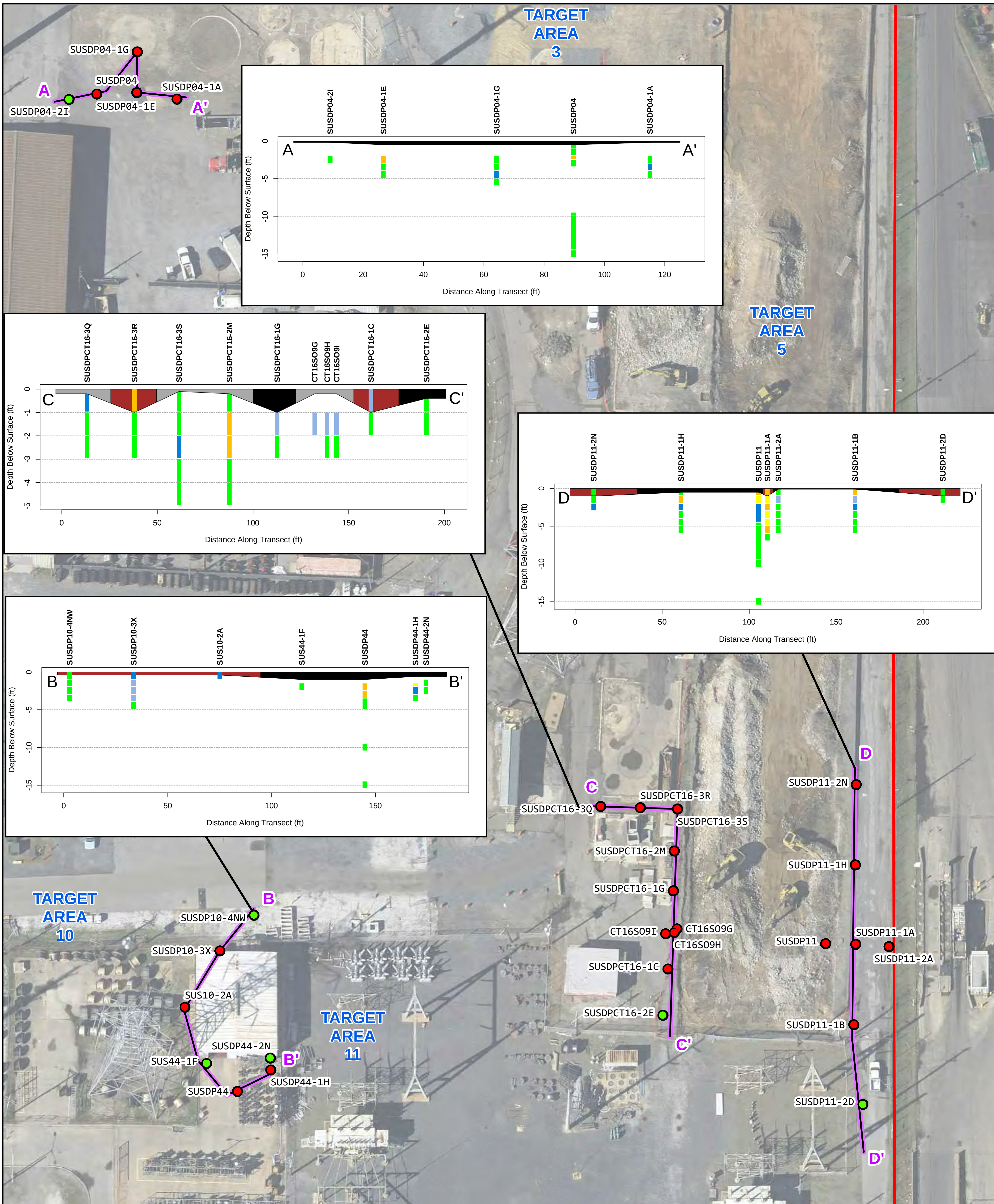
AECOM

0 90 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

PCB SOIL CONCENTRATIONS
IN TARGET AREAS 1,3, 5, 10, & 11

| Date: 11/1/2018 | Drawn By: JB | Checked By: JL | FIGURE 4-13A |
|---|---|---|---|




MAP LEGEND

**TOTAL PCB**

- TOTAL PCB
- SAMPLING GRID
- GROUP LOCATION
- Transect

TRANSECT GRAPH LEGEND

**TOTAL PCB**

- < 970 µg/kg
- 970 - 1800 µg/kg
- 1800 - 3000 µg/kg
- 3000 - 7700 µg/kg
- 7700 - 17400 µg/kg
- 17400 - 50000 µg/kg
- 50000 - 8800000 µg/kg
- LOOSE STONE SURFACE COVER
- ASPHALT, CONCRETE OR HARD-PACKED GRAVEL SURFACE COVER
- SOIL SURFACE COVER

NOTE
BaP-TE SCREENING LEVEL = 2100 µg/kg
1.5x SCREENING LEVEL = 3150 µg/kg
TARGET AREA 1 – FORMER SLUDGE DEWATERING AREA
TARGET AREA 3 - FORMER 15,000 GAL UST & 50,000 GAL AST (No. 2 Fuel Oil)
TARGET AREA 5 – FORMER COOLING TOWERS (1995 & 2017 Cleanup Area)
TARGET AREA 10 – RED TAG STORAGE AREA
TARGET AREA 11 – BUILDING #68 (PCB Building)

MAP LOCATION

AECOM

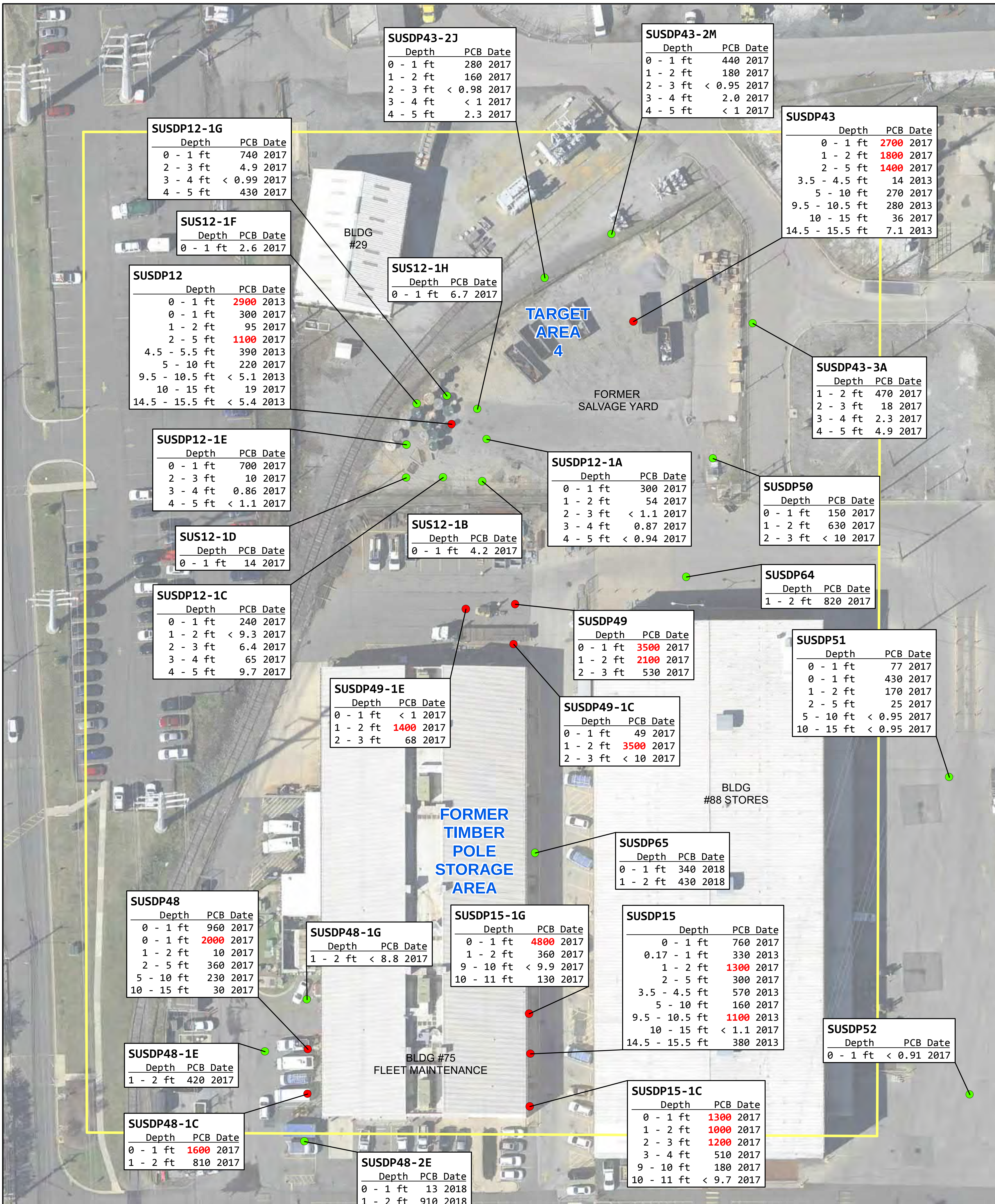
0 60 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

TRANSECT GRAGHS FOR PCB SOIL CONCENTRATIONS IN TARGET AREAS 3, 5, 10, AND 11

Date: 6/5/2019 | Drawn By: JB/DB | Checked By: EH/RK

FIGURE 4-13B



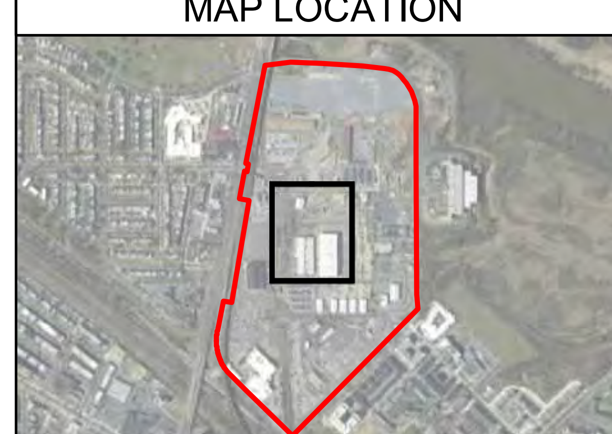

LEGEND

**TOTAL PCB**

- < 970 ug/kg
- > 970 ug/kg
- GROUP LOCATION
- SAMPLING GRID

NOTE
PCB SCREENING LEVEL = 970 µg/kg
1.5x SCREENING LEVEL = 1455 µg/kg

MAP LOCATION



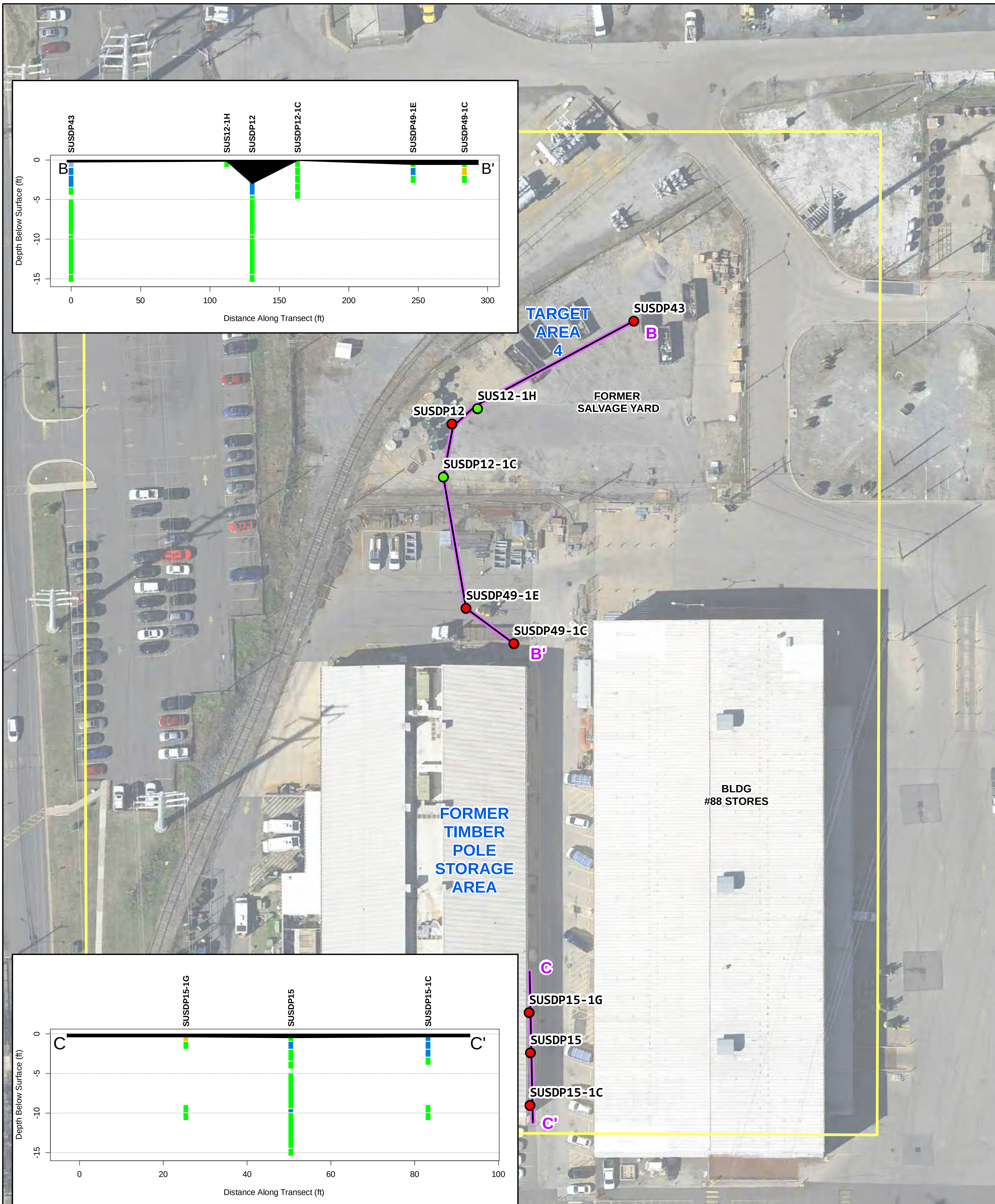
AECOM

0 60 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

PCB SOIL CONCENTRATIONS
IN TARGET AREA 4 (Former Salvage Yard)
AND FORMER TIMBER POLE STORAGE AREAS

Date: 10/24/2018 | Drawn By: JB | Checked By: JL | FIGURE 4-14A




MAP LEGEND

**TOTAL PCB**

- TOTAL PCB
- SAMPLING GRID
- GROUP LOCATION
- Transect

TRANSECT GRAPH LEGEND

**TOTAL PCB**

- < 970 µg/kg
- 970 - 1800 µg/kg
- 1800 - 3000 µg/kg
- 3000 - 7700 µg/kg
- 7700 - 17400 µg/kg
- 17400 - 50000 µg/kg
- 50000 - 8800000 µg/kg
- LOOSE STONE SURFACE COVER
- ASPHALT, CONCRETE OR HARD-PACKED GRAVEL SURFACE COVER
- SOIL SURFACE COVER

