

PHASE II INVESTIGATION REPORT

AREA A: PARCEL A5, PARCEL A9, AND GREYS RAIL YARD
TRADEPOINT ATLANTIC
SPARROWS POINT, MARYLAND

Prepared For:



ENVIROANALYTICS GROUP
1515 Des Peres Road, Suite 300
Saint Louis, Missouri 63131

Prepared By:



ARM GROUP INC.
9175 Guilford Road
Suite 310
Columbia, Maryland 21046

ARM Project Nos. 150298M-6, 150298M-4, and 150298M-17

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Taylor R. Smith".

Taylor R. Smith, P.E.
Project Engineer

A handwritten signature in black ink, appearing to read "Neil Peters".

T. Neil Peters, P.E.
Senior Vice President

Revision 0 – October 9, 2019

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1.	Site History.....	2
1.2.	Objectives.....	2
2.0	ENVIRONMENTAL SETTING	3
2.1.	Land Use and Surface Features	3
2.2.	Regional Geology.....	3
2.3.	Site Geology/Hydrogeology.....	4
3.0	SITE INVESTIGATION	6
3.1.	Sample Target Identification.....	6
3.2.	Soil Investigation.....	7
3.3.	Test Pit Investigation.....	9
3.4.	Groundwater Investigation.....	10
3.5.	Management of Investigation-Derived Waste (IDW).....	11
4.0	ANALYTICAL RESULTS.....	13
4.1.	Soil and Test Pit Conditions.....	13
4.1.1.	Soil and Test Pit Conditions: Organic Compounds	13
4.1.2.	Soil and Test Pit Conditions: Inorganic Constituents	14
4.1.3.	Soil and Test Pit Conditions: Results Summary	14
4.2.	Groundwater Conditions	15
4.2.1.	Groundwater Conditions: Organic Compounds.....	16
4.2.2.	Groundwater Conditions: Inorganic Constituents	16
4.2.3.	Groundwater Conditions: Results Summary	17
5.0	DATA USABILITY ASSESSMENT.....	18
5.1.	Data Verification	19
5.2.	Data Validation	19
5.3.	Data Usability.....	20
6.0	FINDINGS AND RECOMMENDATIONS.....	23
6.1.	Soil (Borings and Test Pits)	23
6.2.	Groundwater.....	24
6.3.	Recommendations	25
7.0	REFERENCES	27

TABLE OF CONTENTS (CONT.)

FIGURES

Figure 1	Area A and Area B Parcel Map.....	Following Text
Figure 2	1916 Shoreline Map	Following Text
Figure 3	Groundwater Sample Locations and Potentiometric Map	Following Text
Figure 4	Soil Boring and Test Pit Sample Locations.....	Following Text
Figure S1	Soil Samples – Organic PAL Exceedances	Following Text
Figure S2	Soil Samples – Inorganic PAL Exceedances	Following Text
Figure GW1	Groundwater Samples – Organic PAL Exceedance.....	Following Text
Figure GW2	Groundwater Samples – Inorganic PAL Exceedances.....	Following Text

TABLES

Table 1	Groundwater Elevation Data.....	Following Text
Table 2	Historical Site Drawing Details	Following Text
Table 3	Field Shifted Boring Locations.....	Following Text
Table 4	Characterization Results for Solid IDW	Following Text
Table 5	Characterization Results for Liquid IDW	Following Text
Table 6	Summary of Organics Detected in Soil	Following Text
Table 7	Summary of Inorganics Detected in Soil	Following Text
Table 8	Summary of Soil PAL Exceedances	Following Text
Table 9	Soil PAL Exceedances for Specific Targets	Following Text
Table 10	Summary of Organics Detected in Groundwater.....	Following Text
Table 11	Summary of Inorganics Detected in Groundwater	Following Text
Table 12	Groundwater Cumulative Vapor Intrusion Comparison.....	Following Text
Table 13	Rejected Analytical Soil Results.....	Following Text
Table 14	Rejected Analytical Groundwater Results	Following Text

TABLE OF CONTENTS (CONT.)

APPENDICES

Appendix A	Final Sample Summary Table.....	Following Text
Appendix B	Soil Boring Logs	Following Text
Appendix C	Groundwater Survey Data.....	Following Text
Appendix D	PID Calibration Log.....	Following Text
Appendix E	Test Pit Photograph Log	Following Text
Appendix F	Groundwater Point Construction Logs	Following Text
Appendix G	Groundwater Purge & Multiparameter Meter Calibration Logs.....	Following Text
Appendix H	Project-Specific IDW Drum Log	Following Text
Appendix I	Summary of QA/QC Samples.....	Following Text
Appendix J	Evaluation of Data Completeness	Following Text

ELECTRONIC ATTACHMENTS

Soil (Boring & Test Pit) Laboratory Certificates of Analysis	Electronic Attachment
Soil (Boring & Test Pit) Data Validation Reports	Electronic Attachment
Groundwater Laboratory Certificates of Analysis	Electronic Attachment
Groundwater Data Validation Reports.....	Electronic Attachment

1.0 INTRODUCTION

ARM Group Inc. (ARM), on behalf of EnviroAnalytics Group (EAG), has completed three joint Phase II Investigations on portions of the Tradepoint Atlantic property (formerly Sparrows Point Terminal, LLC) that have been designated as Area A: Parcel A5, Parcel A9, and the Greys Rail Yard (collectively referred to as the Site). The Greys Rail Yard is also designated as Parcel A13. Parcel A5, Parcel A9, and the Greys Rail Yard include areas of 35.3 acres, 44.3 acres, and 54.3 acres, respectively, within the approximately 3,100-acre former steel plant property (**Figure 1**). The Site is bounded to the south by a former Spare Parts Storage Yard (within Parcel A11) and wooded areas (within Parcel A7), to the north by Bear Creek and a golf course beyond the boundary of the Tradepoint Atlantic property, to the east by a stormwater impoundment (within Parcel A15) and additional railways, and to the west by Bear Creek.

The Phase II Investigation was performed in accordance with procedures outlined in the approved Phase II Investigation Work Plan – Area A: Parcel A5, Parcel A9, and Greys Rail Yard. This Work Plan (dated August 23, 2017) was approved by the Maryland Department of the Environment (MDE) and the United States Environmental Protection Agency (USEPA) on September 11, 2017 in compliance with requirements pursuant to the following:

- Administrative Consent Order (ACO) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and the MDE effective September 12, 2014; and
- Settlement Agreement and Covenant Not to Sue (SA) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and the USEPA effective November 25, 2014.

The Site is part of the acreage that was removed (Carveout Area) from inclusion in the Multimedia Consent Decree between Bethlehem Steel Corporation, the USEPA, and the MDE (effective October 8, 1997) as documented in correspondence received from the USEPA on September 12, 2014. Based on this agreement, the USEPA determined that no further investigation or corrective measures will be required under the terms of the Consent Decree for the Carveout Area. However, the SA reflects that the property within the Carveout Area will remain subject to the USEPA's Resource Conservation and Recovery Act (RCRA) Corrective Action authorities.

An application to enter the full Tradepoint Atlantic property (3,100 acres) into the Maryland Department of the Environment Voluntary Cleanup Program (MDE-VCP) was submitted to the MDE and delivered on June 27, 2014. The property's current and anticipated future use is Tier 3 (Industrial), and plans for the property include demolition and redevelopment over the next several years.

1.1. SITE HISTORY

From the late 1800s until 2012, the production and manufacturing of steel was conducted at Sparrows Point. Iron and steel production operations and processes at Sparrows Point included raw material handling, coke production, sinter production, iron production, steel production, and semi-finished and finished product preparation. In 1970, Sparrows Point was the largest steel facility in the United States, producing hot and cold rolled sheets, coated materials, pipes, plates, and rod and wire. The steel making operations at Sparrows Point ceased in fall 2012.

Parcel A5 and Parcel A9 are currently occupied by wooded areas with adjacent railways to the north and south, respectively, constituting the Greys Rail Yard. Greys Rail Yard was historically occupied by railways which remain in place and active. The Sparrows Point Country Club is located to the north and east of Parcel A9, immediately adjacent to the property boundary. A trap and skeet range, also affiliated with the Country Club, was located within Parcel A9 and is visible on historical site drawings. One additional shooting range, a police department pistol range, is also visible on historical site drawings and was located partially within the boundary of Parcel A9.

Parcel A5 is part of the County Lands 1B (CL1B) Parcel, which is one of five areas (1A, 1B, 2, 3A, and 3B) referred to as “County Lands” in the Description of Current Conditions (DCC) Report prepared by Rust Environment and Infrastructure dated January 1998. The DCC Report indicates (and field visits have confirmed) that the CL1B Parcel is primarily covered by vegetated slag fill. There are several slag berms and topographic depressions that may have been intended to be used as disposal locations for wastes, in particular open-hearth slurry from wastewater treatment. The DCC Report states that only the southeastern end of the CL1B Parcel was ever used for disposal (comprising the adjacent Parcel A7), suggesting that Parcel A5 remained unused. There is no evidence that iron and steel industrial processes were completed within the boundaries of Parcel A5, Parcel A9, or the Greys Rail Yard.

1.2. OBJECTIVES

The objective of this Phase II Investigation was to fully characterize the nature and extent of contamination at the Site. A summary table of the site investigation locations, including the boring identification numbers and the analyses performed, is provided in **Appendix A**. This report includes a summary of the work performed, including the environmental setting, site investigation methods, analytical results and data usability assessment, and findings and recommendations.

2.0 ENVIRONMENTAL SETTING

2.1. LAND USE AND SURFACE FEATURES

The Tradepoint Atlantic property consists primarily of the former Sparrows Point steel mill. According to the Phase I Environmental Site Assessment (ESA) prepared by Weaver Boos dated May 19, 2014, the property is zoned Manufacturing Heavy-Industrial Major (MH-IM). Surrounding property zoning classifications (beyond Tradepoint Atlantic) include the following: Manufacturing Light (ML); Resource Conservation (RC); Density Residential (DR); Business Roadside (BR); Business Major (BM); Business Local (BL); and Residential Office (RO). Light industrial and commercial properties are located northeast of the property and northwest of the property across Bear Creek. Residential areas of Edgemere and Fort Howard are located northeast of the property across Jones Creek and to the southeast across Old Road Bay, respectively. Residential and commercial areas of Dundalk are located northwest of the property across Bear Creek.

According to topographic maps provided by EAG, the surface elevations within the Site range between approximately 8 and 25 feet above mean sea level (amsl) in most areas. The ground surface elevations decrease to sea level (0 feet amsl) at the shoreline along the western boundary of Parcel A5 and the northern and western boundaries of Parcel A9. Several slag berms, material piles (mounds), and pits are present at the Site, mainly within Parcel A5. The berms and mounds are responsible for the highest elevations at the Site (18 to 25 feet amsl). Some overland flow from surface runoff may collect in the pits. According to Figure B-2 of the Stormwater Pollution Prevention Plan (SWPPP) Revision 6 dated February 22, 2018, runoff from the southern half of Parcel A5 appears to be directed along roadside drainage ditches adjacent to Peninsula Expressway toward the National Pollutant Discharge Elimination System (NPDES) permitted Outfall 069. This outfall ultimately discharges to Bear Creek across the western boundary of the Tradepoint Atlantic property. Surface runoff from the remainder of the Site does not have a clear discharge direction, although runoff from the western and northwestern areas appears to discharge to the adjoining surface waters of Bear Creek.

2.2. REGIONAL GEOLOGY

The Site is located within the Atlantic Coastal Plain Physiographic Province (Coastal Plain). The western boundary of the Coastal Plain is the “Fall Line”, which separates the Coastal Plain from the Piedmont Plateau Province. The Fall Line runs from northeast to southwest along the western boundary of the Chesapeake Bay, passing through Elkton (MD), Havre de Grace (MD), Baltimore City (MD), and Laurel (MD). The eastern boundary of the Coastal Plain is the offshore Continental Shelf.

The unconsolidated sediments beneath the Site belong to the Talbot Formation (Pleistocene), which is then underlain by the Cretaceous formations which comprise the Potomac Group (Patapsco Formation, Arundel Formation, and the Patuxent Formation). The Potomac Group formations are comprised of unconsolidated sediments of varying thicknesses and types, which may be several hundred feet to several thousand feet thick. These unconsolidated formations may overlie deeper Mesozoic and/or Precambrian bedrock. Depth to bedrock is approximately 700 feet within the Site.

2.3. SITE GEOLOGY/HYDROGEOLOGY

Groundcover at the Site is comprised of approximately 89% natural soils and 11% fill materials in Parcel A5, 76% natural soils and 24% fill materials in Parcel A9, and 97% natural soils and 3% fill materials in Greys Rail Yard based on the approximate shoreline of the Sparrows Point Peninsula in 1916, as shown on **Figure 2** (adapted from Figure 2-20 in the DCC Report prepared by Rust Environment and Infrastructure dated January 1998).

In general, the encountered subsurface geology across the Site included natural soils, which included fine-grained sediments (clays and silts) and coarse-grained sediments (sands) with some soil layers identified with non-native fill materials. In Parcel A5, non-native fill materials, including slag, were encountered at depths of up to 12 feet below the ground surface (bgs), and shallow groundwater was encountered in the soil cores from 5 to 19 feet bgs. In Parcel A9, non-native fill materials were encountered at depths of up to 5 feet bgs, and shallow groundwater was observed in soil cores from 11 to 19.5 feet bgs. At Greys Rail Yard, non-native fill materials were encountered at depths of up to 6.5 feet bgs, and shallow groundwater was observed in soil cores from 7.5 to 19.7 feet bgs. Groundwater was not encountered at every boring location completed at the Site (throughout all parcels). Soil boring observation logs are provided in **Appendix B**. Please note that unless otherwise indicated, all Unified Soil Classification System (USCS) group symbols provided on the attached boring logs are from visual observations, and not from laboratory testing.

There are five existing shallow groundwater wells present within the boundary of Parcel A5 which provided relevant sampling data (SW01-PZM004, W-6, W-14, W-16, and MW93-003). The shallow groundwater well W-14 was previously sampled under the Parcel A7 Work Plan, but the data is also included for discussion within this report. The remainder of the Site was covered via the installation and sampling of 15 temporary groundwater sample collection points: two in Parcel A5, five in Parcel A9, and eight in the Greys Rail Yard. Boring location GRY-007-SB was originally proposed to have a temporary groundwater sample collection point installed, but shallow refusal was encountered at this location and a piezometer was installed at boring location GRY-024-SB in lieu of GRY-007-SB. GRY-024-PZ also provided better spatial coverage than the original proposed location of GRY-007-SB. Another temporary piezometer was installed at location GRY-028-SB as a potential replacement location for GRY-007-SB, but

this piezometer was not sampled because adequate groundwater sampling coverage was already provided in the area (via the nearby GRY-027-SB). The locations of the groundwater points are indicated on **Figure 3**.

The temporary groundwater points and the existing permanent wells were surveyed by a Maryland-licensed surveyor. Supporting documentation from the surveys is included in **Appendix C**. Surveyed top of casing (TOC) and ground surface elevations for all applicable locations can be found in **Table 1**, along with the depths to water (DTW) recorded during a synoptic round of measurements completed on May 3, 2018. Groundwater depth measurements were not obtained from A9-024-PZ or GRY-028-PZ on this date, but measurements were available at other locations in close proximity. Groundwater well MW93-001 is located within the nearby Parcel A7 and it also provided a gauging measurement on this date.

A groundwater potentiometric surface map was constructed for the shallow hydrogeologic zone based on the field measurements. The localized potentiometric map for shallow groundwater has been included on **Figure 3**. The groundwater elevation contours indicate that groundwater flows radially from mounded locations near the eastern end of Parcels A5 and A7 (in the vicinity of MW93-003, W-16, and MW93-001). A predominantly northwestern flow direction is apparent below the majority of the Site. Bear Creek is located to the west and northwest and is the apparent discharge location.

3.0 SITE INVESTIGATION

A total of 214 soil samples (from 79 boring locations and 10 test pits) and 19 groundwater samples were collected for analysis between September 29, 2017 and January 23, 2018 as part of this combined Phase II Investigation. Data from existing well W-14 (collected during the separate Parcel A7 Phase II Investigation) are also included in this report as specified in the approved Work Plan. This Phase II Investigation utilized methods and protocols that followed the procedures included in the Quality Assurance Project Plan (QAPP) dated April 5, 2016 which was approved by the agencies to support the investigation and remediation of the Tradepoint Atlantic property. Information regarding the project organization, field activities and sampling methods, sampling equipment, sample handling and management procedures, the selected laboratory and analytical methods, quality control and quality assurance procedures, investigation-derived waste (IDW) management methods, and reporting requirements are described in detail in the approved Parcel A5, Parcel A9, and Greys Rail Yard Work Plan dated August 23, 2017, and the QAPP.

All site characterization activities were conducted under the property-wide Health and Safety Plan (HASP) provided in Appendix F of the approved Work Plan.

3.1. SAMPLE TARGET IDENTIFICATION

Previous activities within and around the buildings and facilities located on the Tradepoint Atlantic property may have been historical sources of environmental contamination. If present, source areas were identified as targets for sampling through a careful review of historical documents. When a sampling target was identified, a boring was placed at or next to its location using Geographic Information Systems (GIS) software (ArcMap Version 10.4.1).

Sampling targets included, as applicable, 1) Recognized Environmental Conditions (RECs) shown on the REC Location Map provided in Weaver Boos' Phase I ESA, 2) additional findings (non-RECs) from the Phase I ESA which were identified as potential environmental concerns, and 3) Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) identified from the DCC Report prepared by Rust Environment and Infrastructure. There were no RECs, SWMUs, or AOCs identified at the Site based on the Phase I ESA or the DCC Report.

Four sets of historical drawings were also reviewed to identify potential sampling targets for the Site. These drawings included the 5000 Set (Plant Arrangement), the 5100 Set (Plant Index), the 5500 Set (Plant Sewer Lines), and a set of drawings indicating coke oven gas distribution drip leg locations. Drip legs are points throughout the distribution system where coke oven gas condensate was removed from the gas pipelines. The condensate from the drip legs was typically discharged to drums, although it is possible some spilled out of the drums and on to the ground. There were no drip legs identified inside the boundary of the Site. A summary of the

specific drawings covering the Site is presented in **Table 2**. Sampling target locations were identified if the historical drawings depicted industrial activities or a specific feature at a location that may have been a source of environmental contamination that potentially impacted the Site.

Based on the review of plant drawings and Phase I ESA documents (or based on direct agency guidance), sampling targets were identified at the Site that included the following: Topographic Pits (A5), Historical Baseline Ecological Risk Assessment (BERA) Copper Hotspot (A5), Trap & Skeet Field (A9), and Police Department Pistol Range (A9). No site-specific sampling targets were identified from the historical drawings covering the Greys Rail Yard. A summary of the areas that were investigated, along with the applicable boring identification numbers and the analyses performed, has been provided in **Appendix A**. Additional sample locations were distributed to fill in large spatial gaps between proposed borings to provide complete coverage of the Site. During the completion of fieldwork, it was necessary to shift some borings from the approved locations given in the Work Plan, primarily due to access restrictions and/or refusal. **Table 3** provides the identification numbers of the field adjusted borings, the coordinates of the proposed and final locations, and the distance/direction of the field shifts.

The density of soil borings met the requirements set forth in QAPP Worksheet 17 – Sampling Design and Rationale. Parcel A5, Parcel A9, and the Greys Rail Yard include individual areas of 35.3 acres, 44.3 acres, and 54.3 acres, respectively. All of these areas are currently unpaved, with the exception of a narrow rail-side driveway along the northern edge of the Greys Rail Yard, and minor connecting driveways to the pistol ranges in Parcel A9. Since these paved areas are negligible, and the density requirements for non-engineered barriers are more conservative, the investigation plan for the Site was proposed according to the density requirements for the three individual areas without engineered barriers. In accordance with the relevant sampling density requirements, a minimum of 24, 27, and 28 soil boring locations were required to cover Parcel A5, Parcel A9, and the Greys Rail Yard without engineered barriers. A total of 79 soil borings (24 from Parcel A5, 27 from Parcel A9, and 28 from the Greys Rail Yard) and 10 test pits (eight in Parcel A5, one in Parcel A9, and one in the Greys Rail Yard) were completed during this combined Phase II Investigation to collect analytical soil samples.

3.2. SOIL INVESTIGATION

Continuous core soil borings were advanced at 79 locations across the Site (**Figure 4**) to assess the presence or absence of soil contamination, and to assess the vertical distribution of any encountered contamination. The 79 continuous core soil borings were advanced to depths between 1 and 22 feet bgs (Parcel A5), 15 and 26 feet bgs (Parcel A9), and 2.5 and 27 feet bgs (Greys Rail Yard) using the Geoprobe® MC-7 Macrocore soil sampler (surface to 10 feet bgs) and the Geoprobe® D-22 Dual-Tube Sampler (depths >10 feet bgs). At each of the 79 completed locations, each soil core was visually inspected and screened with a hand-held photoionization detector (PID) prior to logging soil types. Soil boring logs have been included as **Appendix B**,

and the PID calibration log from each day of soil sampling has been included as **Appendix D**. Unless otherwise indicated, all USCS group symbols provided on the attached boring logs are from visual observations.

One shallow sample was collected from the 0 to 1 foot depth interval, and a deeper sample was collected from the 4 to 5 foot depth interval from each continuous core soil boring. If the PID or other field observations indicated contamination to exist at a depth greater than 3 feet bgs but less than 9 feet bgs, and above the water table, the sample from the deeper 4 to 5 foot interval was shifted to the alternate depth interval. One additional set of samples was also collected from the 9 to 10 foot depth interval if groundwater had not been encountered. The 10-foot bgs samples may have been held by the laboratory prior to analysis in accordance with the requirements given in the Parcel A5, Parcel A9, and Greys Rail Yard Work Plan. These project-specific requirements for the analysis of 10-foot bgs samples are further described below. It should be noted that soil samples were not collected from a depth that was below the water table.

Soil sampling activities were conducted in accordance with the procedures and methods referenced in **Field Standard Operating Procedure (SOP) Numbers 008, 009, 012, and 013** provided in Appendix A of the QAPP. Down-hole soil sampling equipment was decontaminated after soil sampling had been concluded at a location, according to the procedures and methods referenced in **Field SOP Number 016** provided in Appendix A of the QAPP.

Each soil sample collected during this investigation was submitted to Pace Analytical Services, Inc. (PACE) for analysis. As stated above, the 10-foot bgs samples may have been held prior to analysis in accordance with the Work Plan. Excluding these deep samples, the remaining soil samples were analyzed for Target Compound List (TCL) semi-volatile organic compounds (SVOCs) via USEPA Methods 8270D and 8270D SIM, Oil & Grease via USEPA Method 9071, total petroleum hydrocarbon (TPH) diesel range organics (DRO) and gasoline range organics (GRO) via USEPA Method 8015, Target Analyte List (TAL) Metals via USEPA Methods 6010C and 7471C, hexavalent chromium via USEPA Method 7196A, and cyanide via USEPA Method 9012. Samples from any depth interval with a sustained PID reading of greater than 10 ppm were also analyzed for TCL volatile organic compounds (VOCs) via USEPA Method 8260. Additionally, the shallow soil samples collected across the Site from the 0 to 1 foot bgs interval were analyzed for polychlorinated biphenyls (PCBs) via USEPA Method 8082. Sample containers, preservatives, and holding times for the sample analyses are listed in the QAPP Worksheet 19 & 30 – Sample Containers, Preservation, and Holding Times.

If the PID reading from the 9 to 10 foot bgs interval was less than 10 ppm, all parameters were held by the laboratory pending the analysis of the 0 to 1 and 4 to 5 foot bgs (or field adjusted interval) samples. If the 9 to 10 foot bgs interval exhibited a sustained PID reading of 10 ppm, this sample was released to be analyzed for VOCs, SVOCs, TPH-DRO, TPH-GRO, and Oil & Grease. However, the samples for metals and cyanide were still held by the laboratory pending

the analysis of the 0 to 1 and 4 to 5 foot bgs interval samples. If the preliminary laboratory results from the 4 to 5 foot bgs interval indicated exceedances of the Project Action Limits (PALs) for any constituents, the held sample from the 9 to 10 foot bgs interval was then released to be analyzed for those constituents that exhibited PAL exceedances in the overlying sample.

3.3. TEST PIT INVESTIGATION

Soil samples were collected from 10 test pits completed at the locations shown on **Figure 4**. The objective of the test pit investigation was to determine if the materials within several berms and mounds located on the Site were indicative of potential contamination. Some of the berms targeted by this investigation surrounded small pits or larger topographic depressions within Parcel A5, which could have been historically used as waste disposal locations (although this is not suspected at the Site; see Section 1.1). Aerial images with topographic hillshade effects (generated in GIS) were used to guide the soil berm and mound test pit locations proposed in the Parcel A5, Parcel A9, and Greys Rail Yard Work Plan. The test pits were completed generally in accordance with **Field SOP Number 015**. A backhoe was used to clear the area and create a pothole at the specified location of each test pit. The types of materials present in each test pit were documented, and the materials excavated from representative locations were screened using visual/olfactory methods and a hand-held PID.

No visible petroleum impacts (or other evidence of potential contamination) were observed in the field during the test pit investigation. One test pit (A5-005-TP) had a PID reading which exceeded 10 ppm, although no other evidence of contamination was observed at this location. Each test pit appeared to consist of soil (silt to sand) and slag gravel. The agency-approved Work Plan specified that soil samples would only be required if indications of potential contamination were observed; however, the sampling procedure was modified in the field, and samples were collected from each test pit location as a conservatism. After sampling was completed, each test pit was backfilled with the same material that was in place prior to excavation. A photograph log documenting the completed test pitting activities is provided in **Appendix E**. Location A9-001-TP does not have photographic records because they were not collected by field personnel during the Parcel A9 sampling event on November 2, 2017.

A soil sample was collected from the excavated material generated at each location as a 10-point composite. Each composite sample collected during this investigation was submitted to PACE to be analyzed for TCL-SVOCs via USEPA Methods 8270D and 8270D SIM, Oil & Grease via USEPA Method 9071, TPH-DRO/GRO via USEPA Method 8015, TAL-Metals via USEPA Methods 6010C and 7471C, hexavalent chromium via USEPA Method 7196A, and cyanide via USEPA Method 9012. The composite sample collected from A9-001-TP was additionally analyzed for PCBs via USEPA Method 8082. Since A5-005-TP had a sustained PID reading that exceeded 10 ppm, an additional soil sample was collected and analyzed for VOCs via USEPA Method 8260.

3.4. GROUNDWATER INVESTIGATION

Four existing shallow groundwater wells (SW01-PZM004, W-6, W-16, and MW93-003) and 15 shallow temporary groundwater sample collection points were included in the site-specific sampling plan to characterize groundwater and to support the definition of the groundwater potentiometric surface. Available data from existing well W-14 (sampled in accordance with the Parcel A7 Work Plan) is also included for discussion within this Phase II Investigation Report. The soil boring locations where temporary groundwater sample collection points were installed and sampled included A5-008-SB, A5-010-SB, A9-002-SB, A9-004-SB, A9-011-SB, A9-015-SB, A9-024-SB, GRY-003-SB, GRY-006-SB, GRY-011-SB, GRY-013-SB, GRY-019-SB, GRY-021-SB, GRY-024-SB, and GRY-027-SB. The locations where shallow groundwater samples were collected are provided on **Figure 3**.

GRY-007-SB was originally proposed to have a temporary groundwater sample collection point installed, but due to shallow refusal at this location a replacement groundwater sample collection point was installed at GRY-024-SB. One additional piezometer was installed at GRY-028-SB. This boring was initially selected to serve as the replacement point for location GRY-007-SB; however, the location of GRY-024-SB was later deemed to be more suitable than GRY-028-SB to serve as a replacement point based on its position within the Site. Therefore, a groundwater sample was collected from GRY-024-PZ, and no sample was collected from GRY-028-PZ given the adequate groundwater coverage which was already provided.

The installation of each groundwater point was conducted in accordance with the procedures and methods referenced in **Field SOP Number 028**. The construction logs for each of the temporary groundwater points (including GRY-028-PZ which was not sampled) have been included as **Appendix F**. The groundwater points were installed at each location using the Geoprobe® DT22 Dual Tube sampling system. Each boring was advanced to a depth approximately 7 feet below where groundwater was identified in the associated soil cores, the 1.25-inch inner rod string was removed, and the temporary, 1-inch PVC groundwater point was installed through the outer casing. Following the installation of each groundwater point, the 0-hour depth to water was documented and the casing was checked for the presence of non-aqueous phase liquid (NAPL) using an oil-water interface probe in accordance with the methods referenced in **Field SOP Number 019** provided in Appendix A of the QAPP.

After the installation of each temporary groundwater point, down-hole equipment was decontaminated according to the procedures and methods referenced in **Field SOP Number 016** provided in Appendix A of the QAPP.

Groundwater samples were collected in accordance with methods referenced in **Field SOP Number 006** provided in Appendix A of the QAPP; which employed the use of laboratory supplied sample containers and preservatives, a peristaltic pump, dedicated polyethylene tubing, and a water quality multiparameter meter with a flow-through cell. Groundwater samples

submitted for analysis of dissolved metals were filtered in the field with an in-line 0.45 micron filter. The sampling and purge logs have been included in **Appendix G**. Calibration of the multiparameter meter was performed before the start of each day of the sampling event, and a calibration post-check was completed at the end of the day. Appropriate documentation of the multiparameter meter calibration has also been included in **Appendix G**.

Groundwater samples collected at the Site were submitted to PACE and analyzed for TCL-VOCs via USEPA Method 8260, TCL-SVOCs via USEPA Methods 8270D and 8270D SIM, Oil & Grease via USEPA Method 1664A, TPH-DRO/GRO via USEPA Method 8015, TAL-Total/Dissolved Metals via USEPA Methods 6010C and 7470A, hexavalent chromium (total/dissolved) via USEPA Method 7196A, total cyanide via USEPA Method 9012A, and available cyanide via USEPA Method OIA1677. The permanent wells were analyzed for both total and dissolved metals, including hexavalent chromium. Temporary groundwater sample collection points are typically analyzed for dissolved metals rather than total metals; however, select locations were not appropriately field filtered, and the results from these temporary sampling locations are reported as total metals. Sample containers, preservatives, and holding times for the sample analyses are listed in the QAPP Worksheet 19 & 30 – Sample Containers, Preservation, and Holding Times.

3.5. MANAGEMENT OF INVESTIGATION-DERIVED WASTE (IDW)

In accordance with **Field SOP Number 005** provided in Appendix A of the QAPP, potentially impacted materials, or IDW, generated during this Phase II Investigation was containerized in 55-gallon (DOT-UN1A2) drums. The types of IDW that were generated during this Phase II Investigation included the following:

- soil cuttings from the installation of soil borings or temporary groundwater points;
- purged groundwater;
- decontamination fluids; and
- used personal protective equipment

Following the completion of field activities, composite soil samples were gathered with aliquots from each of the Parcel A5, Parcel A9, and Greys Rail Yard Phase II IDW soil drums for waste characterization. Following this analysis, the waste soil was characterized as non-hazardous. A list of all results from the soil waste characterization procedure can be found in **Table 4**. The test pits were backfilled with the material that was in place prior to excavation, and no material was placed in drums. IDW drums containing aqueous materials (including aqueous waste generated during the combined Phase II Investigation at the Site) were characterized by preparing a composite sample from randomly selected drums. The composite sample included aliquots from several individual drums that were chosen as a subset of the aqueous drums being

staged on-site at the date of collection. Following this analysis, the aqueous waste was characterized as non-hazardous. A list of all results from the aqueous waste characterization procedure can be found in **Table 5**.

The project-specific IDW drum log from the combined Phase II investigation of Parcel A5, Parcel A9, and the Greys Rail Yard is included as **Appendix H**. All IDW procedures were carried out in accordance with methods referenced in the QAPP Worksheet 21 – Field SOPs and Appendix A of the QAPP.

4.0 ANALYTICAL RESULTS

4.1. SOIL AND TEST PIT CONDITIONS

Soil analytical results were screened against the PALs established in the property-wide QAPP (or other direct guidance from the agencies; i.e. TPH/Oil & Grease) to determine exceedances. PALs are generally based on the USEPA's Regional Screening Levels (RSLs) for the Composite Worker exposure to soil. The Composite Worker is defined by the USEPA as a long-term receptor exposed during the workday who is a full-time employee that spends most of the workday conducting maintenance activities (which typically involve on-site exposures to surface soils) outdoors.

The analytical results for the detected parameters are summarized and compared to the PALs in **Table 6** (Organics) and **Table 7** (Inorganics). These tables include the data obtained from the soil borings as well as the test pit soil samples. The laboratory Certificates of Analysis (including Chains of Custody) and Data Validation Reports (DVRs) have been included as electronic attachments. The DVRs contain a glossary of qualifiers for the final flags assigned to individual results in the attached summary tables.

4.1.1. Soil and Test Pit Conditions: Organic Compounds

As provided on **Table 6**, several VOCs were identified above the laboratory's method detection limits (MDLs) in the soil samples collected from across the Site. Only soil samples which exhibited PID readings greater than 10 ppm were analyzed for VOCs. There were no VOCs detected above their respective PALs.

Table 6 provides a summary of SVOCs detected above the laboratory's MDLs in the soil samples collected from across the Site. The PALs for relevant polynuclear aromatic hydrocarbons (PAHs) have been adjusted upward based on revised toxicity data published in the USEPA RSL Composite Worker Soil Table. Therefore, exceedances for PAHs are based on the adjusted PALs rather than those presented in the QAPP. One SVOC, benzo[a]pyrene, was detected above its respective PAL in a single soil sample (A5-013-SB-1) with a detected concentration of 7.7 mg/kg. The benzo[a]pyrene exceedance at location A5-013-SB is shown on **Figure S1**.

Shallow soil samples collected across the Site from the 0 to 1 foot bgs interval (and one of the test pit soil samples) were analyzed for PCBs. **Table 6** provides a summary of the PCBs detected above the laboratory's MDLs. There was only one soil sample which exhibited PAL exceedances of PCBs (GRY-022-SB-1) with a concentration of 1.2 mg/kg of total PCBs. This exceedance of total PCBs was caused by an individual detection of Aroclor 1260 (also with a detected concentration of 1.2 mg/kg above its individual PAL). This PAL exceedance location and the associated PCB results are provided on **Figure S1**.

Table 6 provides a summary of the TPH/Oil & Grease detections above the laboratory's MDLs in the soil samples collected at the Site. There were no PAL exceedances of TPH-DRO or TPH-GRO in any of the soil samples collected at the Site. Only one soil sample, GRY-007-SB-1, had an Oil & Grease PAL exceedance (above 6,200 mg/kg) with a detected concentration of 7,690 mg/kg. The Oil & Grease exceedance at location GRY-007-SB is shown on **Figure S1**. No physical evidence of NAPL was noted in the soil core collected from GRY-007-SB or any other soil borings or test pits completed under this investigation. A piezometer could not be installed at location GRY-007-SB due to equipment refusal and limited access around the boring due to the suspected presence of utilities. While no physical evidence of NAPL was noted during the Phase II Investigation, it should be acknowledged that the depth of equipment refusal (2.3 feet bgs) coupled with the notable concentration of Oil & Grease indicates that the potential presence of NAPL at this location cannot be ruled out for lower soil depths. Due to the possibility of NAPL at GRY-007-SB, this boring should be considered for proximity to proposed utilities in any future development plans.

4.1.2. Soil and Test Pit Conditions: Inorganic Constituents

Table 7 provides a summary of inorganic constituents detected above the laboratory's MDLs in the soil samples collected from across the Site. Six inorganic compounds (arsenic, hexavalent chromium, lead, manganese, thallium, and vanadium) were detected above their respective PALs. Arsenic was by far the most common inorganic exceedance, and was detected above the PAL in 152 (approximately 72%) of the soil samples analyzed for this compound. The maximum concentration of arsenic detected in soil was 81.4 mg/kg in sample A5-012-SB-4. In comparison, PAL exceedances for the remaining inorganic constituents were relatively infrequent and included one soil sample for hexavalent chromium (concentration of 7.6 mg/kg in A9-001-TP), nine soil samples for lead (maximum concentration of 24,100 mg/kg in A9-001-TP), 16 soil samples for manganese (maximum concentration of 75,900 mg/kg in GRY-001-TP), one soil sample for thallium (concentration of 33.1 mg/kg in GRY-026-SB-1), and three soil samples for vanadium (maximum concentration of 17,400 mg/kg in GRY-001-TP). The inorganic PAL exceedance locations and results are provided on **Figure S2**.

4.1.3. Soil and Test Pit Conditions: Results Summary

Table 6 and **Table 7** provide summaries of the detected organic compounds and inorganics in the soil samples submitted for laboratory analysis (both from soil borings and test pits), and **Figure S1** and **Figure S2** present the soil sample locations and results that exceeded the PALs. **Table 8** provides a summary of results for all PAL exceedances in soil, including maximum values and detection frequencies. **Table 9** indicates which soil impacts (PAL exceedances) are associated with the specific targets listed in the Parcel A5, Parcel A9, and Greys Rail Yard Work Plan. Borings providing general site coverage are not included on this particular table. PAL exceedances among the soil samples obtained from the Site consisted of six inorganics (arsenic,

hexavalent chromium, lead, manganese, thallium, and vanadium), one SVOC (benzo[a]pyrene), two PCB groups (Aroclor 1260 and total PCBs), and Oil & Grease. VOCs and TPH-DRO/GRO were not detected above their respective PALs and are not considered to be significant soil contaminants at the Site.

Lead, PCBs, and TPH/Oil & Grease are subject to special requirements as designated by the agencies: lead results above 10,000 mg/kg are subject to additional delineation (and possible excavation), PCB results above 50 mg/kg are subject to delineation and excavation, and TPH/Oil & Grease results above 6,200 mg/kg should be evaluated for the potential presence and mobility of NAPL in any future development planning:

- One test pit soil sample had a concentration of lead that exceeded 10,000 mg/kg, the designated threshold at which delineation is required. Sample A9-001-TP had a concentration of lead of 24,100 mg/kg, which was the maximum reported lead result in soil at the Site. This test pit was completed within a berm located at the end of an historic Police Department Pistol Range, so the presence of elevated lead in the berm is not unexpected (and is likely to be localized). Delineation of lead will be completed at this location in accordance with a separate investigation Work Plan. The results of the delineation activities will determine whether further action is warranted with respect to the lead impacts at location A9-001-TP. Any future reporting will be covered outside of this Phase II Investigation Report to avoid the need for continued updates.
- Concentrations of total PCBs did not exceed the mandatory excavation criterion of 50 mg/kg in any soil samples collected at the Site.
- There were no PAL exceedances of TPH-DRO/GRO in any of the soil samples collected at the Site. Only one soil sample (GRY-007-SB-1) exceeded the Oil & Grease PAL with a concentration of 7,690 mg/kg. A piezometer could not be installed at GRY-007-SB due to equipment refusal and limited access around the boring due to the suspected presence of utilities. Physical evidence of petroleum (i.e., NAPL or sheen) was not observed in any boring or test pit completed at the Site, including GRY-007-SB.

4.2. GROUNDWATER CONDITIONS

The analytical results for the detected parameters in groundwater are summarized and compared to the PALs in **Table 10** (Organics) and **Table 11** (Inorganics). The laboratory Certificates of Analysis (including Chains of Custody) and DVRs have been included as electronic attachments. The DVRs contain a glossary of qualifiers for the final flags assigned to individual results in the attached summary tables.

4.2.1. Groundwater Conditions: Organic Compounds

As provided on **Table 10**, several VOCs were identified above the laboratory's MDLs in the groundwater samples collected from across the Site. One VOC (benzene) was detected above its respective PAL. Benzene exceeded its PAL at groundwater sample location GRY-021-PZ with a detected concentration of 138 µg/L. This sample location is positioned within the eastern portion of the Site close to the northern boundary of the Greys Rail Yard. The benzene PAL exceedance at location GRY-021-PZ is shown on **Figure GW1**.

Table 10 provides a summary of SVOCs identified in groundwater samples above the laboratory's MDLs. Similar to the evaluation of soil data, the PALs for relevant PAHs have been adjusted upward based on revised toxicity data published in the USEPA RSL Resident Tapwater Table. Three SVOCs were detected above their respective aqueous PALs, including 1,4-dioxane (with a maximum concentration of 1.9 µg/L in W-6), 2,6-dinitrotoluene (with a maximum concentration of 0.17 µg/L in MW93-003), and naphthalene (with a maximum concentration of 0.17 µg/L in GRY-021-PZ which is equal to the PAL). 1,4-Dioxane was the only SVOC to exceed its aqueous PAL (0.46 µg/L) in multiple samples, with a total of three exceedances. The SVOC PAL exceedance locations and results are shown on **Figure GW1**.