NOTE
PCB SCREENING LEVEL = 970 µg/kg
1.5x SCREENING LEVEL = 1455 µg/kg

MAP LOCATION

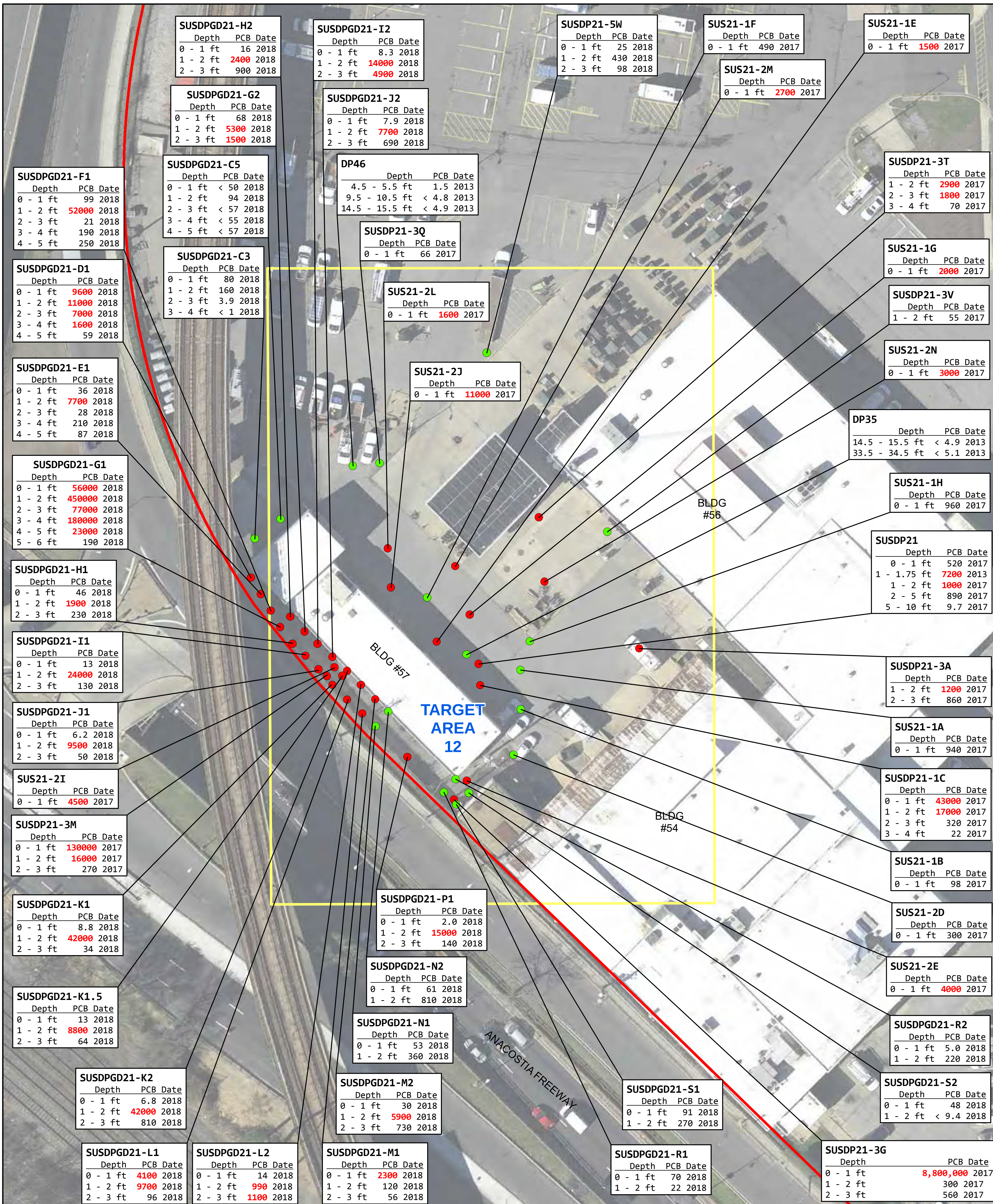
AECOM

0 60 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

TRANSECT GRAPHS FOR PCB SOIL CONCENTRATIONS IN TARGET AREA 4 (Former Salvage Yard) AND FORMER TIMBER POLE STORAGE AREAS

| Date: 6/5/2019 | Drawn By: JB/DB | Checked By: EF/RK | FIGURE 4-14B |
|---|---|---|---|




LEGEND

**TOTAL PCB**

- < 970 ug/kg
- > 970 ug/kg
- SAMPLING GRID
- PROPERTY BOUNDARY
- GROUP LOCATION

NOTE
PCB SCREENING LEVEL = 970 μg/kg
1.5x SCREENING LEVEL = 1455 μg/kg

MAP LOCATION

AECOM

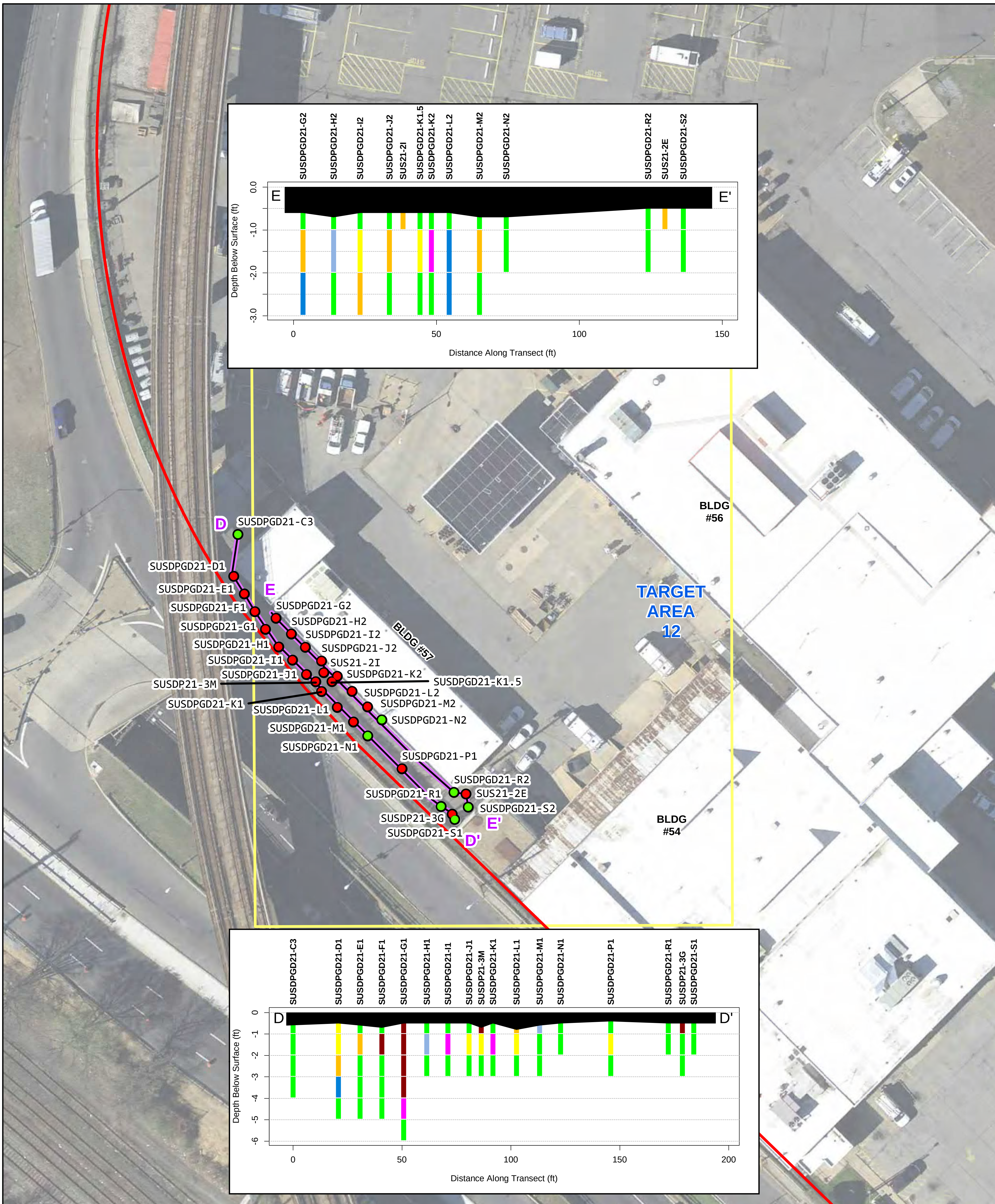
0 60 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

PCB SOIL CONCENTRATIONS
IN TARGET AREA 12 (Building #57)

Date: 11/2/2018 | Drawn By: JB | Checked By: JL

FIGURE 4-15A




MAP LEGEND

**TOTAL PCB**

- < 970 ug/kg
- > 970 ug/kg
- SAMPLING GRID
- PROPERTY BOUNDARY
- GROUP LOCATION
- Transect

TRANSECT GRAPH LEGEND

**TOTAL PCB**

- < 970 µg/kg
- 970 - 1800 µg/kg
- 1800 - 3000 µg/kg
- 3000 - 7700 µg/kg
- 7700 - 17400 µg/kg
- 17400 - 50000 µg/kg
- 50000 - 8800000 µg/kg
- LOOSE STONE SURFACE COVER
- ASPHALT, CONCRETE OR HARD-PACKED GRAVEL SURFACE COVER
- SOIL SURFACE COVER

NOTE
PCB SCREENING LEVEL = 970 µg/kg
1.5x SCREENING LEVEL = 1455 µg/kg

MAP LOCATION

AECOM

0 60 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

Date: 6/5/2019 | Drawn By: JB/DB | Checked By: EH/RK

TRANSECT GRAPHS FOR PCB SOIL CONCENTRATIONS IN TARGET AREA 12 (Building #57)

FIGURE 4-15B


**TCDD TEQ (pg/g)**

- <22.0 (PSL)
- 22.0 - 50.0
- 50.0 - 100.0
- 100.0 - 300.0
- >300.0

Cooling Tower Soil Excavation Area

Benning Road Facility Property Boundary

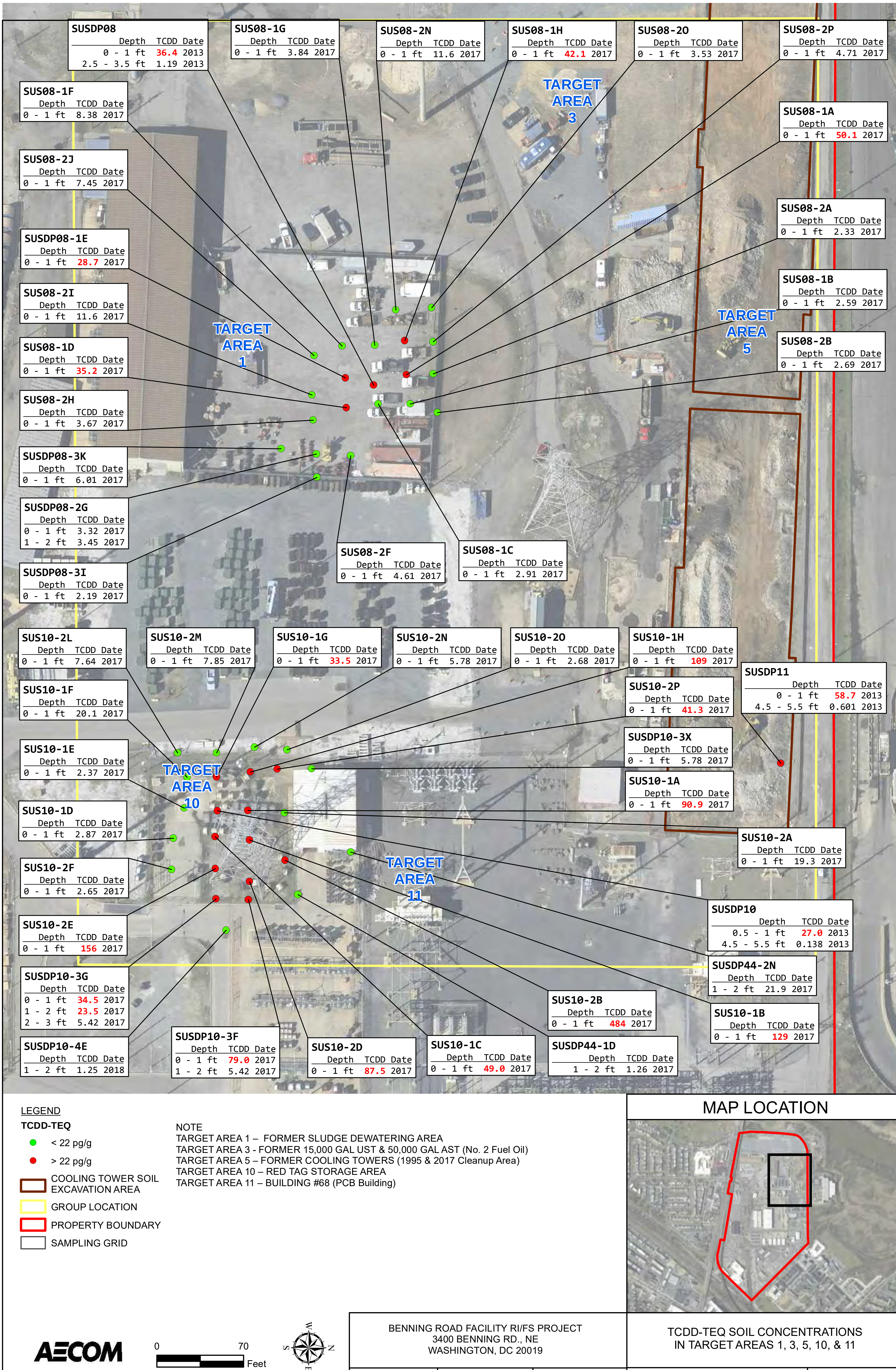
Note:
When multiple soil samples were collected at the same location (duplicate or different sample events), the concentration used on the figure is the maximum concentration.