Table 10 provides a summary of the TPH/Oil & Grease detections in groundwater at the Site. TPH-DRO was detected above its PAL in seven sample locations distributed throughout the Site, with a maximum concentration of 806 µg/L (flagged with the “J” qualifier indicating that it is an estimated value) at location MW93-003. TPH-GRO was detected above its PAL in two samples with a maximum concentration of 507 µg/L at location SW01-PZM004. Oil & Grease was detected above its PAL in three samples, with a maximum concentration of 2,300 µg/L (flagged with the “J” qualifier) also at location MW93-003. The TPH/Oil & Grease PAL exceedance locations and results are provided on **Figure GW1**. Each location was checked for the potential presence of NAPL using an oil-water interface probe prior to sampling. NAPL was not detected in any of the groundwater sample locations during these checks.

4.2.2. Groundwater Conditions: Inorganic Constituents

Table 11 provides a summary of inorganic constituents detected above the MDLs in the groundwater samples collected from across the Site. A total of five total/dissolved metals (beryllium, hexavalent chromium, cobalt, iron, and manganese) were detected above their respective PALs. Beryllium and hexavalent chromium both exceeded their PALs at two sample locations, with maximum concentrations of 6.2 µg/L at W-14 and 11.9 µg/L at MW93-003, respectively. The maximum concentration for hexavalent chromium (11.9 µg/L) is reported here as a dissolved value, since it was slightly higher than the result for total hexavalent chromium from the same sample location (10.8 µg/L). Cobalt, iron, and manganese were more widespread at the Site, with exceedances documented at 15 locations for cobalt (maximum concentration of 246 µg/L at GRY-027-PZ), five locations for iron (maximum concentration of 57,000 µg/L at

A9-015-PZ), and 12 locations for manganese (maximum concentration of 4,690 µg/L at GRY-027-PZ). The inorganic PAL exceedance locations and results are provided on **Figure GW2**. For simplicity, **Figure GW2** does not include duplicate exceedances of total and dissolved metals at relevant sample locations. If both total and dissolved concentrations exceeded the PAL for a specific compound at a given location, the value for total metals is displayed on the figure.

4.2.3. Groundwater Conditions: Results Summary

Table 10 and **Table 11** provide summaries of the detected organic compounds and inorganics in the groundwater samples submitted for laboratory analysis, and **Figure GW1** and **Figure GW2** present the locations and aqueous results that exceeded the PALs. Aqueous PAL exceedances among the groundwater samples from the Site consisted of five total/dissolved metals (beryllium, hexavalent chromium, cobalt, iron, and manganese), one VOC (benzene), three SVOCs (1,4-dioxane, 2,6-dinitrotoluene, and naphthalene), TPH-DRO/GRO, and Oil & Grease.

Groundwater data were screened to determine whether individual sample results may exceed the USEPA Vapor Intrusion (VI) Screening Levels (Target Cancer Risk (TCR) of 1E-5 and Target Hazard Quotient (THQ) of 1) as determined by the Vapor Intrusion Screening Level (VISL) Calculator version 3.5 (<https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-levels-visls>). The PALs specified in the QAPP are based upon drinking water use, which is not a potential exposure pathway for groundwater at the Site.

One parameter (benzene) exceeded its individual VI TCR criterion as specified by the VISL Calculator. There were no compounds detected above the individual THQ criteria. Benzene was detected above its TCR screening level (69 µg/L) at one groundwater location (GRY-021-PZ) with a detection of 138 µg/L. Following the initial screening, a cumulative VI risk assessment was also performed for each individual sample location, with the results separated by cancer versus non-cancer risk. All compounds with detections were included in the computation of cumulative cancer risk, and all compounds with detections exceeding 10% of the THQ level were included in the evaluation of non-cancer hazard. Sample location GRY-021-PZ was the only location where the cumulative VI cancer risk exceeded 1E-5, with a computed cancer risk of 2E-5. The elevated VI cancer risk at this location was caused by the carcinogenic effect of benzene. There were no compounds that were identified above the 10% THQ level to be included in the cumulative VI evaluation for non-cancer hazard. The results of the cumulative VI comparisons are provided in **Table 12**, with the single exceedance at location GRY-021-PZ highlighted. The benzene detection at this location is also shown on **Figure GW1**.

The presence and absence of groundwater impacts within the Site boundaries have been adequately described. Groundwater is not used on the Tradepoint Atlantic property (and is not proposed to be utilized). VI risks/hazards were evaluated and identified one location which may be impacted by elevated VOC concentrations. However, based on the relatively low-level analytical results for VOCs in groundwater over the majority of the Site, there do not appear to be significant ongoing sources of groundwater contamination present.

5.0 DATA USABILITY ASSESSMENT

The approved property-wide QAPP specified a process for evaluating data usability in the context of meeting project goals. Specifically, the goal of the Phase II Investigation is to determine if potentially hazardous substances or petroleum products (VOCs, SVOCs, PCBs, metals, cyanide, or TPH/Oil & Grease) are present in Site media (soil and groundwater) at concentrations that could pose an unacceptable risk to Site receptors. Individual results are compared to the PALs established in the QAPP (i.e., the most current USEPA RSLs) or based on other direct guidance from the agencies, to identify the presence of exceedances in each environmental medium.

Quality assurance and quality control (QA/QC) samples were collected during field studies to evaluate field/laboratory variability. A summary of QA/QC samples associated with this investigation is included as **Appendix I**. The following QA/QC samples were submitted for analysis to support the data validation:

- Trip Blank – at a rate of one per cooler with VOC samples per day
 - Soil – VOCs only
 - Water – VOCs only
- Blind Field Duplicate – at a rate of one per twenty samples
 - Soil – VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, Oil & Grease, PCBs, hexavalent chromium, and cyanide
 - Water – VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, Oil & Grease, hexavalent chromium, and cyanide
- Matrix Spike/Matrix Spike Duplicate – at a rate of one per twenty samples
 - Soil – VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, Oil & Grease, PCBs, and hexavalent chromium
 - Water – VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, Oil & Grease, and hexavalent chromium
- Field Blank and Equipment Blank – at a rate of one per twenty samples
 - Soil – VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, Oil & Grease, hexavalent chromium, and cyanide
 - Water – VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, Oil & Grease, hexavalent chromium, and cyanide

The QA/QC samples were collected and analyzed in accordance with the QAPP Worksheet 12 – Measurement Performance Criteria, QAPP Worksheet 20 – Field Quality Control, and QAPP Worksheet 28 – Analytical Quality Control and Corrective Action.

5.1. DATA VERIFICATION

A verification review was performed on documentation generated during sample collection and analysis. The verification included a review of field log books, field data sheets, and Chain of Custody forms to ensure that all planned samples were collected, and to ensure consistency with the field methods and decontamination procedures specified in the QAPP Worksheet 21 – Field SOPs and Appendix A of the QAPP. In addition, calibration logs were reviewed to ensure that field equipment was calibrated at the beginning of each day and re-checked as needed. The logs have been provided in **Appendix D** (PID calibration log) and **Appendix G** (multiparameter meter calibration logs).

The laboratory deliverables were reviewed to ensure that all records specified in the QAPP as well as necessary signatures and dates are present. Sample receipt records were reviewed to ensure that the sample condition upon receipt was noted, and any missing/broken sample containers (if any) were noted and reported according to plan. The data packages were compared to the Chains of Custody to verify that results were provided for all collected samples. The data package case narratives were reviewed to ensure that all exceptions (if any) are described.

5.2. DATA VALIDATION

USEPA Stage 2B data validation was completed for a representative 50% of the environmental sample analyses performed by PACE and supporting Level IV Data Package information by Environmental Data Quality Inc. (EDQI). The DVRs provided by EDQI have been included as electronic attachments.

Sample analyses have undergone an analytical quality assurance review to ensure adherence to the required protocols. The Stage 2B review was performed as outlined in “Guide for Labeling Externally Validated Laboratory Analytical Data for Superfund Use”, EPA-540-R-08-005. Results have been validated or qualified according to general guidance provided in “USEPA National Functional Guidelines for Inorganic Superfund Data Review (ISM02.1)”, USEPA October 2013. Region III references this guidance for validation requirements. This document specifies procedures for validating data generated for Contract Laboratory Program (CLP) analyses. The approved property-wide QAPP dated April 5, 2016 and the quality control requirements specified in the methods and associated acceptance criteria were also used to evaluate the non-CLP data.

The PACE-Greensburg (PA) laboratory facility implements quality assurance and reporting requirements through the TNI certification program with the State of Pennsylvania; which is accepted by Maryland. Since late-January 2017, these requirements include the flagging of contaminants with a “B” qualifier when an analyte is detected in an associated laboratory method blank, regardless of the level of the contaminant detected in the sample. A method blank is analyzed at a rate of one blank for each 20 sample analytical batch. The USEPA has previously

specified that results flagged with the “B” qualifier do not represent legitimate detections. They have also specified that results flagged with a “JB” qualifier are invalid, and any such results should be revised to display the “B” qualifier only.

Although elevated sample results may be “B” qualified by the laboratory as non-detects due to low-level blank detections, EDQI corrects any erroneous “B” qualifiers during the data validation procedure to avoid under-reporting analytical detections. EDQI removes the “B” qualifiers for relevant samples according to the guidance given in the table below. Therefore, a result originally flagged with a “B” qualifier in the laboratory certificate may be reported as a legitimate detection without this qualifier. Likewise, a result originally flagged with a “JB” qualifier in the laboratory certificate may be reported as a “J” qualifier if the erroneous “B” qualifier can be eliminated, but would be reported as a “B” qualified non-detect result if the original “B” qualifier is legitimate.

Blank Result	Sample Result	Qualifying Action
Result less than RL	Result less than RL	Result is Qualified "B"
	Result greater than RL	Remove "B"
Result greater than RL	Result less than Blank Result	Result is Qualified "B"
	Result greater than Blank Result	Remove "B"

RL = Reporting Limit

As directed by EDQI, ARM has reviewed all non-validated laboratory reports (those which were not designated to be reviewed by EDQI), and applied the same validation corrections to any relevant “B” or “JB” qualified results. This review of the non-validated data ensures that any elevated detections of parameters, including those which may exceed the PALs, are not mistakenly reported as non-detect values simply because they did not undergo the formal validation procedure by EDQI. ARM has also revised the non-validated results to eliminate any laboratory-specific, non-standardized qualifiers (L2, 6c, ip, 4c, etc.), which are customarily removed by EDQI during the validation procedure.

5.3. DATA USABILITY

The data were evaluated with respect to the quality control elements of precision, bias, representativeness, comparability, completeness, and sensitivity relative to data quality indicators and performance measurement criteria outlined in QAPP Worksheet 12 – Measurement Performance Criteria. The following discussion details deviation from the performance measurement criteria, and the impact on data quality and usability.

The measurement performance criteria of precision and bias were evaluated in the data validation process as described in the DVRs provided as electronic attachments. Where appropriate, potential limitations in the results have been indicated through final data flags. These flags indicate whether particular data points are quantitative estimates, biased high/low, associated with blank contamination, etc. Individual data flags are provided with the results in the detection summary tables. A qualifier code glossary is included with each DVR provided by EDQI. Particular results may have been marked with the “R” flag if the result was deemed to be unreliable and was not included in any further data evaluation. The analytical results that were rejected during data validation are provided in **Table 13** (soil samples from borings and test pits) and **Table 14** (groundwater). A discussion of data completeness (the proportion of valid data) is included below.

Representativeness is a measure of how accurately and precisely the data describe the Site conditions. Representativeness of the samples submitted for analysis was ensured by adherence to standard sampling techniques and protocols, as well as appropriate sample preservation prior to analysis. Sampling was conducted in accordance with the QAPP Worksheet 21 – Field SOPs and Appendix A of the QAPP. Specific Field SOPs applicable to the assessment of representativeness include **Field SOP Numbers 006, 008, 009, 010, 011, 017, and 024**. Review of the field notes and laboratory sample receipt records indicated that collection of soil and groundwater at the Site was representative, with no significant deviations from the SOPs.

Comparability describes the degree of confidence in comparing two sets of data. Comparability is maintained across multiple datasets by the use of consistent sampling and analytical methods across multiple project phases. Comparability of sample results was ensured through the use of approved standard sampling and analysis methods outlined in the QAPP. QA/QC protocols help to maintain the comparability of datasets, and in this case were assessed via blind duplicates, blank samples, and spiked samples, where applicable. No significant deviations from the QAPP were noted in the dataset.

Sensitivity is a determination of whether the analytical methods and quantitation limits will satisfy the requirements of the project. The laboratory reports were reviewed to verify that reporting limits met the quantitation limits for specific analytes provided in QAPP Worksheet #15 – Project Action Limits and Laboratory-Specific Detection/Quantitation Limits. In general, the laboratory reporting limits met the detection and quantitation limits specified in the QAPP.

Completeness is expressed as a ratio of the number of valid data points to the total number of analytical data results. Non-usable (“R” flagged) data results were determined through the data validation process. The approved QAPP specifies that the completeness of data is assessed by professional judgement, but should be greater than or equal to 90%. Data completeness for each compound is provided in **Appendix J**. This evaluation of completeness includes only the representative 50% of sample results which were randomly selected for validation.

All groundwater compounds had an overall completeness ratio of greater than or equal to 90%, indicating that there are no significant data gaps associated with the aqueous results obtained from the Site. Only one analyte (1,4-dioxane) did not meet the completeness goal of 90% for soils at the Site. The majority of the soil dataset for 1,4-dioxane was rejected (25 rejected results out of 30 validated soil samples). The rejection of the results for 1,4-dioxane has not been uncommon for soil data obtained from the Tradepoint Atlantic property to date. There were no detections of 1,4-dioxane among the validated soil results which were not rejected, and adequate groundwater data is also available (100% completeness) to evaluate the significance of 1,4-dioxane at the Site. Overall, the soil and groundwater data can be used as intended, and no significant data gaps were identified.

6.0 FINDINGS AND RECOMMENDATIONS

The objective of this Phase II Investigation was to fully characterize the nature and extent of contamination at the Site. During the Phase II Investigation, a total of 214 soil samples (from 79 boring locations and 10 test pit locations) and 19 groundwater samples were collected and analyzed to define the nature and extent of contamination at the Site. Available data from the existing well W-14 (sampled in accordance with the Parcel A7 Work Plan) is also included within this Phase II Investigation Report. The sampling and analysis plan for the parcel was developed to target specific features which represented a potential release of hazardous substances and/or petroleum products to the environment. Soil samples were analyzed for TCL-VOCs, TCL-SVOCs, TPH-DRO/GRO, Oil & Grease, TAL-Metals, hexavalent chromium, and cyanide. Shallow soil samples (0 to 1 foot bgs) were additionally analyzed for PCBs. The test pit samples were analyzed for TCL-SVOCs, TPH-DRO/GRO, Oil & Grease, TAL-Metals, hexavalent chromium, and cyanide (and select samples were also analyzed for TCL-VOCs or PCBs). Groundwater samples were analyzed for TCL-VOCs, TCL-SVOCs, TPH-DRO/GRO, Oil & Grease, TAL-Total/Dissolved Metals, hexavalent chromium (total/dissolved), total cyanide, and available cyanide.

6.1. SOIL (BORINGS AND TEST PITS)

The concentrations of constituents in the soil (including the data obtained from the soil borings as well as the test pit soil samples) have been characterized by the Phase II Investigation to provide estimates of exposure point concentrations to support risk assessment.

PCB concentrations are below the threshold that would warrant evaluation of a removal remedy. There were no concentrations of total PCBs identified above the mandatory delineation criterion of 50 mg/kg, indicating that further action is not needed. There was one soil sample (A9-001-TP) with a concentration of lead above 10,000 mg/kg, the designated threshold at which delineation would be required. Sample A9-001-TP had a detection of lead of 24,100 mg/kg, which was the maximum reported lead result in soil at the Site. This test pit was completed within a berm located at the end of an historic Police Department Pistol Range, so the presence of elevated lead in the berm is not unexpected (and is likely to be localized). Delineation of lead will be completed at this location in accordance with a separate investigation Work Plan, and any future reporting will be covered outside of this Phase II Investigation Report to avoid the need for continued updates.

There were no soil PAL exceedances of VOCs or TPH-DRO/GRO, indicating that these groups of compounds are not significant contaminants in soil at the Site. Exceedances of the PALs in soil at the Site consisted of six inorganics (arsenic, hexavalent chromium, lead, manganese, thallium, and vanadium), one SVOC (benzo[a]pyrene), two PCB groups (Aroclor 1260 and total PCBs), and Oil & Grease.

Arsenic exceeded its PAL in the largest proportion of the samples analyzed for this compound site-wide. Arsenic was detected in 86% of the soil samples analyzed for this compound (with 152 total PAL exceedances), with a maximum detection of 81.4 mg/kg in sample A5-012-SB-4. In comparison, hexavalent chromium, lead, manganese, thallium, and vanadium exceeded their PALs in, respectively, one soil sample (concentration of 7.6 mg/kg in A9-001-TP), nine soil samples (maximum concentration of 24,100 mg/kg in A9-001-TP), 16 soil samples (maximum concentration of 75,900 mg/kg in GRY-001-TP), one soil sample (concentration of 33.1 mg/kg in GRY-026-SB-1), and three soil samples (maximum concentration of 17,400 mg/kg in GRY-001-TP). Benzo[a]pyrene was the only SVOC detected above its PAL at the Site, with a concentration of 7.7 mg/kg in sample A5-013-SB-1 (the only exceedance). Among the shallow soil samples collected at the Site, total PCBs were detected above the PAL at a single location (GRY-022-SB-1), with a concentration of 1.2 mg/kg. This exceedance was caused by an individual concentration of Aroclor 1260, which was the only aroclor detected in the sample.

One soil sample (GRY-007-SB-1) exceeded the Oil & Grease PAL with a detection of 7,690 mg/kg. No physical evidence of NAPL was noted in the soil core collected from GRY-007-SB or any other soil borings completed under this investigation, nor was any physical evidence of NAPL observed during the test pitting activities. A piezometer could not be installed at location GRY-007-SB due to equipment refusal and limited access around the boring due to the suspected presence of utilities. While no physical evidence of NAPL was noted during this Phase II Investigation, it should be acknowledged that the depth of equipment refusal at GRY-007-SB (2.3 feet bgs) coupled with the notable concentration of Oil & Grease indicates that the potential presence of NAPL at this location cannot be ruled out for lower soil depths. Due to the possibility of NAPL at GRY-007-SB, this boring should be considered for proximity to proposed utilities in any future development plans.

6.2. GROUNDWATER

The concentrations of constituents in the groundwater have also been characterized by the Phase II Investigation to provide estimates of exposure point concentrations to support risk assessment.

Analysis of the groundwater sample results at the Site identified PAL exceedances for several compounds including five total/dissolved metals (beryllium, hexavalent chromium, cobalt, iron, and manganese), one VOC (benzene), three SVOCs (1,4-dioxane, 2,6-dinitrotoluene, and naphthalene), TPH-DRO/GRO, and Oil & Grease.

Beryllium and hexavalent chromium both exceeded their PALs at two sample locations, with maximum concentrations of 6.2 µg/L at W-14 and 11.9 µg/L at MW93-003, respectively. The maximum concentration of dissolved hexavalent chromium (11.9 µg/L) was slightly higher than the result for total hexavalent chromium (10.8 µg/L) at MW93-003. Cobalt, iron, and manganese were more widespread at the Site, with exceedances documented at, respectively, 15 locations for cobalt (maximum concentration of 246 µg/L at GRY-027-PZ), five locations for iron

(maximum concentration of 57,000 µg/L at A9-015-PZ), and 12 locations for manganese (maximum concentration of 4,690 µg/L at GRY-027-PZ). Benzene exceeded its PAL at one groundwater sample location (GRY-021-PZ) with a detected concentration of 138 µg/L. 1,4-Dioxane was the only SVOC to exceed its PAL at multiple sample locations, with a total of three aqueous exceedances (and a maximum concentration of 1.9 µg/L in W-6). Naphthalene and 2,6-dinitrotoluene each had one PAL exceedance at the Site, with concentrations of 0.17 µg/L detected for both compounds at sample locations GRY-021-PZ and MW93-003, respectively.

Several exceedances of TPH-DRO/GRO and/or Oil & Grease were documented in the shallow groundwater samples collected from the Site. TPH-DRO was detected above its PAL in seven groundwater sample locations, with a maximum concentration of 806 µg/L (flagged with the “J” qualifier) in MW93-003. TPH-GRO was detected above its PAL in two samples with a maximum concentration of 507 µg/L in SW01-PZM004. Oil & Grease was detected above its PAL in three samples, with a maximum concentration of 2,300 µg/L (flagged with the “J” qualifier) in MW93-003, which corresponds to the maximum detection of TPH-DRO. Each groundwater location was also checked for the potential presence of NAPL using an oil-water interface probe prior to sampling. NAPL was not detected in any of the groundwater sample locations during these checks.

Groundwater is not used on the Tradepoint Atlantic property (and is not proposed to be utilized); therefore, there is no potential for direct human exposure for a Composite Worker. In the event that future construction/excavation leads to a potential Construction Worker exposure to groundwater, health and safety plans should be implemented to limit exposure risk. The groundwater data were screened to determine whether any cumulative (or individual) sample results exceeded the USEPA VI TCR (carcinogen) or THQ (non-carcinogen) Screening Levels. One parameter was detected above its individual VI TCR criterion (benzene at GRY-021-PZ), and no sample results exceeded the individual THQ criteria. When the aqueous results were summed by sample location, none of the cumulative VI non-cancer HI values exceeded 1. The cumulative VI cancer risk exceeded 1E-5 at one sample location (GRY-021-PZ), with a computed risk of 2E-5, due to the carcinogenic effect of benzene. Groundwater conditions in the vicinity of GRY-021-PZ could present a potentially unacceptable VI risk if a structure were to be proposed in this area. Potential VI risks should be evaluated in a Response and Development Work Plan for any such proposed work, and the selection of any appropriate response measures should be based on the specific development plan and addressed therein.

6.3. RECOMMENDATIONS

Sufficient remedial investigation data has been collected to present this evaluation of the nature and extent of possible constituents of concern at the Site. The presence and absence of soil and groundwater impacts at the combined Site (Parcel A5, Parcel A9, and the Greys Rail Yard) have been adequately described and further site-wide investigation is not warranted to characterize

overall conditions; however, additional investigation may be required to further characterize impacts identified in specific areas of the Site. Recommendations for the Site are as follows:

- The maximum lead concentration of 24,100 mg/kg in the test pit sample A9-001-TP is elevated above the mandatory delineation criterion of 10,000 mg/kg. This test pit was completed within a berm located at the end of an historic Police Department Pistol Range, so the presence of elevated lead in the berm is not unexpected. The area surrounding the berm should be investigated further to determine whether the elevated concentration in the test pit sample is indicative of more widespread impacts. These activities will be completed under a separate designated Work Plan. The results of the delineation activities will determine whether further action is warranted with respect to the lead impacts at location A9-001-TP. Any future reporting will be covered outside of this Phase II Investigation Report to avoid the need for continued updates.
- If an enclosed structure is proposed for construction in the vicinity of GRY-021-PZ, further assessment or mitigation of the potential for human exposures via the vapor intrusion to indoor air pathway should be addressed in a Response and Development Work Plan. The selection of any appropriate response measures should be based on the specific development plan and addressed therein.
- The soil boring with an elevated concentration of Oil & Grease (GRY-007-SB) should be considered for proximity to proposed utilities in any future development plans. If future utilities are proposed in the vicinity of this boring, appropriate protocols for the mitigation of potential product (NAPL) mobility should be specified in a Response and Development Work Plan.

7.0 REFERENCES

- ARM Group Inc. (2017). *Phase II Investigation Work Plan: Parcel A5, Parcel A9, and Greys Rail Yard*. Revision 0. August 23, 2017.
- ARM Group Inc. (2016). *Quality Assurance Project Plan: Sparrows Point Terminal Site*. Revision 3. April 5, 2016.
- ARM Group Inc. (2018). *Stormwater Pollution Prevention Plan (SWPPP)*. Revision 6. February 22, 2018.
- Rust Environment and Infrastructure (1998). *Description of Current Conditions: Bethlehem Steel Corporation*. Final Draft. January 1998.
- USEPA (2017). Vapor Intrusion Screening Level (VISL) Calculator version 3.5. (<https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-levels-visls>).
- Weaver Boos Consultants (2014). *Phase I Environmental Site Assessment: Former RG Steel Facility*. Final Draft. May 19, 2014.

FIGURES





Site Boundary
 Parcel Boundaries
 Private Property

Tradepoint Atlantic
Area A and Area B Parcels

June 21, 2018

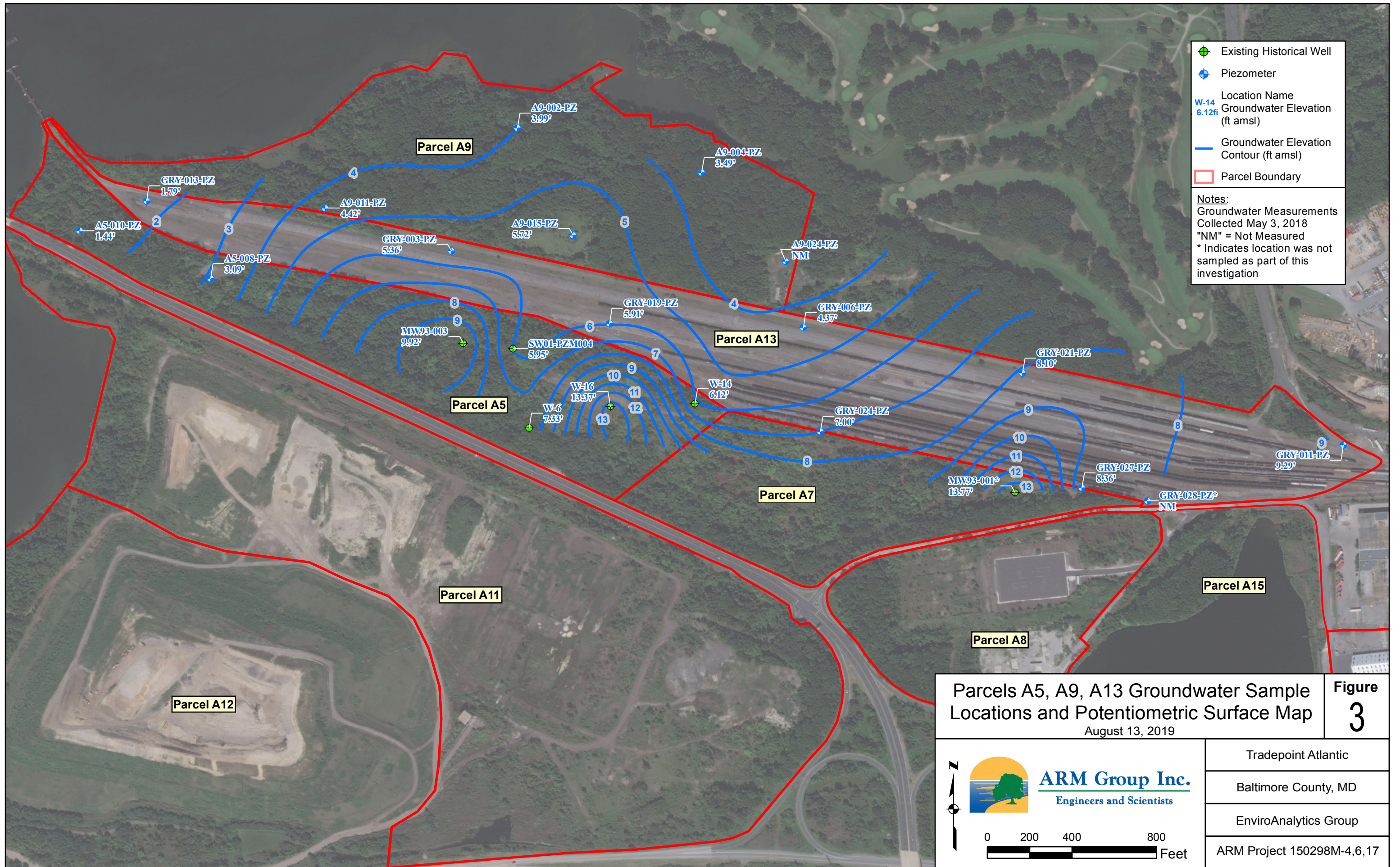
Figure
1



ARM Group Inc.
 Engineers and Scientists

0 500 1,000 2,000
 Feet

Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
Area A: Project 150298M Area B: Project 150300M Development: Project 160443M





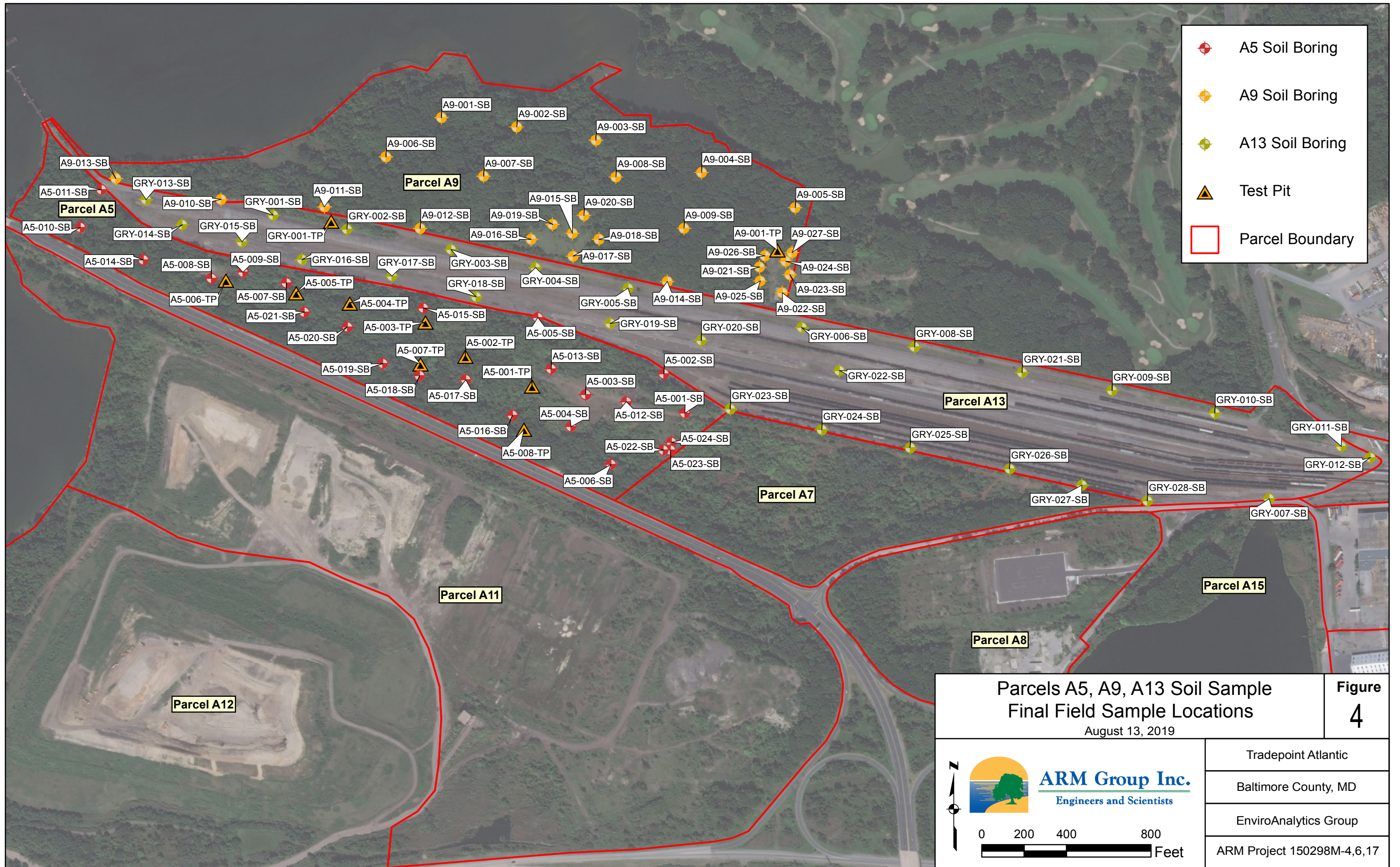
- Existing Historical Well
- Piezometer
- W-14**
6.12ft Location Name
Groundwater Elevation
(ft amsl)
- Groundwater Elevation
Contour (ft amsl)
- Parcel Boundary






Notes:
 Groundwater Measurements
 Collected May 3, 2018
 "NM" = Not Measured
 * Indicates location was not
 sampled as part of this
 investigation


Parcels A5, A9, A13 Groundwater Sample Locations and Potentiometric Surface Map **Figure 3**
 August 13, 2019

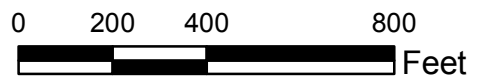
 ARM Group Inc. Engineers and Scientists	Tradepoint Atlantic
	Baltimore County, MD
	EnviroAnalytics Group
	ARM Project 150298M-4,6,17

0 200 400 800
 Feet

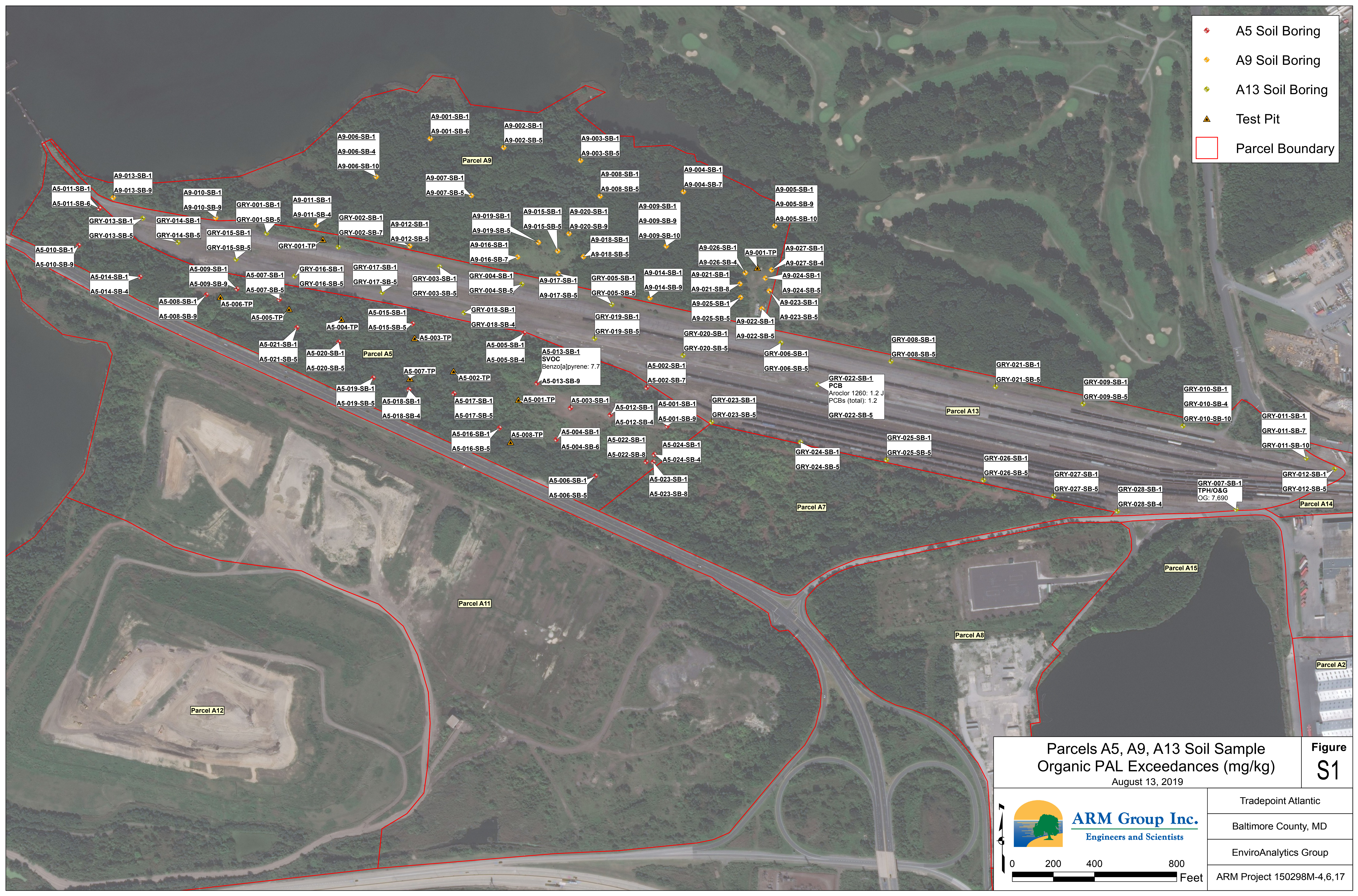



-  A5 Soil Boring
-  A9 Soil Boring
-  A13 Soil Boring
-  Test Pit
-  Parcel Boundary

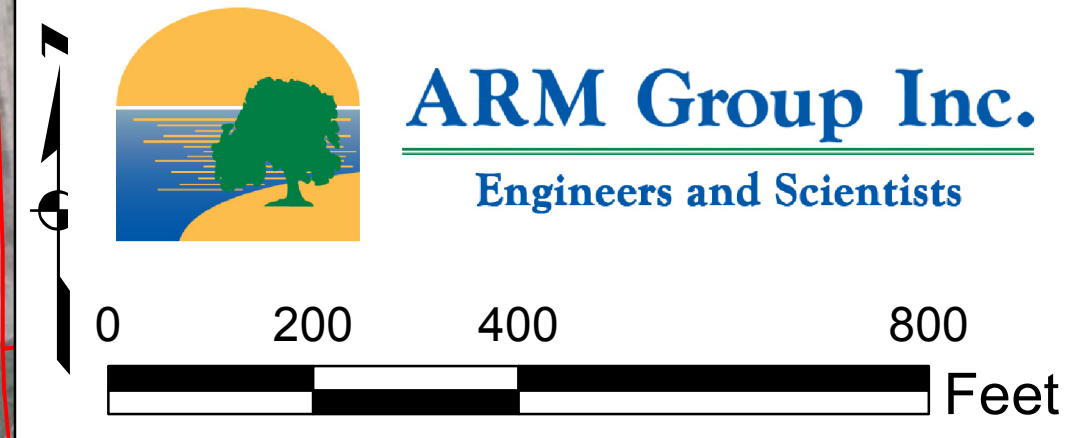
Parcels A5, A9, A13 Soil Sample Final Field Sample Locations August 13, 2019		Figure 4
 ARM Group Inc. Engineers and Scientists	Tradepoint Atlantic	
	Baltimore County, MD	
	EnviroAnalytics Group	
	ARM Project 150298M-4,6,17	

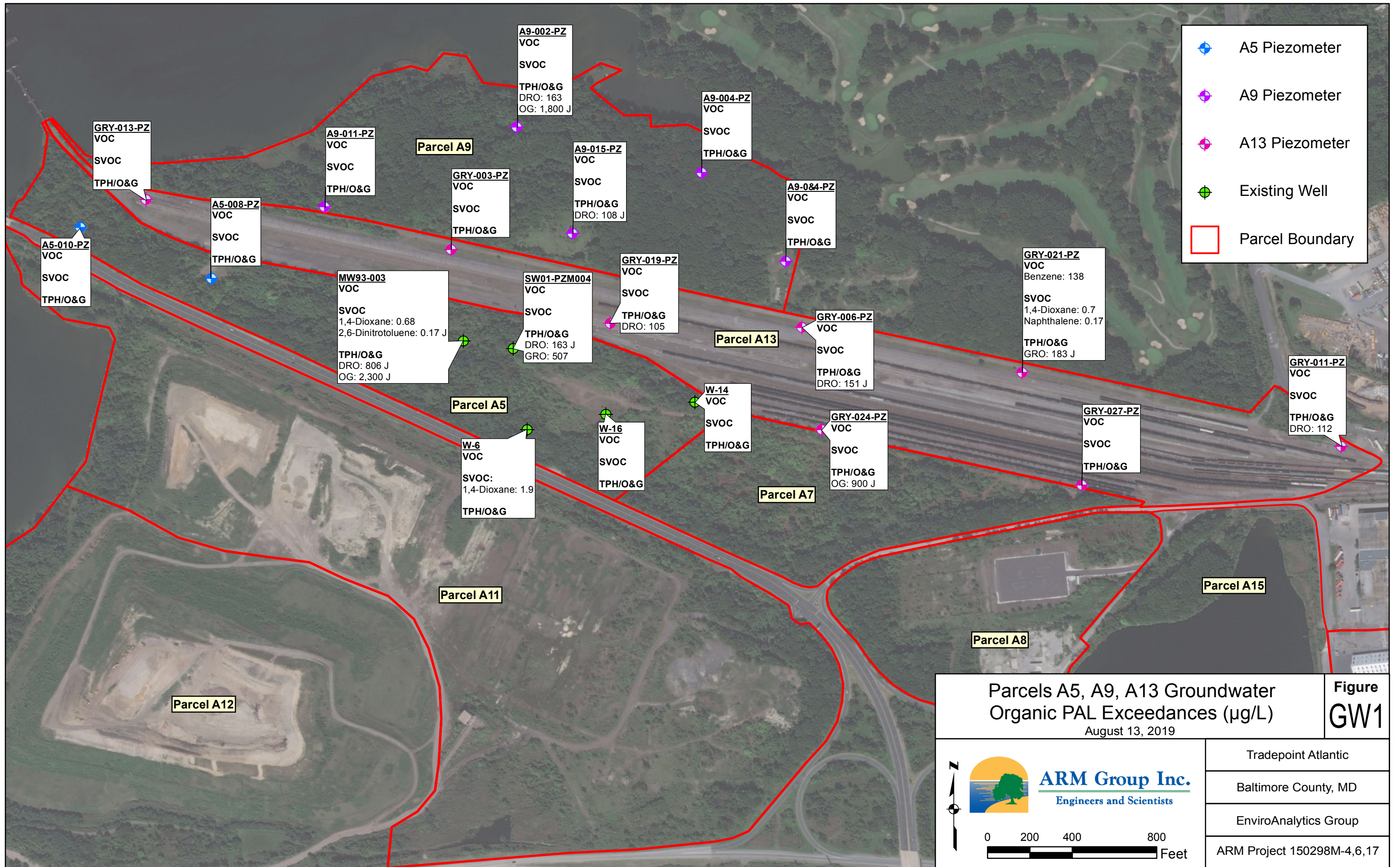



- ◆ A5 Soil Boring
- ◆ A9 Soil Boring
- ◆ A13 Soil Boring
- ▲ Test Pit
- Parcel Boundary