AECOM

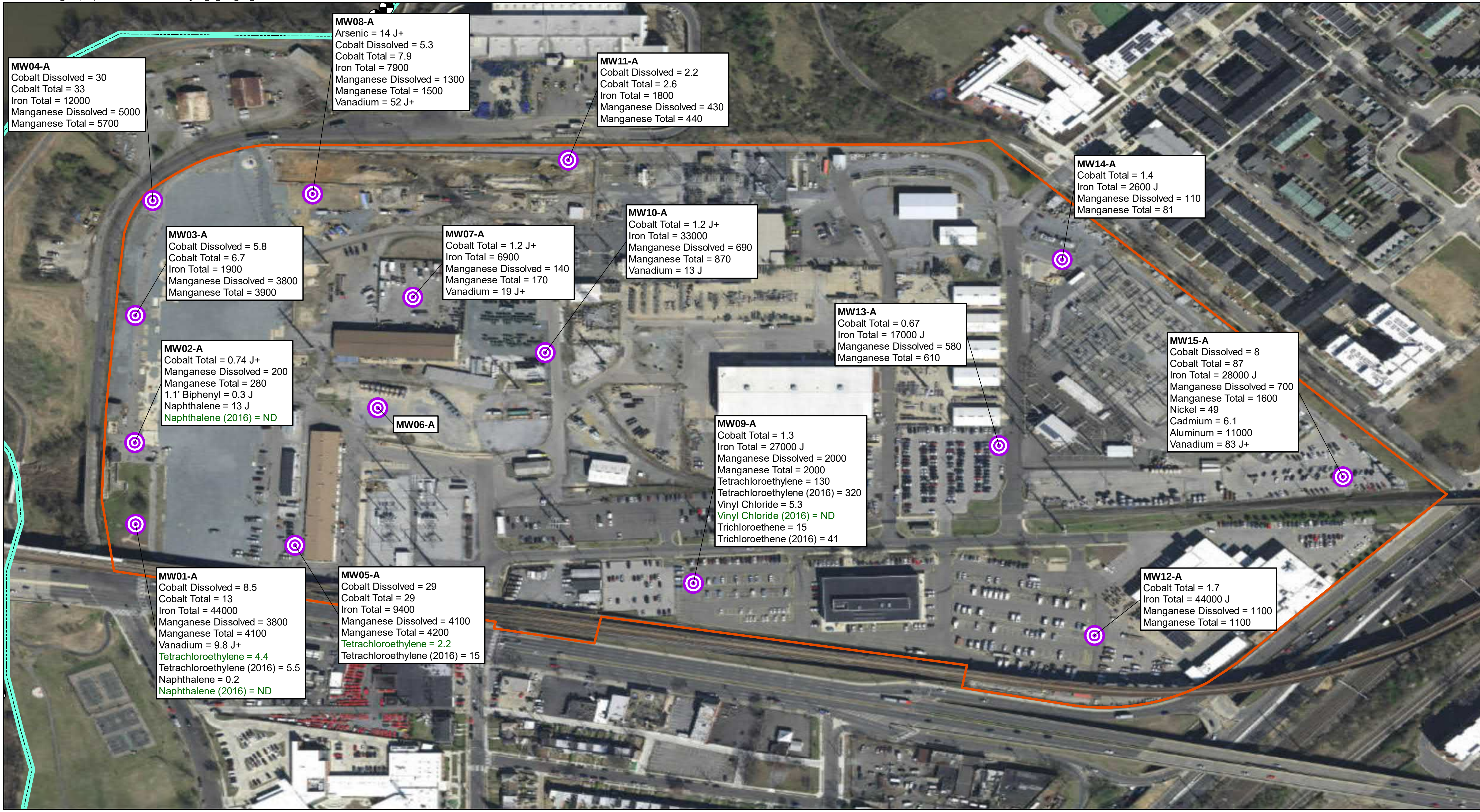
0 400 Feet

N E S W

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | TCDD TEQ CONCENTRATIONS<br>IN SURFACE SOILS | |
|---|---|---|---|---|
| Date: 10/25/2018 | Drawn By: KNS | Checked By: SED | | FIGURE 4-16 |


SUSDP08 Depth TCDD Date 0 - 1 ft 36.4 2013 2.5 - 3.5 ft 1.19 2013
SUS08-1G Depth TCDD Date 0 - 1 ft 3.84 2017
SUS08-2N Depth TCDD Date 0 - 1 ft 11.6 2017
SUS08-1H Depth TCDD Date 0 - 1 ft 42.1 2017
SUS08-2O Depth TCDD Date 0 - 1 ft 3.53 2017
SUS08-2P Depth TCDD Date 0 - 1 ft 4.71 2017
SUS08-1F Depth TCDD Date 0 - 1 ft 8.38 2017
SUS08-1A Depth TCDD Date 0 - 1 ft 50.1 2017
SUS08-2J Depth TCDD Date 0 - 1 ft 7.45 2017
TARGET AREA 3
SUS08-2A Depth TCDD Date 0 - 1 ft 2.33 2017
SUSDP08-1E Depth TCDD Date 0 - 1 ft 28.7 2017
SUS08-1B Depth TCDD Date 0 - 1 ft 2.59 2017
SUS08-2I Depth TCDD Date 0 - 1 ft 11.6 2017
TARGET AREA 1
TARGET AREA 5
SUS08-2B Depth TCDD Date 0 - 1 ft 2.69 2017
SUS08-1D Depth TCDD Date 0 - 1 ft 35.2 2017
SUS08-2H Depth TCDD Date 0 - 1 ft 3.67 2017
SUSDP08-3K Depth TCDD Date 0 - 1 ft 6.01 2017
SUSDP08-2G Depth TCDD Date 0 - 1 ft 3.32 2017 1 - 2 ft 3.45 2017
SUS08-2F Depth TCDD Date 0 - 1 ft 4.61 2017
SUS08-1C Depth TCDD Date 0 - 1 ft 2.91 2017
SUSDP08-3I Depth TCDD Date 0 - 1 ft 2.19 2017
SUS10-2L Depth TCDD Date 0 - 1 ft 7.64 2017
SUS10-2M Depth TCDD Date 0 - 1 ft 7.85 2017
SUS10-1G Depth TCDD Date 0 - 1 ft 33.5 2017
SUS10-2N Depth TCDD Date 0 - 1 ft 5.78 2017
SUS10-2O Depth TCDD Date 0 - 1 ft 2.68 2017
SUS10-1H Depth TCDD Date 0 - 1 ft 109 2017
SUSDP11 Depth TCDD Date 0 - 1 ft 58.7 2013 4.5 - 5.5 ft 0.601 2013
SUS10-1F Depth TCDD Date 0 - 1 ft 20.1 2017
SUS10-2P Depth TCDD Date 0 - 1 ft 41.3 2017
SUSDP10-3X Depth TCDD Date 0 - 1 ft 5.78 2017
SUS10-1E Depth TCDD Date 0 - 1 ft 2.37 2017
TARGET AREA 10
SUS10-1A Depth TCDD Date 0 - 1 ft 90.9 2017
SUS10-1D Depth TCDD Date 0 - 1 ft 2.87 2017
SUS10-2A Depth TCDD Date 0 - 1 ft 19.3 2017
SUS10-2F Depth TCDD Date 0 - 1 ft 2.65 2017
TARGET AREA 11
SUSDP10 Depth TCDD Date 0.5 - 1 ft 27.0 2013 4.5 - 5.5 ft 0.138 2013
SUS10-2E Depth TCDD Date 0 - 1 ft 156 2017
SUSDP44-2N Depth TCDD Date 1 - 2 ft 21.9 2017
SUSDP10-3G Depth TCDD Date 0 - 1 ft 34.5 2017 1 - 2 ft 23.5 2017 2 - 3 ft 5.42 2017
SUS10-2B Depth TCDD Date 0 - 1 ft 484 2017
SUS10-1B Depth TCDD Date 0 - 1 ft 129 2017
SUSDP10-4E Depth TCDD Date 1 - 2 ft 1.25 2018
SUSDP10-3F Depth TCDD Date 0 - 1 ft 79.0 2017 1 - 2 ft 5.42 2017
SUS10-2D Depth TCDD Date 0 - 1 ft 87.5 2017
SUS10-1C Depth TCDD Date 0 - 1 ft 49.0 2017
SUSDP44-1D Depth TCDD Date 1 - 2 ft 1.26 2017
LEGEND
TCDD-TEQ
< 22 pg/g
> 22 pg/g
COOLING TOWER SOIL EXCAVATION AREA
GROUP LOCATION
PROPERTY BOUNDARY
SAMPLING GRID
NOTE
TARGET AREA 1 – FORMER SLUDGE DEWATERING AREA
TARGET AREA 3 - FORMER 15,000 GAL UST & 50,000 GAL AST (No. 2 Fuel Oil)
TARGET AREA 5 – FORMER COOLING TOWERS (1995 & 2017 Cleanup Area)
TARGET AREA 10 – RED TAG STORAGE AREA
TARGET AREA 11 – BUILDING #68 (PCB Building)
MAP LOCATION
AECOM
0 70
Feet
BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019
TCDD-TEQ SOIL CONCENTRATIONS
IN TARGET AREAS 1, 3, 5, 10, & 11
Date: 11/2/2018
Drawn By: JB
Checked By: JL
FIGURE 4-17

Path: J:\Water\QA_Group\Pepco\GIS\MXD\2018Revisions\Figure4_19_UWZ_MW_COI102418.mxd




Monitoring Well (UWZ)
Outfall Location
Benning Road Facility Property Boundary
Waterside Investigation Area

Note:
1. Map shows only detections above the project screening levels (PSLs)
2. "A" indicates sample was taken from the upper aquifer
3. Data collected in 2014 unless otherwise noted
4. ND = Non-Detect
5. Both sample events shown for organics and in green if below PSLs
6. All units in ug/L

N E S W

0 500 Feet

AECOM

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | INORGANIC AND ORGANIC COI CONCENTRATIONS IN UWZ MONITORING WELLS |
|---|---|---|---|
| Date: 10/30/2018 | Drawn By: KNS | Checked By: SED | FIGURE 4-18 |


LEGEND

MTBE Screening Levels (ug/L)

- <= 14
- 14 - 140
- > 140

Property Boundary

AECOM

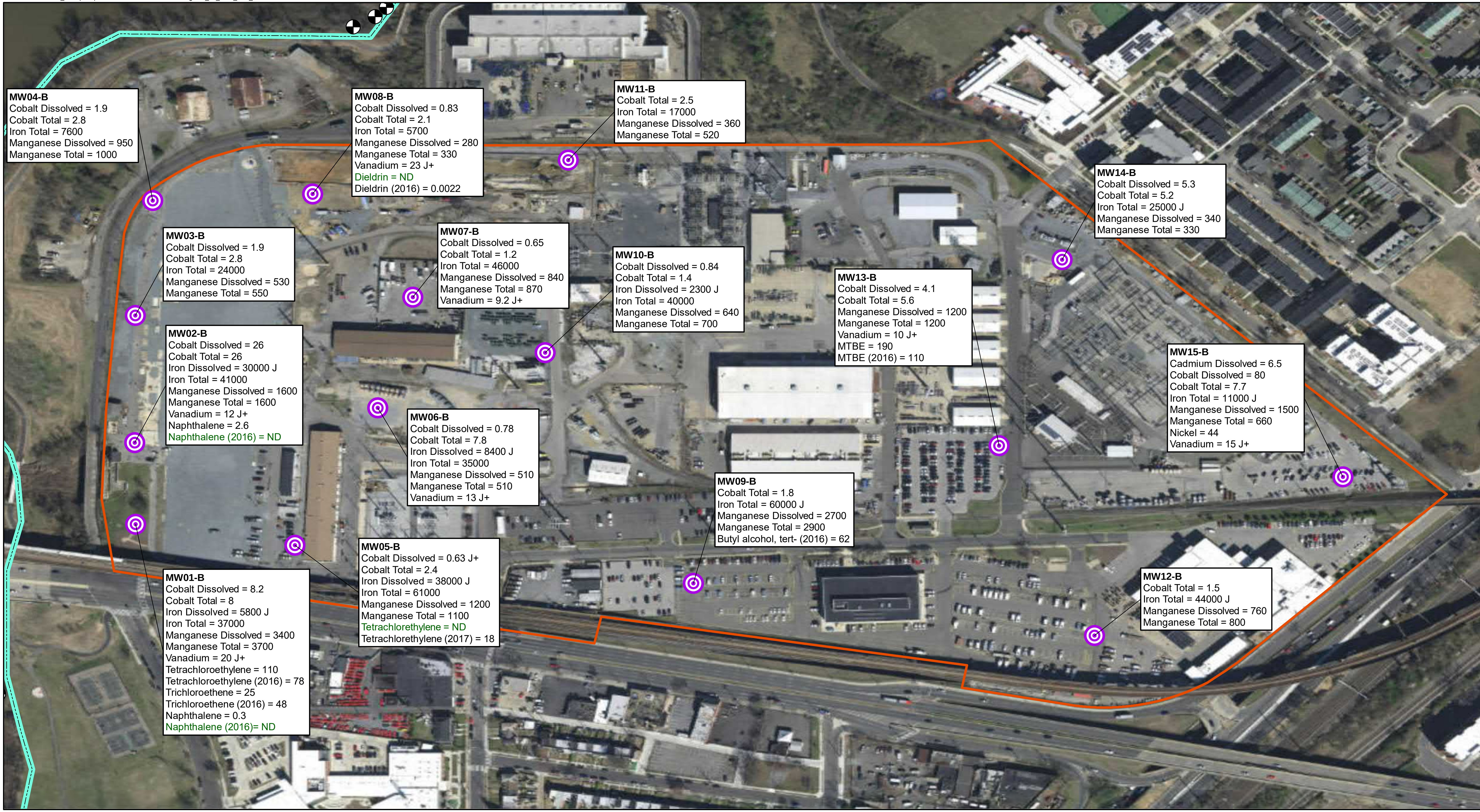
0 300 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

MTBE GROUNDWATER CONCENTRATIONS IN UWZ

| Date: 10/1/2018 | Drawn By: KNS | Checked By: SED | FIGURE 4-19 |
|---|---|---|---|

Path: J:\Water\QA_Group\Pepco\GIS\MXD\2018Revisions\Figure4_20_LWZ_MW_COI102418.mxd




Monitoring Well (LWZ)

Outfall Location

Benning Road Facility Property Boundary

Waterside Investigation Area

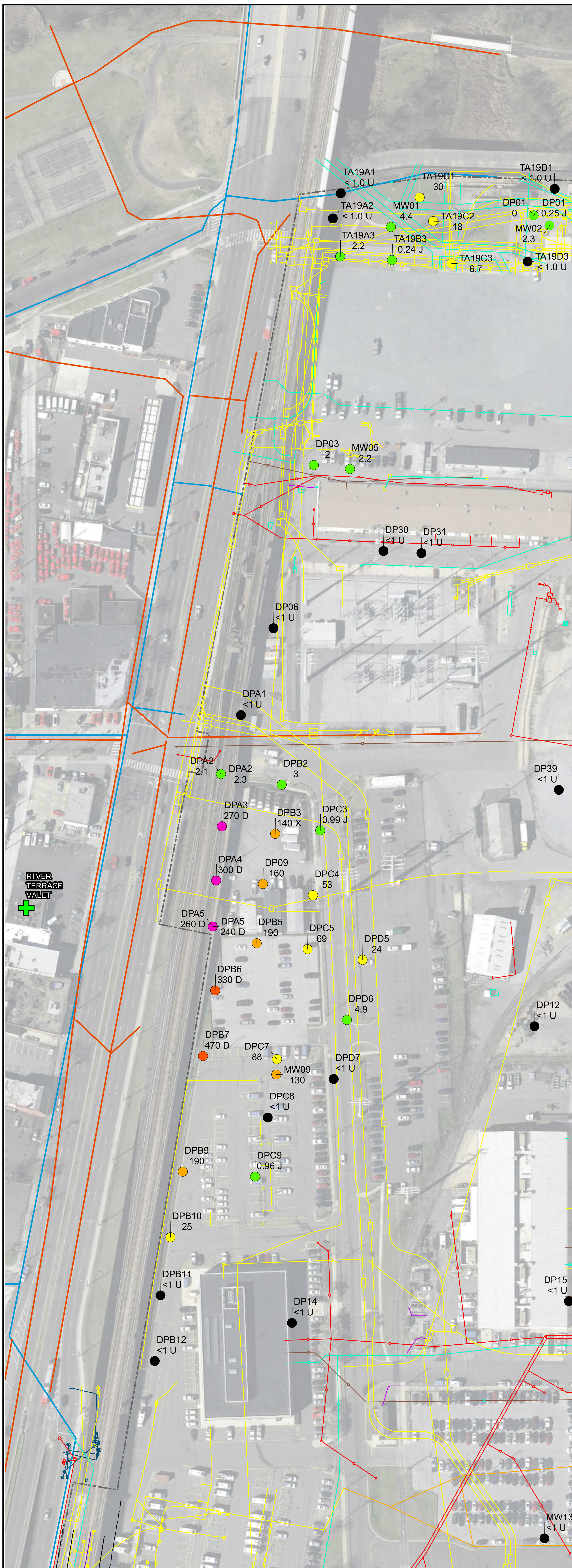
Note:
1. Map shows only detections above the project screening levels (PSLs)
2. “A” indicates sample was taken from the upper aquifer
3. Data collected in 2014 unless otherwise noted
4. ND = Non-Detect
5. Both sample events shown for organics and in green if below PSLs
6. All units are in ug/L

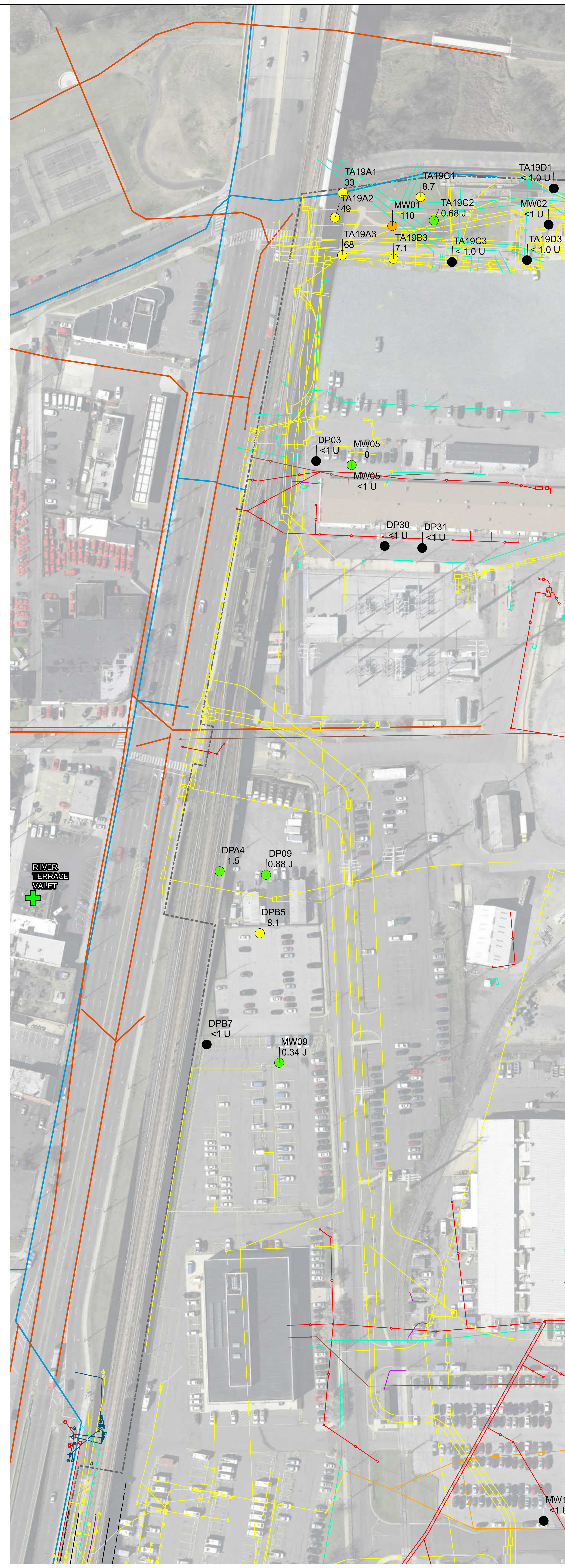
AECOM

N W E S

0 500 Feet

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | INORGANIC AND ORGANIC COI<br>CONCENTRATIONS IN LWZ<br>MONITORING WELLS |
|---|---|---|---|
| Date: 10/30/2018 | Drawn By: KNS | Checked By: SED | FIGURE 4-20 |




## SHALLOW AQUIFER

## DEEP AQUIFER

## LEGEND

**PCE (ug/L)**

- ND
- <5.0
- 5.0 - 100.0
- 100.0 - 200.0
- 200.0 - 300.0
- 300.0 - 500.0

Benning Road Facility Property Boundary

Dry Cleaning Locations

**D.C. Water and Sewer**

- Water
- Sewer

- Fiber Optic
- Electric
- Gas
- Sewer
- Drain
- Traffic
- Unknown
- Water
- Communication
- WMATA Underground Easement
- Underground-Rail

AECOM

0 80 160 Feet

| | |
|---|---|
| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | PCE GROUNDWATER CONCENTRATIONS<br>IN UWZ AND LWZ |
| Date: 10/3/2018 · Drawn By: KNS · Checked By: EF | FIGURE 4-21 |


**LEGEND**

MTBE Screening Levels (ug/L)

- <= 14
- 14 - 140
- > 140

Property Boundary

AECOM

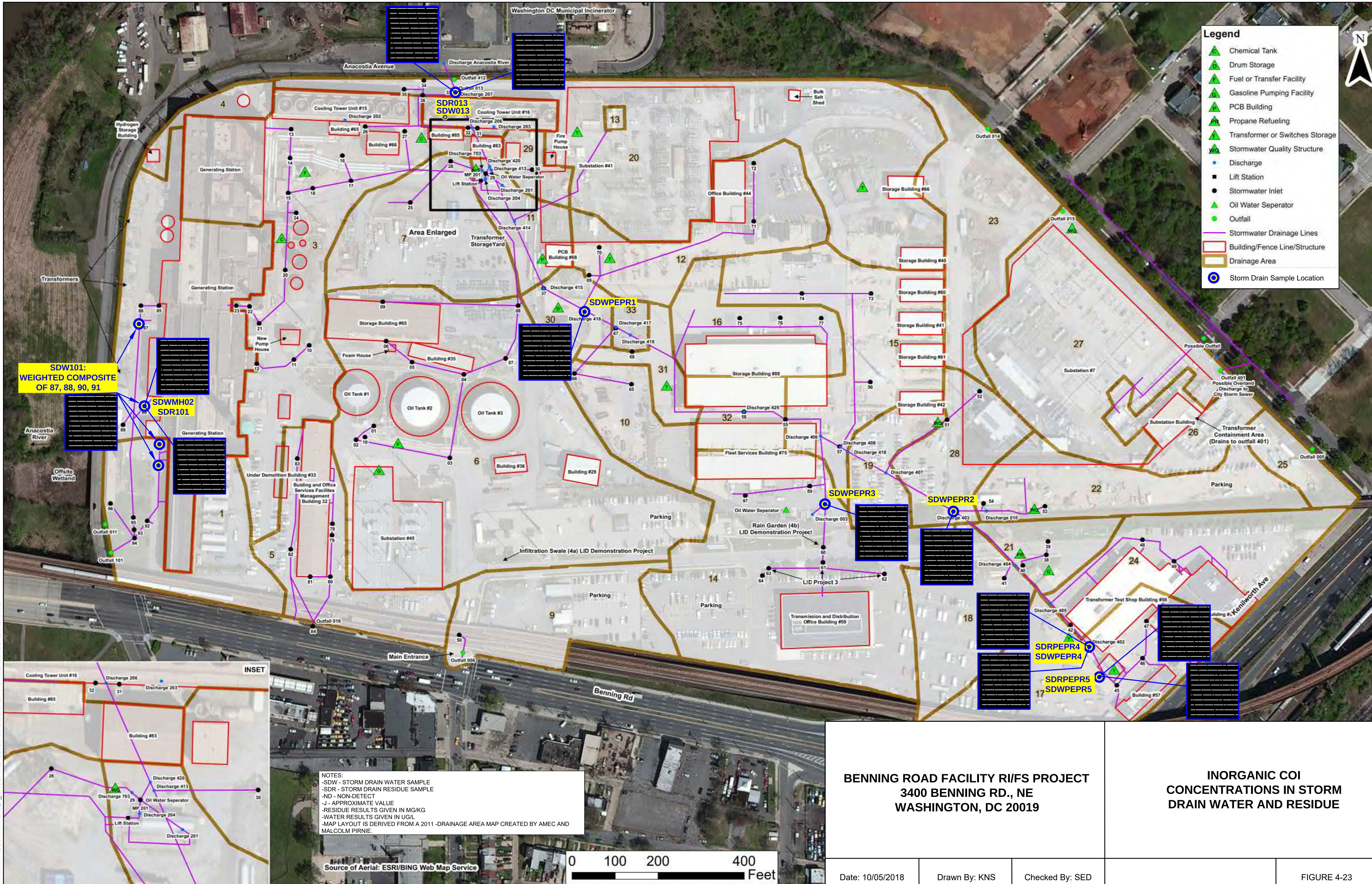
0 300 Feet

BENNING ROAD FACILITY RI/FS PROJECT
3400 BENNING RD., NE
WASHINGTON, DC 20019

MTBE GROUNDWATER CONCENTRATIONS IN LWZ

Date: 10/2/2018 | Drawn By: KNS | Checked By: SED | FIGURE 4-22

Project Management Initials: Designer: C.J.C. Checked: Approved:



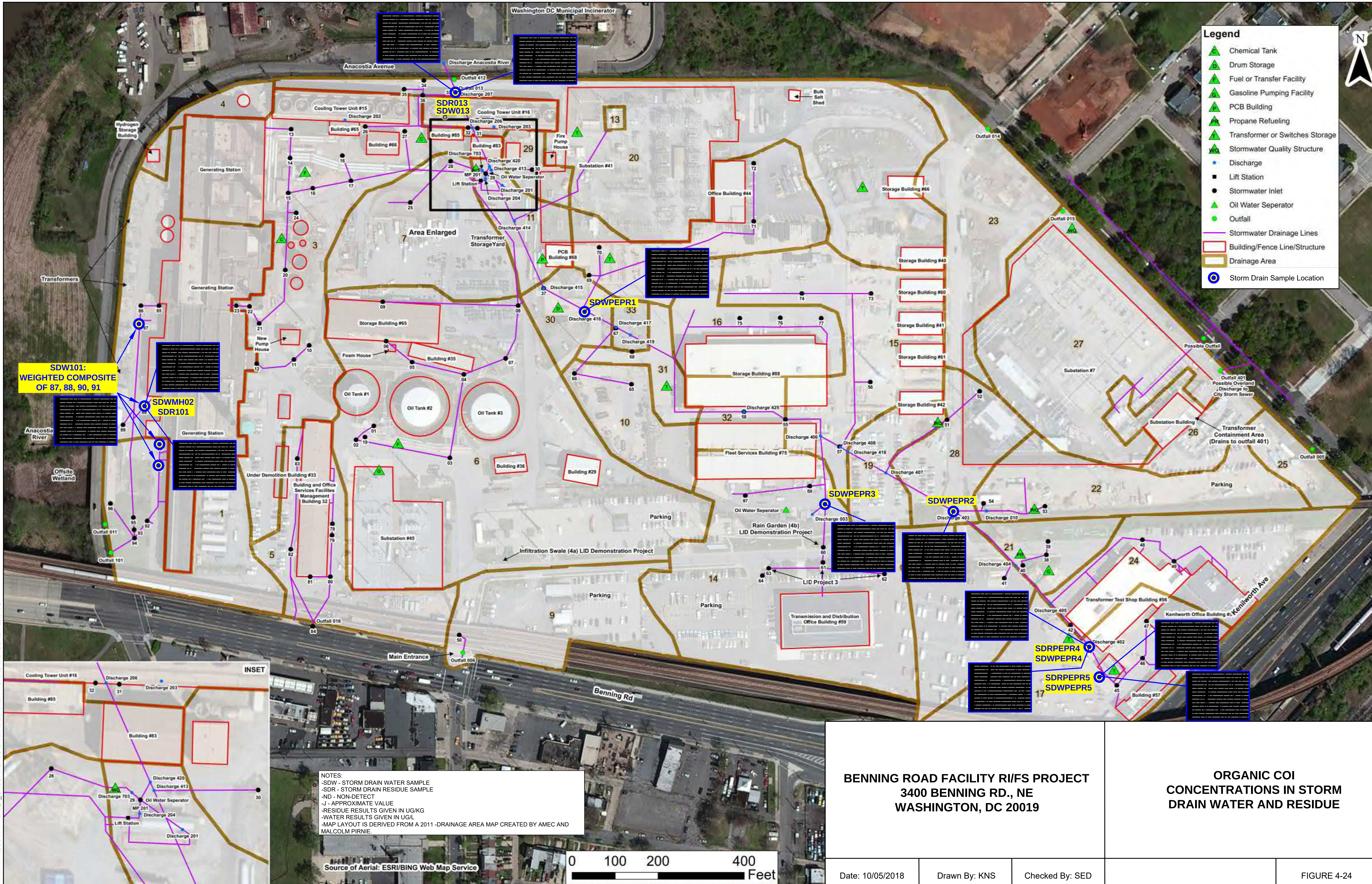

**BENNING ROAD FACILITY RI/FS PROJECT**
**3400 BENNING RD., NE**
**WASHINGTON, DC 20019**

**INORGANIC COI CONCENTRATIONS IN STORM DRAIN WATER AND RESIDUE**

| Date: 10/05/2018 | Drawn By: KNS | Checked By: SED | | FIGURE 4-23 |
|---|---|---|---|---|

Last saved by: BOURDEAUJ(2018-10-05) Last Plotted: 2018-10-05
Filename: P:\JOBS\WATER\QA_GROUP\PEPCO\GIS\MXD\2018REVISIONS\CAD\FIGURE 4-24.DWG