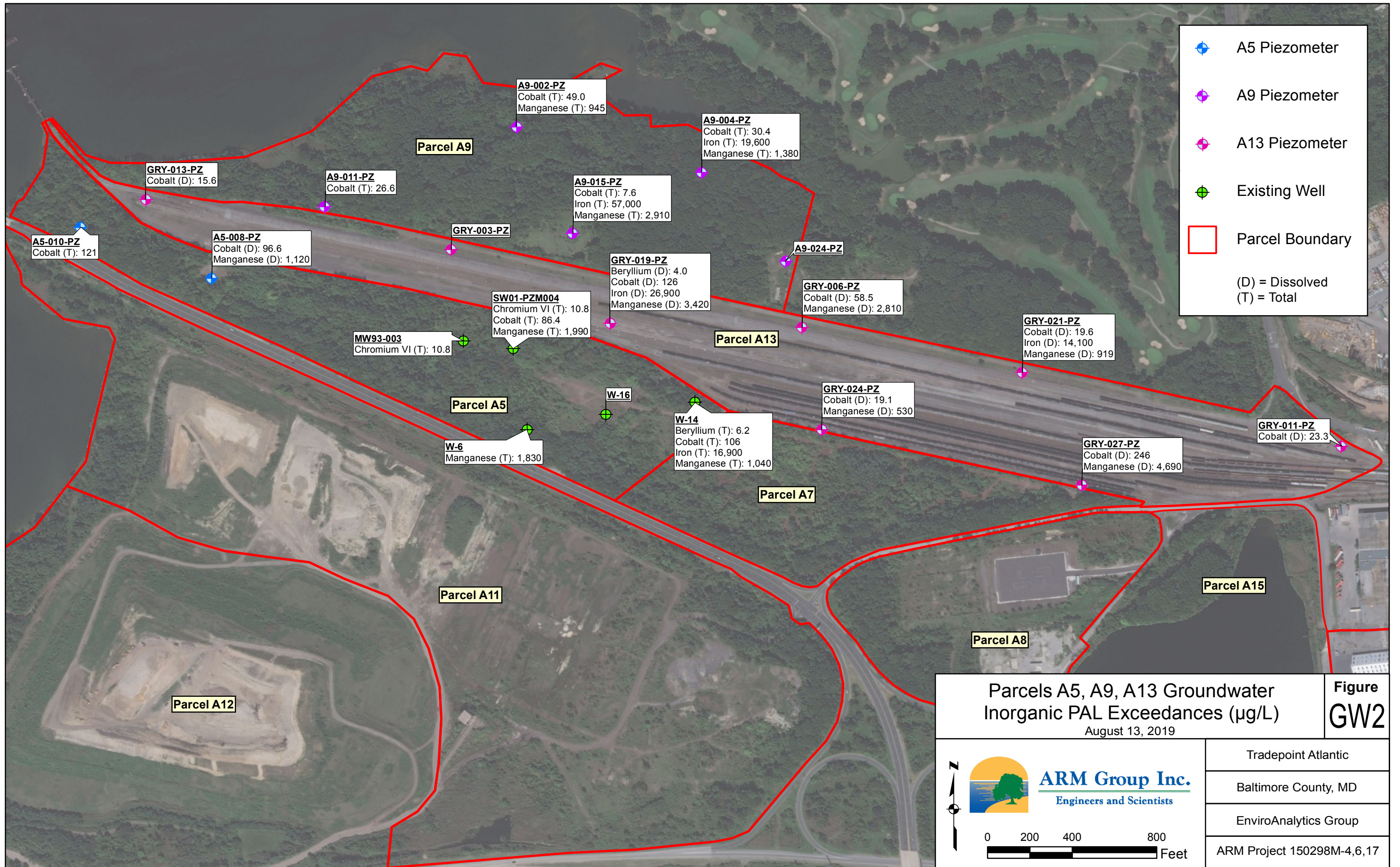
<p>Parcels A5, A9, A13 Soil Sample Organic PAL Exceedances (mg/kg)</p> <p>August 13, 2019</p>		<p>Figure S1</p>
 <p>ARM Group Inc. Engineers and Scientists</p>	<p>Tradepoint Atlantic</p>	
	<p>Baltimore County, MD</p>	
	<p>EnviroAnalytics Group</p>	
	<p>ARM Project 150298M-4,6,17</p>	


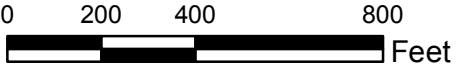




Parcels A5, A9, A13 Groundwater Organic PAL Exceedances (µg/L) August 13, 2019		Figure GW1
 ARM Group Inc. Engineers and Scientists		
Tradepoint Atlantic Baltimore County, MD EnviroAnalytics Group		
ARM Project 150298M-4,6,17		





Parcels A5, A9, A13 Groundwater Inorganic PAL Exceedances (µg/L) August 13, 2019		Figure GW2
 ARM Group Inc. Engineers and Scientists		Tradepoint Atlantic
		Baltimore County, MD
		EnviroAnalytics Group
		ARM Project 150298M-4,6,17

TABLES

**Table 1 - Parcel A5, Parcel A9, and Greys Rail Yard
Groundwater Elevation Data**

<u>Location Name</u>	<u>TOC Elevation (feet AMSL)</u>	<u>Ground Elevation (feet AMSL)</u>	<u>Measured DTW (feet)</u>	<u>Groundwater Elevation (feet AMSL)</u>
A5-008-PZ	14.12	11.46	11.03	3.09
A5-010-PZ	16.01	13.30	14.57	1.44
A9-002-PZ	14.24	11.65	10.25	3.99
A9-004-PZ	16.02	13.06	12.53	3.49
A9-011-PZ	14.35	11.44	9.93	4.42
A9-015-PZ	19.11	16.27	13.39	5.72
A9-024-PZ	16.58	13.80	NM	NM
GRY-003-PZ	16.27	13.27	10.91	5.36
GRY-006-PZ	15.95	15.20	11.58	4.37
GRY-011-PZ	22.38	19.05	13.09	9.29
GRY-013-PZ	15.44	12.57	13.65	1.79
GRY-019-PZ	18.59	14.52	12.68	5.91
GRY-021-PZ	18.1*	16.08	9.98	8.1
GRY-024-PZ	18.18	15.13	11.18	7.00
GRY-027-PZ	18.60	16.13	10.24	8.36
GRY-028-PZ	20.00	16.81	NM	NM
MW93-001	19.42	17.41	5.65	13.77
MW93-003	22.76	20.40	12.84	9.92
SW01-PZM004	24.02	20.97	18.07	5.95
W-6	21.61	19.93	14.28	7.33
W-14	22.44	19.75	16.32	6.12
W-16	22.64	20.51	9.27	13.37

DTW = Depth to water

TOC = Top of casing

AMSL = Above mean sea level

NM = Not Measured

*The piezometer casing of GRY-021-PZ was damaged following the survey and a revised TOC elevation was calculated based on the known ground surface elevation (16.08 ft AMSL) and the new stickup height (2.0 ft) reported by ARM field personnel. Therefore, the listed TOC elevation does not match the value recorded by the surveyor in their original report.

**Table 2 - Parcel A5, Parcel A9, and Greys Rail Yard
Historical Site Drawing Details**

<u>Set Name</u>	<u>Typical Features Shown</u>	<u>Drawing Number</u>	<u>Original Date Drawn</u>	<u>Latest Revision Date</u>
Plant Arrangement	Roads, water bodies, building/structure footprints, electric lines, above-ground pipelines (e.g.: steam, nitrogen, etc.)	5060	2/8/1962	3/11/1982
		5061	2/8/1962	3/11/1982
		5062	2/8/1962	3/11/1982
		5063	2/8/1962	3/11/1982
		5064	2/8/1964	3/11/1982
		5065	2/8/1962	3/11/1982
Plant Index	Roads, water bodies, demolished buildings/structures, electric lines, above-ground pipelines	5160	<i>Unknown</i>	3/6/2008
		5161	<i>Unknown</i>	3/6/2008
		5162	<i>Unknown</i>	3/6/2008
		5163	<i>Unknown</i>	3/6/2008
		5164	<i>Unknown</i>	3/6/2008
		5165	<i>Unknown</i>	3/6/2008
Plant Sewer Lines	Same as above plus trenches, sumps, underground piping (includes pipe materials)	5560	2/5/1976	2/5/1976
		5561	2/5/1976	2/5/1976
		5562	3/15/1976	3/15/1976
		5563	2/5/1976	2/5/1976
		5564	2/5/1976	2/5/1976
		5565	2/10/1976	2/10/1976
Drip Legs	Coke Oven Gas Drip Legs Locations	5887	<i>Unknown</i>	Sept. 1988
		5888	<i>Unknown</i>	Sept. 1988

**Table 3 - Parcel A5, Parcel A9, and Greys Rail Yard
Field Shifted Boring Locations**

<u>Location ID</u>	<u>Sample Target</u>	<u>Proposed Location*</u>		<u>Final Location*</u>		<u>Relocation Distance & Direction</u>	
		<u>Northing</u>	<u>Easting</u>	<u>Northing</u>	<u>Easting</u>		
A5-006-SB	Site-wide Coverage	574,823	1,459,751	574,847	1,460,001	252	NE
A5-010-SB	Site-wide Coverage	575,982	1,457,257	575,968	1,457,489	233	E
A5-012-SB	Site-wide Coverage	575,174	1,460,084	575,144	1,460,074	32	SW
A5-013-SB	Site-wide Coverage	575,295	1,459,712	575,297	1,459,718	6	NE
A5-014-SB	Topographic Pits	575,723	1,457,840	575,815	1,457,788	105	NW
A5-016-SB	Topographic Pits	574,944	1,459,539	575,079	1,459,535	135	N
A9-013-SB	Site-wide Coverage	576,194	1,457,681	576,200	1,457,657	25	W
A9-017-SB	Trap & Skeet Field	575,833	1,459,833	575,832	1,459,822	12	W
A9-023-SB	Police Department Pistol Range	575,745	1,460,846	575,746	1,460,847	2	NE
A9-027-SB	Police Department Pistol Range	575,870	1,460,859	575,849	1,460,859	22	S
GRY-001-SB	Site-wide Coverage	576,041	1,458,393	576,026	1,458,403	18	SE
GRY-011-SB	Site-wide Coverage	575,087	1,463,279	574,932	1,463,458	236	SE
GRY-012-SB	Site-wide Coverage	574,884	1,463,602	574,879	1,463,596	7	SW
GRY-013-SB	Site-wide Coverage	576,113	1,457,803	576,099	1,457,801	14	SW
GRY-026-SB	Site-wide Coverage	574,829	1,461,881	574,826	1,461,888	8	SE

*Reported northings and eastings are not survey accurate.

Coordinates are reported in NAD 1983 Maryland State Plane (US feet).

**Table 4 - Parcels A5, A9, and Greys Rail Yard
Characterization Results for Solid IDW**

<u>Sample ID</u>	<u>Parameter</u>	<u>Result (mg/L)</u>	<u>Laboratory Flag</u>	<u>TCLP Limit (mg/L)</u>	<u>TCLP Exceedance</u>	<u>Laboratory LOQ (mg/L)</u>
GRY Waste (10/23/2017)	1,1-Dichloroethene	0.05	U	0.7	no	0.05
	1,2-Dichloroethane	0.05	U	0.5	no	0.05
	1,4-Dichlorobenzene	0.5	U	7.5	no	0.5
	2,4,5-Trichlorophenol	5	U	400	no	5
	2,4,6-Trichlorophenol	0.1	U	2	no	0.1
	2,4-Dinitrotoluene	0.1	U	0.13	no	0.1
	2-Butanone (MEK)	0.1	U	200	no	0.1
	2-Methylphenol	2	U	200	no	2
	3&4-Methylphenol(m&p Cresol)	2	U	200	no	2
	Arsenic	0.025	U	5	no	0.025
	Barium	0.53		100	no	0.05
	Benzene	0.05	U	0.5	no	0.05
	Cadmium	0.015	U	1	no	0.015
	Carbon tetrachloride	0.05	U	0.5	no	0.05
	Chlorobenzene	0.05	U	100	no	0.05
	Chloroform	0.05	U	6	no	0.05
	Chromium	0.025	U	5	no	0.025
	Hexachlorobenzene	0.1	U	0.13	no	0.1
	Hexachloroethane	0.2	U	3	no	0.2
	Lead	0.12	U	5	no	0.12
	Mercury	0.001	U	0.2	no	0.001
	Nitrobenzene	0.1	U	2	no	0.1
	Pentachlorophenol	5	U	100	no	5
	Selenium	0.04	U	1	no	0.04
	Silver	0.03	U	5	no	0.03
	Tetrachloroethene	0.05	U	0.7	no	0.05
	Trichloroethene	0.05	U	0.5	no	0.05
	Vinyl chloride	0.05	U	0.2	no	0.05
GRY Waste (11/7/2017)	1,1-Dichloroethene	0.05	U	0.7	no	0.05
	1,2-Dichloroethane	0.05	U	0.5	no	0.05
	1,4-Dichlorobenzene	0.1	U	7.5	no	0.1
	2,4,5-Trichlorophenol	0.25	U	400	no	0.25
	2,4,6-Trichlorophenol	0.1	U	2	no	0.1
	2,4-Dinitrotoluene	0.1	U	0.13	no	0.1
	2-Butanone (MEK)	0.1	U	200	no	0.1
	2-Methylphenol	0.1	U	200	no	0.1
	3&4-Methylphenol(m&p Cresol)	0.2	U	200	no	0.2
	Arsenic	0.025	U	5	no	0.025
	Barium	0.32		100	no	0.05
	Benzene	0.05	U	0.5	no	0.05
	Cadmium	0.015	U	1	no	0.015
	Carbon tetrachloride	0.05	U	0.5	no	0.05
	Chlorobenzene	0.05	U	100	no	0.05
	Chloroform	0.05	U	6	no	0.05
	Chromium	0.025	U	5	no	0.025
	Hexachlorobenzene	0.1	U	0.13	no	0.1
	Hexachloroethane	0.1	U	3	no	0.1

**Table 4 - Parcels A5, A9, and Greys Rail Yard
Characterization Results for Solid IDW**

<u>Sample ID</u>	<u>Parameter</u>	<u>Result (mg/L)</u>	<u>Laboratory Flag</u>	<u>TCLP Limit (mg/L)</u>	<u>TCLP Exceedance</u>	<u>Laboratory LOQ (mg/L)</u>
GRY Waste (11/7/2017)	Lead	0.025	U	5	no	0.025
	Mercury	0.001	U	0.2	no	0.001
	Nitrobenzene	0.1	U	2	no	0.1
	Pentachlorophenol	0.25	U	100	no	0.25
	Selenium	0.04	U	1	no	0.04
	Silver	0.03	U	5	no	0.03
	Tetrachloroethene	0.05	U	0.7	no	0.05
	Trichloroethene	0.05	U	0.5	no	0.05
	Vinyl chloride	0.05	U	0.2	no	0.05
A5 Waste Disposal (11/7/2017)	1,1-Dichloroethene	0.05	U	0.7	no	0.05
	1,2-Dichloroethane	0.05	U	0.5	no	0.05
	1,4-Dichlorobenzene	0.1	U	7.5	no	0.1
	2,4,5-Trichlorophenol	0.25	U	400	no	0.25
	2,4,6-Trichlorophenol	0.1	U	2	no	0.1
	2,4-Dinitrotoluene	0.1	U	0.13	no	0.1
	2-Butanone (MEK)	0.1	U	200	no	0.1
	2-Methylphenol	0.1	U	200	no	0.1
	3&4-Methylphenol(m&p Cresol)	0.2	U	200	no	0.2
	Arsenic	0.025	U	5	no	0.025
	Barium	0.22		100	no	0.05
	Benzene	0.05	U	0.5	no	0.05
	Cadmium	0.015	U	1	no	0.015
	Carbon tetrachloride	0.05	U	0.5	no	0.05
	Chlorobenzene	0.05	U	100	no	0.05
	Chloroform	0.05	U	6	no	0.05
	Chromium	0.025	U	5	no	0.025
	Hexachlorobenzene	0.1	U	0.13	no	0.1
	Hexachloroethane	0.1	U	3	no	0.1
	Lead	0.025	U	5	no	0.025
	Mercury	0.001	U	0.2	no	0.001
	Nitrobenzene	0.1	U	2	no	0.1
	Pentachlorophenol	0.25	U	100	no	0.25
	Selenium	0.04	U	1	no	0.04
	Silver	0.03	U	5	no	0.03
Tetrachloroethene	0.05	U	0.7	no	0.05	
Trichloroethene	0.05	U	0.5	no	0.05	
Vinyl chloride	0.05	U	0.2	no	0.05	
A9 Waste Disposal (11/7/2017)	1,1-Dichloroethene	0.05	U	0.7	no	0.05
	1,2-Dichloroethane	0.05	U	0.5	no	0.05
	1,4-Dichlorobenzene	0.1	U	7.5	no	0.1
	2,4,5-Trichlorophenol	0.25	U	400	no	0.25
	2,4,6-Trichlorophenol	0.1	U	2	no	0.1
	2,4-Dinitrotoluene	0.1	U	0.13	no	0.1
	2-Butanone (MEK)	0.1	U	200	no	0.1
	2-Methylphenol	0.1	U	200	no	0.1
	3&4-Methylphenol(m&p Cresol)	0.2	U	200	no	0.2
	Arsenic	0.025	U	5	no	0.025

**Table 4 - Parcels A5, A9, and Greys Rail Yard
Characterization Results for Solid IDW**

<u>Sample ID</u>	<u>Parameter</u>	<u>Result (mg/L)</u>	<u>Laboratory Flag</u>	<u>TCLP Limit (mg/L)</u>	<u>TCLP Exceedance</u>	<u>Laboratory LOQ (mg/L)</u>
A9 Waste Disposal (11/7/2017)	Barium	0.19		100	no	0.05
	Benzene	0.05	U	0.5	no	0.05
	Cadmium	0.015	U	1	no	0.015
	Carbon tetrachloride	0.05	U	0.5	no	0.05
	Chlorobenzene	0.05	U	100	no	0.05
	Chloroform	0.05	U	6	no	0.05
	Chromium	0.0057	J	5	no	0.025
	Hexachlorobenzene	0.1	U	0.13	no	0.1
	Hexachloroethane	0.1	U	3	no	0.1
	Lead	0.019	J	5	no	0.025
	Mercury	0.001	U	0.2	no	0.001
	Nitrobenzene	0.1	U	2	no	0.1
	Pentachlorophenol	0.25	U	100	no	0.25
	Selenium	0.04	U	1	no	0.04
	Silver	0.03	U	5	no	0.03
	Tetrachloroethene	0.05	U	0.7	no	0.05
	Trichloroethene	0.05	U	0.5	no	0.05
Vinyl chloride	0.05	U	0.2	no	0.05	

U: The analyte was not detected in the sample. The numeric value represents the sample LOQ.

J: The positive result for this analyte is a quantitative estimate below the laboratory LOQ.

TCLP: Toxicity Characteristic Leaching Procedure

LOQ: Limit of Quantitation

**Table 5 - Parcels A5, A9, and Greys Rail Yard
Characterization Results for Liquid IDW**

<u>Sample ID</u>	<u>Parameter</u>	<u>Result (mg/L)</u>	<u>Laboratory Flag</u>	<u>TCLP Limit (mg/L)</u>	<u>TCLP Exceedance</u>	<u>Laboratory LOQ (mg/L)</u>
Waste Disposal (2/7/2018)	1,1-Dichloroethene	0.001	U	0.7	no	0.001
	1,2-Dichloroethane	0.001	U	0.5	no	0.001
	1,4-Dichlorobenzene	0.001	U	7.5	no	0.001
	2-Butanone (MEK)	0.01	U	200	no	0.01
	Arsenic	0.005	U	5	no	0.005
	Barium	0.0466		100	no	0.01
	Benzene	0.001	U	0.5	no	0.001
	Cadmium	0.003	U	1	no	0.003
	Carbon tetrachloride	0.001	U	0.5	no	0.001
	Chlorobenzene	0.001	U	100	no	0.001
	Chloroform	0.001	U	6	no	0.001
	Chromium	0.0011	J	5	no	0.005
	Lead	0.005	U	5	no	0.005
	Selenium	0.008	U	1	no	0.008
	Silver	0.006	U	5	no	0.006
	Tetrachloroethene	0.0035		0.7	no	0.001
	Trichloroethene	0.003		0.5	no	0.001
	Vinyl chloride	0.001	U	0.2	no	0.001

U: The analyte was not detected in the sample. The numeric value represents the sample LOQ.

J: The positive result for this analyte is a quantitative estimate below the laboratory LOQ.

TCLP: Toxicity Characterization Leaching Procedure

LOQ: Limit of Quantitation

**Table 6 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Organics Detected in Soil**

Parameter	Units	PAL	A5-001-SB-1*	A5-001-SB-9*	A5-002-SB-1*	A5-002-SB-7*	A5-003-SB-1*	A5-004-SB-1*	A5-004-SB-6*	A5-005-SB-1*	A5-005-SB-4*	A5-006-SB-1*	A5-006-SB-5*	A5-007-SB-1	A5-007-SB-5	A5-008-SB-1	A5-008-SB-9
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	N/A	N/A	0.005 U	0.004 U	N/A	N/A	0.011	N/A	0.0084 U	N/A	N/A	0.0051 U	N/A	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	0.01 U	0.008 U	N/A	N/A	0.0074 U	N/A	0.017 U	N/A	N/A	0.01 U	N/A	N/A	N/A
Acetone	mg/kg	670,000	N/A	N/A	0.024	0.039	N/A	N/A	0.0074 U	N/A	0.017 U	N/A	N/A	0.025	N/A	N/A	N/A
Carbon disulfide	mg/kg	3,500	N/A	N/A	0.0034 J	0.004 U	N/A	N/A	0.0037 U	N/A	0.0084 U	N/A	N/A	0.01 J	N/A	N/A	N/A
Cyclohexane	mg/kg	27,000	N/A	N/A	0.01 U	0.008 U	N/A	N/A	0.0074 U	N/A	0.017 U	N/A	N/A	0.003 J	N/A	N/A	N/A
Ethylbenzene	mg/kg	25	N/A	N/A	0.005 U	0.004 U	N/A	N/A	0.0037 U	N/A	0.0084 U	N/A	N/A	0.0051 U	N/A	N/A	N/A
Methyl Acetate	mg/kg	1,200,000	N/A	N/A	0.05 U	0.04 U	N/A	N/A	0.037 U	N/A	0.084 U	N/A	N/A	0.051 UJ	N/A	N/A	N/A
Styrene	mg/kg	35,000	N/A	N/A	0.005 U	0.004 U	N/A	N/A	0.0037 U	N/A	0.0084 U	N/A	N/A	0.0051 U	N/A	N/A	N/A
Tetrachloroethene	mg/kg	100	N/A	N/A	0.005 U	0.004 U	N/A	N/A	0.082	N/A	0.0084 U	N/A	N/A	0.0051 U	N/A	N/A	N/A
Xylenes	mg/kg	2,800	N/A	N/A	0.015 U	0.012 U	N/A	N/A	0.011 U	N/A	0.025 U	N/A	N/A	0.015 U	N/A	N/A	N/A
Semi-Volatile Organic Compounds[^]																	
1,1-Biphenyl	mg/kg	200	0.069 U	0.079 U	0.071 U	0.08 U	0.072 U	0.069 U	0.078 U	0.017 J	0.074 U	0.084 U	0.07 U	0.071 U	0.074 U	0.069 U	0.079 U
2,4-Dinitrophenol	mg/kg	1,600	0.17 U	0.2 U	0.18 U	0.2 U	0.18 U	0.17 U	0.19 U	0.18 U	0.18 U	0.21 U	0.17 U	0.18 U	0.18 U	0.17 U	0.2 R
2-Chloronaphthalene	mg/kg	60,000	0.069 U	0.079 U	0.071 U	0.08 U	0.072 U	0.069 U	0.078 U	0.071 U	0.074 U	0.084 U	0.07 U	0.071 U	0.074 U	0.069 U	0.079 U
2-Methylnaphthalene	mg/kg	3,000	0.072	0.023	0.036	0.008 U	0.0066 J	0.0089	0.014	0.1	0.0035 J	0.085 U	0.0018 J	0.0048 J	0.0074 U	0.0048 J	0.0079 U
2-Methylphenol	mg/kg	41,000	0.069 U	0.079 U	0.071 U	0.08 U	0.072 U	0.069 U	0.078 U	0.071 U	0.074 U	0.084 U	0.07 U	0.071 U	0.074 U	0.069 U	0.079 R
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	0.16 U	0.14 U	0.16 U	0.14 U	0.14 U	0.022 J	0.14 U	0.15 U	0.17 U	0.14 U	0.14 U	0.15 U	0.14 U	0.16 R
3,3'-Dichlorobenzidine	mg/kg	5.1	0.069 U	0.079 U	0.071 U	0.08 U	0.072 U	0.069 U	0.078 U	0.071 U	0.074 U	0.084 U	0.07 U	0.071 U	0.074 U	0.069 U	0.079 U
Acenaphthene	mg/kg	45,000	0.0069 J	0.031	0.0023 J	0.008 U	0.0059 J	0.01	0.0023 J	0.0048 J	0.001 J	0.085 U	0.0031 J	0.045	0.0074 U	0.0069 U	0.0079 U
Acenaphthylene	mg/kg	45,000	0.016 J	0.014	0.021	0.008 U	0.015 J	0.0092	0.045	0.027	0.0088	0.085 U	0.0055 J	0.0037 J	0.0074 U	0.014	0.0079 U
Acetophenone	mg/kg	120,000	0.069 U	0.079 U	0.071 U	0.08 U	0.072 U	0.069 U	0.078 U	0.071 U	0.074 U	0.084 U	0.07 U	0.071 U	0.074 U	0.069 U	0.079 U
Anthracene	mg/kg	230,000	0.034 J	0.082	0.021	0.008 U	0.032 J	0.02	0.049	0.063	0.0073 J	0.0076 J	0.023	0.24	0.0074 U	0.0071	0.0079 U
Benz[a]anthracene	mg/kg	21	0.088	0.2	0.095	0.008 U	0.2	0.095	0.074	0.18	0.025	0.05 J	0.15	1.2	0.0074 U	0.028	0.0016 J
Benzaldehyde	mg/kg	120,000	0.016 J	0.079 U	0.071 U	0.08 U	0.072 U	0.069 U	0.078 U	0.021 J	0.074 U	0.084 U	0.07 U	0.071 U	0.074 U	0.069 U	0.079 U
Benzo[a]pyrene	mg/kg	2.1	0.1	0.17	0.094	0.008 U	0.21	0.11	0.075	0.16	0.043	0.039 J	0.16	0.88	0.0074 U	0.04	0.0079 U
Benzo[b]fluoranthene	mg/kg	21	0.2	0.32	0.19	0.008 U	0.44	0.2	0.14	0.37	0.081	0.072 J	0.28	1.2	0.0074 U	0.09	0.0079 U
Benzo[g,h,i]perylene	mg/kg		0.094	0.066	0.065	0.008 U	0.13	0.059	0.032	0.14	0.027	0.025 J	0.1	0.53	0.0074 U	0.034	0.0079 U
Benzo[k]fluoranthene	mg/kg	210	0.19	0.3	0.18	0.008 U	0.41	0.19	0.13	0.35	0.077	0.064 J	0.25	0.54	0.0074 U	0.085	0.0017 J
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.069 U	0.079 U	0.071 U	0.08 U	0.1	0.21	0.02 J	0.071 U	0.074 U	0.084 U	0.014 J	0.071 U	0.074 U	0.015 B	0.079 U
Caprolactam	mg/kg	400,000	0.17 U	0.2 U	0.18 U	0.2 U	0.18 U	0.17 U	0.19 U	0.18 U	0.18 U	0.045 J	0.17 U	0.18 U	0.18 U	0.17 U	0.2 U
Carbazole	mg/kg		0.069 U	0.079 U	0.071 U	0.08 U	0.072 U	0.069 U	0.12	0.022 J	0.074 U	0.084 U	0.039 J	0.071 U	0.074 U	0.069 U	0.079 U
Chrysene	mg/kg	2,100	0.1	0.21	0.096	0.008 U	0.23	0.098	0.068	0.21	0.03	0.03 J	0.13	1.1	0.0074 U	0.035	0.0079 U
Dibenz[a,h]anthracene	mg/kg	2.1	0.027 J	0.025	0.022	0.008 U	0.047 J	0.02	0.012	0.043	0.0084	0.085 U	0.031	0.22	0.0074 U	0.01	0.0079 U
Diethylphthalate	mg/kg	660,000	0.069 U	0.079 U	0.071 U	0.08 U	0.072 U	0.069 U	0.078 U	0.071 U	0.074 U	0.084 U	0.07 U	0.071 U	0.074 U	0.069 U	0.079 U
Di-n-butylphthalate	mg/kg	82,000	0.069 U	0.079 U	0.071 U	0.08 U	0.072 U	0.069 U	0.078 U	0.071 U	0.074 U	0.084 U	0.07 U	0.071 U	0.074 U	0.069 U	0.079 U
Di-n-octylphthalate	mg/kg	8,200	0.069 U	0.079 U	0.071 U	0.08 U	0.072 J	0.069 U	0.078 U	0.071 U	0.074 U	0.084 U	0.07 U	0.071 U	0.074 U	0.069 U	0.079 U
Fluoranthene	mg/kg	30,000	0.13	0.41	0.17	0.00083 J	0.35	0.17	0.22	0.47	0.02	0.071 J	0.24	2.8	0.0074 U	0.037	0.0016 J
Fluorene	mg/kg	30,000	0.069 U	0.036	0.0064 J	0.008 U	0.072 U	0.0087	0.028	0.0041 J	0.001 J	0.085 U	0.0025 J	0.041	0.0074 U	0.0069 U	0.0079 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.076	0.073	0.064	0.008 U	0.13	0.059	0.038	0.13	0.025	0.021 J	0.09	0.5	0.0074 U	0.03	0.0079 U
Naphthalene	mg/kg	17	0.043 J	0.051	0.035	0.008 U	0.072 U	0.01	0.091	0.18	0.0057 J	0.085 U	0.0032 J	0.0084 J	0.0074 UJ	0.0043 J	0.0079 UJ
N-Nitrosodiphenylamine	mg/kg	470	0.069 U	0.079 U	0.071 U	0.08 U	0.072 U	0.069 U	0.078 U	0.071 U	0.074 U	0.084 U	0.07 U	0.071 U	0.074 U	0.069 U	0.079 U
Phenanthrene	mg/kg		0.14	0.32	0.083	0.00073 J	0.12	0.088	0.16	0.42	0.013	0.033 J	0.074	0.9	0.0074 U	0.0092	0.0011 J
Phenol	mg/kg	250,000	0.069 U	0.079 U	0.071 U	0.08 U	0.072 U	0.069 U	0.035 J	0.071 U	0.074 U	0.084 U	0.07 U	0.071 U	0.074 U	0.069 U	0.079 R
Pyrene	mg/kg	23,000	0.11	0.33	0.13	0.00074 J	0.33	0.14	0.18	0.34	0.02	0.055 J	0.19	2.3	0.0074 U	0.036	0.0012 J
PCBs																	
Aroclor 1254	mg/kg	0.97	0.087 U	N/A	0.018 U	N/A	0.018 U	0.017 U	N/A	0.017 U	N/A	0.021 U	N/A	0.018 U	N/A	0.017 U	N/A
Aroclor 1260	mg/kg	0.99	0.087 U	N/A	0.018 U	N/A	0.13	0.017 U	N/A	0.017 U	N/A	0.021 U	N/A	0.018 UJ	N/A	0.017 UJ	N/A
Aroclor 1262	mg/kg		0.78	N/A	0.018 U	N/A	0.018 U	0.017 U	N/A	0.017 U	N/A	0.021 U	N/A	0.018 U	N/A	0.017 U	N/A
PCBs (total)	mg/kg	0.97	0.78 J	N/A	0.16 U	N/A	0.13 J	0.15 U	N/A	0.16 U	N/A	0.19 U	N/A	0.16 U	N/A	0.16 U	N/A
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	86.9	268	14.2	2.6 B	78.7	24.1	29.5	50.8	8.1	23.9	11.3	35 J	3.7 B	29.8 J	12.5 J
Gasoline Range Organics	mg/kg	6,200	9.9 U	10.2 U	10.5 U	7.9 U	2.3 B	12.5 U	6.1 U	9.2 U	13.6 U	10.9 U	21.5 U	8.6 J	8.2 U	2.2 J	9 U
Oil and Grease	mg/kg	6,200	491	2,880	170	232	369	379	331	167	316	284	370	191 J-	106 J-	215 J-	372 J-

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

^ PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 6 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Organics Detected in Soil

Parameter	Units	PAL	A5-009-SB-1	A5-009-SB-9	A5-010-SB-1	A5-010-SB-9	A5-011-SB-1*	A5-011-SB-6*	A5-012-SB-1*	A5-012-SB-4*	A5-013-SB-1*	A5-013-SB-9*	A5-014-SB-1	A5-014-SB-4	A5-015-SB-1	A5-015-SB-5	A5-016-SB-1*
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	N/A	0.0042 U	N/A	0.0051 U	0.0054 U	N/A	N/A	N/A	0.005 U	0.0089 U	0.0069 U	0.0058 U	N/A	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	0.0084 U	N/A	0.01 U	0.011 U	N/A	N/A	N/A	0.0099 U	0.018 U	0.014 U	0.012 U	N/A	N/A	N/A
Acetone	mg/kg	670,000	N/A	0.018 B	N/A	0.059 B	0.048	N/A	N/A	N/A	0.0099 U	0.018 U	0.014 U	0.012 U	N/A	N/A	N/A
Carbon disulfide	mg/kg	3,500	N/A	0.0042 UJ	N/A	0.0051 U	0.0053 J	N/A	N/A	N/A	0.005 U	0.0082 J	0.0069 U	0.0058 U	N/A	N/A	N/A
Cyclohexane	mg/kg	27,000	N/A	0.0084 UJ	N/A	0.01 U	0.011 U	N/A	N/A	N/A	0.0099 U	0.018 U	0.014 U	0.012 U	N/A	N/A	N/A
Ethylbenzene	mg/kg	25	N/A	0.0042 U	N/A	0.0051 U	0.019	N/A	N/A	N/A	0.005 U	0.0089 U	0.0069 U	0.0058 U	N/A	N/A	N/A
Methyl Acetate	mg/kg	1,200,000	N/A	0.042 UJ	N/A	0.007 J	0.054 U	N/A	N/A	N/A	0.05 U	0.013 J	0.069 U	0.058 U	N/A	N/A	N/A
Styrene	mg/kg	35,000	N/A	0.0042 U	N/A	0.0051 U	0.0054 U	N/A	N/A	N/A	0.005 U	0.0089 U	0.0069 U	0.0058 U	N/A	N/A	N/A
Tetrachloroethene	mg/kg	100	N/A	0.0042 U	N/A	0.0051 U	0.0054 U	N/A	N/A	N/A	0.005 U	0.0089 U	0.0069 U	0.0058 U	N/A	N/A	N/A
Xylenes	mg/kg	2,800	N/A	0.013 U	N/A	0.015 U	0.0059 J	N/A	N/A	N/A	0.015 U	0.027 U	0.021 U	0.017 U	N/A	N/A	N/A
Semi-Volatile Organic Compounds[^]																	
1,1-Biphenyl	mg/kg	200	0.068 U	0.08 U	0.088 U	0.079 U	0.071 U	0.077 U	0.067 U	0.079 U	1.3 U	0.089 U	0.085 U	0.071 U	0.083 U	0.076 U	0.075 U
2,4-Dinitrophenol	mg/kg	1,600	0.17 U	0.2 U	0.22 U	0.2 U	0.18 U	0.19 U	0.17 U	0.2 U	3.4 U	0.22 U	0.21 U	0.18 U	0.21 U	0.19 U	0.19 U
2-Chloronaphthalene	mg/kg	60,000	0.068 U	0.08 U	0.088 U	0.079 U	0.071 U	0.077 U	0.067 U	0.079 U	1.3 U	0.089 U	0.085 U	0.071 U	0.083 U	0.076 U	0.075 U
2-Methylnaphthalene	mg/kg	3,000	0.002 J	0.008 U	0.016	0.0079 U	0.013	0.0079 U	0.018 J	0.0013 J	0.15	0.029 J	0.0029 J	0.0071 U	0.0074 J	0.0076 U	0.0012 J
2-Methylphenol	mg/kg	41,000	0.068 U	0.08 U	0.088 U	0.079 U	0.071 U	0.077 U	0.067 U	0.079 U	1.3 U	0.089 U	0.085 U	0.071 U	0.083 U	0.076 U	0.075 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	0.16 U	0.18 U	0.16 U	0.14 U	0.15 U	0.13 U	0.16 U	2.7 U	0.18 U	0.17 U	0.14 U	0.17 U	0.15 U	0.15 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.068 U	0.08 U	0.088 U	0.079 U	0.071 U	0.077 U	0.067 U	0.079 U	1.3 U	0.089 U	0.085 U	0.071 U	0.083 U	0.076 U	0.075 U
Acenaphthene	mg/kg	45,000	0.0069 U	0.008 U	0.055	0.0079 U	0.0021 J	0.0079 U	0.0065 J	0.0079 U	0.44	0.026 J	0.0039 J	0.0071 U	0.018 J	0.0076 U	0.0076 U
Acenaphthylene	mg/kg	45,000	0.0069 U	0.008 U	0.012	0.0079 U	0.044	0.0079 U	0.037 J	0.0079 U	1.5	0.13	0.0023 J	0.0071 U	0.035 J	0.0076 U	0.0076 U
Acetophenone	mg/kg	120,000	0.068 U	0.08 U	0.088 U	0.079 U	0.071 U	0.077 U	0.067 U	0.079 U	1.3 U	0.089 U	0.085 U	0.071 U	0.083 U	0.076 U	0.075 U
Anthracene	mg/kg	230,000	0.00048 J	0.008 U	0.46	0.0079 U	0.039	0.0079 U	0.047 J	0.0017 J	2.4	0.15	0.024	0.0071 U	0.086	0.0076 U	0.0076 U
Benz[a]anthracene	mg/kg	21	0.0031 J	0.008 U	1.2	0.0079 U	0.06	0.0079 U	0.32	0.0068 J	8.3	0.54	0.07	0.0071 U	0.25	0.0076 U	0.0027 J
Benzaldehyde	mg/kg	120,000	0.068 U	0.08 U	0.57	0.079 U	0.071 U	0.077 U	0.067 U	0.079 U	1.3 U	0.052 J	0.024 J	0.071 U	0.083 U	0.076 U	0.021 J
Benzo[a]pyrene	mg/kg	2.1	0.0038 J	0.008 U	1	0.0079 U	0.14	0.0079 U	0.36	0.005 J	7.7	0.56	0.064	0.0071 U	0.29	0.0076 U	0.0018 J
Benzo[b]fluoranthene	mg/kg	21	0.0079	0.008 U	1.6	0.0079 U	0.33	0.0079 U	0.68	0.0087	12	0.83	0.1	0.0071 U	0.58	0.0076 U	0.0053 J
Benzo[g,h,i]perylene	mg/kg		0.0033 J	0.008 U	0.6	0.0079 U	0.13	0.0079 U	0.25	0.0033 J	3.8	0.25	0.038	0.0071 U	0.24	0.0076 U	0.0018 J
Benzo[k]fluoranthene	mg/kg	210	0.0075	0.008 U	1.6	0.0079 U	0.29	0.0079 U	0.64	0.0083	11.4	0.78	0.1	0.0071 U	0.56	0.0076 U	0.0047 J
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.068 U	0.08 U	0.088 U	0.079 U	0.026 J	0.077 U	0.067 U	0.079 U	1.3 U	0.089 U	0.085 U	0.071 U	0.083 U	0.016 J	0.075 U
Caprolactam	mg/kg	400,000	0.17 U	0.2 U	0.22 U	0.2 U	0.18 U	0.19 U	0.17 U	0.2 U	3.4 U	0.22 U	0.21 U	0.18 U	0.21 U	0.19 U	0.19 U
Carbazole	mg/kg		0.068 U	0.08 U	0.088 U	0.079 U	0.071 U	0.077 U	0.067 U	0.079 U	1.3 U	0.089 U	0.085 U	0.071 U	0.083 U	0.076 U	0.075 U
Chrysene	mg/kg	2,100	0.0039 J	0.008 U	1	0.0079 U	0.085	0.0079 U	0.3	0.0067 J	7.7	0.55	0.064	0.0071 U	0.31	0.0076 U	0.002 J
Dibenz[a,h]anthracene	mg/kg	2.1	0.0069 U	0.008 U	0.18	0.0079 U	0.034	0.0079 U	0.074	0.0079 U	1.4	0.095	0.011	0.0071 U	0.063 J	0.0076 U	0.0076 U
Diethylphthalate	mg/kg	660,000	0.068 U	0.08 U	0.088 U	0.079 U	0.071 U	0.077 U	0.067 U	0.079 U	1.3 U	0.089 U	0.085 U	0.071 U	0.083 U	0.076 U	0.075 U
Di-n-butylphthalate	mg/kg	82,000	0.068 U	0.08 U	0.088 U	0.079 U	0.071 U	0.077 U	0.067 U	0.079 U	1.3 U	0.089 U	0.085 U	0.071 U	0.083 U	0.076 U	0.075 U
Di-n-octylphthalate	mg/kg	8,200	0.068 U	0.08 U	0.088 U	0.079 U	0.071 U	0.077 U	0.067 U	0.079 U	1.3 U	0.089 U	0.085 U	0.071 U	0.083 U	0.076 U	0.075 U
Fluoranthene	mg/kg	30,000	0.0051 J	0.008 U	2.9	0.0079 U	0.071	0.0079 U	0.42	0.013	15.9	1.1	0.14	0.0071 U	0.39	0.0076 U	0.0037 J
Fluorene	mg/kg	30,000	0.0069 U	0.008 U	0.05	0.0079 U	0.0024 J	0.0079 U	0.0055 J	0.0079 U	0.52	0.044 J	0.0056 J	0.0071 U	0.013 J	0.0076 U	0.0076 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.0027 J	0.008 U	0.53	0.0079 U	0.11	0.0079 U	0.24	0.0028 J	3.7	0.24	0.035	0.0071 U	0.2	0.0076 U	0.0012 J
Naphthalene	mg/kg	17	0.0069 UJ	0.008 UJ	0.029 J	0.0079 UJ	0.016	0.0079 U	0.067 U	0.0079 U	0.2	0.065 J	0.0084 UJ	0.0071 UJ	0.084 UJ	0.0076 UJ	0.0076 U
N-Nitrosodiphenylamine	mg/kg	470	0.068 U	0.08 U	0.088 U	0.079 U	0.071 U	0.077 U	0.067 U	0.079 U	1.3 U	0.089 U	0.085 U	0.071 U	0.083 U	0.076 U	0.075 U
Phenanthrene	mg/kg		0.0026 J	0.00067 J	1.9	0.0079 U	0.02	0.0079 U	0.11	0.0084	9.6	0.63	0.096	0.0071 U	0.2	0.0076 U	0.0022 J
Phenol	mg/kg	250,000	0.068 U	0.08 U	0.088 U	0.079 U	0.071 U	0.077 U	0.067 U	0.079 U	1.3 U	0.089 U	0.085 U	0.071 U	0.083 U	0.076 U	0.075 U
Pyrene	mg/kg	23,000	0.0045 J	0.008 U	2.4	0.0079 U	0.09	0.0079 U	0.39	0.015	16.7	1.1	0.12	0.0071 U	0.37	0.0076 U	0.0031 J
PCBs																	
Aroclor 1254	mg/kg	0.97	0.017 U	N/A	0.022 U	N/A	0.018 U	N/A	0.017 U	N/A	0.017 U	N/A	0.021 U	N/A	0.021 U	N/A	0.019 U
Aroclor 1260	mg/kg	0.99	0.011 J	N/A	0.022 UJ	N/A	0.018 U	N/A	0.017 U	N/A	0.017 U	N/A	0.021 UJ	N/A	0.021 UJ	N/A	0.019 U
Aroclor 1262	mg/kg		0.017 U	N/A	0.022 U	N/A	0.018 U	N/A	0.017 U	N/A	0.017 U	N/A	0.021 U	N/A	0.021 U	N/A	0.019 U
PCBs (total)	mg/kg	0.97	0.15 U	N/A	0.2 U	N/A	0.16 U	N/A	0.15 U	N/A	0.15 U	N/A	0.19 U	N/A	0.19 U	N/A	0.17 U
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	15.1 J	4 B	14.9 J	5.2 B	17.6	4.1 B	36.1	3 J	260	222	21.8 J	6.5 B	14.4 J	1.8 J	3.7 B
Gasoline Range Organics	mg/kg	6,200	3.1 J	10.9 U	15.4 U	10.3 U	12.2 U	9.2 U	18.1 U	7.9 U	11.5 U	14.8 U	5.2 J	9.7 U	14.5 UJ	9 U	6.8 U
Oil and Grease	mg/kg	6,200	227 J-	283 J-	196	174 J	167	236 J	288	114 J	1,240	3,110	100 J	84.9 J	83.3 J	56.9 J	133