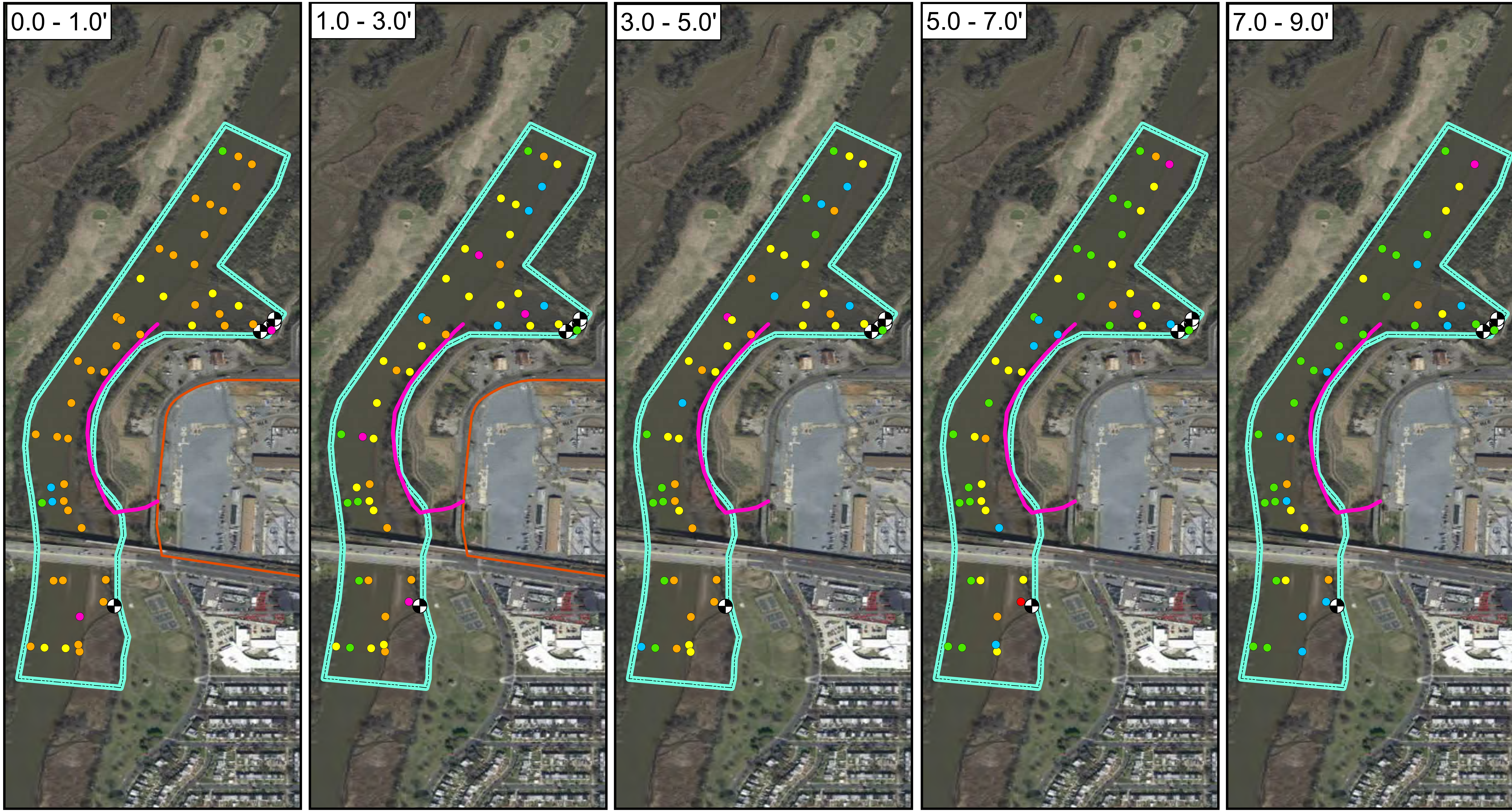
Project Management Initials: Designer: C.J.C. Checked:___ Approved:___




NOTES:
-SDW - STORM DRAIN WATER SAMPLE
-SDR - STORM DRAIN RESIDUE SAMPLE
-ND - NON-DETECT
-J - APPROXIMATE VALUE
-RESIDUE RESULTS GIVEN IN UG/KG
-WATER RESULTS GIVEN IN UG/L
-MAP LAYOUT IS DERIVED FROM A 2011 -DRAINAGE AREA MAP CREATED BY AMEC AND MALCOLM PIRNIE.

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | ORGANIC COI CONCENTRATIONS IN STORM DRAIN WATER AND RESIDUE | |
|---|---|---|---|---|
| Date: 10/05/2018 | Drawn By: KNS | Checked By: SED | | FIGURE 4-24 |

Last saved by: BOURDEAUJ(2018-10-05) Last Plotted: 2018-10-05
Filename: P:\JOBS\WATER\QA_GROUP\PEPCO\GIS\MXD\2018REVISIONS\CAD\FIGURE 4-25.DWG




**Total PAHs (mg/kg)**

- <0.26
- 0.26 - 2.0
- 2.0 - 5.0
- 5.0 - 10.0
- 10.0 - 22.8
- >22.8

Waterside Investigation Area

Benning Road Facility Property Boundary

Approximate Location of Seawall

Notes:
1. Where multiple samples were collected from a location, the max value is presented.
2. NDs are reported as 1/2 the reporting limit

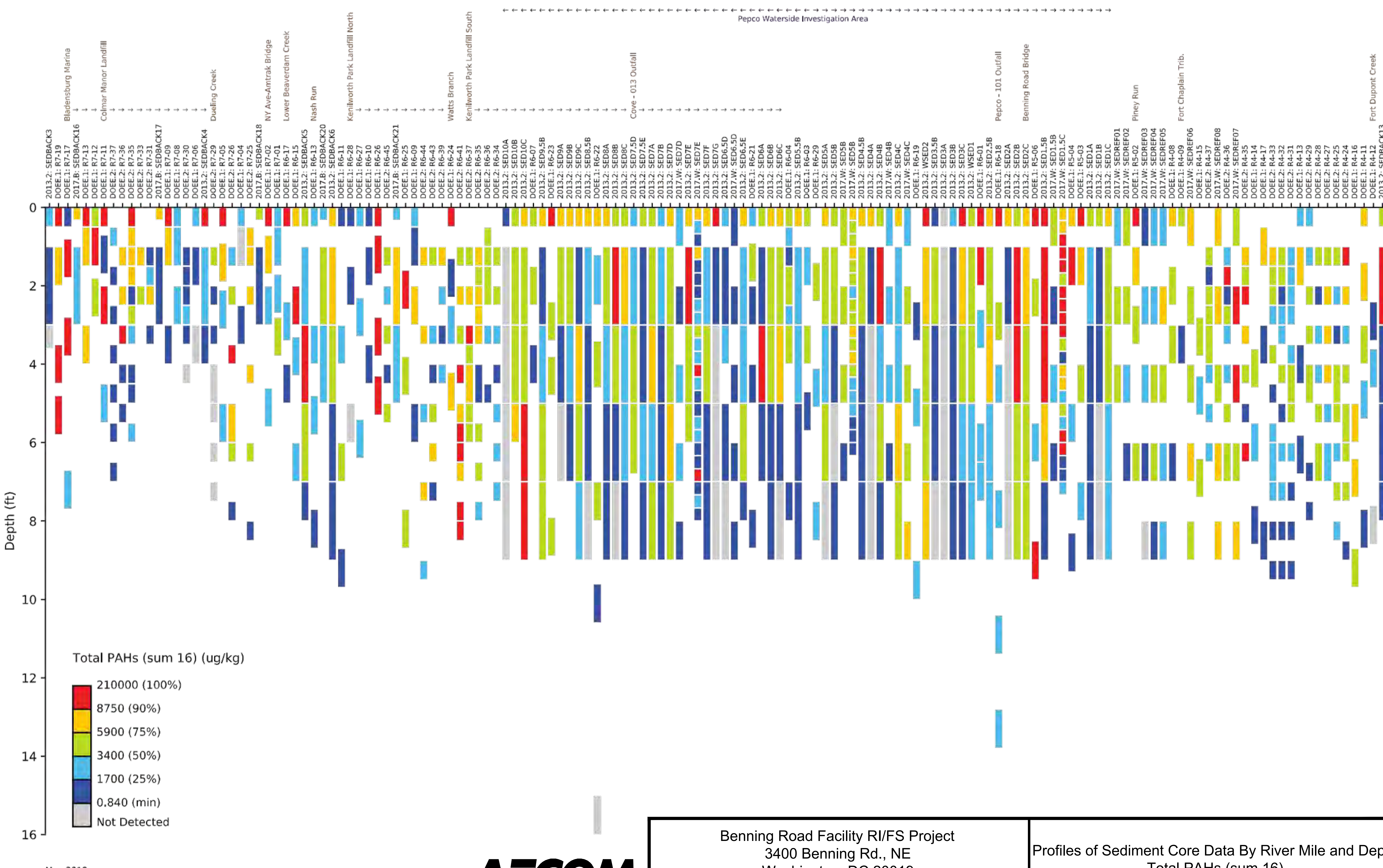
N S W E

0 1,000 Feet

AECOM

Benning Road Facility RI Report

| | |
|---|---|
| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | TOTAL PAH CONCENTRATIONS IN SURFICIAL AND SUB-SURFICIAL SEDIMENT |
| Date: 10/23/2018 \| Drawn By: KNS \| Checked By: SED | FIGURE 4-25 |



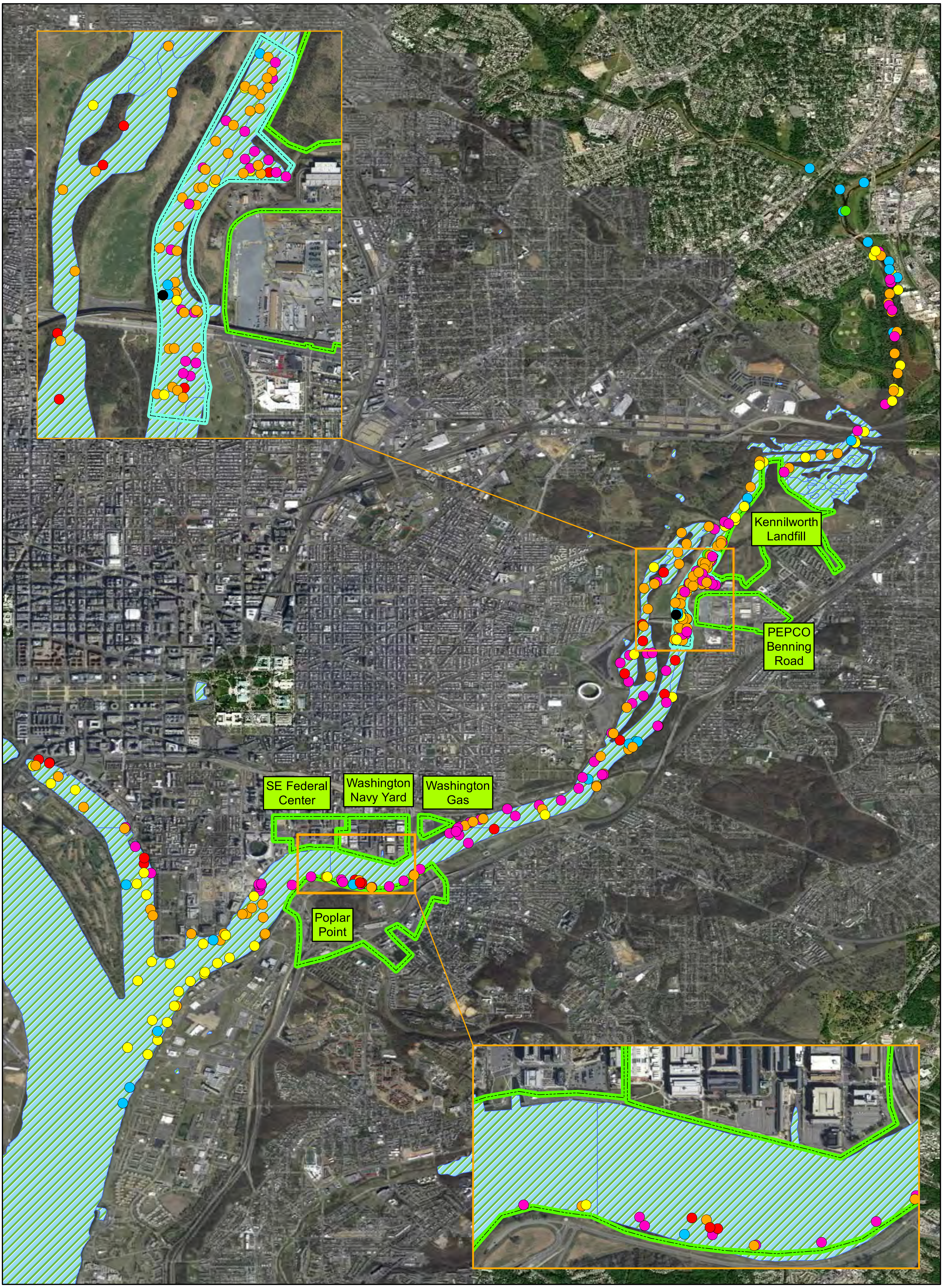

AECOM

Benning Road Facility RI/FS Project
3400 Benning Rd., NE
Washington, DC 20019

Profiles of Sediment Core Data By River Mile and Depth
Total PAHs (sum 16)

DATE: 05/20/2019 | DRAWN BY: LAD | CHECKED BY: RD

**FIGURE 4-26**




Total PAHs (ug/kg)

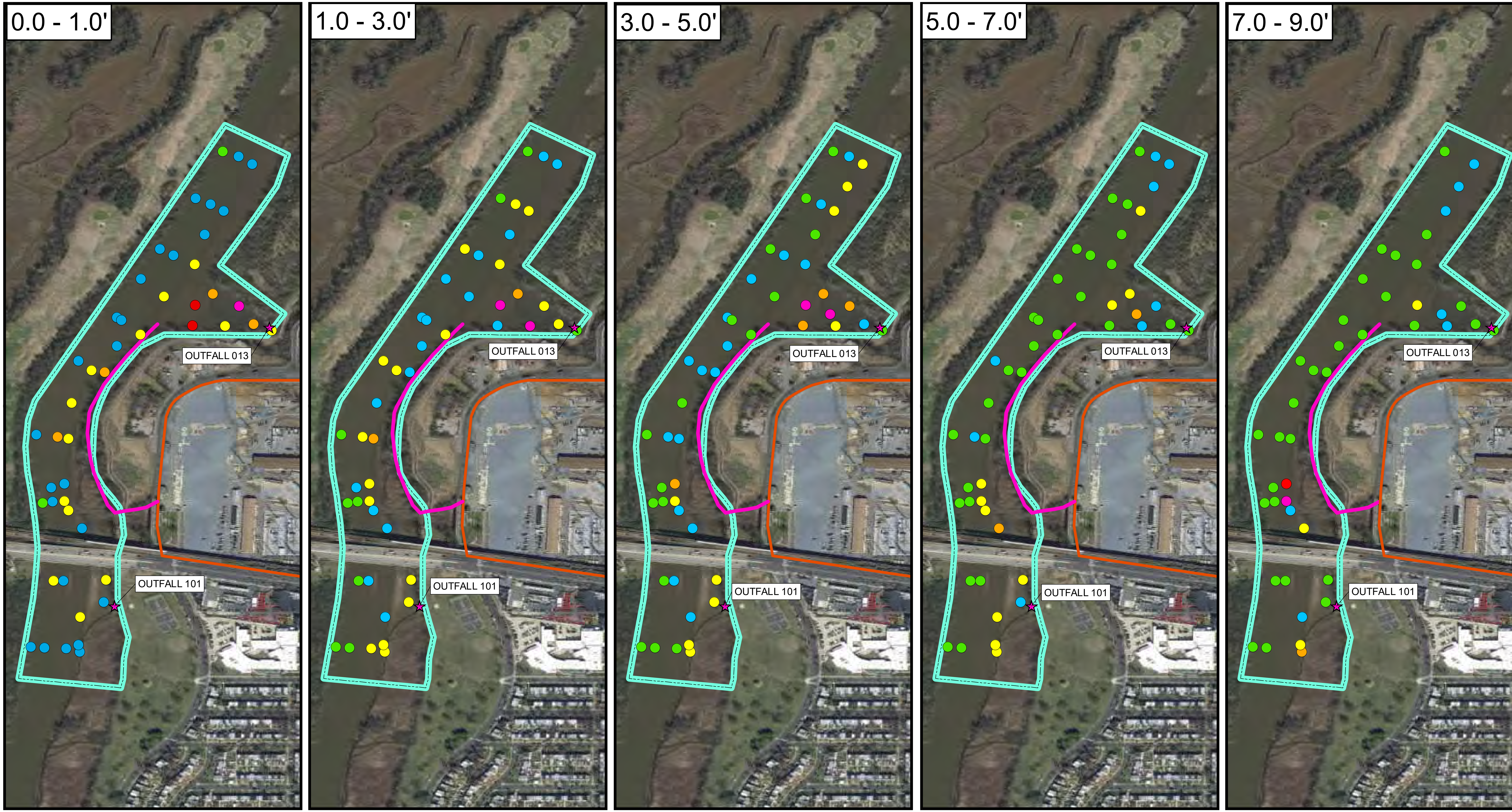
- <260
- 260 - 2,000
- 2,000 - 5,000
- 5,000 - 10,000
- 10,000 - 22,800
- >22,800
- Non-Detect