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

^ PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

**Table 6 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Organics Detected in Soil**

Parameter	Units	PAL	A5-016-SB-5*	A5-017-SB-1*	A5-017-SB-5*	A5-018-SB-1*	A5-018-SB-4*	A5-019-SB-1	A5-019-SB-5	A5-020-SB-1*	A5-020-SB-5*	A5-021-SB-1	A5-021-SB-5	A5-022-SB-1	A5-022-SB-8	A5-023-SB-1	A5-023-SB-8
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0037 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0074 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acetone	mg/kg	670,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0074 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Carbon disulfide	mg/kg	3,500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0037 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyclohexane	mg/kg	27,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0074 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	mg/kg	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0037 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Methyl Acetate	mg/kg	1,200,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.037 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Styrene	mg/kg	35,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.014	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tetrachloroethene	mg/kg	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0037 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Xylenes	mg/kg	2,800	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.011 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Semi-Volatile Organic Compounds[^]																	
1,1-Biphenyl	mg/kg	200	0.08 U	0.082 U	0.079 U	0.074 U	0.075 U	0.075 U	0.081 U	0.075 U	0.081 U	0.073 U	0.079 U	0.068 U	0.079 U	0.067 U	0.077 U
2,4-Dinitrophenol	mg/kg	1,600	0.2 U	0.21 U	0.2 U	0.18 U	0.19 U	0.19 U	0.2 U	0.19 U	0.2 U	0.18 UJ	0.2 U	0.17 U	0.096 J	0.17 U	0.19 U
2-Chloronaphthalene	mg/kg	60,000	0.08 U	0.082 U	0.079 U	0.074 U	0.075 U	0.075 U	0.081 U	0.075 U	0.081 U	0.073 U	0.079 U	0.068 U	0.079 U	0.067 U	0.077 U
2-Methylnaphthalene	mg/kg	3,000	0.001 J	0.001 J	0.0017 J	0.011	0.01	0.0075 U	0.00088 J	0.00078 J	0.0081 U	0.00065 J	0.00098 J	0.07	0.0032 J	0.0027 J	0.012
2-Methylphenol	mg/kg	41,000	0.08 U	0.082 U	0.079 U	0.074 U	0.075 U	0.075 U	0.081 U	0.075 U	0.081 U	0.073 UJ	0.079 U	0.068 U	0.079 U	0.067 U	0.077 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.16 U	0.16 U	0.16 U	0.15 U	0.15 U	0.15 U	0.16 U	0.15 U	0.16 U	0.15 UJ	0.16 U	0.14 U	0.16 U	0.13 U	0.15 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.08 U	0.082 U	0.079 U	0.074 U	0.075 U	0.075 U	0.081 U	0.075 U	0.081 U	0.073 U	0.079 U	0.068 U	0.079 U	0.067 UJ	0.077 U
Acenaphthene	mg/kg	45,000	0.008 U	0.0081 U	0.0079 U	0.0075 U	0.0076 U	0.0075 U	0.0081 U	0.0075 U	0.0081 U	0.0073 U	0.008 U	0.0041 J	0.0015 J	0.0009 J	0.0039 J
Acenaphthylene	mg/kg	45,000	0.008 U	0.00096 J	0.0079 U	0.0032 J	0.0034 J	0.0075 U	0.0081 U	0.0075 U	0.0081 U	0.0073 U	0.008 U	0.0064 J	0.0058 J	0.0057 J	0.0064 J
Acetophenone	mg/kg	120,000	0.08 U	0.082 U	0.079 U	0.074 U	0.075 U	0.075 U	0.081 U	0.075 U	0.081 U	0.073 U	0.079 U	0.068 U	0.079 U	0.067 U	0.077 U
Anthracene	mg/kg	230,000	0.0015 J	0.0031 J	0.0017 J	0.0033 J	0.004 J	0.00064 J	0.0017 J	0.00065 J	0.0017 J	0.0006 J	0.0025 J	0.016	0.013	0.0046 J	0.014
Benz[a]anthracene	mg/kg	21	0.011	0.015	0.016	0.014	0.018	0.013	0.011	0.0045 J	0.007 J	0.0042 J	0.016	0.062	0.062	0.023	0.051
Benzaldehyde	mg/kg	120,000	0.034 J	0.082 U	0.079 U	0.074 U	0.075 U	0.075 U	0.081 U	0.075 U	0.081 U	0.073 U	0.079 U	0.068 U	0.079 U	0.067 U	0.077 U
Benzo[a]pyrene	mg/kg	2.1	0.0099	0.017	0.012	0.016	0.02	0.0056 J	0.0086	0.0032 J	0.0027 J	0.0032 J	0.0071 J	0.074	0.051	0.033	0.045
Benzo[b]fluoranthene	mg/kg	21	0.043	0.099	0.071	0.042	0.041	0.026	0.039	0.013	0.032	0.0099	0.11	0.12	0.11	0.06	0.094
Benzo[g,h,i]perylene	mg/kg		0.034	0.035	0.028	0.015	0.012	0.0025 J	0.028	0.008	0.0096	0.0055 J	0.035	0.044	0.027	0.016	0.018
Benzo[k]fluoranthene	mg/kg	210	0.039	0.088	0.064	0.037	0.036	0.025	0.037	0.012	0.031	0.0094	0.11	0.042	0.1	0.054	0.085
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.08 U	0.082 U	0.034 J	0.074 U	0.075 U	0.075 U	0.081 U	0.075 U	0.081 U	0.073 U	0.079 U	0.068 U	0.079 U	0.067 UJ	0.077 U
Caprolactam	mg/kg	400,000	0.2 U	0.21 U	0.2 U	0.18 U	0.19 U	0.19 U	0.2 U	0.19 U	0.2 U	0.18 U	0.2 U	0.17 U	0.2 U	0.17 U	0.19 U
Carbazole	mg/kg		0.08 U	0.082 U	0.079 U	0.074 U	0.075 U	0.075 U	0.081 U	0.075 U	0.081 U	0.073 U	0.079 U	0.068 U	0.079 U	0.067 U	0.077 U
Chrysene	mg/kg	2,100	0.013	0.019	0.02	0.019	0.019	0.021	0.016	0.0053 J	0.011	0.0038 J	0.031	0.078	0.055	0.022	0.045
Dibenz[a,h]anthracene	mg/kg	2.1	0.0061 J	0.0084	0.0069 J	0.0035 J	0.0034 J	0.0075 U	0.0054 J	0.0015 J	0.0024 J	0.0073 U	0.0089	0.015	0.0086	0.0049 J	0.0063 J
Diethylphthalate	mg/kg	660,000	0.08 U	0.082 U	0.079 U	0.074 U	0.075 U	0.075 U	0.081 U	0.075 U	0.081 U	0.073 U	0.079 U	0.068 U	0.079 U	0.067 U	0.077 U
Di-n-butylphthalate	mg/kg	82,000	0.08 U	0.082 U	0.079 U	0.074 U	0.075 U	0.075 U	0.081 U	0.075 U	0.081 U	0.073 U	0.079 U	0.068 U	0.079 U	0.067 U	0.077 U
Di-n-octylphthalate	mg/kg	8,200	0.08 U	0.082 U	0.079 U	0.074 U	0.075 U	0.075 U	0.081 U	0.075 U	0.081 U	0.073 U	0.079 U	0.068 U	0.079 U	0.067 U	0.077 U
Fluoranthene	mg/kg	30,000	0.0084	0.0094	0.012	0.027	0.032	0.01	0.0055 J	0.0041 J	0.0051 J	0.0046 J	0.013	0.12	0.13	0.032	0.1
Fluorene	mg/kg	30,000	0.008 U	0.0081 U	0.0079 U	0.00085 J	0.0011 J	0.0075 U	0.0081 U	0.0075 U	0.0081 U	0.0073 U	0.008 U	0.003 J	0.0045 J	0.0014 J	0.014
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.018	0.021	0.018	0.01	0.01	0.0018 J	0.014	0.0043 J	0.0064 J	0.0036 J	0.025	0.043	0.029	0.017	0.019
Naphthalene	mg/kg	17	0.008 U	0.0081 U	0.0079 U	0.0075 J	0.0069 J	0.0075 UJ	0.0081 UJ	0.0075 U	0.0081 U	0.0073 UJ	0.008 UJ	0.083 J	0.013 J	0.005 J	0.1 J
N-Nitrosodiphenylamine	mg/kg	470	0.08 U	0.082 U	0.079 U	0.074 U	0.075 U	0.075 U	0.081 U	0.075 U	0.081 U	0.073 U	0.079 U	0.068 U	0.079 U	0.067 U	0.077 U
Phenanthrene	mg/kg		0.0038 J	0.0057 J	0.0054 J	0.014	0.014	0.0024 J	0.0034 J	0.0023 J	0.0035 J	0.0028 J	0.0065 J	0.11	0.057	0.018	0.06
Phenol	mg/kg	250,000	0.08 U	0.082 U	0.079 U	0.074 U	0.075 U	0.075 U	0.081 U	0.075 U	0.081 U	0.073 UJ	0.079 U	0.068 U	0.079 U	0.067 U	0.077 U
Pyrene	mg/kg	23,000	0.007 J	0.0078 J	0.0097	0.023	0.027	0.0093	0.0047 J	0.0034 J	0.0041 J	0.0037 J	0.011	0.087	0.095	0.028	0.085
PCBs																	
Aroclor 1254	mg/kg	0.97	N/A	0.02 U	N/A	0.019 U	N/A	0.019 U	N/A	0.019 U	N/A	0.018 U	N/A	0.017 U	N/A	0.017 U	N/A
Aroclor 1260	mg/kg	0.99	N/A	0.02 U	N/A	0.019 U	N/A	0.019 UJ	N/A	0.019 U	N/A	0.018 UJ	N/A	0.017 U	N/A	0.017 U	N/A
Aroclor 1262	mg/kg		N/A	0.02 U	N/A	0.019 U	N/A	0.019 U	N/A	0.019 U	N/A	0.018 U	N/A	0.017 U	N/A	0.017 U	N/A
PCBs (total)	mg/kg	0.97	N/A	0.18 U	N/A	0.17 U	N/A	0.17 U	N/A	0.17 U	N/A	0.16 U	N/A	0.15 U	N/A	0.16 U	N/A
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	31.9	38.6	52.5	16.6	18.7	14.6 J	51 J	16.6	62.9	10.7 J	26.9 J	352 J	10.9 J	12.5 J	99.6 J
Gasoline Range Organics	mg/kg	6,200	7.4 U	8.3 U	7.2 U	8.8 U	9.6 U	7.3 U	7.2 UJ	6.7 U	8.1 U	5 U	7.2 U	2.6 B	8.9 U	5 B	10.5 U
Oil and Grease	mg/kg	6,200	187	186 J	228 J	89.2 J	142	165 J	337	109 J	272	134 J-	181 J-	688	1,140	701	515

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

[^] PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 6 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Organics Detected in Soil

Parameter	Units	PAL	A5-024-SB-1*	A5-024-SB-4*	A9-001-SB-1	A9-001-SB-6	A9-002-SB-1	A9-002-SB-5	A9-003-SB-1	A9-003-SB-5	A9-004-SB-1	A9-004-SB-7	A9-005-SB-1	A9-005-SB-9	A9-005-SB-10	A9-006-SB-1	A9-006-SB-4
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	N/A	N/A	0.0048 U	0.0047 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0048 U	0.0047 U	0.0048 U	0.0043 U
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	0.0096 U	0.0093 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0096 U	0.0094 U	0.0096 U	0.0087 U
Acetone	mg/kg	670,000	N/A	N/A	0.0096 U	0.046	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0096 U	0.0094 U	0.0096 UJ	0.069 J
Carbon disulfide	mg/kg	3,500	N/A	N/A	0.0048 U	0.0047 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0048 U	0.0047 U	0.0048 UJ	0.0043 UJ
Cyclohexane	mg/kg	27,000	N/A	N/A	0.0096 U	0.0093 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0096 U	0.0094 U	0.0096 U	0.0087 U
Ethylbenzene	mg/kg	25	N/A	N/A	0.0048 U	0.0047 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0048 U	0.0047 U	0.0048 U	0.0043 U
Methyl Acetate	mg/kg	1,200,000	N/A	N/A	0.048 UJ	0.0013 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.048 U	0.047 U	0.048 UJ	0.043 UJ
Styrene	mg/kg	35,000	N/A	N/A	0.0048 U	0.0047 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0048 U	0.0047 U	0.0048 U	0.0043 U
Tetrachloroethene	mg/kg	100	N/A	N/A	0.0048 U	0.0047 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0048 U	0.0047 U	0.0048 U	0.0043 U
Xylenes	mg/kg	2,800	N/A	N/A	0.014 U	0.014 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.014 U	0.014 U	0.014 U	0.013 U
Semi-Volatile Organic Compounds[^]																	
1,1-Biphenyl	mg/kg	200	0.073 U	0.079 U	0.078	0.069 U	0.07 U	0.073 U	0.078 U	0.071 U	0.072 U	0.076 U	0.071 U	0.084 U	0.083 U	0.017 J	0.068 U
2,4-Dinitrophenol	mg/kg	1,600	0.18 U	0.2 U	0.18 U	0.17 U	0.18 UJ	0.18 UJ	0.2 U	0.18 U	0.18 UJ	0.19 UJ	0.18 UJ	0.21 UJ	0.21 UJ	0.18 UJ	0.17 UJ
2-Chloronaphthalene	mg/kg	60,000	0.073 U	0.079 U	0.072 U	0.069 U	0.07 U	0.073 U	0.078 U	0.071 U	0.072 U	0.076 U	0.071 U	0.084 U	0.083 U	0.07 U	0.068 U
2-Methylnaphthalene	mg/kg	3,000	0.013	0.008 U	0.018	0.0068 U	0.0094	0.0094	0.0048 J	0.0073 U	0.00098 J	0.00092 J	0.0067 J	0.0085 U	0.0084 U	0.046 J	0.0017 J
2-Methylphenol	mg/kg	41,000	0.073 U	0.079 U	0.072 U	0.069 U	0.07 U	0.073 U	0.078 U	0.071 U	0.072 U	0.076 U	0.028 J	0.084 U	0.083 U	0.07 U	0.068 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.16 U	0.14 U	0.14 U	0.14 U	0.15 U	0.16 U	0.14 U	0.14 U	0.15 U	0.14 U	0.17 U	0.16 U	0.14 U	0.14 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.073 U	0.079 U	0.072 U	0.069 U	0.07 U	0.073 U	0.078 U	0.071 U	0.072 U	0.076 U	0.071 R	0.084 U	0.083 U	0.07 U	0.068 U
Acenaphthene	mg/kg	45,000	0.011	0.008 U	0.026 J	0.0068 U	0.0047 J	0.0018 J	0.0071 J	0.0073 U	0.0072 U	0.0077 U	0.00068 J	0.0085 U	0.0084 U	0.13	0.0015 J
Acenaphthylene	mg/kg	45,000	0.014	0.008 U	0.0085	0.0068 U	0.0023 J	0.0033 J	0.0033 J	0.0073 U	0.0072 U	0.0077 U	0.002 J	0.0085 U	0.0084 U	0.018 J	0.0014 J
Acetophenone	mg/kg	120,000	0.073 U	0.079 U	0.072 U	0.069 U	0.07 U	0.073 U	0.078 U	0.071 U	0.072 U	0.076 U	0.071 U	0.084 U	0.083 U	0.07 U	0.068 U
Anthracene	mg/kg	230,000	0.036	0.00053 J	0.19 J	0.0016 J	0.006 J	0.0073 J	0.039	0.0073 U	0.00062 J	0.0077 U	0.0029 J	0.0085 U	0.0084 U	0.48	0.011
Benz[a]anthracene	mg/kg	21	0.12	0.008 U	0.6 J	0.0044 J	0.029	0.038	0.13	0.0073 U	0.0031 J	0.0077 U	0.014	0.0085 U	0.0084 U	0.92	0.044
Benzaldehyde	mg/kg	120,000	0.073 U	0.079 U	0.072 U	0.069 U	0.07 U	0.073 U	0.078 U	0.071 U	0.072 R	0.076 R	0.046 J	0.084 U	0.083 U	0.07 U	0.068 U
Benzo[a]pyrene	mg/kg	2.1	0.13	0.008 U	0.59 J	0.0032 J	0.032	0.045	0.12	0.0073 U	0.0027 J	0.0077 U	0.016	0.0085 U	0.0084 U	0.85	0.045
Benzo[b]fluoranthene	mg/kg	21	0.22	0.008 U	0.96	0.0053 J	0.06	0.081	0.18	0.0073 U	0.0055 J	0.0077 U	0.04	0.0085 U	0.0084 U	1.3	0.075
Benzo[g,h,i]perylene	mg/kg		0.091	0.008 U	0.31 J	0.0016 J	0.021	0.028	0.068	0.0073 U	0.0017 J	0.0077 U	0.012	0.0085 U	0.0084 U	0.46	0.026
Benzo[k]fluoranthene	mg/kg	210	0.21	0.008 U	0.86	0.0048 J	0.053	0.072	0.18	0.0073 U	0.0049 J	0.0077 U	0.035	0.0085 U	0.0084 U	1.2	0.066
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.073 U	0.079 U	0.019 J	0.069 U	0.07 U	0.073 U	0.078 U	0.071 U	0.072 U	0.076 U	0.071 U	0.084 U	0.083 U	0.024 B	0.068 U
Caprolactam	mg/kg	400,000	0.18 U	0.027 J	0.18 U	0.17 U	0.18 U	0.18 U	0.2 U	0.18 U	0.18 U	0.19 U	0.18 R	0.21 UJ	0.21 UJ	0.18 U	0.17 U
Carbazole	mg/kg		0.073 U	0.079 U	0.9 J	0.069 U	0.07 U	0.073 U	0.072 J	0.071 U	0.072 U	0.076 U	0.071 U	0.084 U	0.083 U	0.2	0.068 U
Chrysene	mg/kg	2,100	0.11	0.008 U	0.54 J	0.0032 J	0.038	0.046	0.11	0.0073 U	0.0032 J	0.0077 U	0.018	0.0085 U	0.0084 U	0.73	0.038
Dibenz[a,h]anthracene	mg/kg	2.1	0.027	0.008 U	0.088	0.0068 U	0.0059 J	0.0077	0.019	0.0073 U	0.0072 U	0.0077 U	0.0039 J	0.0085 U	0.0084 U	0.12	0.0067 J
Diethylphthalate	mg/kg	660,000	0.073 U	0.079 U	0.072 U	0.069 U	0.07 U	0.073 U	0.078 U	0.071 U	0.072 U	0.076 U	0.071 U	0.084 U	0.083 U	0.07 U	0.068 U
Di-n-butylphthalate	mg/kg	82,000	0.073 U	0.079 U	0.072 U	0.069 U	0.07 U	0.073 U	0.078 U	0.071 U	0.072 U	0.076 U	0.071 U	0.084 U	0.083 U	0.07 U	0.068 U
Di-n-octylphthalate	mg/kg	8,200	0.073 U	0.079 U	0.072 UJ	0.069 UJ	0.07 UJ	0.073 UJ	0.078 U	0.071 U	0.072 UJ	0.076 UJ	0.071 UJ	0.084 UJ	0.083 UJ	0.07 UJ	0.068 UJ
Fluoranthene	mg/kg	30,000	0.22	0.0021 J	1.2	0.0082	0.058	0.076	0.25	0.0073 U	0.0051 J	0.0077 U	0.029	0.0085 U	0.0084 U	0.00063 J	2.3
Fluorene	mg/kg	30,000	0.014	0.008 U	0.028 J	0.0068 U	0.0032 J	0.0024 J	0.0077 J	0.0073 U	0.0072 U	0.0077 U	0.00097 J	0.0085 U	0.0084 U	0.13	0.002 J
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.08	0.008 U	0.29 J	0.0014 J	0.016	0.023	0.063	0.0073 U	0.0016 J	0.0077 U	0.0096	0.0085 U	0.0084 U	0.39	0.022
Naphthalene	mg/kg	17	0.025	0.008 U	0.038 J	0.0068 UJ	0.0056 J	0.0069 J	0.016 J	0.0073 UJ	0.0072 UJ	0.0077 UJ	0.0056 J	0.0085 U	0.0084 U	0.069 J	0.007 U
N-Nitrosodiphenylamine	mg/kg	470	0.073 U	0.079 U	0.019 J	0.069 U	0.07 U	0.073 U	0.078 U	0.071 U	0.072 U	0.076 U	0.071 U	0.084 U	0.083 U	0.07 U	0.068 U
Phenanthrene	mg/kg		0.15	0.0022 J	0.71	0.0057 J	0.044	0.045	0.14	0.0073 U	0.0038 J	0.0077 U	0.016	0.0085 U	0.00065 J	1.8	0.044
Phenol	mg/kg	250,000	0.073 U	0.079 U	0.072 U	0.069 U	0.07 U	0.073 U	0.078 U	0.071 U	0.072 U	0.076 U	0.071 U	0.084 U	0.083 U	0.07 U	0.068 U
Pyrene	mg/kg	23,000	0.17	0.0016 J	1.1	0.0066 J	0.054	0.068	0.22	0.0073 U	0.0041 J	0.0077 U	0.024	0.0085 U	0.0084 U	1.9	0.085
PCBs																	
Aroclor 1254	mg/kg	0.97	0.019 U	N/A	0.018 U	N/A	0.018 U	N/A	0.02 U	N/A	0.018 U	N/A	0.018 U	N/A	N/A	0.017 U	N/A
Aroclor 1260	mg/kg	0.99	0.019 U	N/A	0.018 UJ	N/A	0.018 UJ	N/A	0.02 UJ	N/A	0.018 UJ	N/A	0.016 J	N/A	N/A	0.017 UJ	N/A
Aroclor 1262	mg/kg		0.019 U	N/A	0.018 U	N/A	0.018 U	N/A	0.02 U	N/A	0.018 U	N/A	0.018 U	N/A	N/A	0.017 U	N/A
PCBs (total)	mg/kg	0.97	0.17 U	N/A	0.16 U	N/A	0.16 U	N/A	0.18 U	N/A	0.16 U	N/A	0.16 U	N/A	N/A	0.16 U	N/A
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	29.6	2.2 J	16.6	3 B	12.6 J	4.4 B	28.6 J	2.9 J	4.2 B	3.5 B	8.7 J	6.5 B	5.3 B	26 J	4.5 B
Gasoline Range Organics	mg/kg	6,200	11 U	6 U	13 U	10.1 UJ	12.2 UJ	10.5 UJ	11.4 UJ	9.6 U	11.1 U	9.3 U	4.8 B	9.2 UJ	2.5 B	7.8 J	9.8 UJ
Oil and Grease	mg/kg	6,200	536	1,710	127	100 J	128	131	71.9 J	108 U	97.8 J-	203 J-	270	138	293	189	144

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

^ PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

**Table 6 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Organics Detected in Soil**

Parameter	Units	PAL	A9-006-SB-10	A9-007-SB-1	A9-007-SB-5	A9-008-SB-1	A9-008-SB-5	A9-009-SB-1	A9-009-SB-9	A9-009-SB-10	A9-010-SB-1	A9-010-SB-9	A9-011-SB-1	A9-011-SB-4	A9-012-SB-1	A9-012-SB-5	A9-013-SB-1
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	0.0042 U	N/A	N/A	N/A	N/A	0.0048 U	0.0041 U	0.0043 U	0.0062 U	N/A	0.0045 U	0.0056 U	N/A	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	0.0084 U	N/A	N/A	N/A	N/A	0.0096 U	0.0082 U	0.0087 U	0.012 U	N/A	0.009 U	0.011 U	N/A	N/A	N/A
Acetone	mg/kg	670,000	0.029 J	N/A	N/A	N/A	N/A	0.014 J	0.0082 UJ	0.027 J	0.012 U	N/A	0.009 U	0.011 U	N/A	N/A	N/A
Carbon disulfide	mg/kg	3,500	0.0042 UJ	N/A	N/A	N/A	N/A	0.0048 U	0.0041 U	0.0043 U	0.0052 J	N/A	0.0045 U	0.0056 U	N/A	N/A	N/A
Cyclohexane	mg/kg	27,000	0.0084 U	N/A	N/A	N/A	N/A	0.0096 U	0.0082 U	0.0087 U	0.012 U	N/A	0.009 U	0.011 U	N/A	N/A	N/A
Ethylbenzene	mg/kg	25	0.0042 U	N/A	N/A	N/A	N/A	0.0048 U	0.0041 U	0.0043 U	0.0072	N/A	0.0045 U	0.0056 U	N/A	N/A	N/A
Methyl Acetate	mg/kg	1,200,000	0.042 UJ	N/A	N/A	N/A	N/A	0.048 UJ	0.041 UJ	0.043 UJ	0.062 UJ	N/A	0.045 U	0.056 U	N/A	N/A	N/A
Styrene	mg/kg	35,000	0.0042 U	N/A	N/A	N/A	N/A	0.0014 J	0.0041 U	0.0043 U	0.0062 U	N/A	0.0045 U	0.0056 U	N/A	N/A	N/A
Tetrachloroethene	mg/kg	100	0.0042 U	N/A	N/A	N/A	N/A	0.0048 U	0.0041 U	0.0043 U	0.0062 U	N/A	0.0045 U	0.0056 U	N/A	N/A	N/A
Xylenes	mg/kg	2,800	0.013 U	N/A	N/A	N/A	N/A	0.014 U	0.012 U	0.013 U	0.019 U	N/A	0.014 U	0.017 U	N/A	N/A	N/A
Semi-Volatile Organic Compounds[^]																	
1,1-Biphenyl	mg/kg	200	0.081 U	0.073 U	0.068 U	0.077 U	0.076 U	0.075 U	0.077 U	0.08 U	0.072 U	0.08 U	0.073 U	0.07 U	0.08 U	0.082 U	0.073 U
2,4-Dinitrophenol	mg/kg	1,600	0.2 UJ	0.18 UJ	0.17 UJ	0.19 U	0.19 U	0.19 UJ	0.19 UJ	0.2 UJ	0.18 U	0.2 UJ	0.18 UJ	0.18 UJ	0.2 U	0.21 U	0.18 U
2-Chloronaphthalene	mg/kg	60,000	0.081 U	0.073 U	0.068 U	0.077 U	0.076 U	0.075 U	0.077 U	0.08 U	0.072 U	0.08 U	0.073 U	0.07 U	0.08 U	0.082 U	0.073 U
2-Methylnaphthalene	mg/kg	3,000	0.0082 U	0.04 J	0.0069 U	0.019 J	0.0076 U	0.0075 U	0.0078 U	0.0082 U	0.0071 J	0.00085 J	0.00085 J	0.0071 U	0.023	0.0083 U	0.0089
2-Methylphenol	mg/kg	41,000	0.081 U	0.073 U	0.068 U	0.077 U	0.076 U	0.075 U	0.077 U	0.08 U	0.072 U	0.08 U	0.073 U	0.07 U	0.08 U	0.082 U	0.073 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.16 U	0.15 U	0.14 U	0.15 U	0.15 U	0.15 U	0.15 U	0.16 U	0.14 U	0.16 U	0.15 U	0.14 U	0.16 U	0.16 U	0.15 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.081 U	0.073 U	0.068 U	0.017 J	0.076 U	0.075 U	0.077 U	0.08 U	0.072 U	0.08 U	0.073 U	0.07 U	0.08 U	0.082 U	0.073 U
Acenaphthene	mg/kg	45,000	0.0082 U	0.25	0.0069 U	0.11	0.0076 U	0.0075 U	0.0078 U	0.0082 U	0.0026 J	0.008 U	0.00085 J	0.0071 U	0.012	0.0083 U	0.0011 J
Acenaphthylene	mg/kg	45,000	0.0082 U	0.024 J	0.0069 U	0.024 J	0.0076 U	0.0075 U	0.0078 U	0.0082 U	0.0028 J	0.008 U	0.0012 J	0.0071 U	0.012	0.0083 U	0.01
Acetophenone	mg/kg	120,000	0.081 U	0.073 U	0.068 U	0.077 U	0.076 U	0.075 U	0.077 U	0.08 U	0.072 U	0.08 U	0.073 U	0.07 U	0.08 U	0.082 U	0.073 U
Anthracene	mg/kg	230,000	0.0082 U	0.91	0.0069 U	0.59	0.0076 U	0.0075 U	0.0078 U	0.0082 U	0.0062 J	0.008 U	0.011	0.0026 J	0.053	0.0083 U	0.0094
Benz[a]anthracene	mg/kg	21	0.0032 J	2	0.0018 J	1.7	0.0076 U	0.0075 U	0.0078 U	0.0082 U	0.059	0.0011 J	0.041	0.012	0.2	0.0012 J	0.022
Benzaldehyde	mg/kg	120,000	0.081 U	0.073 U	0.068 U	0.077 U	0.076 U	0.075 R	0.077 R	0.08 R	0.072 U	0.08 U	0.062 J	0.07 U	0.08 J	0.082 U	0.073 U
Benzo[a]pyrene	mg/kg	2.1	0.0023 J	1.8	0.0012 J	1.5	0.0076 U	0.0075 U	0.0078 U	0.0082 U	0.056	0.008 U	0.041	0.012	0.21	0.0083 U	0.036
Benzo[b]fluoranthene	mg/kg	21	0.0038 J	2.9	0.002 J	2.3	0.0076 U	0.0075 U	0.0078 U	0.0082 U	0.12	0.008 U	0.065	0.019	0.37	0.0083 U	0.1
Benzo[g,h,i]perylene	mg/kg		0.0013 J	0.97	0.00072 J	0.86	0.0076 U	0.0075 U	0.0078 U	0.0082 U	0.036	0.008 U	0.027	0.0068 J	0.12	0.0083 U	0.036
Benzo[k]fluoranthene	mg/kg	210	0.0034 J	2.6	0.0018 J	2.2	0.0076 U	0.0075 U	0.0078 U	0.0082 U	0.11	0.008 U	0.058	0.017	0.33	0.0083 U	0.092
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.081 U	0.073 U	0.068 U	0.077 U	0.076 U	0.075 U	0.077 U	0.08 U	0.072 U	0.08 U	0.073 U	0.07 U	0.08 U	0.082 U	0.073 U
Caprolactam	mg/kg	400,000	0.2 U	0.18 U	0.17 U	0.19 U	0.19 U	0.19 U	0.19 U	0.2 U	0.18 U	0.2 UJ	0.18 UJ	0.18 UJ	0.2 U	0.21 U	0.18 U
Carbazole	mg/kg		0.081 U	0.026 J	0.068 U	0.077 U	0.076 U	0.075 U	0.077 U	0.08 U	0.072 U	0.08 U	0.073 U	0.07 U	0.022 J	0.082 U	0.073 U
Chrysene	mg/kg	2,100	0.0017 J	1.7	0.00081 J	1.4	0.0076 U	0.0075 U	0.0078 U	0.0082 U	0.061	0.008 U	0.033	0.0098	0.2	0.0083 U	0.035
Dibenz[a,h]anthracene	mg/kg	2.1	0.0082 U	0.27	0.0069 U	0.25	0.0076 U	0.0075 U	0.0078 U	0.0082 U	0.011	0.008 U	0.0063 J	0.0017 J	0.034	0.0083 U	0.0098
Diethylphthalate	mg/kg	660,000	0.081 U	0.073 U	0.068 U	0.077 U	0.076 U	0.075 U	0.077 U	0.08 U	0.072 U	0.08 U	0.073 U	0.07 U	0.08 U	0.082 U	0.073 U
Di-n-butylphthalate	mg/kg	82,000	0.081 U	0.073 U	0.068 U	0.077 U	0.076 U	0.075 U	0.077 U	0.08 U	0.072 U	0.08 U	0.073 U	0.07 U	0.08 U	0.082 U	0.073 U
Di-n-octylphthalate	mg/kg	8,200	0.081 UJ	0.073 UJ	0.068 UJ	0.077 U	0.076 U	0.075 UJ	0.077 UJ	0.08 UJ	0.072 UJ	0.08 UJ	0.073 UJ	0.07 UJ	0.08 UJ	0.082 UJ	0.073 UJ
Fluoranthene	mg/kg	30,000	0.0046 J	4.8	0.0016 J	3.5	0.0006 J	0.00096 J	0.0078 U	0.00066 J	0.085	0.00093 J	0.083	0.023	0.4	0.00081 J	0.031
Fluorene	mg/kg	30,000	0.0082 U	0.17	0.0069 U	0.095	0.0076 U	0.0075 U	0.0078 U	0.0082 U	0.0024 J	0.008 U	0.0014 J	0.0071 U	0.011	0.0083 U	0.001 J
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.0082 U	0.83	0.0069 U	0.76	0.0076 U	0.0075 U	0.0078 U	0.0082 U	0.034	0.008 U	0.02	0.0059 J	0.11	0.0083 U	0.03
Naphthalene	mg/kg	17	0.0082 U	0.069 J	0.0069 U	0.078 UJ	0.0076 UJ	0.0075 UJ	0.0078 UJ	0.0082 UJ	0.015 J	0.008 UJ	0.0072 U	0.0071 U	0.029 J	0.0083 UJ	0.0078 J
N-Nitrosodiphenylamine	mg/kg	470	0.081 U	0.073 U	0.068 U	0.077 U	0.076 U	0.075 U	0.077 U	0.08 U	0.072 U	0.08 U	0.073 U	0.07 U	0.08 U	0.082 U	0.073 U
Phenanthrene	mg/kg		0.002 J	3.1	0.00071 J	2.1	0.0076 U	0.00068 J	0.0078 U	0.00097 J	0.023	0.0009 J	0.035	0.0095	0.23	0.0083 U	0.014
Phenol	mg/kg	250,000	0.081 U	0.073 U	0.068 U	0.077 U	0.076 U	0.075 U	0.077 U	0.08 U	0.072 U	0.08 U	0.073 U	0.07 U	0.08 U	0.082 U	0.073 U
Pyrene	mg/kg	23,000	0.0041 J	4	0.0015 J	3.1	0.0076 U	0.00077 J	0.0078 U	0.0082 U	0.071	0.00074 J	0.072	0.019	0.36	0.0083 U	0.035
PCBs																	
Aroclor 1254	mg/kg	0.97	N/A	0.018 U	N/A	0.019 U	N/A	0.019 U	N/A	N/A	0.018 U	N/A	0.018 U	N/A	0.02 U	N/A	0.019 U
Aroclor 1260	mg/kg	0.99	N/A	0.018 UJ	N/A	0.019 UJ	N/A	0.019 UJ	N/A	N/A	0.018 UJ	N/A	0.018 U	N/A	0.02 UJ	N/A	0.019 UJ
Aroclor 1262	mg/kg		N/A	0.018 U	N/A	0.019 U	N/A	0.019 U	N/A	N/A	0.018 U	N/A	0.018 U	N/A	0.02 U	N/A	0.019 U
PCBs (total)	mg/kg	0.97	N/A	0.17 U	N/A	0.17 U	N/A	0.17 U	N/A	N/A	0.16 U	N/A	0.16 U	N/A	0.18 U	N/A	0.17 U
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	4.8 B	15.1 J	2.3 B	37.3 J	2.4 J	5.5 B	4.8 B	6.9 B	11.7	5.5 B	8.3 J	3.7 B	49.2	9.3	13.7
Gasoline Range Organics	mg/kg	6,200	8.8 UJ	12.3 UJ	10.8 UJ	2.2 B	11.5 U	2.1 J	9 U	8.9 U	13.8 UJ	9.1 UJ	2.9 B	9 U	12 UJ	8.9 UJ	12.5 UJ
Oil and Grease	mg/kg	6,200	190	167	134	141	85.8 J	113 J-	93.4 J-	293 J-	171	297	121	95.8 J	217	253	218

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

[^] PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

**Table 6 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Organics Detected in Soil**

Parameter	Units	PAL	A9-013-SB-9	A9-014-SB-1	A9-014-SB-9	A9-015-SB-1*	A9-015-SB-5*	A9-016-SB-1	A9-016-SB-7	A9-017-SB-1*	A9-017-SB-5*	A9-018-SB-1*	A9-018-SB-5*	A9-019-SB-1	A9-019-SB-5	A9-020-SB-1*	A9-020-SB-9*
Volatile Organic Compounds																	
1,1,1-Trichloroethane	mg/kg	36,000	0.0048 U	N/A	0.0051 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0043 U	N/A	0.0058 U	N/A
2-Butanone (MEK)	mg/kg	190,000	0.0095 U	N/A	0.01 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0085 U	N/A	0.012 U	N/A
Acetone	mg/kg	670,000	0.089	N/A	0.078 J	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0085 U	N/A	0.0058 J	N/A
Carbon disulfide	mg/kg	3,500	0.0048 U	N/A	0.0051 UJ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0043 U	N/A	0.0058 U	N/A
Cyclohexane	mg/kg	27,000	0.0095 U	N/A	0.01 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0085 U	N/A	0.012 U	N/A
Ethylbenzene	mg/kg	25	0.0048 U	N/A	0.0051 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0043 U	N/A	0.0058 U	N/A
Methyl Acetate	mg/kg	1,200,000	0.048 UJ	N/A	0.051 UJ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.043 U	N/A	0.058 U	N/A
Styrene	mg/kg	35,000	0.0048 U	N/A	0.0051 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0043 U	N/A	0.0058 U	N/A
Tetrachloroethene	mg/kg	100	0.0048 U	N/A	0.0051 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0043 U	N/A	0.0058 U	N/A
Xylenes	mg/kg	2,800	0.014 U	N/A	0.015 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.013 U	N/A	0.018 U	N/A
Semi-Volatile Organic Compounds[^]																	
1,1-Biphenyl	mg/kg	200	0.084 U	0.074 U	0.08 U	1.7 U	0.075 U	0.073 U	0.074 U	0.077 U	0.074 U	0.084 U	0.076 U	0.071 U	0.075 U	0.084 U	0.08 U
2,4-Dinitrophenol	mg/kg	1,600	0.21 U	0.19 UJ	0.2 UJ	4.2 U	0.19 U	0.18 UJ	0.19 UJ	0.19 U	0.19 U	0.21 U	0.19 U	0.18 UJ	0.19 UJ	0.21 U	0.2 U
2-Chloronaphthalene	mg/kg	60,000	0.084 U	0.074 U	0.08 U	1.7 U	0.075 U	0.073 U	0.074 U	0.077 U	0.074 U	0.084 U	0.076 U	0.071 U	0.075 U	0.084 U	0.08 U
2-Methylnaphthalene	mg/kg	3,000	0.0038 J	0.0069 J	0.0081 U	0.18	0.002 J	0.0092	0.0074 U	0.0064 J	0.0073 U	0.01 J	0.0076 U	0.00082 J	0.0077 U	0.024 J	0.0082 U
2-Methylphenol	mg/kg	41,000	0.084 U	0.074 U	0.08 U	1.7 U	0.075 U	0.073 U	0.074 U	0.077 U	0.074 U	0.084 U	0.076 U	0.071 U	0.075 U	0.084 U	0.08 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.17 U	0.15 U	0.16 U	3.3 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.17 U	0.15 U	0.14 U	0.15 U	0.17 U	0.16 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.084 U	0.074 U	0.08 U	1.7 U	0.075 U	0.073 U	0.074 U	0.077 U	0.074 U	0.084 U	0.076 U	0.071 U	0.075 U	0.084 U	0.08 U
Acenaphthene	mg/kg	45,000	0.036	0.0016 J	0.0081 U	0.021 J	0.03	0.022	0.0074 U	0.0041 J	0.0073 U	0.018 J	0.0076 U	0.0018 J	0.0077 U	0.091	0.0082 U
Acenaphthylene	mg/kg	45,000	0.0082 U	0.0027 J	0.0081 U	0.029 J	0.0075 U	0.022	0.0074 U	0.0027 J	0.0073 U	0.084 U	0.0076 U	0.0071 U	0.0077 U	0.083 U	0.0082 U
Acetophenone	mg/kg	120,000	0.084 U	0.074 U	0.08 U	1.7 U	0.075 U	0.073 U	0.074 U	0.077 U	0.074 U	0.084 U	0.076 U	0.071 U	0.075 U	0.084 U	0.08 U
Anthracene	mg/kg	230,000	0.0012 J	0.015	0.0081 U	0.036 J	0.06	0.089	0.0074 U	0.031	0.0073 U	0.16	0.0076 U	0.0043 J	0.00098 J	0.17	0.0082 U
Benz[a]anthracene	mg/kg	21	0.0016 J	0.057	0.0081 U	0.24	0.0016 J	0.23	0.0074 U	0.11	0.0073 U	0.45	0.0076 U	0.025	0.0079	0.96	0.0082 U
Benzaldehyde	mg/kg	120,000	0.084 U	0.075	0.08 U	1.7 U	0.075 U	0.073 U	0.074 U	0.036 J	0.074 U	0.084 U	0.076 U	0.071 U	0.075 U	0.025 J	0.08 U
Benzo[a]pyrene	mg/kg	2.1	0.0082 U	0.064	0.0081 U	0.31	0.34	0.37	0.0074 U	0.11	0.0073 U	0.42	0.0076 U	0.039	0.011	1.9	0.0082 U
Benzo[b]fluoranthene	mg/kg	21	0.0082 U	0.11	0.0081 U	0.59	0.54	0.58	0.0074 U	0.19	0.0073 U	0.71	0.0076 U	0.055	0.015	1.9	0.0082 U
Benzo[g,h,i]perylene	mg/kg		0.0082 U	0.038	0.0081 U	0.23	0.24	0.19	0.0074 U	0.067	0.0073 U	0.25	0.0076 U	0.026	0.0074 J	1.8	0.0082 U
Benzo[k]fluoranthene	mg/kg	210	0.0082 U	0.096	0.0081 U	0.53	0.49	0.52	0.0074 U	0.17	0.0073 U	0.64	0.0076 U	0.049	0.014	1.7	0.0082 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.084 U	0.074 U	0.08 U	1.7 U	0.075 U	0.073 U	0.074 U	0.077 U	0.074 U	0.084 U	0.076 U	0.071 U	0.075 U	0.084 U	0.08 U
Caprolactam	mg/kg	400,000	0.21 U	0.19 U	0.2 U	4.2 U	0.19 U	0.18 UJ	0.19 UJ	0.19 U	0.19 U	0.21 U	0.19 U	0.18 UJ	0.19 UJ	0.21 U	0.2 U
Carbazole	mg/kg		0.084 U	0.074 U	0.08 U	1.7 U	0.075 U	0.022 J	0.074 U	0.077 U	0.074 U	0.084 U	0.076 U	0.071 U	0.075 U	0.18	0.08 U
Chrysene	mg/kg	2,100	0.00092 J	0.05	0.0081 U	0.4	0.24	0.32	0.0074 U	0.1	0.0073 U	0.45	0.0076 U	0.024	0.0067 J	1.3	0.0082 U
Dibenz[a,h]anthracene	mg/kg	2.1	0.0082 U	0.011	0.0081 U	0.066 J	0.057	0.058	0.0074 U	0.018	0.0073 U	0.064 J	0.0076 U	0.0063 J	0.0018 J	0.36	0.0082 U
Diethylphthalate	mg/kg	660,000	0.084 U	0.074 U	0.08 U	1.7 U	0.075 U	0.073 U	0.074 U	0.077 U	0.074 U	0.084 U	0.076 U	0.071 U	0.075 U	0.084 U	0.08 U
Di-n-butylphthalate	mg/kg	82,000	0.084 U	0.074 U	0.08 U	1.7 U	0.075 U	0.073 U	0.074 U	0.077 U	0.074 U	0.084 U	0.076 U	0.071 U	0.075 U	0.084 U	0.08 U
Di-n-octylphthalate	mg/kg	8,200	0.084 UJ	0.074 UJ	0.08 UJ	1.7 U	0.075 U	0.073 UJ	0.074 UJ	0.077 U	0.074 U	0.084 U	0.076 U	0.071 UJ	0.075 UJ	0.084 U	0.08 U
Fluoranthene	mg/kg	30,000	0.0028 J	0.11	0.0081 U	0.41	0.39	0.68	0.0015 J	0.22	0.0073 U	1	0.0076 U	0.031	0.0078	1.1	0.0082 U
Fluorene	mg/kg	30,000	0.022	0.0025 J	0.0081 U	0.014 J	0.022	0.02	0.0074 U	0.0045 J	0.0073 U	0.017 J	0.0076 U	0.0012 J	0.0077 U	0.046 J	0.0082 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.0082 U	0.032	0.0081 U	0.19	0.2	0.16	0.0074 U	0.06	0.0073 U	0.22	0.0076 U	0.019	0.0052 J	0.72	0.0082 U
Naphthalene	mg/kg	17	0.017 J	0.0084	0.0081 U	0.16	0.0046 J	0.017	0.0074 U	0.015	0.0073 U	0.084 U	0.0076 U	0.0071 U	0.0077 U	0.083 U	0.0082 U
N-Nitrosodiphenylamine	mg/kg	470	0.084 U	0.074 U	0.08 U	1.7 U	0.075 U	0.073 U	0.074 U	0.077 U	0.074 U	0.084 U	0.076 U	0.071 U	0.075 U	0.084 U	0.08 U
Phenanthrene	mg/kg		0.0076 J	0.056	0.0081 U	0.34	0.21	0.32	0.0013 J	0.13	0.0073 U	0.63	0.0076 U	0.014	0.0032 J	0.65	0.0082 U
Phenol	mg/kg	250,000	0.084 U	0.074 U	0.08 U	1.7 U	0.075 U	0.073 U	0.074 U	0.077 U	0.074 U	0.084 U	0.076 U	0.071 U	0.075 U	0.084 U	0.08 U
Pyrene	mg/kg	23,000	0.0024 J	0.091	0.0081 U	0.38	0.34	0.63	0.0013 J	0.19	0.0073 U	0.86	0.0076 U	0.032	0.0083	1.3	0.0082 U
PCBs																	
Aroclor 1254	mg/kg	0.97	N/A	0.019 U	N/A	0.02 U	N/A	0.018 U	N/A	0.019 U	N/A	0.021 U	N/A	0.018 U	N/A	0.021 U	N/A
Aroclor 1260	mg/kg	0.99	N/A	0.019 UJ	N/A	0.15	N/A	0.018 U	N/A	0.019 U	N/A	0.021 U	N/A	0.018 U	N/A	0.021 U	N/A
Aroclor 1262	mg/kg		N/A	0.019 U	N/A	0.02 U	N/A	0.018 U	N/A	0.019 U	N/A	0.021 U	N/A	0.018 U	N/A	0.021 U	N/A
PCBs (total)	mg/kg	0.97	N/A	0.17 U	N/A	0.15 J	N/A	0.17 U	N/A	0.17 U	N/A	0.19 U	N/A	0.16 U	N/A	0.19 U	N/A
TPH/Oil and Grease																	
Diesel Range Organics	mg/kg	6,200	6.6 B	13.8 J	6.2 B	55.5	5.3 B	10.9 J	3 B	15.5	2.9 B	21.4	3.6 B	796 J	3.8 B	29.3	7 B
Gasoline Range Organics	mg/kg	6,200	11.2 UJ	13 U	10.8 UJ	3.1 B	2.2 B	10.9 U	10 U	2.4 B	2.1 B	2.8 B	2.2 B	9.3 UJ	10.2 U	3.3 B	2.8 B
Oil and Grease	mg/kg	6,200	261	156	99.6 J	542	142	162	129	380	147	418	448	145	126	456	265

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

^ PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 6 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Organics Detected in Soil

Parameter	Units	PAL	A9-021-SB-1*	A9-021-SB-8*	A9-022-SB-1	A9-022-SB-5	A9-023-SB-1	A9-023-SB-5	A9-024-SB-1*	A9-024-SB-5*	A9-025-SB-1*	A9-025-SB-5*	A9-026-SB-1*	A9-026-SB-4*	A9-027-SB-1*	A9-027-SB-4*
Volatile Organic Compounds																
1,1,1-Trichloroethane	mg/kg	36,000	0.0061 U	0.0051 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0054 U	N/A	0.0042 U	0.0048 U	0.005 U
2-Butanone (MEK)	mg/kg	190,000	0.012 U	0.01 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.011 U	N/A	0.0084 U	0.0096 U	0.0043 J
Acetone	mg/kg	670,000	0.012 U	0.01 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.011 U	N/A	0.0084 U	0.0096 U	0.028
Carbon disulfide	mg/kg	3,500	0.0061 U	0.0051 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0054 U	N/A	0.0042 U	0.0048 U	0.005 U
Cyclohexane	mg/kg	27,000	0.012 U	0.01 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.011 U	N/A	0.0084 U	0.0096 U	0.01 U
Ethylbenzene	mg/kg	25	0.0061 U	0.0051 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0054 U	N/A	0.0042 U	0.0048 U	0.005 U
Methyl Acetate	mg/kg	1,200,000	0.061 U	0.051 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.054 U	N/A	0.042 U	0.048 U	0.0078 J
Styrene	mg/kg	35,000	0.0061 U	0.0051 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0054 U	N/A	0.0042 U	0.0048 U	0.005 U
Tetrachloroethene	mg/kg	100	0.0061 U	0.0051 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0054 U	N/A	0.0042 U	0.0048 U	0.005 U
Xylenes	mg/kg	2,800	0.018 U	0.015 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.016 U	N/A	0.013 U	0.014 U	0.015 U
Semi-Volatile Organic Compounds[^]																
1,1-Biphenyl	mg/kg	200	0.072 U	0.08 U	0.083 U	0.079 U	0.077 U	0.082 U	0.075 U	0.08 U	0.076 U	0.074 U	0.079 U	0.078 U	0.077 U	0.077 U
2,4-Dinitrophenol	mg/kg	1,600	0.18 U	0.2 U	0.21 UJ	0.2 UJ	0.19 UJ	0.21 UJ	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.2 U	0.19 U	0.19 U
2-Chloronaphthalene	mg/kg	60,000	0.072 U	0.08 U	0.083 U	0.079 U	0.077 U	0.082 U	0.075 U	0.08 U	0.076 U	0.074 U	0.079 U	0.078 U	0.077 U	0.077 U
2-Methylnaphthalene	mg/kg	3,000	0.044	0.0082 U	0.0016 J	0.0079 U	0.0027 J	0.0082 U	0.0036 J	0.0079 U	0.014	0.0076 U	0.001 J	0.0078 U	0.0078 U	0.0078 U
2-Methylphenol	mg/kg	41,000	0.072 U	0.08 U	0.083 U	0.079 U	0.077 U	0.082 U	0.075 U	0.08 U	0.076 U	0.074 U	0.079 U	0.078 U	0.077 U	0.077 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	0.16 U	0.17 U	0.16 U	0.15 U	0.16 U	0.15 U	0.16 U	0.15 U	0.15 U	0.16 U	0.16 U	0.15 U	0.15 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.072 U	0.08 U	0.083 U	0.079 U	0.077 U	0.082 U	0.075 U	0.08 U	0.076 U	0.074 U	0.079 U	0.078 U	0.077 U	0.077 U
Acenaphthene	mg/kg	45,000	0.12	0.0082 U	0.0083 U	0.0079 U	0.0022 J	0.0082 U	0.0075 U	0.0079 U	0.0096	0.0076 U	0.0016 J	0.0078 U	0.0078 U	0.0078 U
Acenaphthylene	mg/kg	45,000	0.013	0.0082 U	0.0083 U	0.0079 U	0.0099	0.0082 U	0.002 J	0.0079 U	0.01	0.0076 U	0.008 U	0.0078 U	0.0078 U	0.0078 U
Acetophenone	mg/kg	120,000	0.072 U	0.08 U	0.083 U	0.079 U	0.077 U	0.082 U	0.075 U	0.08 U	0.076 U	0.074 U	0.079 U	0.078 U	0.077 U	0.077 U
Anthracene	mg/kg	230,000	0.26	0.0082 U	0.0007 J	0.0079 U	0.02	0.0082 U	0.0017 J	0.0079 U	0.046	0.0076 U	0.0089	0.0078 U	0.0016 J	0.0078 U
Benz[a]anthracene	mg/kg	21	0.84	0.0082 U	0.0054 J	0.0079 U	0.13	0.0082 U	0.013	0.0079 U	0.18	0.0076 U	0.035	0.0078 U	0.0097	0.0078 U
Benzaldehyde	mg/kg	120,000	0.072 U	0.08 U	0.083 U	0.079 U	0.077 U	0.082 U	0.075 U	0.08 U	0.034 J	0.074 U	0.079 U	0.078 U	0.077 U	0.077 U
Benzo[a]pyrene	mg/kg	2.1	0.79	0.0082 U	0.0047 J	0.0079 U	0.11	0.0082 U	0.016	0.0079 U	0.19	0.0076 U	0.033	0.0078 U	0.0087	0.0078 U
Benzo[b]fluoranthene	mg/kg	21	0.98	0.0082 U	0.0086	0.0079 U	0.18	0.0082 U	0.037	0.0079 U	0.32	0.0076 U	0.043	0.0078 U	0.011	0.0078 U
Benzo[g,h,i]perylene	mg/kg		0.39	0.0082 U	0.0031 J	0.0079 U	0.052	0.0082 U	0.012	0.0079 U	0.099	0.0076 U	0.017	0.0078 U	0.0047 J	0.0078 U
Benzo[k]fluoranthene	mg/kg	210	0.4	0.0082 U	0.0077 J	0.0079 U	0.16	0.0082 U	0.033	0.0079 U	0.29	0.0076 U	0.016	0.0078 U	0.0045 J	0.0078 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.072 U	0.08 U	0.083 U	0.079 U	0.077 U	0.082 U	0.075 U	0.08 U	0.076 U	0.074 U	0.079 U	0.078 U	0.077 U	0.077 U
Caprolactam	mg/kg	400,000	0.18 U	0.2 U	0.21 U	0.2 U	0.19 U	0.21 U	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.2 U	0.19 U	0.19 U
Carbazole	mg/kg		0.037 J	0.08 U	0.083 U	0.079 U	0.077 U	0.082 U	0.075 U	0.08 U	0.024 J	0.074 U	0.079 U	0.078 U	0.077 U	0.077 U
Chrysene	mg/kg	2,100	0.76	0.0082 U	0.0037 J	0.0079 U	0.1	0.0082 U	0.022	0.0079 U	0.18	0.0076 U	0.035	0.0078 U	0.0097	0.0078 U
Dibenz[a,h]anthracene	mg/kg	2.1	0.13	0.0082 U	0.0083 U	0.0079 U	0.017	0.0082 U	0.0033 J	0.0079 U	0.032	0.0076 U	0.0049 J	0.0078 U	0.0078 U	0.0078 U
Diethylphthalate	mg/kg	660,000	0.072 U	0.08 U	0.083 U	0.079 U	0.077 U	0.082 U	0.05 J	0.08 U	0.076 U	0.074 U	0.079 U	0.078 U	0.077 U	0.077 U
Di-n-butylphthalate	mg/kg	82,000	0.072 U	0.08 U	0.083 U	0.079 U	0.077 U	0.082 U	0.69	0.08 U	0.076 U	0.074 U	0.079 U	0.078 U	0.077 U	0.077 U
Di-n-octylphthalate	mg/kg	8,200	0.072 U	0.08 U	0.083 UJ	0.079 UJ	0.077 UJ	0.082 UJ	0.075 U	0.08 U	0.076 U	0.074 U	0.079 U	0.078 U	0.077 U	0.077 U
Fluoranthene	mg/kg	30,000	1.6	0.0082 U	0.0078 J	0.0079 U	0.21 J	0.0082 U	0.017	0.0079 U	0.36	0.0076 U	0.071	0.0078 U	0.017	0.0078 U
Fluorene	mg/kg	30,000	0.11	0.0082 U	0.0083 U	0.0079 U	0.0024 J	0.0082 U	0.0075 U	0.0079 U	0.0091	0.0076 U	0.0012 J	0.0078 U	0.0078 U	0.0078 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.38	0.0082 U	0.0024 J	0.0079 U	0.046	0.0082 U	0.0094	0.0079 U	0.092	0.0076 U	0.016	0.0078 U	0.0043 J	0.0078 U
Naphthalene	mg/kg	17	0.15	0.0082 U	0.0083 U	0.0079 U	0.0061 J	0.0082 U	0.0075 U	0.0079 U	0.019	0.0076 U	0.008 U	0.0078 U	0.0078 U	0.0078 U
N-Nitrosodiphenylamine	mg/kg	470	0.072 U	0.08 U	0.083 U	0.079 U	0.077 U	0.082 U	0.47	0.08 U	0.076 U	0.074 U	0.079 U	0.078 U	0.077 U	0.077 U
Phenanthrene	mg/kg		1.2	0.0082 U	0.0035 J	0.0079 U	0.065	0.0082 U	0.0075	0.0079 U	0.19	0.0076 U	0.03	0.0078 U	0.0066 J	0.0078 U
Phenol	mg/kg	250,000	0.072 U	0.08 U	0.083 U	0.079 U	0.077 U	0.082 U	0.075 U	0.08 U	0.076 U	0.074 U	0.079 U	0.078 U	0.077 U	0.077 U
Pyrene	mg/kg	23,000	1.3	0.0082 U	0.007 J	0.0079 U	0.18 J	0.0082 U	0.02	0.0079 U	0.31	0.0076 U	0.064	0.0078 U	0.015	0.0078 U
PCBs																
Aroclor 1254	mg/kg	0.97	0.018 U	N/A	0.021 U	N/A	0.02 U	N/A	0.019 U	N/A	0.019 U	N/A	0.02 U	N/A	0.02 U	N/A
Aroclor 1260	mg/kg	0.99	0.018 U	N/A	0.021 UJ	N/A	0.02 UJ	N/A	0.019 U	N/A	0.019 U	N/A	0.02 U	N/A	0.02 U	N/A
Aroclor 1262	mg/kg		0.018 U	N/A	0.021 U	N/A	0.02 U	N/A	0.019 U	N/A	0.019 U	N/A	0.02 U	N/A	0.02 U	N/A
PCBs (total)	mg/kg	0.97	0.16 U	N/A	0.19 U	N/A	0.18 U	N/A	0.17 U	N/A	0.17 U	N/A	0.18 U	N/A	0.18 U	N/A
TPH/Oil and Grease																
Diesel Range Organics	mg/kg	6,200	16.4	4.7 B	6.3 B	3.4 B	8.1 J	3.7 B	16.8	4.2 B	24	3.3 B	8 B	2.7 B	4.6 B	3.8 B
Gasoline Range Organics	mg/kg	6,200	10.7 U	9.7 U	10.8 U	8.6 U	4.5 J	9.1 U	19.5 U	10.9 U	19	10.2 U	8.4 U	9.8 U	9.7 U	6.5 U
Oil and Grease	mg/kg	6,200	184	1,710	294 J-	288 J-	125 J-	274 J-	108 J	203 J	192	63.2 J	319	142	130	221 J

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

^ PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 6 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Organics Detected in Soil

Parameter	Units	PAL	GRY-001-SB-1*	GRY-001-SB-5*	GRY-002-SB-1*	GRY-002-SB-7*	GRY-003-SB-1	GRY-003-SB-5	GRY-004-SB-1	GRY-004-SB-5	GRY-005-SB-1	GRY-005-SB-5	GRY-006-SB-1	GRY-006-SB-5	GRY-007-SB-1*	GRY-008-SB-1
Volatile Organic Compounds																
1,1,1-Trichloroethane	mg/kg	36,000	N/A	N/A	N/A	0.0043 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	0.0087 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acetone	mg/kg	670,000	N/A	N/A	N/A	0.0087 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Carbon disulfide	mg/kg	3,500	N/A	N/A	N/A	0.0043 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyclohexane	mg/kg	27,000	N/A	N/A	N/A	0.0087 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	mg/kg	25	N/A	N/A	N/A	0.0043 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Methyl Acetate	mg/kg	1,200,000	N/A	N/A	N/A	0.043 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Styrene	mg/kg	35,000	N/A	N/A	N/A	0.0043 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tetrachloroethene	mg/kg	100	N/A	N/A	N/A	0.0043 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Xylenes	mg/kg	2,800	N/A	N/A	N/A	0.013 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Semi-Volatile Organic Compounds[^]																
1,1-Biphenyl	mg/kg	200	0.071 U	0.078 U	0.07 U	0.077 U	0.071 U	0.073 U	0.073 U	0.076 U	0.068 U	0.076 U	0.078 U	0.08 U	1.5 U	0.071 U
2,4-Dinitrophenol	mg/kg	1,600	0.18 U	0.2 U	0.18 U	0.19 U	0.18 UJ	0.18 UJ	0.18 UJ	0.19 UJ	0.17 UJ	0.19 UJ	0.2 UJ	0.2 UJ	3.7 U	0.18 UJ
2-Chloronaphthalene	mg/kg	60,000	0.071 U	0.078 U	0.07 U	0.077 U	0.071 U	0.073 U	0.073 U	0.076 U	0.068 U	0.076 U	0.078 U	0.08 U	1.5 U	0.071 U
2-Methylnaphthalene	mg/kg	3,000	0.035	0.008 U	0.006 J	0.0078 U	0.01	0.0095	0.019	0.0077 U	0.03	0.0075 U	0.051	0.008 U	0.57	0.013
2-Methylphenol	mg/kg	41,000	0.071 U	0.078 U	0.07 U	0.077 U	0.071 U	0.073 U	0.073 U	0.076 U	0.068 U	0.076 U	0.078 U	0.08 U	1.5 U	0.071 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	0.16 U	0.14 U	0.15 U	0.14 U	0.15 U	0.15 U	0.15 U	0.14 U	0.15 U	0.16 U	0.16 U	3 U	0.14 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.071 U	0.078 U	0.07 U	0.077 U	0.071 U	0.073 U	0.073 U	0.076 U	0.068 U	0.076 U	0.078 U	0.08 U	1.5 U	0.071 U
Acenaphthene	mg/kg	45,000	0.0043 J	0.008 U	0.007 U	0.0078 U	0.0013 J	0.027	0.0023 J	0.0077 U	0.0017 J	0.0075 U	0.0056 J	0.008 U	0.029 J	0.0013 J
Acenaphthylene	mg/kg	45,000	0.11	0.008 U	0.0033 J	0.0078 U	0.005 J	0.0076	0.0087	0.0077 U	0.004 J	0.0075 U	0.018	0.008 U	0.18	0.0034 J
Acetophenone	mg/kg	120,000	0.071 U	0.078 U	0.07 U	0.077 U	0.071 U	0.073 U	0.073 U	0.076 U	0.068 U	0.076 U	0.078 U	0.08 U	1.5 U	0.071 U
Anthracene	mg/kg	230,000	0.091	0.0014 J	0.0052 J	0.0078 U	0.0083	0.13	0.013	0.0077 U	0.012	0.0075 U	0.045	0.008 U	0.38	0.0043 J
Benz[a]anthracene	mg/kg	21	0.13	0.0088	0.015	0.0078 U	0.029	0.28	0.038	0.0077 U	0.025	0.0075 U	0.18	0.008 U	1.1	0.021
Benzaldehyde	mg/kg	120,000	0.071 U	0.078 U	0.07 U	0.077 U	0.071 U	0.073 U	0.02 J	0.076 U	0.034 J	0.076 U	0.037 J	0.08 U	1.5 U	0.018 J
Benzo[a]pyrene	mg/kg	2.1	0.14	0.0077 J	0.014	0.0078 U	0.029	0.26	0.047	0.0077 U	0.025	0.0075 U	0.12	0.008 U	1.1	0.028
Benzo[b]fluoranthene	mg/kg	21	0.5	0.016	0.039	0.0078 U	0.067	0.41	0.1	0.0077 U	0.065	0.0075 U	0.31	0.008 U	2.8	0.06
Benzo[g,h,i]perylene	mg/kg		0.12	0.005 J	0.015	0.0078 U	0.024	0.16	0.041	0.0077 U	0.019	0.0075 U	0.085	0.008 U	0.42	0.025
Benzo[k]fluoranthene	mg/kg	210	0.48	0.015	0.037	0.0078 U	0.064	0.39	0.097	0.0077 U	0.062	0.0075 U	0.3	0.008 U	2.7	0.057
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.071 U	0.078 U	0.07 U	0.077 U	0.071 U	0.073 U	0.073 U	0.076 U	0.068 U	0.076 U	0.078 U	0.08 U	1.5 U	0.071 U
Caprolactam	mg/kg	400,000	0.18 U	0.2 U	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U	0.17 U	0.19 U	0.2 U	0.2 U	3.7 U	0.18 U
Carbazole	mg/kg		0.071 U	0.078 U	0.07 U	0.077 U	0.071 U	0.023 J	0.073 U	0.076 U	0.068 U	0.076 U	0.078 U	0.08 U	1.5 U	0.071 U
Chrysene	mg/kg	2,100	0.25	0.0069 J	0.024	0.0078 U	0.035	0.25	0.052	0.0077 U	0.046	0.0075 U	0.23	0.008 U	1.3	0.031
Dibenz[a,h]anthracene	mg/kg	2.1	0.056	0.008 U	0.0045 J	0.0078 U	0.0075	0.046	0.013	0.0077 U	0.0068 J	0.0075 U	0.031	0.008 U	0.18	0.0071
Diethylphthalate	mg/kg	660,000	0.071 U	0.078 U	0.07 U	0.077 U	0.071 U	0.073 U	0.073 U	0.076 U	0.068 U	0.076 U	0.078 U	0.08 U	1.5 U	0.071 U
Di-n-butylphthalate	mg/kg	82,000	0.071 U	0.078 U	0.07 U	0.077 U	0.071 U	0.073 U	0.073 U	0.076 U	0.068 U	0.076 U	0.078 U	0.08 U	1.5 U	0.071 U
Di-n-octylphthalate	mg/kg	8,200	0.071 U	0.078 U	0.07 U	0.077 U	0.071 U	0.073 U	0.073 U	0.076 U	0.068 U	0.076 U	0.078 U	0.08 U	1.5 U	0.071 U
Fluoranthene	mg/kg	30,000	0.21	0.01	0.022	0.0078 U	0.039	0.6	0.056	0.0077 U	0.049	0.0075 U	0.2	0.008 U	1.8	0.033
Fluorene	mg/kg	30,000	0.0087	0.008 U	0.00075 J	0.0078 U	0.0014 J	0.036	0.0018 J	0.0077 U	0.0019 J	0.0075 U	0.0054 J	0.008 U	0.026 J	0.00078 J
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.15	0.0045 J	0.013	0.0078 U	0.021	0.15	0.036	0.0077 U	0.017	0.0075 U	0.079	0.008 U	0.45	0.021
Naphthalene	mg/kg	17	0.079	0.008 U	0.0083	0.0078 U	0.0091	0.019	0.015	0.0077 U	0.02	0.0075 U	0.031	0.008 U	0.46	0.011
N-Nitrosodiphenylamine	mg/kg	470	0.071 U	0.078 U	0.07 U	0.077 U	0.071 U	0.073 U	0.073 U	0.076 U	0.068 U	0.076 U	0.078 U	0.08 U	1.5 U	0.071 U
Phenanthrene	mg/kg		0.11	0.005 J	0.017	0.0078 U	0.02	0.46	0.043	0.0077 U	0.079	0.0075 U	0.19	0.008 U	0.58	0.026
Phenol	mg/kg	250,000	0.071 U	0.078 U	0.07 U	0.077 U	0.071 U	0.073 U	0.073 U	0.076 U	0.068 U	0.076 U	0.078 U	0.08 U	1.5 U	0.071 U
Pyrene	mg/kg	23,000	0.2	0.0092	0.018	0.0078 U	0.04	0.47	0.05	0.0077 U	0.038	0.0075 U	0.17	0.008 U	1.9	0.028
PCBs																
Aroclor 1254	mg/kg	0.97	0.018 U	N/A	0.018 U	N/A	0.018 U	N/A	0.019 U	N/A	0.017 U	N/A	0.02 U	N/A	0.019 U	0.018 U
Aroclor 1260	mg/kg	0.99	0.018 U	N/A	0.018 U	N/A	0.018 UJ	N/A	0.019 UJ	N/A	0.017 UJ	N/A	0.02 UJ	N/A	0.019 U	0.018 UJ
Aroclor 1262	mg/kg		0.018 U	N/A	0.018 U	N/A	0.018 U	N/A	0.019 U	N/A	0.017 U	N/A	0.02 U	N/A	0.019 U	0.018 U
PCBs (total)	mg/kg	0.97	0.16 U	N/A	0.16 U	N/A	0.16 U	N/A	0.17 U	N/A	0.16 U	N/A	0.18 U	N/A	0.17 U	0.16 U
TPH/Oil and Grease																
Diesel Range Organics	mg/kg	6,200	23	5.1 B	17.1	3.1 B	9.6 J	17.9 J	16.1 J	3.2 B	16.1 J	2.4 B	27.2 J	2.1 B	100	17.1 J
Gasoline Range Organics	mg/kg	6,200	3.8 B	8.4 U	1.8 B	9.4 U	12.5 U	8.4 U	14.7 U	8.6 U	1.8 B	9.5 U	10.7 U	8.7 U	5.1 J	11.1 U
Oil and Grease	mg/kg	6,200	179	332	190	355	151	369	247	133	128	204 J	183	205 J	7,690	199

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

[^] PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 6 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Organics Detected in Soil

Parameter	Units	PAL	GRY-008-SB-5	GRY-009-SB-1	GRY-009-SB-5	GRY-010-SB-1	GRY-010-SB-4	GRY-010-SB-10	GRY-011-SB-1	GRY-011-SB-7	GRY-011-SB-10	GRY-012-SB-1	GRY-012-SB-5	GRY-013-SB-1*	GRY-013-SB-5*	GRY-014-SB-1*
Volatile Organic Compounds																
1,1,1-Trichloroethane	mg/kg	36,000	N/A	N/A	N/A	0.0061 U	0.0077 U	0.004 U	0.0046 U	0.004 U	0.0047 U	N/A	0.016 U	N/A	N/A	0.0068 U
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	0.012 U	0.015 U	0.0081 U	0.0092 U	0.008 U	0.0095 U	N/A	0.031 U	N/A	N/A	0.014 U
Acetone	mg/kg	670,000	N/A	N/A	N/A	0.012 UJ	0.013 B	0.038 J	0.0099 J	0.02 J	0.0095 UJ	N/A	0.047 J	N/A	N/A	0.079
Carbon disulfide	mg/kg	3,500	N/A	N/A	N/A	0.0035 J	0.014	0.004 U	0.0046 U	0.004 U	0.0047 U	N/A	0.05	N/A	N/A	0.011
Cyclohexane	mg/kg	27,000	N/A	N/A	N/A	0.012 U	0.015 U	0.0081 U	0.0092 U	0.008 U	0.0095 U	N/A	0.031 U	N/A	N/A	0.014 U
Ethylbenzene	mg/kg	25	N/A	N/A	N/A	0.0061 U	0.0077 U	0.004 U	0.0046 U	0.004 U	0.0047 U	N/A	0.016 U	N/A	N/A	0.0068 U
Methyl Acetate	mg/kg	1,200,000	N/A	N/A	N/A	0.061 UJ	0.004 J	0.04 UJ	0.046 UJ	0.04 UJ	0.047 UJ	N/A	0.16 UJ	N/A	N/A	0.068 U
Styrene	mg/kg	35,000	N/A	N/A	N/A	0.0061 U	0.0077 U	0.004 U	0.0046 U	0.004 U	0.0047 U	N/A	0.016 U	N/A	N/A	0.0068 U
Tetrachloroethene	mg/kg	100	N/A	N/A	N/A	0.0061 U	0.0077 U	0.004 U	0.0046 U	0.004 U	0.0047 U	N/A	0.016 U	N/A	N/A	0.0068 U
Xylenes	mg/kg	2,800	N/A	N/A	N/A	0.018 U	0.023 U	0.012 U	0.014 U	0.012 U	0.014 U	N/A	0.047 U	N/A	N/A	0.02 U
Semi-Volatile Organic Compounds[^]																
1,1-Biphenyl	mg/kg	200	0.077 U	0.068 U	0.078 U	0.077 U	0.078 U	0.08 U	0.07 U	0.077 U	0.078 U	0.073 U	0.14 U	0.024 J	0.077 U	0.072 U
2,4-Dinitrophenol	mg/kg	1,600	0.19 UJ	0.17 UJ	0.19 UJ	0.19 U	0.2 U	0.2 U	0.18 U	0.19 U	0.2 U	0.18 U	0.35 U	0.19 U	0.19 U	0.18 U
2-Chloronaphthalene	mg/kg	60,000	0.077 U	0.068 U	0.078 U	0.077 U	0.078 U	0.08 U	0.07 U	0.077 U	0.078 U	0.073 U	0.14 U	0.018 J	0.077 U	0.072 U
2-Methylnaphthalene	mg/kg	3,000	0.0078 U	0.0049 J	0.0079 U	0.018 J	0.00097 J	0.008 U	0.04 J	0.0013 J	0.008 U	0.011	0.0037 J	0.18	0.0078 U	0.018
2-Methylphenol	mg/kg	41,000	0.077 U	0.068 U	0.078 U	0.077 U	0.078 U	0.08 U	0.07 U	0.077 U	0.078 U	0.073 U	0.14 U	0.075 U	0.077 U	0.072 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.14 U	0.15 U	0.15 U	0.16 U	0.16 U	0.14 U	0.15 U	0.16 U	0.14 U	0.27 U	0.026 J	0.15 U	0.14 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.077 U	0.068 U	0.078 U	0.077 U	0.078 U	0.08 U	0.07 U	0.077 U	0.078 U	0.073 U	0.14 U	0.075 U	0.077 U	0.072 U
Acenaphthene	mg/kg	45,000	0.0078 U	0.0068 U	0.0079 U	0.076 U	0.0078 U	0.008 U	0.071 U	0.0078 U	0.008 U	0.00085 J	0.014 U	0.014 J	0.0078 U	0.0011 J
Acenaphthylene	mg/kg	45,000	0.0078 U	0.0026 J	0.0079 U	0.041 J	0.004 J	0.008 U	0.12	0.0047 J	0.008 U	0.0027 J	0.031	0.24	0.0078 U	0.0069 J
Acetophenone	mg/kg	120,000	0.077 U	0.068 U	0.078 U	0.077 U	0.078 U	0.08 U	0.07 U	0.077 U	0.078 U	0.073 U	0.14 U	0.032 J	0.077 U	0.072 U
Anthracene	mg/kg	230,000	0.0078 U	0.0027 J	0.0079 U	0.033 J	0.0036 J	0.008 U	0.082	0.0031 J	0.008 U	0.003 J	0.0052 J	0.089	0.0078 U	0.01
Benz[a]anthracene	mg/kg	21	0.0078 U	0.0091	0.0079 U	0.16	0.024	0.008 U	0.19	0.02	0.008 U	0.016	0.0063 J	0.15	0.0078 U	0.032
Benzaldehyde	mg/kg	120,000	0.077 U	0.068 U	0.078 U	0.077 U	0.078 U	0.08 U	0.07 U	0.077 U	0.078 U	0.038 J	0.14 U	0.075 U	0.077 U	0.072 U
Benzo[a]pyrene	mg/kg	2.1	0.0078 U	0.01	0.0079 U	0.15	0.026	0.008 U	0.45	0.02	0.008 U	0.017	0.0092 J	0.15	0.0078 U	0.028
Benzo[b]fluoranthene	mg/kg	21	0.0078 U	0.026	0.0022 J	0.49	0.07	0.008 U	0.98	0.046	0.008 U	0.043	0.016	0.42	0.0078 U	0.074
Benzo[g,h,i]perylene	mg/kg		0.0078 U	0.0094	0.00088 J	0.14	0.016	0.008 U	0.52	0.014	0.008 U	0.017	0.0094 J	0.15	0.0078 U	0.02
Benzo[k]fluoranthene	mg/kg	210	0.0078 U	0.025	0.0021 J	0.44	0.063	0.008 U	0.88	0.041	0.008 U	0.039	0.014	0.4	0.0078 U	0.07
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.077 U	0.068 U	0.078 U	0.077 U	0.078 U	0.08 U	0.015 B	0.077 U	0.078 U	0.073 U	0.14 U	0.075 U	0.077 U	0.072 U
Caprolactam	mg/kg	400,000	0.19 U	0.17 U	0.19 U	0.19 U	0.2 U	0.2 U	0.22 B	0.19 U	0.2 U	0.18 U	0.35 U	0.046 J	0.19 U	0.18 U
Carbazole	mg/kg		0.077 U	0.068 U	0.078 U	0.077 U	0.078 U	0.08 U	0.024 J	0.077 U	0.078 U	0.073 U	0.14 U	0.075 U	0.077 U	0.072 U
Chrysene	mg/kg	2,100	0.0078 U	0.013	0.0079 U	0.28	0.043	0.008 U	0.27	0.022	0.008 U	0.022	0.0082 J	0.22	0.0078 U	0.044
Dibenz[a,h]anthracene	mg/kg	2.1	0.0078 U	0.0027 J	0.0079 U	0.035 J	0.0059 J	0.008 U	0.13	0.0046 J	0.008 U	0.0041 J	0.014 U	0.043 J	0.0078 U	0.0065 J
Diethylphthalate	mg/kg	660,000	0.077 U	0.068 U	0.078 U	0.077 U	0.078 U	0.08 U	0.07 U	0.077 U	0.078 U	0.073 U	0.14 U	0.075 U	0.077 U	0.072 U
Di-n-butylphthalate	mg/kg	82,000	0.077 U	0.068 U	0.078 U	0.077 U	0.078 U	0.08 U	0.07 U	0.077 U	0.078 U	0.073 U	0.14 U	0.075 U	0.077 U	0.072 U
Di-n-octylphthalate	mg/kg	8,200	0.077 U	0.068 U	0.078 U	0.077 U	0.078 U	0.08 UJ	0.07 U	0.077 U	0.078 U	0.073 U	0.14 U	0.075 U	0.077 U	0.072 U
Fluoranthene	mg/kg	30,000	0.0078 U	0.013	0.0008 J	0.31	0.016	0.008 U	0.2	0.031	0.008 U	0.028	0.024	0.28	0.0078 U	0.055
Fluorene	mg/kg	30,000	0.0078 U	0.0068 U	0.0079 U	0.076 U	0.0078 U	0.008 U	0.0057 J	0.0078 U	0.008 U	0.0011 J	0.014 U	0.021 J	0.0078 U	0.0013 J
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.0078 U	0.0075	0.0079 U	0.13	0.016	0.008 U	0.39	0.014	0.008 U	0.013	0.0062 J	0.13	0.0078 U	0.019
Naphthalene	mg/kg	17	0.0078 U	0.0068 U	0.0079 U	0.076 UJ	0.0078 UJ	0.008 UJ	0.036 J	0.0078 UJ	0.008 UJ	0.0094 J	0.097 J	0.48	0.0078 U	0.014
N-Nitrosodiphenylamine	mg/kg	470	0.077 U	0.068 U	0.078 U	0.077 U	0.078 U	0.08 U	0.07 U	0.077 U	0.078 U	0.073 U	0.14 U	0.075 U	0.077 U	0.072 U
Phenanthrene	mg/kg		0.0078 U	0.0081	0.0079 U	0.045 J	0.0034 J	0.008 U	0.094	0.0083	0.008 U	0.016	0.03	0.32	0.0078 U	0.025
Phenol	mg/kg	250,000	0.077 U	0.068 U	0.078 U	0.077 U	0.078 U	0.08 U	0.07 U	0.077 U	0.078 U	0.073 U	0.14 U	0.075 U	0.077 U	0.072 U
Pyrene	mg/kg	23,000	0.0078 U	0.012	0.00084 J	0.27	0.014	0.008 U	0.25	0.023	0.008 U	0.024	0.027	0.28	0.0078 U	0.049
PCBs																
Aroclor 1254	mg/kg	0.97	N/A	0.017 U	N/A	0.019 U	N/A	N/A	0.018 U	N/A	N/A	0.018 U	N/A	0.019 U	N/A	0.018 U
Aroclor 1260	mg/kg	0.99	N/A	0.017 UJ	N/A	0.019 U	N/A	N/A	0.018 U	N/A	N/A	0.018 U	N/A	0.019 U	N/A	0.018 U
Aroclor 1262	mg/kg		N/A	0.017 U	N/A	0.019 U	N/A	N/A	0.018 U	N/A	N/A	0.018 U	N/A	0.019 U	N/A	0.018 U
PCBs (total)	mg/kg	0.97	N/A	0.15 U	N/A	0.17 U	N/A	N/A	0.16 U	N/A	N/A	0.16 U	N/A	0.17 U	N/A	0.16 U
TPH/Oil and Grease																
Diesel Range Organics	mg/kg	6,200	3.1 B	9 J	4.8 B	23.4 J	17.5 J	2 B	82.2 J	7.6 B	3.1 B	39.2 J	4.9 B	90.8	2.9 B	10.3
Gasoline Range Organics	mg/kg	6,200	8.7 U	16.3 U	8.5 U	11.8 U	16.7 U	8.5 U	2.2 J	9 U	9.1 U	3.7 J	4.5 J	4.7 B	1.8 B	20.2 U
Oil and Grease	mg/kg	6,200	225 J	214	282	181	142	253	209	109 J	128	683	1,080 J	294	153	218