Waterside Investigation Area | Property Boundaries | Riverine Boundary

AECOM

0 1 Miles

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | TOTAL PAH CONCENTRATIONS IN SURFICIAL SEDIMENT | |
|---|---|---|---|---|
| Date: 10/24/2018 | Drawn By: KNS | Checked By: SED | | FIGURE 4-27 |




**Total PCBs (ug/kg)**

- <26.0 (Less than PSL)
- 26 - 182
- 182 - 676
- 676 - 1,000
- 1,000 - 2,000
- >2,000
- Outfall Locations

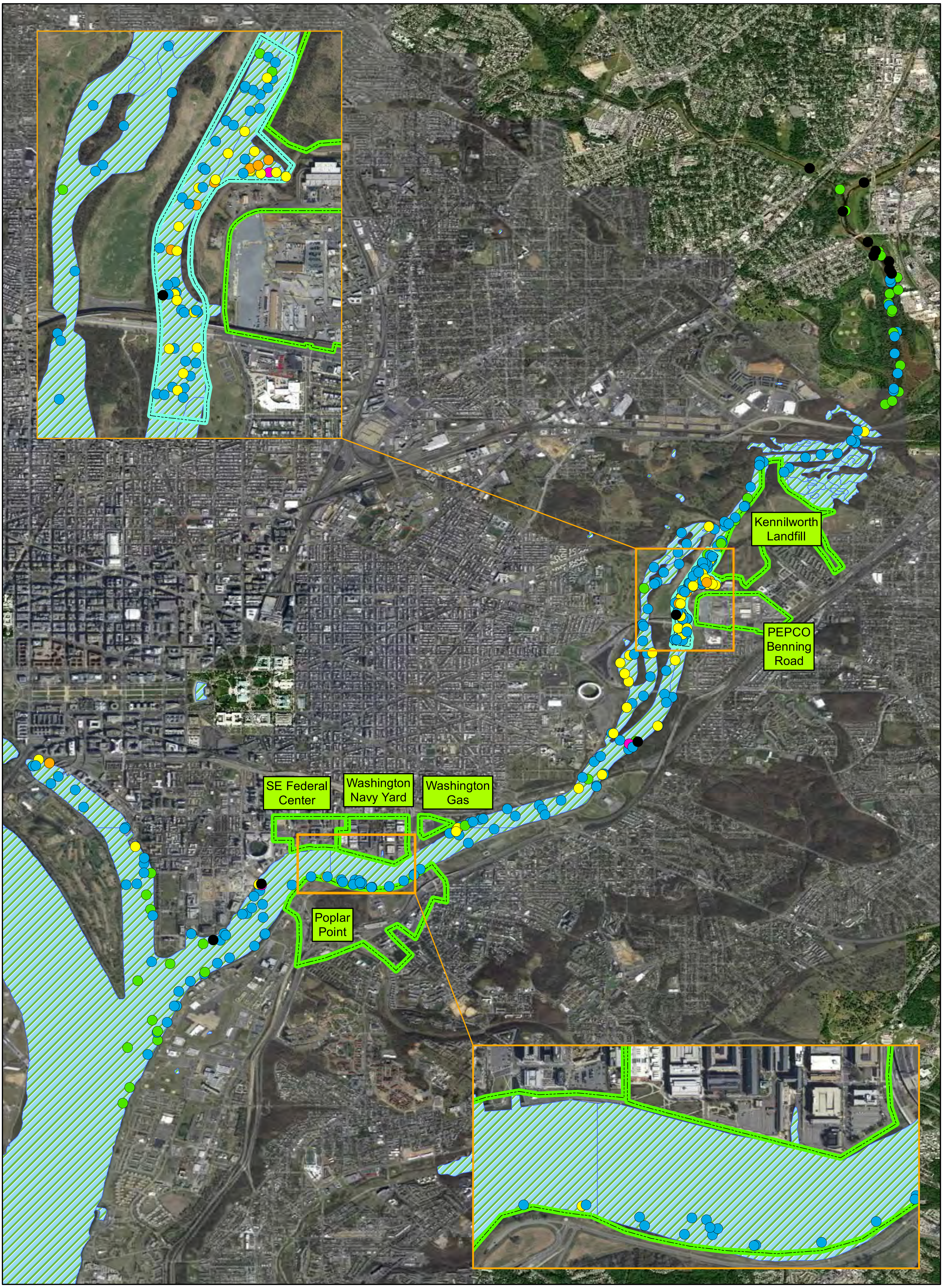
- Waterside Investigation Area
- Benning Road Facility Property Boundary
- Approximate Location of Seawall

N W E S

0 1,000 Feet

AECOM
Benning Road Facility RI Report

| | | | | |
|---|---|---|---|---|
| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | TOTAL PCB CONCENTRATIONS<br>IN SURFICIAL AND SUB-SURFICIAL<br>SEDIMENT (UG/KG) | |
| Date: 1/15/2020 | Drawn By: KNS | Checked By: SED | | FIGURE 4-28 |



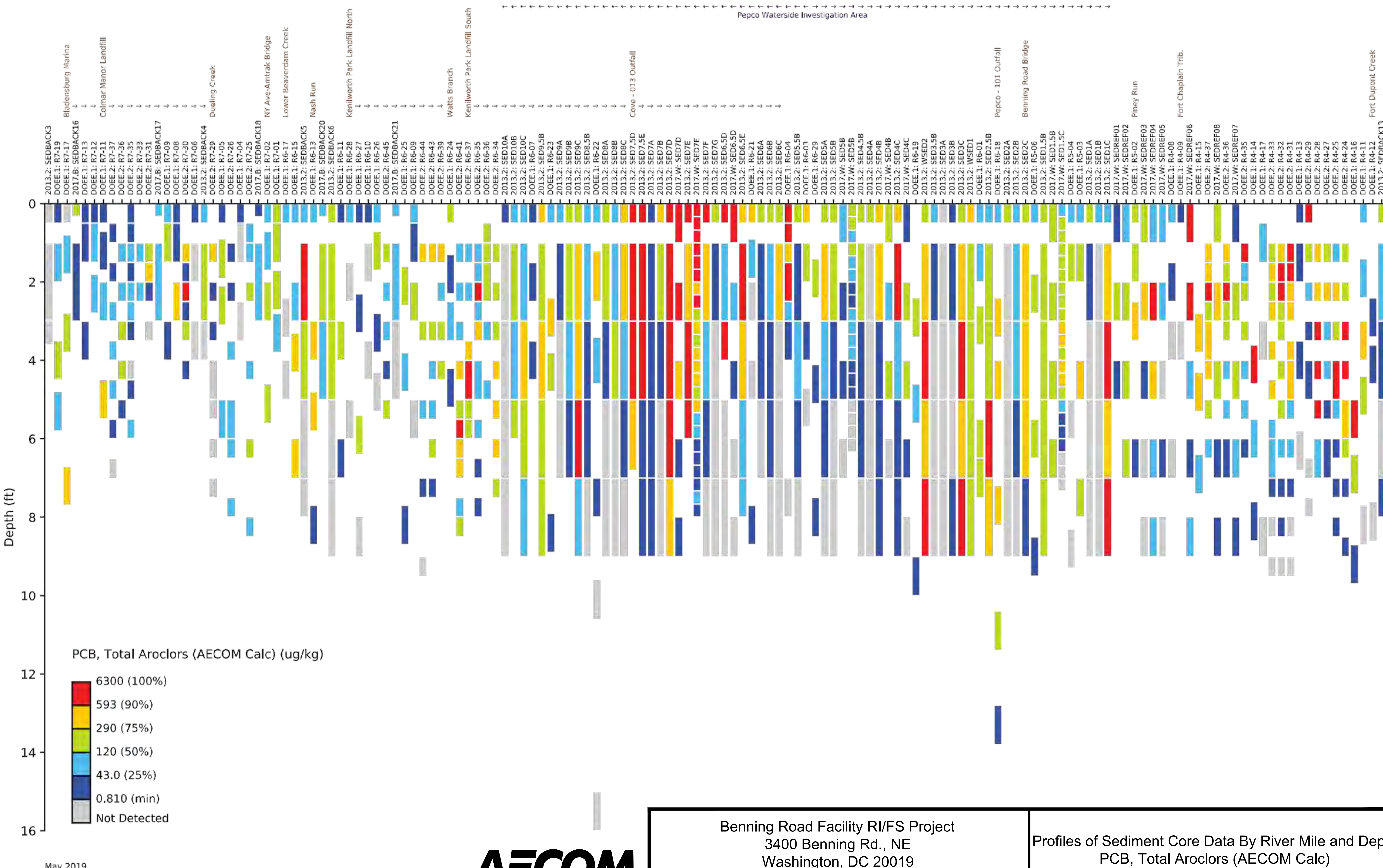

Total PCBs (ug/kg)
- <26 (Less than PSL)
- 26 - 186
- 186 - 676
- 676 - 1,000
- 1,000 - 2,000
- >2,000
- Non-Detect

Waterside Investigation Area
Property Boundaries
Riverine Boundary

AECOM

0 1 Miles

| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | TOTAL PCB CONCENTRATIONS<br>IN THE ANACOSTIA RIVER<br>SURFICIAL SEDIMENT | |
|---|---|---|---|---|
| Date: 10/23/2018 | Drawn By: KNS | Checked By: SED | | FIGURE 4-29 |




AECOM

| Benning Road Facility RI/FS Project<br>3400 Benning Rd., NE<br>Washington, DC 20019 | Profiles of Sediment Core Data By River Mile and Depth<br>PCB, Total Aroclors (AECOM Calc) |
|---|---|
| DATE: 05/20/2019 DRAWN BY: LAD CHECKED BY: RD | FIGURE 4-30 |



**PCBs Normalized to TOC (ug/g)**

- <15.0
- 15.0 - 30.0
- >30.0

Waterside Investigation Area

Benning Road Facility Property Boundary

Outfalls

AECOM

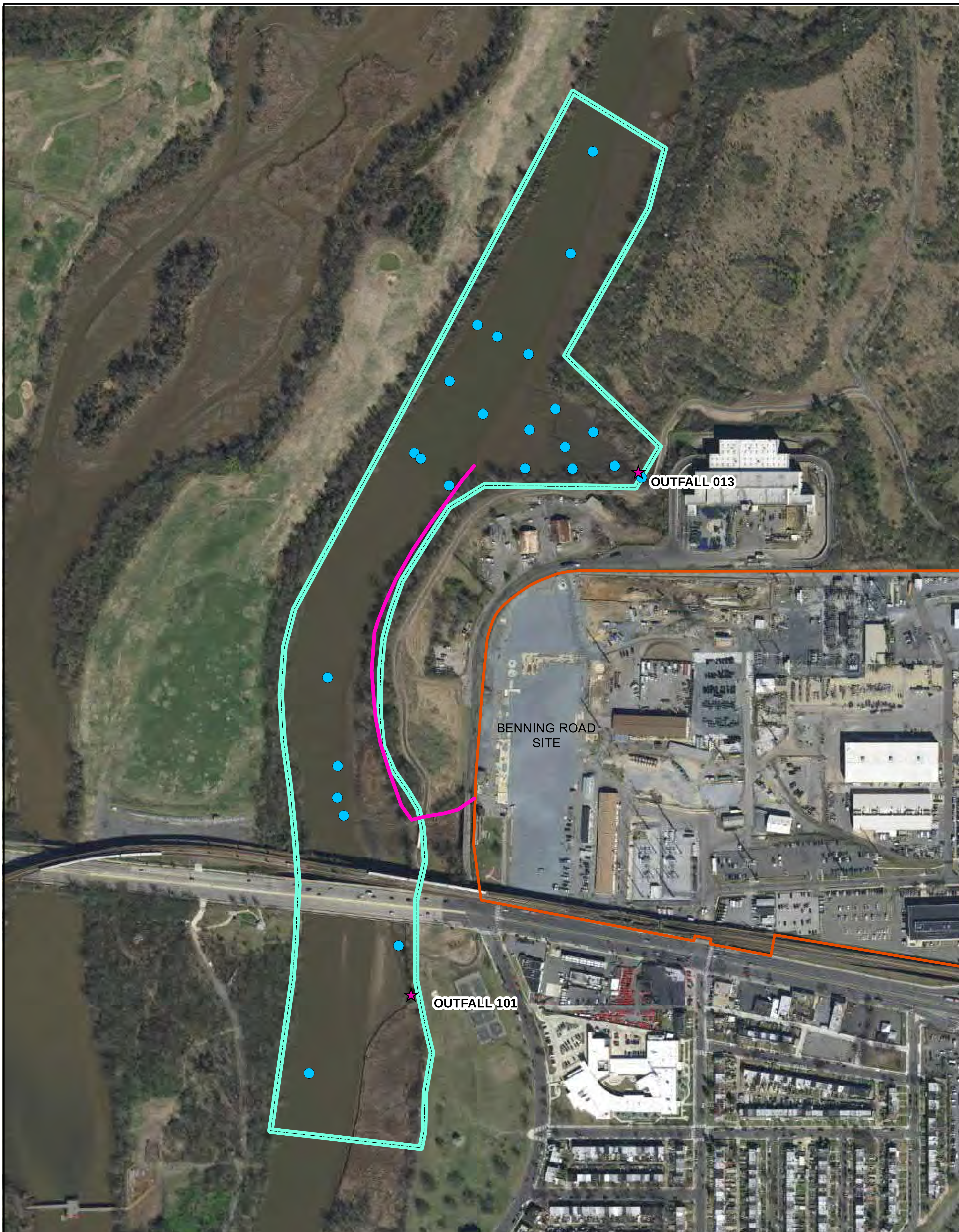
0 1,000 Feet

N W E S

Benning Road Facility RI Report

Notes:
1. Where multiple samples were collected from a location, the max value is presented.