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

[^] PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 6 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Organics Detected in Soil

Parameter	Units	PAL	GRY-014-SB-5*	GRY-015-SB-1*	GRY-015-SB-5*	GRY-016-SB-1*	GRY-016-SB-5*	GRY-017-SB-1*	GRY-017-SB-5*	GRY-018-SB-1*	GRY-018-SB-4*	GRY-019-SB-1*	GRY-019-SB-5*	GRY-020-SB-1	GRY-020-SB-5	GRY-021-SB-1*
Volatile Organic Compounds																
1,1,1-Trichloroethane	mg/kg	36,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0074 U	N/A	N/A	N/A	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.015 U	N/A	N/A	N/A	N/A	N/A
Acetone	mg/kg	670,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.015 U	N/A	N/A	N/A	N/A	N/A
Carbon disulfide	mg/kg	3,500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.014	N/A	N/A	N/A	N/A	N/A
Cyclohexane	mg/kg	27,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0067 J	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	mg/kg	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0074 U	N/A	N/A	N/A	N/A	N/A
Methyl Acetate	mg/kg	1,200,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.074 U	N/A	N/A	N/A	N/A	N/A
Styrene	mg/kg	35,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0074 U	N/A	N/A	N/A	N/A	N/A
Tetrachloroethene	mg/kg	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0074 U	N/A	N/A	N/A	N/A	N/A
Xylenes	mg/kg	2,800	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.022 U	N/A	N/A	N/A	N/A	N/A
Semi-Volatile Organic Compounds[^]																
1,1-Biphenyl	mg/kg	200	0.077 U	0.07 U	0.078 U	0.072 U	0.08 U	0.072 U	0.078 U	0.081 U	0.074 U	0.024 J	0.081 U	0.018 J	0.077 U	0.069 U
2,4-Dinitrophenol	mg/kg	1,600	0.19 U	0.18 U	0.19 U	0.068 J	0.2 U	0.18 U	0.2 U	0.2 U	0.19 U	0.18 U	0.2 U	0.18 R	0.19 R	0.17 U
2-Chloronaphthalene	mg/kg	60,000	0.077 U	0.07 U	0.078 U	0.052 J	0.08 U	0.072 U	0.078 U	0.081 U	0.074 U	0.072 U	0.081 U	0.073 U	0.077 U	0.069 U
2-Methylnaphthalene	mg/kg	3,000	0.0078 U	0.006 J	0.00083 J	0.084	0.0023 J	0.02	0.0041 J	0.0088	0.001 J	0.32	0.0082 U	0.18 J	0.0027 J	0.0015 J
2-Methylphenol	mg/kg	41,000	0.077 U	0.07 U	0.078 U	0.072 U	0.08 U	0.072 U	0.078 U	0.081 U	0.074 U	0.072 U	0.081 U	0.073 R	0.077 U	0.069 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.14 U	0.16 U	0.14 U	0.16 U	0.14 U	0.16 U	0.16 U	0.15 U	0.14 U	0.16 U	0.15 R	0.15 U	0.14 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.077 U	0.07 U	0.078 U	0.072 U	0.08 U	0.072 U	0.078 U	0.081 U	0.074 U	0.072 U	0.081 U	0.073 U	0.077 U	0.069 U
Acenaphthene	mg/kg	45,000	0.0078 U	0.00072 J	0.0078 U	0.072 U	0.0079 U	0.001 J	0.01	0.0082 U	0.0074 U	0.0084	0.0082 U	0.004 J	0.0077 U	0.007 U
Acenaphthylene	mg/kg	45,000	0.0078 U	0.013	0.0078 U	0.19	0.0079 U	0.0092	0.0035 J	0.0029 J	0.0074 U	0.051	0.0082 U	0.058	0.0077 U	0.007 U
Acetophenone	mg/kg	120,000	0.077 U	0.07 U	0.078 U	0.072 U	0.08 U	0.072 U	0.078 U	0.081 U	0.074 U	0.03 J	0.081 U	0.037 J	0.077 U	0.069 U
Anthracene	mg/kg	230,000	0.0078 U	0.015	0.0078 U	0.094	0.0079 U	0.011	0.061	0.0022 J	0.00049 J	0.058	0.0082 U	0.071	0.0077 U	0.00048 J
Benz[a]anthracene	mg/kg	21	0.0078 U	0.037	0.0078 U	0.068 J	0.0021 J	0.028	0.2	0.0082 J	0.0032 J	0.19	0.0082 U	0.15	0.0077 U	0.0029 J
Benzaldehyde	mg/kg	120,000	0.077 U	0.07 U	0.078 U	0.072 U	0.08 U	0.072 U	0.078 U	0.081 U	0.074 U	0.048 J	0.081 U	0.03 J	0.077 U	0.069 U
Benzo[a]pyrene	mg/kg	2.1	0.0078 U	0.053	0.0078 U	0.078	0.0012 J	0.035	0.18	0.012	0.0021 J	0.22	0.0082 U	0.23	0.0077 U	0.0032 J
Benzo[b]fluoranthene	mg/kg	21	0.0078 U	0.15	0.0078 U	0.29	0.0079 U	0.086	0.28	0.025	0.0043 J	0.5	0.0082 U	0.54	0.0077 U	0.008
Benzo[g,h,i]perylene	mg/kg		0.0078 U	0.051	0.0078 U	0.13	0.0079 U	0.035	0.1	0.011	0.0017 J	0.19	0.0082 U	0.24	0.0077 U	0.0031 J
Benzo[k]fluoranthene	mg/kg	210	0.0078 U	0.14	0.0078 U	0.27	0.002 J	0.082	0.27	0.024	0.0041 J	0.48	0.0082 U	0.51 J	0.0077 U	0.0076
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.077 U	0.07 U	0.078 U	0.072 U	0.08 U	0.072 U	0.078 U	0.081 U	0.074 U	0.072 U	0.068 J	0.073 U	0.077 U	0.069 U
Caprolactam	mg/kg	400,000	0.19 U	0.18 U	0.19 U	0.18 U	0.2 U	0.18 U	0.2 U	0.2 U	0.19 U	0.038 J	0.2 U	0.18 U	0.19 U	0.17 U
Carbazole	mg/kg		0.077 U	0.07 U	0.078 U	0.037 J	0.08 U	0.072 U	0.078 U	0.081 U	0.074 U	0.033 J	0.081 U	0.019 J	0.077 U	0.069 U
Chrysene	mg/kg	2,100	0.0078 U	0.053	0.0078 U	0.13	0.0012 J	0.04	0.17	0.012	0.0023 J	0.24	0.0082 U	0.21	0.0077 U	0.0048 J
Dibenz[a,h]anthracene	mg/kg	2.1	0.0078 U	0.016	0.0078 U	0.03 J	0.0079 U	0.01	0.031	0.0031 J	0.0074 U	0.065	0.0082 U	0.067	0.0077 U	0.007 U
Diethylphthalate	mg/kg	660,000	0.077 U	0.07 U	0.078 U	0.072 U	0.08 U	0.072 U	0.078 U	0.081 U	0.074 U	0.072 U	0.081 U	0.073 U	0.077 U	0.069 U
Di-n-butylphthalate	mg/kg	82,000	0.077 U	0.07 U	0.078 U	0.072 U	0.08 U	0.072 U	0.078 U	0.081 U	0.074 U	0.072 U	0.081 U	0.073 U	0.077 U	0.069 U
Di-n-ocetylphthalate	mg/kg	8,200	0.077 U	0.07 U	0.078 U	0.072 U	0.08 U	0.072 U	0.078 U	0.081 U	0.074 U	0.072 U	0.081 U	0.073 U	0.077 U	0.069 U
Fluoranthene	mg/kg	30,000	0.0078 U	0.05	0.0078 U	0.15	0.0025 J	0.045	0.42	0.012	0.0043 J	0.28	0.0082 U	0.16	0.0077 U	0.0044 J
Fluorene	mg/kg	30,000	0.0078 U	0.00084 J	0.0078 U	0.0072 J	0.0079 U	0.0011 J	0.012	0.0082 U	0.0074 U	0.0092	0.0082 U	0.0064 J	0.0077 U	0.007 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.0078 U	0.048	0.0078 U	0.1	0.0079 U	0.03	0.097	0.009	0.0014 J	0.17	0.0082 U	0.2	0.0077 U	0.0026 J
Naphthalene	mg/kg	17	0.0078 U	0.0055 J	0.0078 U	0.24	0.0079 U	0.016	0.0095	0.0072 J	0.0074 U	0.2	0.0082 U	0.13 J	0.0077 U	0.007 U
N-Nitrosodiphenylamine	mg/kg	470	0.077 U	0.07 U	0.078 U	0.072 U	0.08 U	0.072 U	0.078 U	0.081 U	0.074 U	0.072 U	0.081 U	0.073 U	0.077 U	0.069 U
Phenanthrene	mg/kg		0.0078 U	0.014	0.0078 U	0.15	0.0024 J	0.03	0.22	0.011	0.003 J	0.25	0.0082 U	0.11	0.0013 J	0.0028 J
Phenol	mg/kg	250,000	0.077 U	0.07 U	0.078 U	0.072 U	0.08 U	0.072 U	0.078 U	0.081 U	0.074 U	0.072 U	0.081 U	0.073 R	0.077 U	0.069 U
Pyrene	mg/kg	23,000	0.0078 U	0.053	0.0078 U	0.14	0.0022 J	0.043	0.37	0.011	0.0036 J	0.29	0.0082 U	0.19	0.0077 U	0.0037 J
PCBs																
Aroclor 1254	mg/kg	0.97	N/A	0.018 U	N/A	0.018 U	N/A	0.018 U	N/A	0.02 U	N/A	0.018 U	N/A	0.13	N/A	0.018 U
Aroclor 1260	mg/kg	0.99	N/A	0.018 U	N/A	0.018 U	N/A	0.018 U	N/A	0.02 U	N/A	0.018 U	N/A	0.018 U	N/A	0.018 U
Aroclor 1262	mg/kg		N/A	0.018 U	N/A	0.018 U	N/A	0.018 U	N/A	0.02 U	N/A	0.018 U	N/A	0.018 U	N/A	0.018 U
PCBs (total)	mg/kg	0.97	N/A	0.16 U	N/A	0.16 U	N/A	0.16 U	N/A	0.18 U	N/A	0.16 U	N/A	0.13 J	N/A	0.16 U
TPH/Oil and Grease																
Diesel Range Organics	mg/kg	6,200	2 B	9.4	2.4 B	28.8	8.2	8	11.8	12.7	5.2 B	22.9	2 B	24.3 J	3.6 B	4.6 B
Gasoline Range Organics	mg/kg	6,200	8.3 U	9.5 U	9.1 U	15.3 U	9.5 U	9.4 U	8.2 U	10.6 U	15.5 U	11	9.2 U	9.1 U	9.8 U	8.6 U
Oil and Grease	mg/kg	6,200	118 J	138	144	189	221	120	112 J	214	174	196	155	153	163	171

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

^ PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 6 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Organics Detected in Soil

Parameter	Units	PAL	GRY-021-SB-5*	GRY-022-SB-1	GRY-022-SB-5	GRY-023-SB-1	GRY-023-SB-5	GRY-024-SB-1	GRY-024-SB-5	GRY-025-SB-1	GRY-025-SB-5	GRY-026-SB-1	GRY-026-SB-5	GRY-027-SB-1*	GRY-027-SB-5*
Volatile Organic Compounds															
1,1,1-Trichloroethane	mg/kg	36,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0049 U	N/A	N/A	N/A	0.0059 U	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0097 U	N/A	N/A	N/A	0.012 U	N/A
Acetone	mg/kg	670,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0097 U	N/A	N/A	N/A	0.012 U	N/A
Carbon disulfide	mg/kg	3,500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0049 UJ	N/A	N/A	N/A	0.0059 U	N/A
Cyclohexane	mg/kg	27,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0097 UJ	N/A	N/A	N/A	0.012 U	N/A
Ethylbenzene	mg/kg	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0049 U	N/A	N/A	N/A	0.0059 U	N/A
Methyl Acetate	mg/kg	1,200,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.049 UJ	N/A	N/A	N/A	0.059 U	N/A
Styrene	mg/kg	35,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0049 U	N/A	N/A	N/A	0.0059 U	N/A
Tetrachloroethene	mg/kg	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0049 U	N/A	N/A	N/A	0.0059 U	N/A
Xylenes	mg/kg	2,800	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.015 U	N/A	N/A	N/A	0.018 U	N/A
Semi-Volatile Organic Compounds[^]															
1,1-Biphenyl	mg/kg	200	0.081 U	0.076 U	0.08 U	0.019 J	0.081 U	0.073 U	0.078 U	0.069 U	0.078 U	0.071 U	0.078 U	0.071 U	0.089 U
2,4-Dinitrophenol	mg/kg	1,600	0.2 U	0.19 R	0.2 R	0.18 R	0.2 U	0.18 U	0.19 U	0.17 U	0.2 U	0.18 R	0.2 U	0.18 U	0.22 U
2-Chloronaphthalene	mg/kg	60,000	0.081 U	0.076 U	0.08 U	0.07 U	0.081 U	0.073 U	0.078 U	0.069 U	0.078 U	0.071 U	0.078 U	0.071 U	0.089 U
2-Methylnaphthalene	mg/kg	3,000	0.0081 U	0.026 J	0.0079 U	0.11	0.002 J	0.039	0.0077 U	0.046	0.00092 J	0.012	0.0028 J	0.024	0.00092 J
2-Methylphenol	mg/kg	41,000	0.081 U	0.076 U	0.08 U	0.07 R	0.081 U	0.073 U	0.078 U	0.069 U	0.078 U	0.071 R	0.078 U	0.071 U	0.089 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.16 U	0.15 U	0.16 U	0.14 R	0.16 U	0.15 U	0.15 U	0.14 U	0.16 U	0.14 R	0.16 U	0.14 U	0.18 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.081 U	0.076 U	0.08 U	0.07 U	0.081 U	0.073 U	0.078 U	0.069 U	0.078 U	0.071 U	0.078 U	0.071 U	0.089 U
Acenaphthene	mg/kg	45,000	0.0081 U	0.077 U	0.0079 U	0.0029 J	0.008 U	0.0015 J	0.0077 U	0.012	0.008 U	0.0071 U	0.0078 U	0.0009 J	0.0089 U
Acenaphthylene	mg/kg	45,000	0.0081 U	0.082	0.0079 U	0.032	0.008 U	0.016	0.0077 U	0.027	0.008 U	0.0017 J	0.0009 J	0.016	0.0089 U
Acetophenone	mg/kg	120,000	0.081 U	0.076 U	0.08 U	0.044 J	0.081 U	0.073 U	0.078 U	0.069 U	0.078 U	0.071 U	0.078 U	0.071 U	0.089 U
Anthracene	mg/kg	230,000	0.0081 U	0.097	0.00081 J	0.037	0.0013 J	0.013	0.0077 U	0.016	0.008 U	0.0026 J	0.0012 J	0.012	0.0089 U
Benz[a]anthracene	mg/kg	21	0.0081 U	0.16	0.0014 J	0.11	0.0033 J	0.049	0.0077 U	0.057	0.008 U	0.0078	0.0052 J	0.044	0.0089 U
Benzaldehyde	mg/kg	120,000	0.081 U	0.076 U	0.08 U	0.06 J	0.081 U	0.022 J	0.078 U	0.021 J	0.078 U	0.071 U	0.078 U	0.071 U	0.089 U
Benzo[a]pyrene	mg/kg	2.1	0.0081 U	0.22	0.0013 J	0.11	0.002 J	0.047	0.0077 U	0.065	0.008 U	0.0072	0.0042 J	0.047	0.0089 U
Benzo[b]fluoranthene	mg/kg	21	0.0081 U	0.53	0.0035 J	0.3	0.0044 J	0.12	0.0077 U	0.16	0.008 U	0.018	0.0095	0.12	0.0089 U
Benzo[g,h,i]perylene	mg/kg		0.0081 U	0.21	0.0079 U	0.08	0.001 J	0.033	0.0077 U	0.043	0.008 U	0.004 J	0.0024 J	0.033	0.0089 U
Benzo[k]fluoranthene	mg/kg	210	0.0081 U	0.5	0.0033 J	0.28	0.0042 J	0.12	0.0077 U	0.15	0.008 U	0.017	0.009	0.12	0.0089 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.081 U	0.076 U	0.08 U	0.07 U	0.081 U	0.073 U	0.078 U	0.081	0.078 U	0.071 U	0.078 U	0.071 U	0.089 U
Caprolactam	mg/kg	400,000	0.2 U	0.19 U	0.2 U	0.18 U	0.2 U	0.18 U	0.19 U	0.17 U	0.2 U	0.18 U	0.2 U	0.18 U	0.22 U
Carbazole	mg/kg		0.081 U	0.076 U	0.08 U	0.027 J	0.081 U	0.073 U	0.078 U	0.069 U	0.078 U	0.071 U	0.078 U	0.071 U	0.089 U
Chrysene	mg/kg	2,100	0.0081 U	0.23	0.0079 U	0.16	0.0022 J	0.063	0.0077 U	0.072	0.008 U	0.011	0.0082	0.062	0.0089 U
Dibenz[a,h]anthracene	mg/kg	2.1	0.0081 U	0.055 J	0.0079 U	0.032	0.008 U	0.013	0.0077 U	0.017	0.008 U	0.0014 J	0.0078 U	0.012	0.0089 U
Diethylphthalate	mg/kg	660,000	0.081 U	0.076 U	0.08 U	0.07 U	0.081 U	0.073 U	0.078 U	0.069 U	0.078 U	0.071 U	0.078 U	0.071 U	0.089 U
Di-n-butylphthalate	mg/kg	82,000	0.081 U	0.076 U	0.08 U	0.07 U	0.081 U	0.073 U	0.078 U	0.069 U	0.078 U	0.071 U	0.078 U	0.071 U	0.089 U
Di-n-octylphthalate	mg/kg	8,200	0.081 U	0.076 UJ	0.08 U	0.07 U	0.081 U	0.073 U	0.078 U	0.069 U	0.078 U	0.071 U	0.078 U	0.071 U	0.089 U
Fluoranthene	mg/kg	30,000	0.0081 U	0.2	0.002 J	0.18	0.0042 J	0.061	0.0077 U	0.084	0.0016 J	0.012	0.0061 J	0.08	0.0089 U
Fluorene	mg/kg	30,000	0.0081 U	0.077 U	0.0079 U	0.0043 J	0.008 U	0.002 J	0.0077 U	0.0078	0.008 U	0.0071 U	0.0078 U	0.0013 J	0.0089 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.0081 U	0.18	0.0079 U	0.082	0.008 U	0.034	0.0077 U	0.046	0.008 U	0.004 J	0.0023 J	0.031	0.0089 U
Naphthalene	mg/kg	17	0.0081 U	0.077 U	0.0079 U	0.091	0.008 U	0.033	0.0077 U	0.037	0.008 U	0.014	0.0038 J	0.024	0.0089 U
N-Nitrosodiphenylamine	mg/kg	470	0.081 U	0.076 U	0.08 U	0.07 U	0.081 U	0.073 U	0.078 U	0.069 U	0.078 U	0.071 U	0.078 U	0.071 U	0.089 U
Phenanthrene	mg/kg		0.0081 U	0.052 J	0.00083 J	0.14	0.0039 J	0.047	0.0077 U	0.051	0.001 J	0.012	0.0042 J	0.035	0.0089 U
Phenol	mg/kg	250,000	0.081 U	0.076 U	0.08 U	0.07 R	0.081 U	0.073 U	0.078 U	0.069 U	0.078 U	0.071 R	0.078 U	0.071 U	0.089 U
Pyrene	mg/kg	23,000	0.0081 U	0.25	0.005 J	0.15	0.0036 J	0.056	0.0077 U	0.072	0.0013 J	0.011	0.0053 J	0.071	0.0089 U
PCBs															
Aroclor 1254	mg/kg	0.97	N/A	0.097 U	N/A	0.018 U	N/A	0.018 U	N/A	0.017 U	N/A	0.018 U	N/A	0.052	N/A
Aroclor 1260	mg/kg	0.99	N/A	1.2 J	N/A	0.018 UJ	N/A	0.018 UJ	N/A	0.017 UJ	N/A	0.018 UJ	N/A	0.018 U	N/A
Aroclor 1262	mg/kg		N/A	0.097 U	N/A	0.018 U	N/A	0.018 U	N/A	0.017 U	N/A	0.018 U	N/A	0.018 U	N/A
PCBs (total)	mg/kg	0.97	N/A	1.2	N/A	0.16 U	N/A	0.16 U	N/A	0.15 U	N/A	0.16 U	N/A	0.052 J	N/A
TPH/Oil and Grease															
Diesel Range Organics	mg/kg	6,200	2.9 B	188 J	49.4 J	56.7 J	7.1 J	14.5 J	2.1 J	24.2 J	11 J	9.4 J	15 J	6.1 B	5.5 B
Gasoline Range Organics	mg/kg	6,200	8.9 U	17.2 U	9.8 U	9.8 U	11.5 U	8.9 U	9.1 U	11.1 U	9.1 U	6.7 U	9.1 U	2.7 J	10.7 U
Oil and Grease	mg/kg	6,200	419	1,390	443	418	255	110	105 J	115	300	212	316	105 J	610

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

^ PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

**Table 6 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Organics Detected in Soil**

Parameter	Units	PAL	GRY-028-SB-1*	GRY-028-SB-4*	A5-001-TP	A5-002-TP	A5-003-TP	A5-004-TP	A5-005-TP	A5-006-TP	A5-007-TP	A5-008-TP	A9-001-TP	GRY-001-TP
Volatile Organic Compounds														
1,1,1-Trichloroethane	mg/kg	36,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0043 UJ	N/A	N/A	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0087 UJ	N/A	N/A	N/A	N/A
Acetone	mg/kg	670,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0087 UJ	N/A	N/A	N/A	N/A
Carbon disulfide	mg/kg	3,500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0043 UJ	N/A	N/A	N/A	N/A
Cyclohexane	mg/kg	27,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0087 UJ	N/A	N/A	N/A	N/A
Ethylbenzene	mg/kg	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0043 UJ	N/A	N/A	N/A	N/A
Methyl Acetate	mg/kg	1,200,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.043 UJ	N/A	N/A	N/A	N/A
Styrene	mg/kg	35,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0043 UJ	N/A	N/A	N/A	N/A
Tetrachloroethene	mg/kg	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0043 UJ	N/A	N/A	N/A	N/A
Xylenes	mg/kg	2,800	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.013 UJ	N/A	N/A	N/A	N/A
Semi-Volatile Organic Compounds[^]														
1,1-Biphenyl	mg/kg	200	0.068 U	0.07 U	0.74 U	0.072 U	0.072 U	0.073 U	0.071 U	0.073 U	0.074 U	0.088 U	0.079 U	0.073 U
2,4-Dinitrophenol	mg/kg	1,600	0.17 U	0.18 U	1.8 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.22 U	0.2 R	0.18 U
2-Chloronaphthalene	mg/kg	60,000	0.068 U	0.07 U	0.74 U	0.072 U	0.072 U	0.073 U	0.071 U	0.073 U	0.074 U	0.088 U	0.079 U	0.073 U
2-Methylnaphthalene	mg/kg	3,000	0.083	0.01	0.067	0.099	0.0074	0.0043 J	0.0014 J	0.0012 J	0.0017 J	0.0017 J	0.00082 J	0.074 U
2-Methylphenol	mg/kg	41,000	0.068 U	0.07 U	0.74 U	0.072 U	0.072 U	0.073 U	0.071 U	0.073 U	0.074 U	0.088 U	0.079 R	0.073 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	0.14 U	1.5 U	0.14 U	0.14 U	0.15 U	0.14 U	0.15 U	0.15 U	0.18 U	0.16 R	0.15 U
3,3'-Dichlorobenzidine	mg/kg	5.1	0.068 U	0.07 U	0.74 U	0.072 U	0.072 U	0.073 U	0.071 U	0.073 U	0.074 U	0.088 U	0.079 U	0.073 U
Acenaphthene	mg/kg	45,000	0.0055 J	0.0012 J	0.014	0.053	0.00066 J	0.0074 U	0.0072 U	0.0074 U	0.0073 U	0.0089 U	0.0079 U	0.074 U
Acenaphthylene	mg/kg	45,000	0.031 J	0.0033 J	0.25	0.3	0.0096	0.0074 U	0.00075 J	0.0074 U	0.0021 J	0.00088 J	0.0079 U	0.074 U
Acetophenone	mg/kg	120,000	0.068 U	0.07 U	0.74 U	0.072 U	0.072 U	0.073 U	0.071 U	0.073 U	0.074 U	0.088 U	0.079 U	0.073 U
Anthracene	mg/kg	230,000	0.041 J	0.019	0.11	0.23	0.0055 J	0.0015 J	0.00062 J	0.0074 U	0.0027 J	0.0032 J	0.0025 J	0.074 U
Benz[a]anthracene	mg/kg	21	0.18	0.072	0.42	0.68	0.025	0.0085	0.0037 J	0.002 J	0.011	0.0081 J	0.038	0.074 U
Benzaldehyde	mg/kg	120,000	0.068 U	0.07 U	0.74 U	0.051 J	0.039 J	0.026 J	0.017 J	0.073 U	0.074 U	0.13	0.02 J	0.073 U
Benzo[a]pyrene	mg/kg	2.1	0.2	0.056	0.71	0.74	0.03	0.013	0.0038 J	0.0016 J	0.011	0.0052 J	0.061	0.074 U
Benzo[b]fluoranthene	mg/kg	21	0.53	0.16	1.3	1.8	0.069	0.029	0.009	0.0036 J	0.024	0.023	0.035	0.074 U
Benzo[g,h,i]perylene	mg/kg		0.13	0.035	0.17	0.15	0.012	0.0059 J	0.0021 J	0.00095 J	0.0048 J	0.016	0.017	0.074 U
Benzo[k]fluoranthene	mg/kg	210	0.5	0.15	1.2	1.8	0.066	0.028	0.0086	0.0035 J	0.023	0.022	0.034	0.074 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.016 J	0.07 U	0.74 U	0.072 U	0.072 U	0.073 U	0.071 U	0.073 U	0.074 U	0.088 U	0.079 U	0.073 U
Caprolactam	mg/kg	400,000	0.17 U	0.18 U	0.24 J	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.22 U	0.2 U	0.18 U
Carbazole	mg/kg		0.068 U	0.07 U	0.74 U	0.029 J	0.072 U	0.073 U	0.071 U	0.073 U	0.074 U	0.088 U	0.079 U	0.073 U
Chrysene	mg/kg	2,100	0.24	0.079	0.44	0.65	0.026	0.0096	0.0034 J	0.0012 J	0.011	0.011	0.056	0.074 U
Dibenz[a,h]anthracene	mg/kg	2.1	0.042 J	0.013	0.064	0.074	0.0047 J	0.0017 J	0.0072 U	0.0074 U	0.0017 J	0.0024 J	0.0052 J	0.074 U
Diethylphthalate	mg/kg	660,000	0.068 U	0.07 U	0.74 U	0.072 U	0.072 U	0.073 U	0.071 U	0.073 U	0.074 U	0.088 U	0.079 U	0.073 U
Di-n-butylphthalate	mg/kg	82,000	0.068 U	0.07 U	0.74 U	0.072 U	0.072 U	0.073 U	0.071 U	0.073 U	0.074 U	0.088 U	0.079 U	0.073 U
Di-n-octylphthalate	mg/kg	8,200	0.068 U	0.07 U	0.74 U	0.072 U	0.072 U	0.073 U	0.071 U	0.073 U	0.074 U	0.088 U	0.079 U	0.073 U
Fluoranthene	mg/kg	30,000	0.27	0.13	0.71	0.92	0.032	0.011	0.004 J	0.0015 J	0.017	0.0067 J	0.01	0.0083 J
Fluorene	mg/kg	30,000	0.07 U	0.00098 J	0.023	0.061	0.00091 J	0.00064 J	0.0072 U	0.0074 U	0.0073 U	0.0089 U	0.0079 U	0.074 U
Indeno[1,2,3-c,d]pyrene	mg/kg	21	0.12	0.036	0.18	0.16	0.012	0.0054 J	0.0017 J	0.0074 U	0.0048 J	0.0093	0.0048 J	0.074 U
Naphthalene	mg/kg	17	0.083	0.0086	0.28 J	0.2 J	0.0066 J	0.0074 UJ	0.0072 UJ	0.0074 UJ	0.0073 UJ	0.0089 UJ	0.0079 UJ	0.074 U
N-Nitrosodiphenylamine	mg/kg	470	0.068 U	0.07 U	0.74 U	0.072 U	0.072 U	0.073 U	0.071 U	0.073 U	0.074 U	0.088 U	0.079 U	0.073 U
Phenanthrene	mg/kg		0.088	0.063	0.22	0.43	0.012	0.0065 J	0.0023 J	0.0014 J	0.0089	0.0037 J	0.011	0.008 J
Phenol	mg/kg	250,000	0.068 U	0.07 U	0.74 U	0.16	0.072 U	0.021 J	0.071 U	0.073 U	0.074 U	0.088 U	0.079 R	0.073 U
Pyrene	mg/kg	23,000	0.27	0.12	0.66	0.88	0.03	0.0097	0.0037 J	0.0015 J	0.014	0.0053 J	0.045	0.0082 J
PCBs														
Aroclor 1254	mg/kg	0.97	0.017 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.02 U	N/A
Aroclor 1260	mg/kg	0.99	0.017 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.02 UJ	N/A
Aroclor 1262	mg/kg		0.017 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.02 U	N/A
PCBs (total)	mg/kg	0.97	0.15 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.18 U	N/A
TPH/Oil and Grease														
Diesel Range Organics	mg/kg	6,200	15	17.1	473 J	235 J	24.1 J	18.3 J	4.7 J	24.4 J	8.7 J	11.1 J	14.5 J	8
Gasoline Range Organics	mg/kg	6,200	3.6 J	1.8 J	13 UJ	9.2 UJ	11.6 UJ	11.6 UJ	11 UJ	12.6 UJ	11.3 UJ	12.6 UJ	3.1 B	2.7 B
Oil and Grease	mg/kg	6,200	190	151	3,860	3,280	60.6 J	169	242	117	150	269	194	301

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

[^] PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A5-001-SB-1*	A5-001-SB-9*	A5-001-SB-10	A5-002-SB-1*	A5-002-SB-7*	A5-003-SB-1*	A5-004-SB-1*	A5-004-SB-6*	A5-005-SB-1*
Metals											
Aluminum	mg/kg	1,100,000	32,700	12,200	N/A	43,000	15,300	46,700	34,100	338	18,500
Antimony	mg/kg	470	2.4 U	2.7 U	N/A	2.6 U	2.7 U	2.5 U	2.3 U	9.2	2.5 U
Arsenic	mg/kg	3	13.5	6.6	4.9	5	2.7	5.3	2.8	64.4	2.1 U
Barium	mg/kg	220,000	263	56.5	N/A	357	54.2	344	298	7.4 J	62.1
Beryllium	mg/kg	2,300	4.6	0.62 J	N/A	7.1	0.57 J	6.6	6.9	0.93 U	0.3 J
Cadmium	mg/kg	980	3.2	1.4 U	N/A	1.2 J	1.4 U	1.2 J	7	28.4	0.82 J
Chromium	mg/kg	120,000	138	50.7	N/A	53	23.3	33.8	43.3	483	1,250
Chromium VI	mg/kg	6.3	0.48 B	0.64 B	N/A	0.54 B	1 J	0.44 B	0.51 B	1.7	1.4
Cobalt	mg/kg	350	11.6	4.4 J	N/A	4.8	6.7	6.6	2.8 J	24.7	3 J
Copper	mg/kg	47,000	141	47.4	N/A	39.5	7.6	55.4	31	336	31.5
Iron	mg/kg	820,000	121,000	22,800	N/A	28,000	15,100	76,300	47,700	393,000	176,000
Lead	mg/kg	800	176	64.7	N/A	44.4	8.3	26.6	109	1,490	22.9
Manganese	mg/kg	26,000	2,960	154	N/A	4,940	218	2,840	2,860	2,610	28,600
Mercury	mg/kg	350	2.6	0.28	N/A	0.023 J	0.019 J	0.017 J	0.019 J	0.016 J	0.025 J
Nickel	mg/kg	22,000	40.4	13.9	N/A	8.1 J	18	16.9	22.9	109	17.5
Selenium	mg/kg	5,800	2.5 J	2.1 J	N/A	3.5 U	3.6 U	5.8	4.7	2.7 J	3.3 U
Silver	mg/kg	5,800	13.3	2.8	N/A	15.2	3.9	15.9	14.6	5.2	30.2
Thallium	mg/kg	12	8 U	9.1 U	N/A	8.7 U	9.1 U	8.4 U	7.8 U	9.3 U	8.3 U
Vanadium	mg/kg	5,800	88.5	51.5	N/A	88.3	29	22	40	102	854
Zinc	mg/kg	350,000	1,450	132	N/A	159	44.9	163	1,450	34,500	82.8
Other											
Cyanide	mg/kg	150	1.6	0.31 J	N/A	0.62 J	0.22 J	0.76 J	0.84 U	0.43 J	0.45 J

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A5-005-SB-4*	A5-005-SB-10	A5-006-SB-1*	A5-006-SB-5*	A5-006-SB-10	A5-007-SB-1	A5-007-SB-5	A5-008-SB-1	A5-008-SB-9
Metals											
Aluminum	mg/kg	1,100,000	36,900	N/A	19,500	47,200	N/A	43,800	16,200	41,800	25,000
Antimony	mg/kg	470	2.5 U	N/A	3 U	2.6 U	N/A	2.6 U	2.7 U	2.4 U	2.8 U
Arsenic	mg/kg	3	2.1 U	N/A	12.1	3.9	5.2	2.2	2.3 U	3.4	2.5
Barium	mg/kg	220,000	610	N/A	81.2	380	N/A	364	38.7	334	113
Beryllium	mg/kg	2,300	4	N/A	1.3	6.6	N/A	6.6	0.36 B	6.4	2.2
Cadmium	mg/kg	980	0.43 J	N/A	1.5 U	1.3 U	N/A	1.1 J	1.4 U	0.66 J	1.4 U
Chromium	mg/kg	120,000	282	N/A	40.8	21.9	N/A	35.4	17	27.6	19.2
Chromium VI	mg/kg	6.3	0.55 B	N/A	0.68 B	0.58 B	N/A	0.55 B	0.61 B	0.48 B	0.65 B
Cobalt	mg/kg	350	1.8 J	N/A	6	0.93 J	N/A	2.5 J	1.6 J	44.6	3.6 J
Copper	mg/kg	47,000	20.4	N/A	40.8	5.9	N/A	12	4.5 J	44.9	6.7
Iron	mg/kg	820,000	44,500	N/A	49,700	15,900	N/A	37,100 J	6,850 J	56,000 J	15,400 J
Lead	mg/kg	800	7.5	N/A	1,070	3.6	N/A	9.3	6.4	14.5	6.2
Manganese	mg/kg	26,000	26,100	29.9	299	3,290	N/A	2,920	26.5	2,670	546
Mercury	mg/kg	350	0.1 U	N/A	0.016 J	0.0041 J	N/A	0.1 U	0.0091 J	0.11 U	0.0079 J
Nickel	mg/kg	22,000	6.5 J	N/A	16.9	2.2 J	N/A	5.8 J	4.5 J	10.3	7.3 J
Selenium	mg/kg	5,800	3.3 U	N/A	4 U	2.5 J	N/A	4.3	3.6 U	4.5	1.9 J
Silver	mg/kg	5,800	21.1	N/A	3 U	2.6 U	N/A	20.3	1.3 J	15.9	6
Thallium	mg/kg	12	8.3 U	N/A	10 U	8.5 U	N/A	8.5 U	9 U	8.1 U	9.3 U
Vanadium	mg/kg	5,800	242	N/A	60.7	40.7	N/A	95.8	17.3	72.2	29.5
Zinc	mg/kg	350,000	20.4	N/A	176	55	N/A	122	14	82.9	21.8
Other											
Cyanide	mg/kg	150	0.99	N/A	1.3 U	1.8	N/A	0.44 J	0.99 U	0.85 J	0.38 J