| | | | | |
|---|---|---|---|---|
| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | TOTAL PCB CONCENTRATIONS IN SURFICIAL AND SUB-SURFICIAL SEDIMENT NORMALIZED TO TOC | |
| Date: 1/20/2020 | Drawn By: KNS | Checked By: SED | | FIGURE 4-31 |




**TCDD**

- No Exceedance (<35.6 ppt)
- >Low Effects Ecological Screening Value (35.6 ppt)
- Approximate Location of Sea Wall
- Waterside Investigation
- Benning Road Facility Property Boundary
- Outfalls

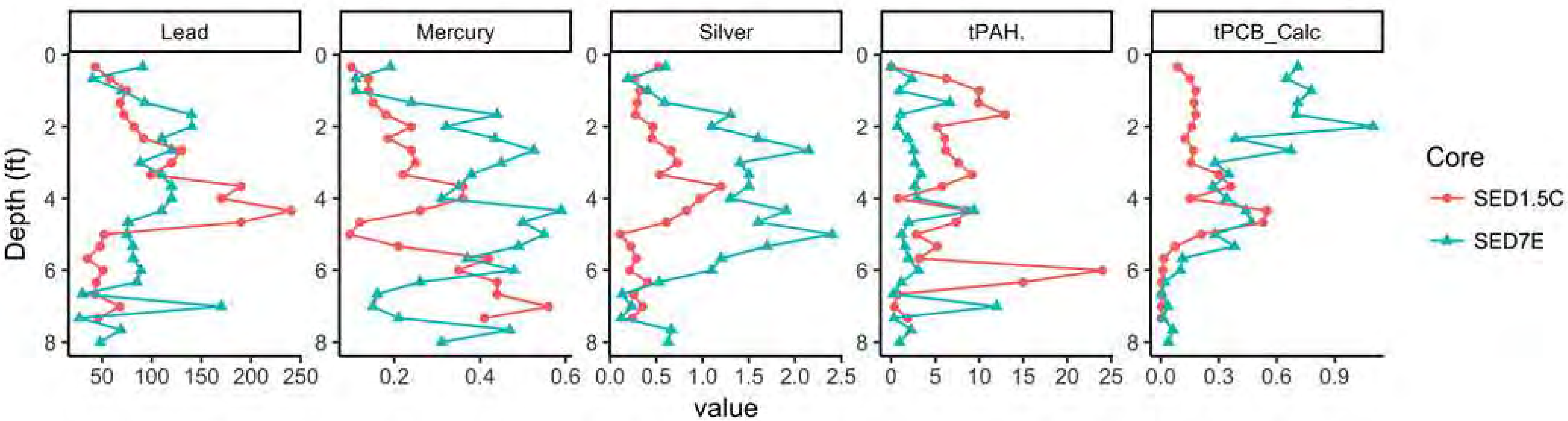
AECOM

0 400 Feet

N W E S

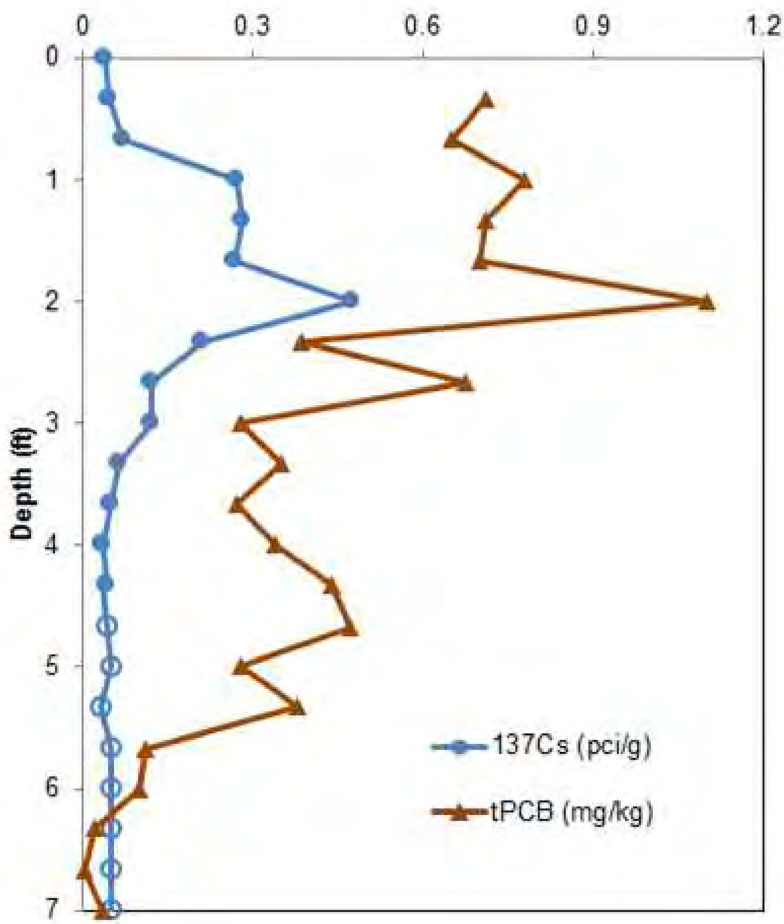
| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | TCDD TEQ CONCENTRATIONS<br>IN SURFICIAL SEDIMENT |
|---|---|---|---|
| Date: 1/20/2020 | Drawn By: KNS | Checked By: SED | FIGURE 4-32 |

**Figure 4-33**
**Selected COPC Vertical Delineation in Waterside Investigation Area**
**Benning Road Facility RI/FS Project 3400 Benning Road, NE Washington, DC 20019**

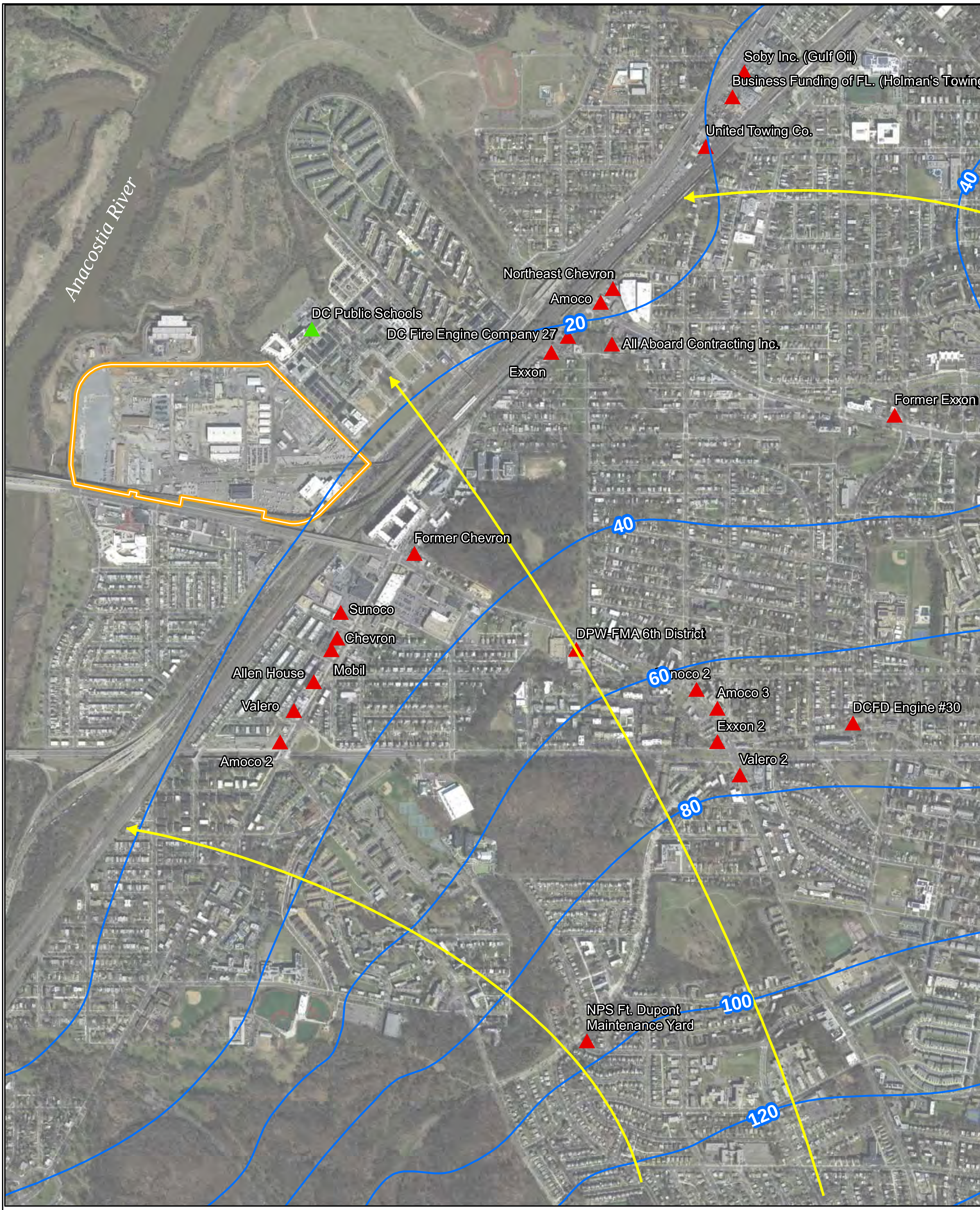



Notes:
Select COPCs in cores collected at locations SED1.5C (River Channel) and SED7E (Cove). All concentrations in mg/kg.

**Figure 4-34**
**Total PCBs and Cesium 137 Core SED7E**
**Benning Road Facility RI/FS Project 3400 Benning Road, NE Washington, DC 20019**




Notes:
Total PCBs (tPCB) and 137Cs activity (pci/g) in sediment core SED7E, located in the Cove. Open circles indicate that there was no 137Cs detected.




## Legend

- Upgradient or Cross-Gradient Gasoline LUST Case
- Thomas Elementary School (Heating Oil LUST Case)
- Regional Groundwater Contours
- Generalized Groundwater Flow Direction
- Benning Road Facility Property Boundary

Note:
- Water-table contours shown in ft NAVD88, from Koterba, et al. (2010). Pesticides in groundwater in the Anacostia River and Rock Creek watersheds in Washington, D.C., 2005 and 2008. USGS SIR 2010–5130