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A5-009-SB-1	A5-009-SB-9	A5-009-SB-10*	A5-010-SB-1	A5-010-SB-9	A5-010-SB-10	A5-011-SB-1*	A5-011-SB-6*	A5-011-SB-10
Metals											
Aluminum	mg/kg	1,100,000	45,600	14,500	N/A	4,680	17,200	N/A	31,700	19,700	N/A
Antimony	mg/kg	470	2.4 U	2.9 U	N/A	3.1 UJ	2.8 UJ	N/A	2.5 U	2.7 U	N/A
Arsenic	mg/kg	3	2 U	3.3	6.7	4.6	3.1	2 J	3.9	6.4	10.4
Barium	mg/kg	220,000	312	21.7	N/A	81.2 J	213 J	N/A	381	79.7	N/A
Beryllium	mg/kg	2,300	6.5	0.47 B	N/A	0.26 J	0.47 J	N/A	5.7	0.5 J	N/A
Cadmium	mg/kg	980	0.49 J	1.5 U	N/A	1.6 U	1.4 U	N/A	0.53 J	1.4 U	N/A
Chromium	mg/kg	120,000	69.1	26.2	N/A	26.9	29.9	N/A	153	33.2	N/A
Chromium VI	mg/kg	6.3	0.52 B	1.5 J-	N/A	0.59 B	0.55 B	N/A	0.55 B	1.5	N/A
Cobalt	mg/kg	350	1.3 J	3.3 J	N/A	3.9 J	4 J	N/A	3.4 J	2.2 J	N/A
Copper	mg/kg	47,000	5.3	9.8	N/A	25.5	11.4	N/A	19.8	7	N/A
Iron	mg/kg	820,000	28,800 J	20,900 J	N/A	8,020	12,300	N/A	36,100	58,100	N/A
Lead	mg/kg	800	9.8	12.1	N/A	198 J	16 J	N/A	732	11.6	N/A
Manganese	mg/kg	26,000	2,910	30.3	N/A	201 J	34 J	N/A	3,490	27.7	N/A
Mercury	mg/kg	350	0.093 U	0.12 U	N/A	0.36	0.01 J	N/A	0.009 J	0.16	N/A
Nickel	mg/kg	22,000	3.8 J	8.1 J	N/A	9.7 J	10.7	N/A	11.3	6.4 J	N/A
Selenium	mg/kg	5,800	5.4	3.9 U	N/A	4.1 U	3.7 U	N/A	2.3 J	3.7 U	N/A
Silver	mg/kg	5,800	16.3	0.81 J	N/A	3.1 U	2.8 U	N/A	2.5 U	2.7 U	N/A
Thallium	mg/kg	12	7.9 U	9.7 U	N/A	10.3 U	9.2 U	N/A	8.5 U	9.2 U	N/A
Vanadium	mg/kg	5,800	198	37.3	N/A	15.5	35.3	N/A	157	43.6	N/A
Zinc	mg/kg	350,000	92.9	26.7	N/A	156	33.3	N/A	88.1	27.1	N/A
Other											
Cyanide	mg/kg	150	1.4	1.2 U	N/A	0.19 J	1.2 U	N/A	0.38 J	1.2 U	N/A

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A5-012-SB-1*	A5-012-SB-4*	A5-013-SB-1*	A5-013-SB-9*	A5-013-SB-10	A5-014-SB-1	A5-014-SB-4	A5-015-SB-1	A5-015-SB-5
Metals											
Aluminum	mg/kg	1,100,000	46,900	765	31,500	22,600	N/A	11,900	9,320	13,900	9,700
Antimony	mg/kg	470	2.4 U	2.7 U	2.3 U	3.3 U	N/A	2.9 UJ	2.5 UJ	3 U	2.7 U
Arsenic	mg/kg	3	2.8	81.4	7.2	17.1	14.7	7.3	3.7	4.8	2.2 UJ
Barium	mg/kg	220,000	448	17.2	244	170	N/A	31.5 J	21.4 J	67.7	21.8
Beryllium	mg/kg	2,300	5.6	0.36 J	4.4	3.6	N/A	0.33 J	0.4 J	0.34 J	0.3 J
Cadmium	mg/kg	980	1.2	24.4	9	192	N/A	1.5 U	1.3 U	1.5 U	1.3 U
Chromium	mg/kg	120,000	32	954	174	236	N/A	20.7	15.6	19	15.1
Chromium VI	mg/kg	6.3	0.55 B	3.8	0.28 B	0.72 B	N/A	0.63 B	0.63 B	0.51 B	0.59 B
Cobalt	mg/kg	350	3.3 J	25	10.1	16.7	N/A	3.4 J	3.1 J	2.7 J	1.7 J
Copper	mg/kg	47,000	35.6	373	105	350	N/A	8.6	6.4	6.9	7.5
Iron	mg/kg	820,000	24,800	372,000	144,000	115,000	N/A	17,900	12,900	11,100	12,500
Lead	mg/kg	800	1,130	1,050	59.6	233	N/A	12.1 J	5.9 J	9.3	4.7
Manganese	mg/kg	26,000	3,830	2,850	2,410	1,680	N/A	60.1 J	73.1 J	40.1	26.1
Mercury	mg/kg	350	0.063 J	0.12 U	0.038 J	0.15	N/A	0.037 J	0.0045 J	0.041 J	0.11 U
Nickel	mg/kg	22,000	8.2	106	185	516	N/A	9.8 J	6.8 J	6.7 J	6.7 J
Selenium	mg/kg	5,800	1.7 J	5	3.6	5.3	N/A	3.9 U	3.3 U	3.9 U	3.6 U
Silver	mg/kg	5,800	19.3	4.8	9.5	11.1	N/A	2.9 U	2.5 U	3 U	2.7 U
Thallium	mg/kg	12	7.9 U	9.1 U	7.7 U	10.9 U	N/A	9.8 U	8.4 U	9.9 U	9 U
Vanadium	mg/kg	5,800	61.4	93.8	94.6	39.6	N/A	32.2	24.4	31.4	20.6
Zinc	mg/kg	350,000	278	48,300	830	25,100	N/A	34.9	21.5	29.6	17.5
Other											
Cyanide	mg/kg	150	1.5	0.97 U	1.4	0.82 J	N/A	1.3 U	0.91 U	1.3 U	1.1 U

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A5-016-SB-1*	A5-016-SB-5*	A5-017-SB-1*	A5-017-SB-5*	A5-017-SB-10*	A5-018-SB-1*	A5-018-SB-4*	A5-018-SB-10*	A5-019-SB-1
Metals											
Aluminum	mg/kg	1,100,000	350	299	278	322	N/A	16,900	14,700	N/A	308
Antimony	mg/kg	470	7.8	6.6	5.4	7.9	N/A	2.7 U	2.7 U	N/A	16.9
Arsenic	mg/kg	3	51.7	42.8	39.2	57.7	15.5	4.8	4.9	5.6	52
Barium	mg/kg	220,000	5.4 J	9.2	11.7	6.9 J	N/A	85.7	64	N/A	4.5 J
Beryllium	mg/kg	2,300	0.88 U	0.91 U	0.92 U	0.88 U	N/A	0.95	0.59 J	N/A	0.85 U
Cadmium	mg/kg	980	3.1	11.8	5.7	17.7	N/A	1.6	1.4 U	N/A	3.6
Chromium	mg/kg	120,000	332	338	260	427	N/A	30.8	26	N/A	327
Chromium VI	mg/kg	6.3	0.52 B	0.65 B	0.68 B	0.65 B	N/A	2.1 B	0.58 B	N/A	0.52 B
Cobalt	mg/kg	350	19.6	21	14.5	22.2	N/A	6.2	5.5	N/A	14.1
Copper	mg/kg	47,000	183	226	181	297	N/A	15.7	12.2	N/A	214
Iron	mg/kg	820,000	412,000	465,000	509,000	442,000	N/A	16,100	17,600	N/A	433,000
Lead	mg/kg	800	286	1,530	311	1,940	19.1	34.4	27.2	N/A	513
Manganese	mg/kg	26,000	1,910	4,650	5,080	3,980	N/A	419	263	N/A	2,710
Mercury	mg/kg	350	0.016 J	0.11 J	0.039 J	0.075 J	N/A	0.057 J	0.041 J	N/A	0.062 J
Nickel	mg/kg	22,000	82.3	87.9	83.8	98.7	N/A	14.2	12.8	N/A	87.8
Selenium	mg/kg	5,800	3.5	3.6 U	3.7 U	3.5 U	N/A	3.6 U	3.6 U	N/A	8.3
Silver	mg/kg	5,800	0.92 J	3.7	1.5 J	6.2	N/A	2.7 U	2.7 U	N/A	6.6
Thallium	mg/kg	12	8.8 U	9.1 U	9.2 U	8.8 U	N/A	8.9 U	9.1 U	N/A	8.5 U
Vanadium	mg/kg	5,800	67.7	76	76.5	62.6	N/A	29.8	32.4	N/A	71.9
Zinc	mg/kg	350,000	8,180	22,800	12,000	26,600	N/A	1,070	164	N/A	5,250
Other											
Cyanide	mg/kg	150	1.1 U	0.56 J	1.7	0.38 J	N/A	1.1	0.24 J	N/A	0.4 B

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A5-019-SB-5	A5-019-SB-10*	A5-020-SB-1*	A5-020-SB-5*	A5-020-SB-10	A5-021-SB-1	A5-021-SB-5	A5-021-SB-10*	A5-022-SB-1
Metals											
Aluminum	mg/kg	1,100,000	296	N/A	206	227	N/A	237	589	N/A	9,260
Antimony	mg/kg	470	9.3	N/A	11.2	5.7	N/A	11.5	3.7	N/A	2.4 U
Arsenic	mg/kg	3	29.9	4.1	56.7	30.2	6.8	48	46.8	2.7	1.8 J
Barium	mg/kg	220,000	19.4	N/A	5.7 J	12	N/A	5.4 B	6.2 B	N/A	78.8
Beryllium	mg/kg	2,300	0.94 U	N/A	0.9 U	0.95 U	N/A	0.87 U	0.94 U	N/A	0.22 B
Cadmium	mg/kg	980	5.1	N/A	7.6	5.1	N/A	4.4	3.7	N/A	1.2 J
Chromium	mg/kg	120,000	205	N/A	243	245	N/A	314	374	N/A	943
Chromium VI	mg/kg	6.3	0.56 B	N/A	0.51 B	0.48 B	N/A	0.6 B	0.65 B	N/A	0.71 B
Cobalt	mg/kg	350	7.9	N/A	18.9	13.3	N/A	14.5	18.6	N/A	4 J
Copper	mg/kg	47,000	153	N/A	217	170	N/A	181	167	N/A	45.7
Iron	mg/kg	820,000	514,000	N/A	432,000	477,000	N/A	401,000 J	416,000 J	N/A	139,000
Lead	mg/kg	800	439	N/A	552	341	N/A	276	331	N/A	43.1
Manganese	mg/kg	26,000	10,100	N/A	3,270	5,710	N/A	2,930	2,420	N/A	30,300
Mercury	mg/kg	350	0.05 J	N/A	0.091 J	0.039 J	N/A	0.064 J	0.051 J	N/A	0.085 J
Nickel	mg/kg	22,000	76	N/A	89.4	67.6	N/A	76.2	76.3	N/A	23.4
Selenium	mg/kg	5,800	6.3	N/A	2 J	2.4 J	N/A	3.7	3.7 J	N/A	3.3 U
Silver	mg/kg	5,800	11	N/A	1.8 J	2.3 J	N/A	0.42 J	2.8 U	N/A	101
Thallium	mg/kg	12	9.4 U	N/A	9 U	9.5 U	N/A	8.7 U	9.4 U	N/A	9.3
Vanadium	mg/kg	5,800	60.7	N/A	66.2	74.1	N/A	50.9	57.2	N/A	2,840
Zinc	mg/kg	350,000	14,200	N/A	11,000	13,700	N/A	13,300	9,610	N/A	253
Other											
Cyanide	mg/kg	150	1.8	N/A	0.74 J	2.5	N/A	0.48 J	0.89 J	N/A	0.77 J-

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A5-022-SB-8	A5-022-SB-10*	A5-023-SB-1	A5-023-SB-8	A5-023-SB-10*	A5-024-SB-1*	A5-024-SB-4*	A5-024-SB-10	A9-001-SB-1
Metals											
Aluminum	mg/kg	1,100,000	8,300	N/A	46,900	4,120	N/A	24,500	398	N/A	7,570
Antimony	mg/kg	470	2.7 U	N/A	2.4 U	1.4 J	N/A	2.6 U	7.1	N/A	2.5 UJ
Arsenic	mg/kg	3	26.5	7.2	3.9	27.2	4.1	8.9	48.2	4.1	4.5
Barium	mg/kg	220,000	55.9	N/A	335	37.1	N/A	146	4.7 J	N/A	64.6 J
Beryllium	mg/kg	2,300	0.87 B	N/A	5.8	0.26 B	N/A	2.4	0.92 U	N/A	0.71 J
Cadmium	mg/kg	980	3.8	N/A	3.1	4.6	N/A	1.8	9	N/A	1.3 U
Chromium	mg/kg	120,000	281	N/A	35.4	306	N/A	68	447	N/A	11.3
Chromium VI	mg/kg	6.3	0.75 B	N/A	0.57 B	0.63 B	N/A	0.56 B	2.5	N/A	0.45 B
Cobalt	mg/kg	350	22.1	N/A	3.7 J	19.4	N/A	6.5	29.6	N/A	6.2
Copper	mg/kg	47,000	127	N/A	24.1	133	N/A	38.3	224	N/A	22.8
Iron	mg/kg	820,000	309,000	N/A	41,200	290,000	N/A	58,200	374,000	N/A	7,350
Lead	mg/kg	800	160	N/A	52.9	255	N/A	76.6	369	N/A	93.2 J
Manganese	mg/kg	26,000	1,900	N/A	3,000	1,730	N/A	1,310	2,380	N/A	181
Mercury	mg/kg	350	0.033 J	N/A	0.071 J	0.02 J	N/A	0.07 J	0.11 U	N/A	0.43
Nickel	mg/kg	22,000	61.7	N/A	41.2	59.8	N/A	36.2	102	N/A	10.8
Selenium	mg/kg	5,800	2.5 J	N/A	3.1 J	1.6 J	N/A	2.6 J	3.7 U	N/A	3.4 U
Silver	mg/kg	5,800	2.4 J	N/A	30	3.2	N/A	6.7	2.4 J	N/A	2.5 U
Thallium	mg/kg	12	9 U	N/A	8.2 U	9 U	N/A	8.7 U	9.2 U	N/A	8.4 U
Vanadium	mg/kg	5,800	107	N/A	219	124	N/A	109	165	N/A	13.8
Zinc	mg/kg	350,000	12,300	N/A	391	9,040	N/A	619	13,900	N/A	102 J
Other											
Cyanide	mg/kg	150	0.15 J-	N/A	2 J-	0.11 J-	N/A	0.86 J	1.1 U	N/A	0.17 J+

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A9-001-SB-6	A9-002-SB-1	A9-002-SB-5	A9-003-SB-1	A9-003-SB-5	A9-003-SB-10*	A9-004-SB-1	A9-004-SB-7	A9-004-SB-10*
Metals											
Aluminum	mg/kg	1,100,000	1,480	8,710	8,700	4,270	4,490	N/A	13,900	15,800	N/A
Antimony	mg/kg	470	2.3 UJ	2.3 UJ	1.5 B	20.8	2.6 U	N/A	1.4 J	2.5 UJ	N/A
Arsenic	mg/kg	3	1.9 U	3.3	2.1 UJ	12.2	3.4	2.2 U	4.3	20.8	8.6
Barium	mg/kg	220,000	3.8 J	56.7	34.4	56.3	11.7	N/A	50.6	36.7	N/A
Beryllium	mg/kg	2,300	0.77 U	0.7 J	0.29 J	0.26 J	0.13 J	N/A	0.53 J	0.7 J	N/A
Cadmium	mg/kg	980	1.1 U	1.2 U	1.3 U	1.4 U	1.3 U	N/A	1.3 U	1.3 U	N/A
Chromium	mg/kg	120,000	2.7	10.4	11.6	11.3	6.9	N/A	18.5 J	34	N/A
Chromium VI	mg/kg	6.3	0.53 B	0.42 B	0.5 B	0.49 B	0.86 B	N/A	1 B	1.4 J-	N/A
Cobalt	mg/kg	350	2.9 J	10.4	2.1 J	3.7 J	1.6 J	N/A	5.1	4.7	N/A
Copper	mg/kg	47,000	3.8 U	8.3	8	29.2	4.1 J	N/A	6.6	14.2	N/A
Iron	mg/kg	820,000	2,540	8,730	7,400	8,150	7,510	N/A	16,000	18,600	N/A
Lead	mg/kg	800	0.93 J	18.5	30.7	1,100	4.8	N/A	10.6	14.4	N/A
Manganese	mg/kg	26,000	56.3	380 J	67.9 J	159	32.4	N/A	57.9 J	32.9 J	N/A
Mercury	mg/kg	350	0.0066 J	0.18	0.16	0.52	0.11 U	N/A	0.048 J	0.11 U	N/A
Nickel	mg/kg	22,000	1.2 J	8.1	4.9 J	5.8 J	3.8 J	N/A	11.5	11.1	N/A
Selenium	mg/kg	5,800	3.1 U	3.1 U	3.4 U	1.8 J	3.5 U	N/A	3.5 U	3.4 U	N/A
Silver	mg/kg	5,800	2.3 U	2.3 U	2.6 U	2.9 U	2.6 U	N/A	2.6 U	2.5 U	N/A
Thallium	mg/kg	12	7.7 U	7.8 UJ	8.5 UJ	9.6 U	8.6 U	N/A	8.8 U	8.4 U	N/A
Vanadium	mg/kg	5,800	4.4	16.7	14.5	14.9	12.3	N/A	27.8	39.6	N/A
Zinc	mg/kg	350,000	3.3 B	29.3	42.5	75.5	18.8	N/A	37.1	40.3	N/A
Other											
Cyanide	mg/kg	150	0.45 J+	0.62 J	0.12 J	0.17 B	0.13 B	N/A	1 U	1 U	N/A

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A9-005-SB-1	A9-005-SB-9	A9-005-SB-10	A9-006-SB-1	A9-006-SB-4	A9-007-SB-1	A9-007-SB-5	A9-008-SB-1	A9-008-SB-5
Metals											
Aluminum	mg/kg	1,100,000	11,800	17,900	N/A	6,430	8,220	10,800	3,300	3,850	2,920
Antimony	mg/kg	470	2.5 UJ	2.9 UJ	N/A	2.1 J	2.6 UJ	1.7 J	2.5 UJ	1.8 B	2.7 U
Arsenic	mg/kg	3	5.1	6.3	5.5	3.8	1.8 J	8.1	2.1 UJ	4.2	2.4
Barium	mg/kg	220,000	49	41.9	N/A	68.9	24.8	94.7	8.9	53.4	8.8 J
Beryllium	mg/kg	2,300	0.57 J	0.97	N/A	0.58 J	0.29 J	0.76 J	0.15 J	0.3 J	0.17 J
Cadmium	mg/kg	980	1.2 U	1.4 U	N/A	1.3 U	1.3 U	1.3 U	1.2 U	1.4 U	1.4 U
Chromium	mg/kg	120,000	19.8	32.7	N/A	10.7	10.6	19.7	7.2	11	6.1
Chromium VI	mg/kg	6.3	0.53 B	1.8	N/A	0.38 B	0.57 B	0.4 B	0.83 B	0.63 B	0.77 B
Cobalt	mg/kg	350	5	6.1	N/A	4.4	2.4 J	10.3	0.58 J	3.1 J	0.98 J
Copper	mg/kg	47,000	12.7	14.1	N/A	22.9	6	37.5	3.1 J	17.8	1.5 J
Iron	mg/kg	820,000	15,600	21,400	N/A	7,150	9,510	13,900	5,000	6,990	4,570
Lead	mg/kg	800	27.5	15.2	N/A	89.7	12.6	198	2.3	156	2.2 J
Manganese	mg/kg	26,000	125 J	57.2 J	N/A	146 J	48.4 J	625 J	10 J	135	11.8
Mercury	mg/kg	350	0.059 J	0.0053 J	N/A	0.4	0.037 J	1	0.0043 J	0.38	0.11 U
Nickel	mg/kg	22,000	11.3	16	N/A	7.7 J	4.6 J	10	2 J	5.2 J	2.2 J
Selenium	mg/kg	5,800	3.3 U	3.8 U	N/A	3.4 U	3.4 U	3.5 U	3.3 U	3.7 U	3.6 U
Silver	mg/kg	5,800	2.5 U	2.9 U	N/A	2.5 U	2.6 U	2.6 U	2.5 U	2.8 U	2.7 U
Thallium	mg/kg	12	8.2 U	9.5 U	N/A	8.4 UJ	8.5 UJ	8.6 UJ	8.3 UJ	9.3 U	9.1 U
Vanadium	mg/kg	5,800	31.4	49.7	N/A	13	17.4	26.7	12.8	11.9	8
Zinc	mg/kg	350,000	59.1	52.9	N/A	69.7	20	109	7.5	80	5.2
Other											
Cyanide	mg/kg	150	0.12 J	1.3 U	N/A	0.13 J	1 U	0.33 J	0.13 J	0.17 B	1 U

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A9-009-SB-1	A9-009-SB-9	A9-010-SB-1	A9-010-SB-9	A9-011-SB-1	A9-011-SB-4	A9-011-SB-10*	A9-012-SB-1	A9-012-SB-5
Metals											
Aluminum	mg/kg	1,100,000	14,200	13,700	35,000	18,900	13,800	7,350	N/A	6,820	18,200
Antimony	mg/kg	470	1.5 J	2.6 UJ	2.5 UJ	2.7 UJ	2.5 UJ	2.6 UJ	N/A	2.8 UJ	2.9 UJ
Arsenic	mg/kg	3	4.9	2.3	2.6	2.3	4	3	2.2 U	6.9	4.6
Barium	mg/kg	220,000	75	49.7 B	630 J	45.3 J	58	18	N/A	92.5 J	28.2 J
Beryllium	mg/kg	2,300	0.29 J	0.66 J	3.8	0.65 J	0.46 J	0.28 J	N/A	0.47 J	0.61 J
Cadmium	mg/kg	980	1.3 U	1.3 U	1.3 U	1.4 U	1.2 U	1.3 U	N/A	0.59 J	1.4 U
Chromium	mg/kg	120,000	19.1 J	27.8 J	251	35.3	17.8	10.5	N/A	23.2	28.9
Chromium VI	mg/kg	6.3	0.56 B	1 B	0.66 B	0.73 B	0.53 B	0.83 B	N/A	2.2 B	0.8 B
Cobalt	mg/kg	350	3.8 J	4.5	4.2 U	6.2	4.3	2.9 J	N/A	3.4 J	4 J
Copper	mg/kg	47,000	12.5	11.5	8.7	17.3	11.7	5.7	N/A	40.5	8.5
Iron	mg/kg	820,000	16,000	9,040	20,600	12,600	15,000	10,200	N/A	9,970	12,600
Lead	mg/kg	800	22.9	12.1	12.5 J	17.1 J	13.2	6.1	N/A	149 J	14 J
Manganese	mg/kg	26,000	53.8 J	32.9 J	10,400	206	86.8 J	54.2 J	N/A	173	17.8
Mercury	mg/kg	350	0.044 J	0.15 U	0.13 U	0.0049 J	0.051 J	0.0097 J	N/A	0.9	0.13 U
Nickel	mg/kg	22,000	8.5 J	10	3.7 J	12.8	10.8	4.8 J	N/A	8.7 J	9.2 J
Selenium	mg/kg	5,800	3.5 U	3.5 U	1.6 B	3.7 U	3.3 U	3.5 U	N/A	3.7 U	3.8 U
Silver	mg/kg	5,800	2.7 U	2.6 U	2.5 U	2.7 U	2.5 U	2.6 U	N/A	2.8 U	2.9 U
Thallium	mg/kg	12	8.9 U	8.8 U	8.4 U	9.1 U	8.2 U	8.6 U	N/A	9.2 U	9.6 U
Vanadium	mg/kg	5,800	33.7	27.4	1,520	41.9	28	18.8	N/A	84.4	33.9
Zinc	mg/kg	350,000	43	40.7	16.6 J	50.6 J	44.5	16.9	N/A	234 J	28.1 J
Other											
Cyanide	mg/kg	150	1 U	1.1 U	0.67 J+	0.13 J+	0.14 J	0.97 U	N/A	0.6 J+	1.1 U

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A9-012-SB-10*	A9-013-SB-1	A9-013-SB-9	A9-013-SB-10*	A9-014-SB-1	A9-014-SB-9	A9-014-SB-10*	A9-015-SB-1*	A9-015-SB-5*
Metals											
Aluminum	mg/kg	1,100,000	N/A	26,500	17,500	N/A	7,370	16,200	N/A	28,300	7,500
Antimony	mg/kg	470	N/A	2.5 UJ	3.1 UJ	N/A	2.8 UJ	2.7 UJ	N/A	1.3 J	2.7 U
Arsenic	mg/kg	3	14.2	3.5	4	10.3	4.1	16	11.2	11.4	4
Barium	mg/kg	220,000	N/A	572 J	25.5 J	N/A	68.9	99.5	N/A	390	17.2
Beryllium	mg/kg	2,300	N/A	2.4	0.41 J	N/A	0.31 J	1.1	N/A	2.6	0.21 J
Cadmium	mg/kg	980	N/A	1.2 U	1.6 U	N/A	1.4 U	1.4 U	N/A	3.6	1.3 U
Chromium	mg/kg	120,000	N/A	26.8	27.2	N/A	18	37.8	N/A	116	9.9
Chromium VI	mg/kg	6.3	N/A	0.46 B	0.9 B	N/A	0.41 B	0.71 B	N/A	0.51 B	0.82 B
Cobalt	mg/kg	350	N/A	3.7 J	2.5 J	N/A	4 J	8.2	N/A	11.5	1.4 J
Copper	mg/kg	47,000	N/A	11.6	9	N/A	31.7	17.8	N/A	70.5	4.9
Iron	mg/kg	820,000	N/A	20,200	18,700	N/A	11,500	22,600	N/A	56,600	9,780
Lead	mg/kg	800	N/A	9.3 J	12 J	N/A	87	23.5	N/A	311	3.3
Manganese	mg/kg	26,000	N/A	4,720	25.9	N/A	287 J	38.5 J	N/A	4,760	22.1
Mercury	mg/kg	350	N/A	0.1 U	0.14 U	N/A	0.067 J	0.12 U	N/A	0.34	0.12 U
Nickel	mg/kg	22,000	N/A	8.5	8 J	N/A	7.6 J	19.2	N/A	26.3	3.6 J
Selenium	mg/kg	5,800	N/A	3.3 U	4.1 U	N/A	3.8 U	3.7 U	N/A	3.8 U	3.6 U
Silver	mg/kg	5,800	N/A	2.5 U	3.1 U	N/A	2.8 U	2.7 U	N/A	0.86 J	2.7 U
Thallium	mg/kg	12	N/A	8.3 U	10.4 U	N/A	9.4 UJ	9.2 UJ	N/A	9.5 U	8.9 U
Vanadium	mg/kg	5,800	N/A	194	30.1	N/A	27.6	62.6	N/A	174	18.5
Zinc	mg/kg	350,000	N/A	27.2 J	23.9 J	N/A	197	51.9	N/A	1,070	12.4
Other											
Cyanide	mg/kg	150	N/A	0.94 J+	0.64 J+	N/A	1.1 U	1.2 U	N/A	1.6	1 U

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A9-015-SB-10	A9-016-SB-1	A9-016-SB-7	A9-017-SB-1*	A9-017-SB-5*	A9-018-SB-1*	A9-018-SB-5*	A9-018-SB-10	A9-019-SB-1
Metals											
Aluminum	mg/kg	1,100,000	N/A	43,900	5,880	6,390	7,120	13,300	12,400	N/A	8,610
Antimony	mg/kg	470	N/A	2.5 UJ	2.5 UJ	2.7 U	2.6 U	2.9 U	2.6 U	N/A	2.5 UJ
Arsenic	mg/kg	3	3.7	1.7 J	1.9 J	2.8	2.2 U	4.5	5	2.5 U	9.8
Barium	mg/kg	220,000	N/A	494	25.5	70.8	20.2	156	27	N/A	39.3
Beryllium	mg/kg	2,300	N/A	4.8	0.31 J	0.27 J	0.22 J	1.2	0.52 J	N/A	0.52 J
Cadmium	mg/kg	980	N/A	0.62 J	1.3 U	1.4 U	1.3 U	0.54 J	1.3 U	N/A	1.3 U
Chromium	mg/kg	120,000	N/A	51.4	8	15.5	10.9	22.5	19.6	N/A	14.6
Chromium VI	mg/kg	6.3	N/A	0.62 B	0.62 B	0.47 B	0.92 B	0.65 B	1.9	N/A	0.9 B
Cobalt	mg/kg	350	N/A	2 J	1.1 J	2.5 J	1.2 J	3.2 J	2 J	N/A	2.2 J
Copper	mg/kg	47,000	N/A	13.4	5	23.2	2.8 B	26.7	9.1	N/A	7.6
Iron	mg/kg	820,000	N/A	21,700	6,440	7,230	5,960	11,600	36,400	N/A	16,500
Lead	mg/kg	800	N/A	70.1	3.1	82	3.7	137	6.7	N/A	14.9
Manganese	mg/kg	26,000	N/A	7,110 J	102 J	140	9.6	1,090	36.3	N/A	135 J
Mercury	mg/kg	350	N/A	0.082 J	0.12 U	1.8	0.13 U	0.3	0.005 J	N/A	0.036 J
Nickel	mg/kg	22,000	N/A	4.7 J	3.1 J	5.3 J	3 J	8.5 J	6.8 J	N/A	5.2 J
Selenium	mg/kg	5,800	N/A	3.3 U	3.4 U	3.7 U	3.5 U	3.9 U	3.5 U	N/A	3.4 U
Silver	mg/kg	5,800	N/A	2.5 U	2.5 U	2.7 U	2.6 U	2.9 U	2.6 U	N/A	2.5 U
Thallium	mg/kg	12	N/A	8.2 U	8.5 U	9.2 U	8.7 U	9.8 U	8.7 U	N/A	8.4 U
Vanadium	mg/kg	5,800	N/A	116	12.7	16.3	15.6	27.2	31.2	N/A	21
Zinc	mg/kg	350,000	N/A	85.4	9	68.3	9.3	188	24.4	N/A	24.3
Other											
Cyanide	mg/kg	150	N/A	0.47 J	1 U	0.19 J	0.98 U	0.32 J	0.11 J	N/A	0.91 U

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A9-019-SB-5	A9-020-SB-1*	A9-020-SB-9*	A9-020-SB-10	A9-021-SB-1*	A9-021-SB-8*	A9-021-SB-10*	A9-022-SB-1	A9-022-SB-5
Metals											
Aluminum	mg/kg	1,100,000	5,490	6,360	22,700	N/A	10,500	21,200	N/A	13,300	14,400
Antimony	mg/kg	470	2.9 UJ	2.9 U	3 U	N/A	1.4 B	2.8 U	N/A	1.7 J	1.8 J
Arsenic	mg/kg	3	2.4 U	5.2	4.7	3	6.2	3.6	7.6	4.5	18.1
Barium	mg/kg	220,000	11	90.5	39.7	N/A	93.1	51.5	N/A	72.1	54.3
Beryllium	mg/kg	2,300	0.14 J	0.35 J	0.72 J	N/A	0.51 J	0.76 J	N/A	0.32 J	1.1
Cadmium	mg/kg	980	1.4 U	1.5 U	1.5 U	N/A	0.55 J	1.4 U	N/A	1.4 U	1.5 U
Chromium	mg/kg	120,000	7.6	13.5	37.9	N/A	28.8	28.6	N/A	17.5	59.1
Chromium VI	mg/kg	6.3	0.79 B	0.69 B	1.5	N/A	0.5 B	0.83 B	N/A	0.63 B	1.4 J-
Cobalt	mg/kg	350	0.95 J	2.8 J	5.6	N/A	7.5	5.9	N/A	3.8 J	8.2
Copper	mg/kg	47,000	3.8 J	28.2	13.3	N/A	28.3	13.9	N/A	11	11.7
Iron	mg/kg	820,000	4,320	7,810	14,600	N/A	14,400	10,400	N/A	11,500	20,200
Lead	mg/kg	800	2.3 J	128	15.2	N/A	127	13.2	N/A	18	13.5
Manganese	mg/kg	26,000	17.4 J	186	38.6	N/A	670	50.6	N/A	76.1 J	830 J
Mercury	mg/kg	350	0.0055 J	0.45	0.038 J	N/A	0.36	0.13 U	N/A	0.028 J	0.016 J
Nickel	mg/kg	22,000	2.4 J	5.7 J	14.1	N/A	11	13.9	N/A	6.4 J	16
Selenium	mg/kg	5,800	3.8 U	3.9 U	3.9 U	N/A	3.6 U	3.7 U	N/A	3.8 U	4 U
Silver	mg/kg	5,800	2.9 U	2.9 U	3 U	N/A	2.7 U	2.8 U	N/A	2.8 U	3 U
Thallium	mg/kg	12	9.5 U	9.8 U	9.9 U	N/A	9 U	9.2 U	N/A	9.4 U	10 U
Vanadium	mg/kg	5,800	11.6	15.5	55.7	N/A	92.2	26.7	N/A	27.1	82.4
Zinc	mg/kg	350,000	7	121	32.3	N/A	136	49.7	N/A	27	37.4
Other											
Cyanide	mg/kg	150	1.1 U	0.31 J	1.2 U	N/A	1.1 U	1.2 U	N/A	1.3 U	1.1 U

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A9-022-SB-10*	A9-023-SB-1	A9-023-SB-5	A9-023-SB-10*	A9-024-SB-1*	A9-024-SB-5*	A9-024-SB-10*	A9-025-SB-1*	A9-025-SB-5*
Metals											
Aluminum	mg/kg	1,100,000	N/A	16,700	22,300	N/A	37,600	19,600	N/A	8,860	16,100
Antimony	mg/kg	470	N/A	2.8 J	2.9 UJ	N/A	2.6 U	3 U	N/A	1.6 J	2.7 U
Arsenic	mg/kg	3	8.6	2.4	5.2	7	3.7	3.7	3.1	6.5	2.4
Barium	mg/kg	220,000	N/A	61.7	80.2	N/A	290	54.6	N/A	79.6	40.1
Beryllium	mg/kg	2,300	N/A	0.4 J	0.73 J	N/A	6.7	0.46 J	N/A	0.52 J	0.49 J
Cadmium	mg/kg	980	N/A	1.3 U	1.5 U	N/A	1.3 U	1.5 U	N/A	0.62 J	1.4 U
Chromium	mg/kg	120,000	N/A	22.9	25.3	N/A	466	24.8	N/A	26.4	27.3
Chromium VI	mg/kg	6.3	N/A	1.3 J-	1.6 J-	N/A	0.9 B	1.1 B	N/A	1.8 B	1.1 B
Cobalt	mg/kg	350	N/A	4.2 J	3.2 J	N/A	4.3 U	2.8 J	N/A	7.9	2.9 J
Copper	mg/kg	47,000	N/A	9	7.3	N/A	18	9.9	N/A	30.5	7
Iron	mg/kg	820,000	N/A	12,700	13,100	N/A	40,900	11,700	N/A	14,400	11,400
Lead	mg/kg	800	N/A	8.7	12.4	N/A	111	14.1	N/A	112	10.7
Manganese	mg/kg	26,000	N/A	57.2 J	27.4 J	N/A	9,080	32.9	N/A	357	18.5
Mercury	mg/kg	350	N/A	0.017 J	0.036 J	N/A	0.012 J	0.0087 J	N/A	0.4	0.11 U
Nickel	mg/kg	22,000	N/A	10.9	9.4 J	N/A	5.2 J	8.2 J	N/A	11.2	7.2 J
Selenium	mg/kg	5,800	N/A	3.5 U	3.9 U	N/A	3.4 U	4 U	N/A	3.7 U	3.7 U
Silver	mg/kg	5,800	N/A	2.6 U	2.9 U	N/A	2.6 U	3 U	N/A	2.8 U	2.7 U
Thallium	mg/kg	12	N/A	8.6 U	9.8 U	N/A	8.6 U	10.1 U	N/A	9.4 U	9.1 U
Vanadium	mg/kg	5,800	N/A	23.5	29.9	N/A	118	30.4	N/A	30.3	26.9
Zinc	mg/kg	350,000	N/A	33.1	22.5	N/A	66.5	24.1	N/A	184	24.5
Other											
Cyanide	mg/kg	150	N/A	0.99 U	1.1 U	N/A	0.3 J	1.1 U	N/A	1 U	1.1 U

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A9-026-SB-1*	A9-026-SB-4*	A9-026-SB-10*	A9-027-SB-1*	A9-027-SB-4*	A9-027-SB-10*	GRY-001-SB-1*	GRY-001-SB-5*
Metals										
Aluminum	mg/kg	1,100,000	17,300	13,900	N/A	16,200	15,800	N/A	22,000	13,600
Antimony	mg/kg	470	2.7 U	2.8 U	N/A	2.8 U	3.2 U	N/A	2.6 U	2.7 U
Arsenic	mg/kg	3	4.8	5.7	3.4	6.4	18.4	4	3.4	2.8
Barium	mg/kg	220,000	102	79.6	N/A	66	49.9	N/A	271	46.2
Beryllium	mg/kg	2,300	0.89	1.3	N/A	0.61 J	1 J	N/A	3.5	0.39 J
Cadmium	mg/kg	980	1.3 U	1.4 U	N/A	1.4 U	1.6 U	N/A	1.1 J	1.3 U
Chromium	mg/kg	120,000	24.6	22.8	N/A	78.3	32.1	N/A	35.4	20.5
Chromium VI	mg/kg	6.3	0.66 B	1 B	N/A	1.1 B	1.2 B	N/A	0.53 B	0.64 B
Cobalt	mg/kg	350	5.1	8.4	N/A	5	6	N/A	6.7	5.8
Copper	mg/kg	47,000	9.6	12.5	N/A	15	14.7	N/A	26.9	13.3
Iron	mg/kg	820,000	14,200	29,600	N/A	21,200	29,600	N/A	20,000	19,500
Lead	mg/kg	800	30	7.7	N/A	42.4	12.4	N/A	43.4	30
Manganese	mg/kg	26,000	945	146	N/A	1,710	49.2	N/A	2,280	120
Mercury	mg/kg	350	0.032 J	0.12 U	N/A	0.22	0.14 U	N/A	0.014 J	0.17
Nickel	mg/kg	22,000	10	16.4	N/A	12	13.7	N/A	14.2	9
Selenium	mg/kg	5,800	3.6 U	3.7 U	N/A	3.7 U	4.3 U	N/A	3.4 U	3.6 U
Silver	mg/kg	5,800	2.7 U	2.8 U	N/A	2.8 U	3.2 U	N/A	10.3	2 B
Thallium	mg/kg	12	8.9 U	9.3 U	N/A	9.3 U	10.7 U	N/A	8.5 U	9 U
Vanadium	mg/kg	5,800	26.5	31.9	N/A	48.9	36.6	N/A	108	29.9
Zinc	mg/kg	350,000	43	52.1	N/A	77.3	45.4	N/A	190	39.3
Other										
Cyanide	mg/kg	150	0.62 J	1.1 U	N/A	1.1 U	1.1 U	N/A	0.17 J	1 U