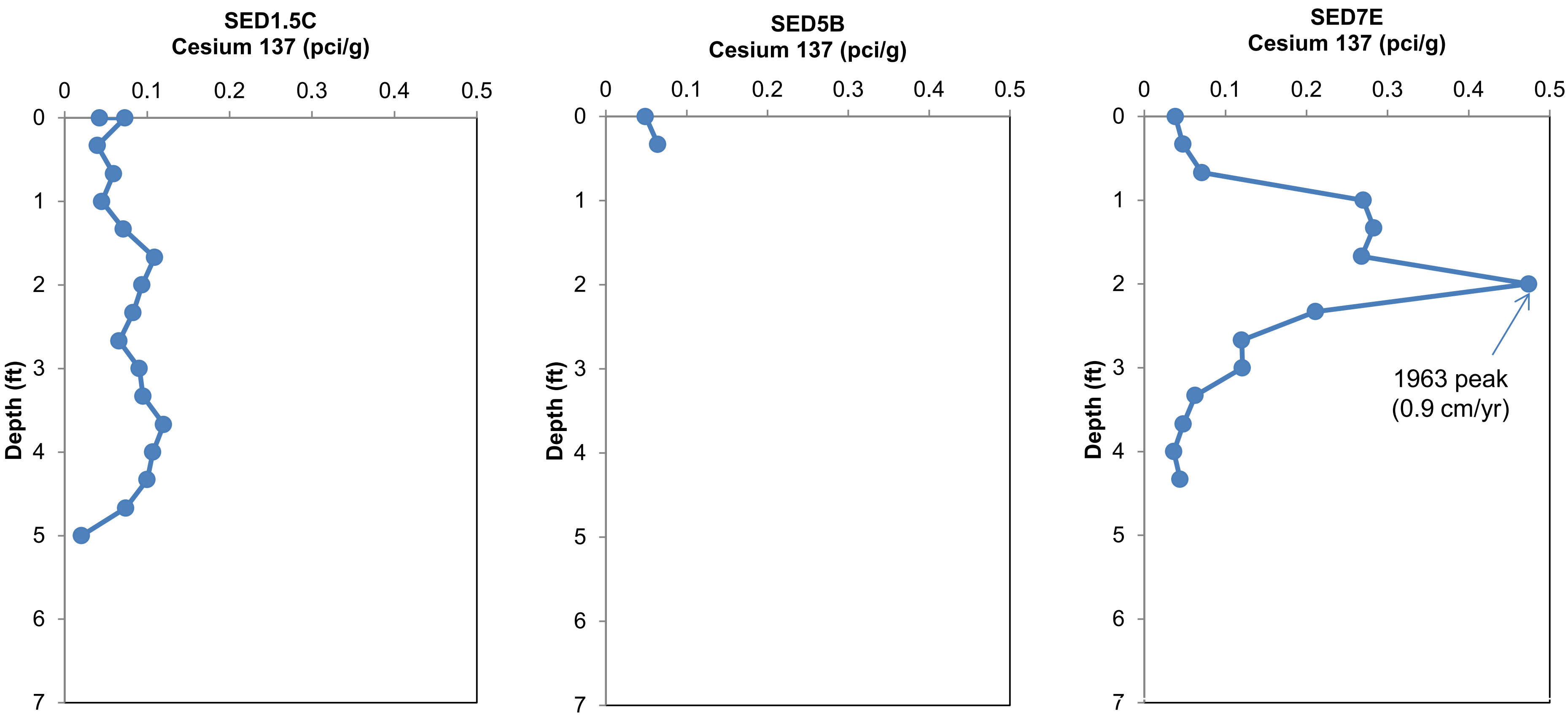
AECOM

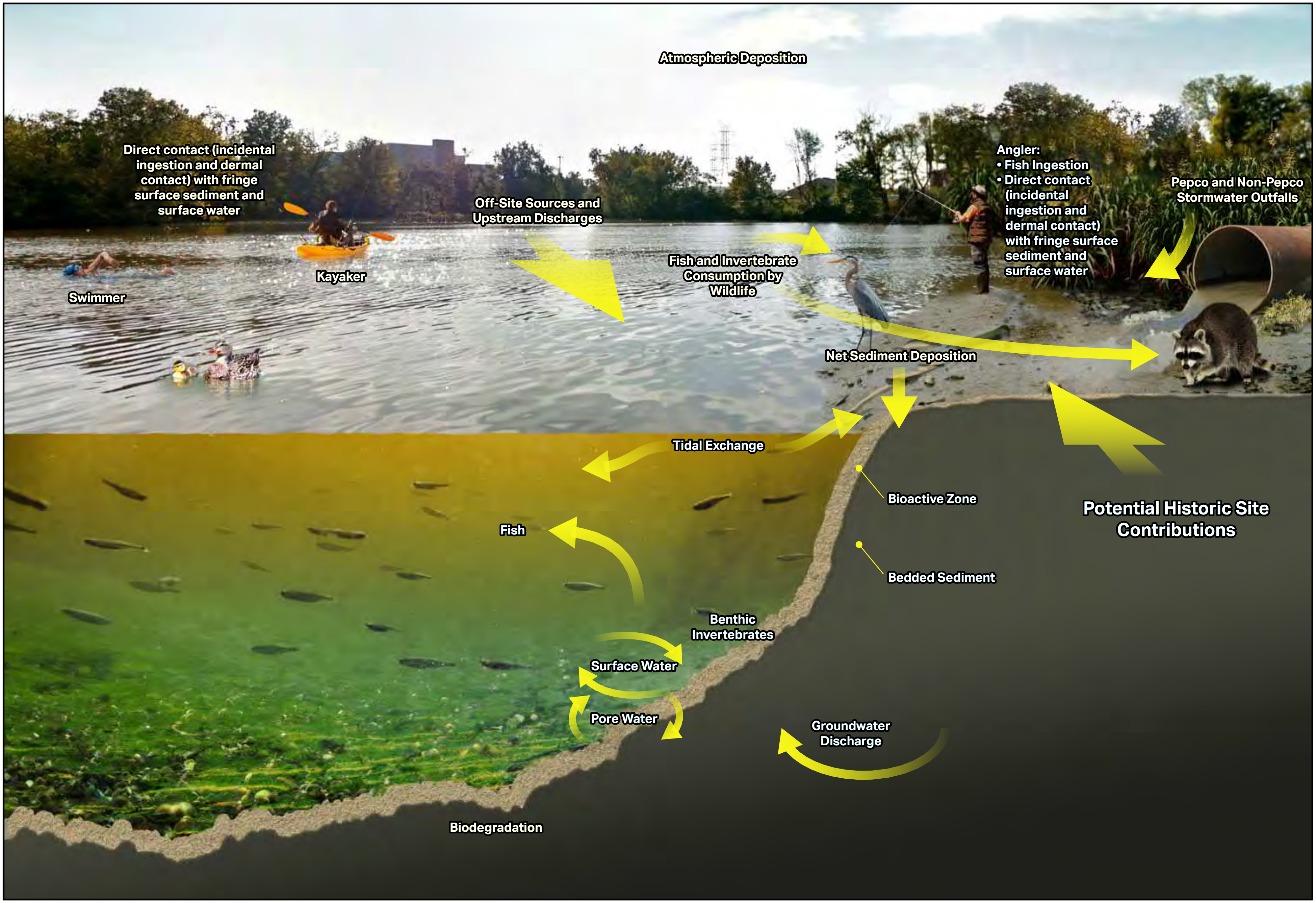
0 250 500 1,000 Feet

N W E S

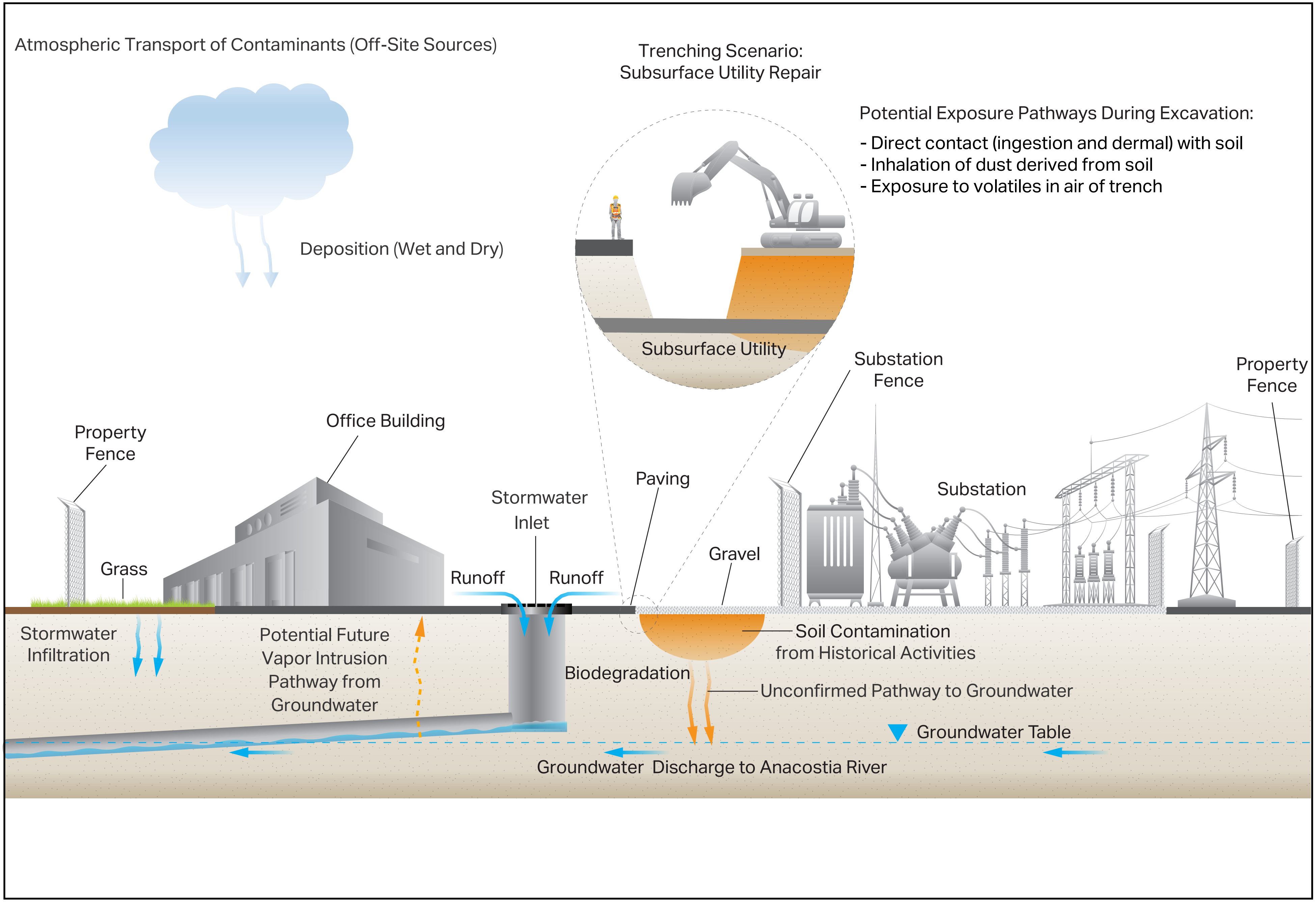
| BENNING ROAD FACILITY RI/FS PROJECT<br>3400 BENNING RD., NE<br>WASHINGTON, DC 20019 | | | UPGRADIENT AND CROSS-GRADIENT<br>GASOLINE LUST CASES | |
|---|---|---|---|---|
| Date: 10/23/2018 | Drawn By: KNS | Checked By: SED | | FIGURE 4-35 |

**Figure 5-1**
**Cesium 137 Results**
**Benning Road Facility RI/FS Project**
**3400 Benning Road, NE**
**Washington, DC 20019**






| Waterside Investigation Area Conceptual Model | Benning Road Facility RI/FS Project<br>3400 Benning Road, NE<br>Washington, DC 20019 | AECOM |
|---|---|---|
| FIGURE 5-2 | | |




| | | |
|---|---|---|
| **Landside Investigation Area Conceptual Model** | Benning Road Facility RI/FS Project<br>3400 Benning Road, NE<br>Washington, DC 20019 | AECOM |
| **FIGURE 5-3** | | |

## Figure 5-4
## Conceptual Site Model - On-site Sources
## Benning Road Facility RI/FS Project

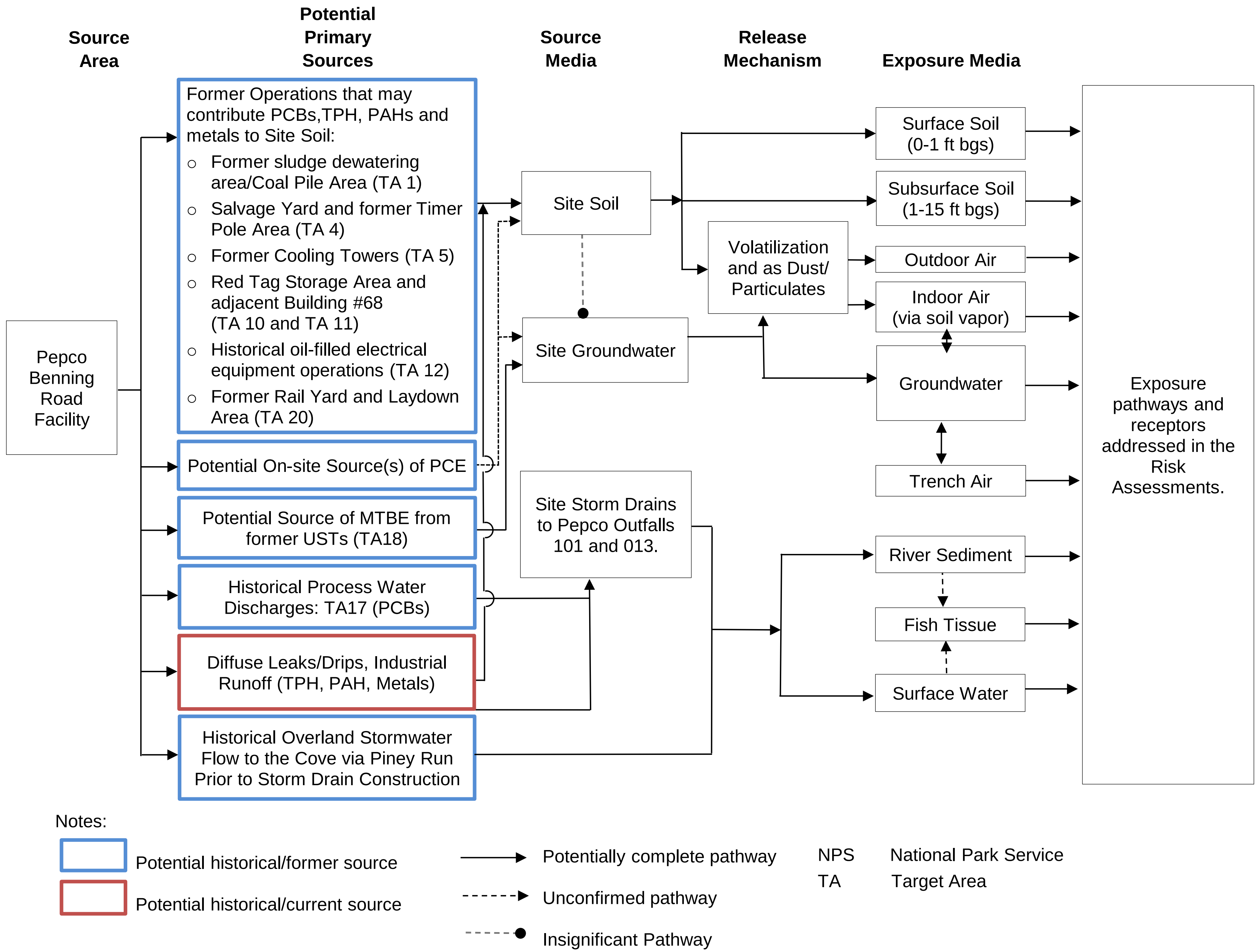
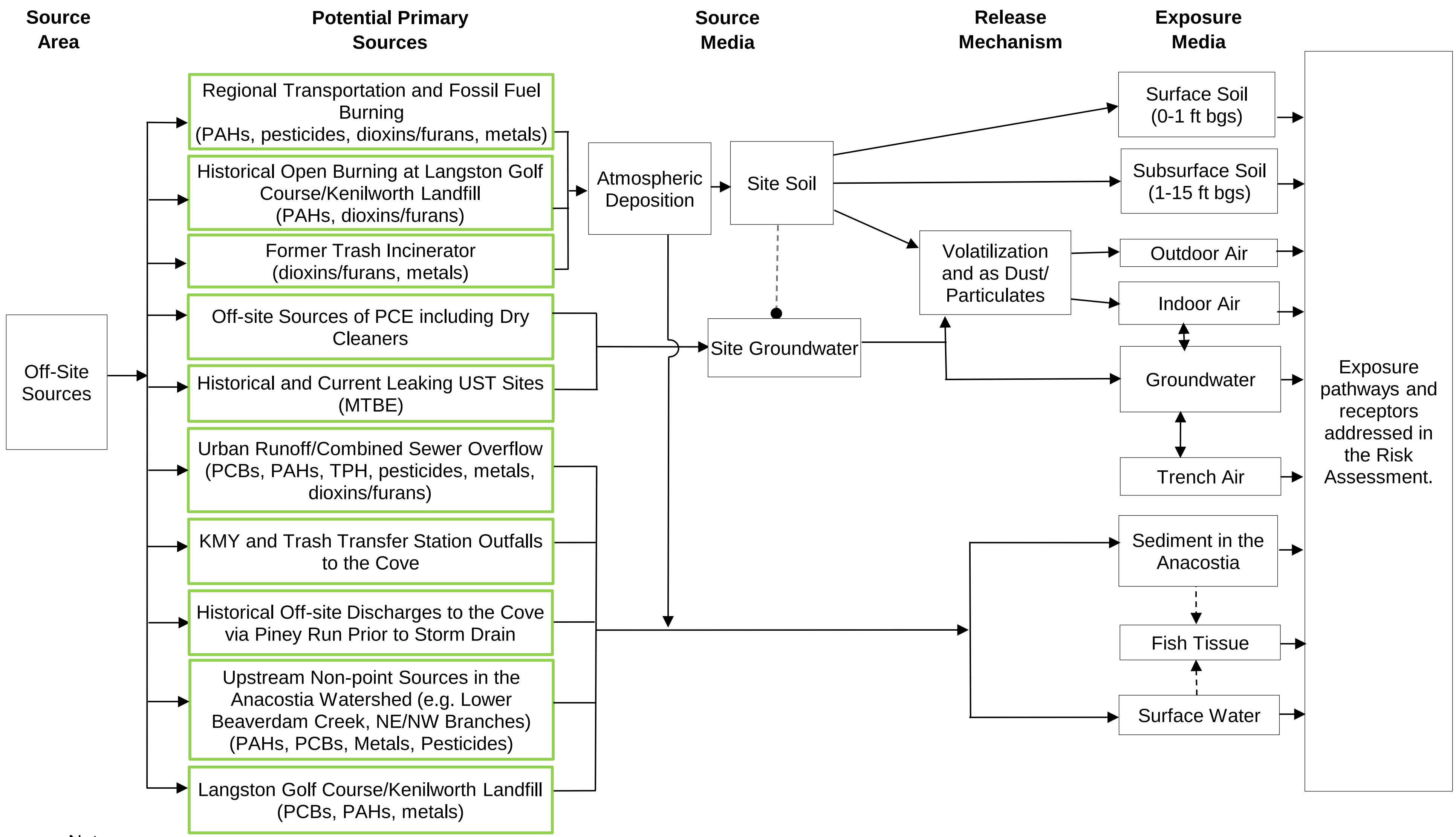


**Figure 5-5**
**Conceptual Site Model - Off-Site Sources**
**Benning Road Facility RI/FS Project**




Notes:

Potentially complete pathway

Unconfirmed pathway

Insignificant Pathway

KMY Kenilworth Maintenance Yard