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	GRY-002-SB-1*	GRY-002-SB-7*	GRY-003-SB-1	GRY-003-SB-5	GRY-003-SB-10	GRY-004-SB-1	GRY-004-SB-5	GRY-004-SB-10
Metals										
Aluminum	mg/kg	1,100,000	14,300	13,200	41,200	10,300	N/A	41,200	12,000	N/A
Antimony	mg/kg	470	2.4 U	2.8 U	2.6 UJ	2.6 UJ	N/A	1.1 J	2.6 UJ	N/A
Arsenic	mg/kg	3	12.9	2.3 U	5.2	5.3	2.2 J-	3.5	4.3	2.5 UJ
Barium	mg/kg	220,000	232	21.2	461	69.9	N/A	542	43.2	N/A
Beryllium	mg/kg	2,300	1.9	0.44 J	4.6 J	0.48 J	N/A	4.6 J	0.52 J	N/A
Cadmium	mg/kg	980	1.9	1.4 U	0.5 J	1.3 U	N/A	0.73 J	1.3 U	N/A
Chromium	mg/kg	120,000	952	22.6	71.9 J	19.7 J	N/A	95.1 J	16.7 J	N/A
Chromium VI	mg/kg	6.3	0.59 B	0.86 B	0.48 B	0.5 B	N/A	0.46 B	1.4 J-	N/A
Cobalt	mg/kg	350	10.9	2.7 J	6.2	5.2	N/A	4.8	1.7 J	N/A
Copper	mg/kg	47,000	127	8.6	34.9 J	18.1 J	N/A	34.9 J	2.7 J	N/A
Iron	mg/kg	820,000	151,000	15,900	38,400 J	11,200 J	N/A	31,500 J	13,300 J	N/A
Lead	mg/kg	800	286	9.1	33.6 J	51.2 J	N/A	51.4 J	12.6 J	N/A
Manganese	mg/kg	26,000	63,200	109	7,820	73.8	N/A	7,550	54.9	N/A
Mercury	mg/kg	350	0.1 U	0.0046 J	0.0039 J	0.23	N/A	0.012 J	0.076 J	N/A
Nickel	mg/kg	22,000	34.9	7.3 J	14.3 J	7.1 J	N/A	14.3 J	5.5 J	N/A
Selenium	mg/kg	5,800	3.2 U	3.7 U	2.3 B	3.4 UJ	N/A	3.5 B	3.4 UJ	N/A
Silver	mg/kg	5,800	34.5	0.47 B	0.49 J	2.6 U	N/A	2.6 U	2.6 U	N/A
Thallium	mg/kg	12	8 U	9.2 U	8.6 U	8.6 U	N/A	8.8 U	8.6 U	N/A
Vanadium	mg/kg	5,800	683	30.5	102 J	22.9 J	N/A	241 J	23 J	N/A
Zinc	mg/kg	350,000	424	23	153 J	69.7 J	N/A	227 J	14.3 J	N/A
Other										
Cyanide	mg/kg	150	2.2	1.1 U	0.45 J+	1 U	N/A	0.72 J+	0.92 U	N/A

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	GRY-005-SB-1	GRY-005-SB-5	GRY-006-SB-1	GRY-006-SB-5	GRY-007-SB-1*	GRY-008-SB-1	GRY-008-SB-5	GRY-009-SB-1
Metals										
Aluminum	mg/kg	1,100,000	17,500	4,500	33,400	16,400	13,800	43,700	14,400	17,100
Antimony	mg/kg	470	3.2 J	2.6 UJ	2.9 UJ	2.7 UJ	2.7 U	2.6 UJ	2.8 UJ	5.4 J
Arsenic	mg/kg	3	2 U	2.2 U	3.6	2.3 U	4.1	2 J	2.6	7.4
Barium	mg/kg	220,000	340	10.7	313	53.9	152	675	59.6	244
Beryllium	mg/kg	2,300	2.5 J	0.86 U	4.5 J	0.33 J	1.5	3.5 J	0.71 J	0.85 J
Cadmium	mg/kg	980	1.2 U	1.3 U	0.7 J	1.4 U	0.71 J	0.55 J	1.4 U	1.2 U
Chromium	mg/kg	120,000	858 J	7.5 J	67.5 J	16.9 J	118	63 J	22.8 J	468 J
Chromium VI	mg/kg	6.3	0.37 B	0.89 B	0.53 B	0.65 B	0.52 B	0.49 B	0.69 B	0.51 B
Cobalt	mg/kg	350	1.8 J	0.77 J	10.6	3.4 J	6.7	2.6 J	7	56.6
Copper	mg/kg	47,000	52.3 J	2.9 J	44.4 J	6.8 J	48.2	20.3 J	7.8 J	65.2 J
Iron	mg/kg	820,000	137,000 J	2,630 J	27,400 J	6,530 J	35,300	32,400 J	15,600 J	453,000 J
Lead	mg/kg	800	20.7 J	2.6 J	49.2 J	9.5 J	107	36.8 J	7.5 J	1.9 UJ
Manganese	mg/kg	26,000	45,700	14	3,850	54.7	3,300	8,200	99.7	13,300
Mercury	mg/kg	350	0.098 U	0.099 U	0.018 J	0.02 J	0.049 J	0.0063 J	0.11 U	0.089 U
Nickel	mg/kg	22,000	11.1 J	2.3 J	14.5 J	7.6 J	23.6	9.5 J	16.1 J	105 J
Selenium	mg/kg	5,800	3.3 UJ	3.5 UJ	3.8 UJ	3.6 UJ	3.6 U	1.9 B	3.7 UJ	6 J
Silver	mg/kg	5,800	5.3	2.6 U	2.9 U	2.7 U	2.7 U	2.6 U	2.8 U	2.3 U
Thallium	mg/kg	12	8.1 U	8.6 U	9.5 U	9 U	8.9 U	8.5 U	9.3 U	7.8 U
Vanadium	mg/kg	5,800	713 J	14.1 J	124 J	17 J	137	272 J	23.8 J	5,130 J
Zinc	mg/kg	350,000	95.3 J	5.9 J	216 J	20.4 J	230	98.9 J	34.1 J	23.7 J
Other										
Cyanide	mg/kg	150	0.81 J+	1 U	0.94 J+	4.1 J+	1.2	0.76 J+	1.1 U	0.64 J+

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	GRY-009-SB-5	GRY-009-SB-10	GRY-010-SB-1	GRY-010-SB-4	GRY-010-SB-10	GRY-011-SB-1	GRY-011-SB-7	GRY-011-SB-10
Metals										
Aluminum	mg/kg	1,100,000	14,800	N/A	19,000	20,400	N/A	22,400	13,500	N/A
Antimony	mg/kg	470	2.8 UJ	N/A	2.7 UJ	2.8 UJ	N/A	2.4 UJ	2.8 UJ	N/A
Arsenic	mg/kg	3	3.3	6.3	4.1	9.8	5.6 J	5.1	3	19.8 J
Barium	mg/kg	220,000	48.7	N/A	448	469	N/A	319	49.9	N/A
Beryllium	mg/kg	2,300	0.42 J	N/A	1.1	2.3	N/A	3.3	0.48 B	N/A
Cadmium	mg/kg	980	1.4 U	N/A	0.63 J	0.74 J	N/A	1.6	1.4 U	N/A
Chromium	mg/kg	120,000	17 J	N/A	902	388	N/A	354	14.9	N/A
Chromium VI	mg/kg	6.3	0.91 B	N/A	0.63 B	0.64 B	N/A	0.6 B	0.52 B	N/A
Cobalt	mg/kg	350	4 J	N/A	5.9	15.7	N/A	11.7	4.6 J	N/A
Copper	mg/kg	47,000	4.2 J	N/A	79.8 J	174 J	N/A	73.6 J	5.3 J	N/A
Iron	mg/kg	820,000	8,970 J	N/A	114,000	148,000	N/A	26,400	11,400	N/A
Lead	mg/kg	800	6.9 J	N/A	21.2	15	N/A	189	6.6	N/A
Manganese	mg/kg	26,000	56.6	N/A	35,900 J	26,000 J	70.6 J	1,600 J	78.1 J	N/A
Mercury	mg/kg	350	0.11 U	N/A	0.11 U	0.11 U	N/A	0.087 J	0.022 J	N/A
Nickel	mg/kg	22,000	7.6 J	N/A	19.9	48.5	N/A	26.6	10	N/A
Selenium	mg/kg	5,800	3.7 UJ	N/A	3.6 U	3.7 U	N/A	3.2 U	3.7 U	N/A
Silver	mg/kg	5,800	2.8 U	N/A	30.2	22.6	N/A	7.4	1.9 J	N/A
Thallium	mg/kg	12	9.3 U	N/A	9 U	9.2 U	N/A	8.1 U	9.3 U	N/A
Vanadium	mg/kg	5,800	24.4 J	N/A	2,210	1,190	N/A	34.5	22	N/A
Zinc	mg/kg	350,000	15.8 J	N/A	26 J	27.1 J	N/A	460 J	30.2 J	N/A
Other										
Cyanide	mg/kg	150	0.23 J+	N/A	0.49 J-	0.88 J-	N/A	0.75 J-	0.3 J-	N/A

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	GRY-012-SB-1	GRY-012-SB-5	GRY-013-SB-1*	GRY-013-SB-5*	GRY-013-SB-10*	GRY-014-SB-1*	GRY-014-SB-5*	GRY-014-SB-10*
Metals										
Aluminum	mg/kg	1,100,000	10,900	34,500	32,400	12,400	N/A	44,500	16,300	N/A
Antimony	mg/kg	470	2.6 UJ	4.8 UJ	2.6 U	2.7 U	N/A	2.5 U	2.8 U	N/A
Arsenic	mg/kg	3	2.2 U	4.3	2.2 U	7.1	10.6	2.1 U	3.7	9.2
Barium	mg/kg	220,000	51.5	383	530	31.2	N/A	839	38.5	N/A
Beryllium	mg/kg	2,300	0.47 B	3.8	3.5	0.39 J	N/A	5	0.37 J	N/A
Cadmium	mg/kg	980	0.91 J	2.4 U	0.65 J	1.4 U	N/A	0.73 J	1.4 U	N/A
Chromium	mg/kg	120,000	1,160	41.6	26.4	19	N/A	34	28.1	N/A
Chromium VI	mg/kg	6.3	5.3 J-	0.84 B	0.58 B	0.73 B	N/A	0.45 B	1.2 B	N/A
Cobalt	mg/kg	350	1.8 J	7.6 J	3.9 J	3.6 J	N/A	2.2 J	3.8 J	N/A
Copper	mg/kg	47,000	22 J	22.1 J	32	9.8	N/A	11.2	7.3	N/A
Iron	mg/kg	820,000	198,000	31,700	18,200	18,200	N/A	8,180	17,800	N/A
Lead	mg/kg	800	13.2	4 U	32	5.7	N/A	22.2	7.9	N/A
Manganese	mg/kg	26,000	30,200 J	2,940 J	7,050	59.8	N/A	7,860	126	N/A
Mercury	mg/kg	350	0.0066 J	0.2 U	0.34	0.059 J	N/A	0.027 J	0.059 J	N/A
Nickel	mg/kg	22,000	18.1	19.4	10.9	9.9	N/A	4.7 B	9.7	N/A
Selenium	mg/kg	5,800	3.5 U	6.5 U	3.4 U	3.6 U	N/A	2 B	3.7 U	N/A
Silver	mg/kg	5,800	25.7	16	15.5	2.4 B	N/A	21.7	2.8	N/A
Thallium	mg/kg	12	8.6 U	9.7 U	8.6 U	9.1 U	N/A	8.4 U	9.3 U	N/A
Vanadium	mg/kg	5,800	858	113	42.4	33.8	N/A	83.1	32.3	N/A
Zinc	mg/kg	350,000	150 J	10.8 J	68.4	27.7	N/A	47.2	30.2	N/A
Other										
Cyanide	mg/kg	150	0.37 J-	2.3 J-	0.38 J	1.1 U	N/A	0.54 J	1.1 U	N/A

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	GRY-015-SB-1*	GRY-015-SB-5*	GRY-015-SB-10*	GRY-016-SB-1*	GRY-016-SB-5*	GRY-017-SB-1*	GRY-017-SB-5*
Metals									
Aluminum	mg/kg	1,100,000	20,200	14,700	N/A	9,240	10,600	44,700	9,000
Antimony	mg/kg	470	2.4 U	2.7 U	N/A	2.6 U	2.8 U	2.6 U	2.8 U
Arsenic	mg/kg	3	4.4	4.8	4	31	4.5	4.5	3.3
Barium	mg/kg	220,000	313	44.1	N/A	151	106	684	72
Beryllium	mg/kg	2,300	2.9	0.5 J	N/A	1.1	1.1	5.1	0.47 J
Cadmium	mg/kg	980	2.1	1.4 U	N/A	0.59 J	1.4 U	0.79 J	1.4 U
Chromium	mg/kg	120,000	523	22.4	N/A	24.4	17.8	52.3	14
Chromium VI	mg/kg	6.3	0.33 B	0.71 B	N/A	0.4 B	0.38 B	0.6 B	0.64 B
Cobalt	mg/kg	350	6.6	4.4 J	N/A	13.3	8.4	3.8 J	5.7
Copper	mg/kg	47,000	62.4	7.9	N/A	41.3	23.1	21.3	16.9
Iron	mg/kg	820,000	89,900	17,500	N/A	32,400	12,200	22,700	8,300
Lead	mg/kg	800	34.8	8.8	N/A	37.9	55.1	30.6	32.1
Manganese	mg/kg	26,000	41,300	137	N/A	899	433	8,230	119
Mercury	mg/kg	350	0.015 J	0.017 J	N/A	0.03 J	0.27	0.0063 J	0.054 J
Nickel	mg/kg	22,000	23.3	10	N/A	30.1	11.1	8.2 B	9.4
Selenium	mg/kg	5,800	3.2 U	3.6 U	N/A	3.5 U	3.7 U	1.6 B	3.7 U
Silver	mg/kg	5,800	33.9	2.8	N/A	7.5	1.9 J	27.8	2.2 J
Thallium	mg/kg	12	8 U	9.1 U	N/A	8.7 U	9.3 U	8.5 U	9.2 U
Vanadium	mg/kg	5,800	605	30.2	N/A	45.7	23.1	84.1	17.8
Zinc	mg/kg	350,000	439	27.3	N/A	84.3	76.4	121	54
Other									
Cyanide	mg/kg	150	0.9 J	1.1 U	N/A	0.51 J	0.23 J	0.83 J	1.1 U

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	GRY-017-SB-10*	GRY-018-SB-1*	GRY-018-SB-4*	GRY-019-SB-1*	GRY-019-SB-5*	GRY-020-SB-1	GRY-020-SB-5	GRY-021-SB-1*
Metals										
Aluminum	mg/kg	1,100,000	N/A	40,600	45,800	12,400	19,500	10,500	20,500	15,600
Antimony	mg/kg	470	N/A	2.8 U	2.6 U	2.8	2.8 U	2.4 J	2.8 UJ	6.2
Arsenic	mg/kg	3	8.6	2.7	2.2 U	13.5	2.1 J	2.2 U	2.1 J	2 U
Barium	mg/kg	220,000	N/A	756	859	271	75.7	72.3	92.6	322
Beryllium	mg/kg	2,300	N/A	3.6	5	1.3	0.35 J	0.51 B	0.42 B	0.8 U
Cadmium	mg/kg	980	N/A	0.97 J	0.48 J	3.3	1.4 U	0.44 J	1.4 U	1.2 U
Chromium	mg/kg	120,000	N/A	386	168	93.2	21.8	839	25.5	2,100
Chromium VI	mg/kg	6.3	N/A	0.57 B	0.67 B	1.7	1 B	1.1 J-	1.8 J-	2.8
Cobalt	mg/kg	350	N/A	7.4	1.8 J	27.8	2.4 J	3.2 J	3.9 J	4 U
Copper	mg/kg	47,000	N/A	41	13.7	197	8.3	35.3	11.9	33.5
Iron	mg/kg	820,000	N/A	33,400	24,500	68,100	8,180	124,000	9,080	117,000
Lead	mg/kg	800	N/A	64.9	7	228	8.9	30	8.9	5.2
Manganese	mg/kg	26,000	N/A	15,000	19,800	3,740	28.2	18,600	57.7	53,400
Mercury	mg/kg	350	N/A	0.036 J	0.0045 J	0.19	0.019 J	0.015 J	0.52	0.099 U
Nickel	mg/kg	22,000	N/A	13.2	6.4 B	60	7.9 J	12.4	10.4	7.9 J
Selenium	mg/kg	5,800	N/A	3.7 U	3.5 U	2.8 J	3.7 U	3.8	3.7 U	3.5
Silver	mg/kg	5,800	N/A	30.1	31	0.48 J	2.8 U	2.6 U	2.8 U	2.4 U
Thallium	mg/kg	12	N/A	9.3 U	8.7 U	8.5 U	9.4 U	8.8 UJ	9.2 UJ	8 U
Vanadium	mg/kg	5,800	N/A	1,120	380	113	19.8	481	25.8	8,920
Zinc	mg/kg	350,000	N/A	119	20.5	629	25	122 J	30.9 J	23.7
Other										
Cyanide	mg/kg	150	N/A	0.36 J	0.56 J	0.59 J	1.1 U	1.1 U	1.1 U	1.1

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	GRY-021-SB-5*	GRY-021-SB-10*	GRY-022-SB-1	GRY-022-SB-5	GRY-022-SB-10*	GRY-023-SB-1	GRY-023-SB-5	GRY-023-SB-10
Metals										
Aluminum	mg/kg	1,100,000	20,900	N/A	31,900	17,500	N/A	17,100	25,500	N/A
Antimony	mg/kg	470	2.9 U	N/A	2.6 UJ	2.7 UJ	N/A	2.5 UJ	2.9 UJ	N/A
Arsenic	mg/kg	3	3.4	5.5	4.5	8.8	13.1	8.4 J	5 J	10.4
Barium	mg/kg	220,000	25.8	N/A	544	61.1	N/A	210	119	N/A
Beryllium	mg/kg	2,300	0.59 J	N/A	2.7	0.65 B	N/A	1.9	0.86 B	N/A
Cadmium	mg/kg	980	1.5 U	N/A	1.3 U	1.4 U	N/A	3.7	1.4 U	N/A
Chromium	mg/kg	120,000	39.8	N/A	136	24.5	N/A	510	36.5	N/A
Chromium VI	mg/kg	6.3	1.1 B	N/A	0.68 B	0.7 B	N/A	0.63 B	0.65 B	N/A
Cobalt	mg/kg	350	4.5 J	N/A	5.3	4.1 J	N/A	14	3.4 J	N/A
Copper	mg/kg	47,000	9.6	N/A	64.4	10.6	N/A	151 J	11.9 J	N/A
Iron	mg/kg	820,000	17,400	N/A	56,000	10,600	N/A	115,000	21,600	N/A
Lead	mg/kg	800	11.8	N/A	74.9	11.2	N/A	161 J	12.1 J	N/A
Manganese	mg/kg	26,000	56.5	N/A	10,500	50	N/A	13,100	762	N/A
Mercury	mg/kg	350	0.0094 J	N/A	0.043 J	0.0079 J	N/A	0.032 J	0.043 J	N/A
Nickel	mg/kg	22,000	11.1	N/A	11.3	11.9	N/A	51.2 J	8.1 J	N/A
Selenium	mg/kg	5,800	3.9 U	N/A	2.4 J	3.6 U	N/A	3.3 UJ	3.8 UJ	N/A
Silver	mg/kg	5,800	2.9 U	N/A	2.6 U	2.7 U	N/A	15.9	4.1	N/A
Thallium	mg/kg	12	9.7 U	N/A	8.7 UJ	9.1 UJ	N/A	8.4 U	9.6 U	N/A
Vanadium	mg/kg	5,800	66.5	N/A	691	35.6	N/A	354	51.6	N/A
Zinc	mg/kg	350,000	39.6	N/A	222 J	26.2 J	N/A	1,090	36.3	N/A
Other										
Cyanide	mg/kg	150	1 U	N/A	1.1 J	1.2 U	N/A	0.86 J	0.26 J	N/A

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	GRY-024-SB-1	GRY-024-SB-5	GRY-024-SB-10	GRY-025-SB-1	GRY-025-SB-5	GRY-026-SB-1	GRY-026-SB-5
Metals									
Aluminum	mg/kg	1,100,000	17,800	14,500	N/A	37,300	12,600	14,500	16,200
Antimony	mg/kg	470	2.6 UJ	2.7 UJ	N/A	2.4 UJ	2.9 UJ	2.5 UJ	2.8 UJ
Arsenic	mg/kg	3	5.5 J	3.5 J	4.2	5.6 J	2.8 J	2.1 U	6.6 J
Barium	mg/kg	220,000	269	148	N/A	879	52.8	276	118
Beryllium	mg/kg	2,300	2.6	0.47 B	N/A	4.3	0.45 B	0.84 U	1.1
Cadmium	mg/kg	980	2.3	1.4 U	N/A	0.54 J	1.4 U	0.96 J	0.55 J
Chromium	mg/kg	120,000	767	20.5	N/A	74.8	21.9	2,010	136
Chromium VI	mg/kg	6.3	0.41 B	1.1 B	N/A	0.52 B	0.54 B	1.2	0.63 B
Cobalt	mg/kg	350	10.1	5.5	N/A	2.6 J	5.4	2.7 J	5.5
Copper	mg/kg	47,000	91.2 J	8.2 J	N/A	18.1 J	7.1 J	41.5 J	22.4 J
Iron	mg/kg	820,000	104,000	13,700	N/A	21,800	13,400	115,000	30,800
Lead	mg/kg	800	66.2 J	6.5 J	N/A	9.5 J	12.9 J	6.1 J	27.6 J
Manganese	mg/kg	26,000	35,800	74.3	N/A	8,410	285	55,400	4,210
Mercury	mg/kg	350	0.023 J	0.015 J	N/A	0.0041 J	0.038 J	0.098 U	0.011 J
Nickel	mg/kg	22,000	27.3 J	13.3 J	N/A	6.1 J	10.4 J	13.9 J	13.1 J
Selenium	mg/kg	5,800	3.4 UJ	3.6 UJ	N/A	3.2 UJ	3.8 UJ	3.4 UJ	3.8 UJ
Silver	mg/kg	5,800	25.8	4.1	N/A	20	3.3	78.6	9.2
Thallium	mg/kg	12	8.6 U	9.1 U	N/A	8 U	9.6 U	33.1	9.5 U
Vanadium	mg/kg	5,800	562	21.1	N/A	120	48.9	7,920	560
Zinc	mg/kg	350,000	249	33.5	N/A	38.2	43.1	31.5	87.4
Other									
Cyanide	mg/kg	150	1.7	1.1 U	N/A	0.37 J	0.35 J	0.3 J	0.3 J

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	GRY-027-SB-1*	GRY-027-SB-5*	GRY-027-SB-10*	GRY-028-SB-1*	GRY-028-SB-4*	GRY-028-SB-10*	A5-001-TP	A5-002-TP
Metals										
Aluminum	mg/kg	1,100,000	26,800	16,700	N/A	8,830	11,700	N/A	9,230	15,100
Antimony	mg/kg	470	1.4 J	3.1 U	N/A	5.4	4.3	N/A	2.7 U	2.5 U
Arsenic	mg/kg	3	2.1 U	6.7	14.1	2 U	2 U	N/A	9.9	9.9
Barium	mg/kg	220,000	573	78	N/A	163	138	N/A	124	124
Beryllium	mg/kg	2,300	3.2	0.81 J	N/A	0.32 J	0.48 J	N/A	0.82 J	1.9
Cadmium	mg/kg	980	0.61 J	1.5 U	N/A	1.2 U	0.53 J	N/A	25.3	7.1
Chromium	mg/kg	120,000	515	25.6	N/A	1,370	1,000	N/A	246	168
Chromium VI	mg/kg	6.3	0.54 B	1.7	N/A	0.56 B	1 B	N/A	0.44 B	0.58 B
Cobalt	mg/kg	350	5.7	7.4	N/A	0.53 J	4.1 U	N/A	16.3	14.6
Copper	mg/kg	47,000	61.6	10.4	N/A	40.2	38.5	N/A	192	91.6
Iron	mg/kg	820,000	91,600	23,400	N/A	138,000	109,000	N/A	222,000	178,000
Lead	mg/kg	800	132	11.1	N/A	40.2	27.3	N/A	1,030	88.1
Manganese	mg/kg	26,000	34,700	85.3	N/A	70,800	54,900	103	5,770	2,120
Mercury	mg/kg	350	0.038 J	0.13 U	N/A	0.011 J	0.11 U	N/A	0.52	0.067 J
Nickel	mg/kg	22,000	19.2	15.8	N/A	12	11	N/A	200	169
Selenium	mg/kg	5,800	2 J	4.1 U	N/A	2.3 J	3.2 U	N/A	3.5 U	3.3 U
Silver	mg/kg	5,800	2.5 U	3.1 U	N/A	2.4 U	2.4 U	N/A	2.7 U	2.5 U
Thallium	mg/kg	12	8.5 U	10.2 U	N/A	8.1 U	8.1 U	N/A	8.8 U	8.2 U
Vanadium	mg/kg	5,800	680	38.1	N/A	3,430	2,730	N/A	149	49.5
Zinc	mg/kg	350,000	116	37.5	N/A	108	213	N/A	2,370	812
Other										
Cyanide	mg/kg	150	1.4	1.3 U	N/A	0.84 U	0.94 U	N/A	0.85 J	0.58 J

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 7 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Soil**

Parameter	Units	PAL	A5-003-TP	A5-004-TP	A5-005-TP	A5-006-TP	A5-007-TP	A5-008-TP	A9-001-TP	GRY-001-TP
Metals										
Aluminum	mg/kg	1,100,000	44,900	45,400	23,500	38,900	17,700	15,400	6,850	8,380
Antimony	mg/kg	470	2.5 U	2.5 U	2.5 U	2.6 U	2.5 U	3 U	18	6.4
Arsenic	mg/kg	3	2.2	2.1	3	5.7	5.6	6.1	2.4	2.2 U
Barium	mg/kg	220,000	304	290	125	284	74.5	56.5	25.4	212
Beryllium	mg/kg	2,300	6.1	6.3	2.3	5.9	1.1	0.65 J	0.93 U	0.88 U
Cadmium	mg/kg	980	0.58 J	0.61 J	1.3 U	0.81 J	1.2 U	0.86 J	0.49 J	0.42 J
Chromium	mg/kg	120,000	16.3	81.6	22.5	44.9	34.1	105	585	2,450
Chromium VI	mg/kg	6.3	0.53 B	0.78 B	0.51 B	0.37 B	0.38 B	0.46 B	7.6	1.3
Cobalt	mg/kg	350	9.4	1.1 J	2.9 J	2.1 J	6.9	6.5	4.7 U	4.2 J
Copper	mg/kg	47,000	19.1	13.9	9.3	21	13.8	30.9	169	36.7
Iron	mg/kg	820,000	23,700	40,600	20,100	58,000	27,500	34,200	84,900	159,000
Lead	mg/kg	800	13.8	24.8	9.7	35	20.5	61.2	24,100	65.6
Manganese	mg/kg	26,000	2,180	3,600	552	2,110	201	2,220	12,400	75,900
Mercury	mg/kg	350	0.018 J	0.0087 J	0.011 J	0.1 U	0.028 J	0.1 J	0.12 U	0.0089 J
Nickel	mg/kg	22,000	5 J	5 J	7.2 J	7.1 J	14	16	5.1 J	48.8
Selenium	mg/kg	5,800	1.8 J	1.5 J	3.4 U	1.9 J	3.3 U	4 U	3.7 U	3.1 J
Silver	mg/kg	5,800	2.5 U	2.5 U	2.5 U	2.6 U	2.5 U	3 U	2.8 U	2.7 U
Thallium	mg/kg	12	8.4 U	8.3 U	8.5 U	8.8 U	8.3 U	9.9 U	9.3 U	8.8 U
Vanadium	mg/kg	5,800	29.9	88.3	34.4	35.7	39.6	134	384	17,400
Zinc	mg/kg	350,000	82.9	327	40.3	1,150	79	256	30.4	107
Other										
Cyanide	mg/kg	150	0.76 J	2.1	0.88 U	0.32 J	0.12 J+	0.15 J+	0.17 J	0.28 J

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive result reported for this analyte is a quantitative estimate.

J+: The positive result reported for this analyte is a quantitative estimate but may be biased high.

J-: The positive result reported for this analyte is a quantitative estimate but may be biased low.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 8 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Soil PAL Exceedances**

<u>Parameter</u>	<u>CAS#</u>	<u>Frequency of Detections (%)</u>	<u>Sample ID of Max Result</u>	<u>Max Result</u>	<u>PAL Solid</u>	<u>Unit</u>
Aroclor 1260	11096-82-5	6	GRY-022-SB-1	1.2	0.99	mg/kg
Arsenic	7440-38-2	86	A5-012-SB-4	81.4	3	mg/kg
Benzo[a]pyrene	50-32-8	71	A5-013-SB-1	7.7	2.1	mg/kg
Chromium VI	18540-29-9	14	A9-001-TP	7.6	6.3	mg/kg
Lead	7439-92-1	99	A9-001-TP	24,100	800	mg/kg
Manganese	7439-96-5	100	GRY-001-TP	75,900	26,000	mg/kg
Oil & Grease	O&G	99	GRY-007-SB-1	7,690	6,200	mg/kg
PCBs (total)	1336-36-3	8	GRY-022-SB-1	1.2	0.97	mg/kg
Thallium	7440-28-0	1	GRY-026-SB-1	33.1	12	mg/kg
Vanadium	7440-62-2	100	GRY-001-TP	17,400	5,800	mg/kg

**Table 9 - Parcel A5, Parcel A9, and Greys Rail Yard
Soil PAL Exceedances for Specific Targets**

<u>Target Feature</u>	<u>Boring ID</u>	<u>Sample Depth</u>	<u>Parameter</u>	<u>PAL (mg/kg)</u>	<u>Result (mg/kg)</u>	<u>Final Flag</u>
Topographic Pits	A5-014-SB	1	Arsenic	3	7.3	
		4	Arsenic	3	3.7	
	A5-015-SB	1	Arsenic	3	4.8	
	A5-016-SB	1	Arsenic	3	51.7	
		5	Arsenic	3	42.8	
		5	Lead	800	1,530	
	A5-017-SB	1	Arsenic	3	39.2	
		5	Arsenic	3	57.7	
		5	Lead	800	1,940	
		10	Arsenic	3	15.5	
	A5-018-SB	1	Arsenic	3	4.8	
		4	Arsenic	3	4.9	
		10	Arsenic	3	5.6	
	A5-019-SB	1	Arsenic	3	52	
		5	Arsenic	3	29.9	
		10	Arsenic	3	4.1	
	A5-020-SB	1	Arsenic	3	56.7	
		5	Arsenic	3	30.2	
		10	Arsenic	3	6.8	
	A5-021-SB	1	Arsenic	3	48	
		5	Arsenic	3	46.8	
Parcel A5 BERA copper hotspot	A5-022-SB	1	Manganese	26,000	30,300	
		8	Arsenic	3	26.5	
		10	Arsenic	3	7.2	
	A5-023-SB	1	Arsenic	3	3.9	
		8	Arsenic	3	27.2	
		10	Arsenic	3	4.1	
	A5-024-SB	1	Arsenic	3	8.9	
		4	Arsenic	3	48.2	
10		Arsenic	3	4.1		
Trap & Skeet Field	A9-015-SB	1	Arsenic	3	11.4	
		5	Arsenic	3	4	
		10	Arsenic	3	3.7	
	A9-018-SB	1	Arsenic	3	4.5	
		5	Arsenic	3	5	
	A9-019-SB	1	Arsenic	3	9.8	
	A9-020-SB	1	Arsenic	3	5.2	
		9	Arsenic	3	4.7	
10		Arsenic	3	3		

**Table 9 - Parcel A5, Parcel A9, and Greys Rail Yard
Soil PAL Exceedances for Specific Targets**

<u>Target Feature</u>	<u>Boring ID</u>	<u>Sample Depth</u>	<u>Parameter</u>	<u>PAL (mg/kg)</u>	<u>Result (mg/kg)</u>	<u>Final Flag</u>
Police Department Pistol Range	A9-021-SB	1	Arsenic	3	6.2	
		8	Arsenic	3	3.6	
		10	Arsenic	3	7.6	
	A9-022-SB	1	Arsenic	3	4.5	
		5	Arsenic	3	18.1	
		10	Arsenic	3	8.6	
	A9-023-SB	5	Arsenic	3	5.2	
		10	Arsenic	3	7	
	A9-024-SB	1	Arsenic	3	3.7	
		5	Arsenic	3	3.7	
		10	Arsenic	3	3.1	
	A9-025-SB	1	Arsenic	3	6.5	
	A9-026-SB	1	Arsenic	3	4.8	
		4	Arsenic	3	5.7	
		10	Arsenic	3	3.4	
	A9-027-SB	1	Arsenic	3	6.4	
		4	Arsenic	3	18.4	
		10	Arsenic	3	4	
Slag/Soil Berm Test Pits - Spoil Piles	A5-001-TP	TP	Arsenic	3	9.9	
	A5-001-TP	TP	Lead	800	1,030	
	A5-002-TP	TP	Arsenic	3	9.9	
	A5-005-TP	TP	Arsenic	3	3	
	A5-006-TP	TP	Arsenic	3	5.7	
	A5-007-TP	TP	Arsenic	3	5.6	
	A5-008-TP	TP	Arsenic	3	6.1	
	A9-001-TP	TP	Chromium VI	6.3	7.6	
	A9-001-TP	TP	Lead	800	24,100	
	GRY-001-TP	TP	Manganese	26,000	75,900	
	GRY-001-TP	TP	Vanadium	5,800	17,400	

Site-wide borings providing general coverage are not included on this table.

**Table 10 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Organics Detected in Groundwater**

Parameter	Units	PAL	A5-008-PZ*	A5-010-PZ	A9-002-PZ*	A9-004-PZ	A9-011-PZ	A9-015-PZ	A9-024-PZ*	GRY-003-PZ	GRY-006-PZ	GRY-011-PZ*
Volatile Organic Compounds												
1,2-Dichloroethene (Total)	µg/L	70	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2-Butanone (MEK)	µg/L	5,600	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	µg/L	14,000	3.7 J	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	34.4
Benzene	µg/L	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	µg/L	7.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	µg/L	190	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1.3
cis-1,2-Dichloroethene	µg/L	70	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	µg/L	1,000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	µg/L	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Semi-Volatile Organic Compounds[^]												
1,4-Dioxane	µg/L	0.46	0.099 U	0.098 U	0.32	0.098 U	0.099 U	0.098 U	0.1 U	0.041 J	0.098 U	0.1 U
2,6-Dinitrotoluene	µg/L	0.048	0.99 U	0.98 U	0.98 U	0.98 U	0.99 U	0.98 U	1 U	0.98 U	0.98 U	1 U
2-Methylnaphthalene	µg/L	36	0.099 U	0.098 U	0.098 U	0.098 U	0.099 U	0.098 U	0.1 U	0.098 U	0.098 U	0.1 U
Acenaphthene	µg/L	530	0.099 U	0.098 U	0.098 U	0.098 U	0.099 U	0.098 U	0.1 U	0.098 U	0.098 U	0.1 U
Anthracene	µg/L	1,800	0.099 U	0.098 U	0.098 U	0.098 U	0.099 U	0.098 U	0.1 U	0.05 J	0.098 U	0.1 U
bis(2-Ethylhexyl)phthalate	µg/L	6	0.2 J	0.98 U	0.98 U	0.98 U	0.99 U	0.98 U	1 U	0.15 J	0.17 J	0.19 J
Caprolactam	µg/L	9,900	0.24 J	2.4 U	2.4 U	2.4 U	2.5 U	2.5 U	2.5 U	2.5 U	0.21 J	0.21 J
Diethylphthalate	µg/L	15,000	0.99 U	0.98 U	0.98 U	0.98 U	0.99 U	0.98 U	1 U	0.98 U	0.98 U	1 U
Di-n-butylphthalate	µg/L	900	0.84 J	0.98 U	0.98 U	0.98 U	0.99 U	0.98 U	1 U	0.98 U	0.98 U	0.47 J
Fluorene	µg/L	290	0.099 U	0.098 U	0.098 U	0.098 U	0.099 U	0.098 U	0.1 U	0.098 U	0.028 J	0.1 U
Naphthalene	µg/L	0.17	0.099 U	0.098 U	0.098 U	0.098 U	0.099 U	0.098 U	0.1 U	0.098 U	0.14	0.1 U
Phenanthrene	µg/L		0.099 U	0.098 U	0.098 U	0.098 U	0.099 U	0.098 U	0.1 U	0.098 U	0.062 J	0.1 U
Phenol	µg/L	5,800	0.13 J	0.98 U	0.98 U	0.98 U	0.99 U	0.98 U	1 U	0.98 U	0.98 U	1 U
TPH/Oil and Grease												
Diesel Range Organics	µg/L	47	88 B	29.3 B	163	44.4 B	42.5 B	108 J	74.8 B	89.1 B	151 J	112
Gasoline Range Organics	µg/L	47	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Oil and Grease	µg/L	47	4,750 U	4,750 U	1,800 J	4,770 U	4,750 U	4,750 U	4,750 U	4,750 U	4,750 U	4,750 U

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

* indicates non-validated data

[^] PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive reported value for this analyte is a quantitative estimate.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 10 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Organics Detected in Groundwater**

Parameter	Units	PAL	GRY-013-PZ	GRY-019-PZ*	GRY-021-PZ	GRY-024-PZ*	GRY-027-PZ*	MW93-003	SW01-PZM004	W-14*	W-16*	W-6*
Volatile Organic Compounds												
1,2-Dichloroethene (Total)	µg/L	70	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1.2 J
2-Butanone (MEK)	µg/L	5,600	10 U	10 U	10 U	3.1 J	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	µg/L	14,000	4.3 B	3.1 J	5 B	45.1	13.1	10 U	4.2 J	20.8	10 U	10 U
Benzene	µg/L	5	1 U	1 U	138	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	µg/L	7.5	1 U	1 U	1 U	1 U	1 U	1 U	0.84 J	1 U	1 U	1 U
Chloromethane	µg/L	190	1 U	1 U	1 U	2.1	1 U	1 U	1 U	0.73 J	1 U	1 U
cis-1,2-Dichloroethene	µg/L	70	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.2
Toluene	µg/L	1,000	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.34 J	1 U
Vinyl chloride	µg/L	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1
Semi-Volatile Organic Compounds[^]												
1,4-Dioxane	µg/L	0.46	0.099 U	0.097 U	0.7	0.099 U	0.098 U	0.68	0.27	0.099 U	0.097 U	1.9
2,6-Dinitrotoluene	µg/L	0.048	0.99 U	0.97 U	0.99 U	0.99 U	0.98 U	0.17 J	0.98 U	0.99 U	0.97 U	0.97 U
2-Methylnaphthalene	µg/L	36	0.099 U	0.097 U	0.063 J	0.099 U	0.098 U	0.098 U	0.098 U	0.099 U	0.097 U	0.097 U
Acenaphthene	µg/L	530	0.099 U	0.097 U	0.099 U	0.099 U	0.098 U	0.098 U	0.098 U	0.099 U	0.097 U	0.027 J
Anthracene	µg/L	1,800	0.099 U	0.097 U	0.099 U	0.099 U	0.098 U	0.21	0.098 U	0.099 U	0.06 J	0.47
bis(2-Ethylhexyl)phthalate	µg/L	6	0.99 U	0.18 J	0.99 U	0.18 J	0.98 U	0.98 U	0.21 B	0.19 J	0.18 J	0.97 U
Caprolactam	µg/L	9,900	2.5 U	0.29 J	0.16 J	0.23 J	0.23 J	2.4 U	2.5 U	0.15 J	0.12 J	2.4 U
Diethylphthalate	µg/L	15,000	0.99 U	0.97 U	0.99 U	0.99 U	0.98 U	0.88 J	0.98 U	0.99 U	0.74 J	0.97 U
Di-n-butylphthalate	µg/L	900	0.99 U	0.97 U	0.99 U	0.46 J	0.98 U	0.98 U	0.98 U	0.28 J	0.97 U	0.97 U
Fluorene	µg/L	290	0.099 U	0.097 U	0.099 U	0.099 U	0.098 U	0.098 U	0.098 U	0.099 U	0.097 U	0.097 U
Naphthalene	µg/L	0.17	0.099 U	0.097 U	0.17	0.099 U	0.098 U	0.066 J	0.098 U	0.099 U	0.097 U	0.097 U
Phenanthrene	µg/L		0.099 U	0.097 U	0.099 U	0.099 U	0.098 U	0.098 U	0.098 U	0.099 U	0.097 U	0.097 U
Phenol	µg/L	5,800	0.99 U	0.97 U	0.17 J	0.99 U	0.98 U	0.064 J	0.98 U	0.99 U	0.062 J	0.97 U
TPH/Oil and Grease												
Diesel Range Organics	µg/L	47	48.8 B	105	67 B	59.4 B	44.1 B	806 J	163 J	88.2 B	102 B	1,470 B
Gasoline Range Organics	µg/L	47	200 U	200 U	183 J	200 U	200 U	200 U	507	200 U	200 U	200 U
Oil and Grease	µg/L	47	4,750 U	4,750 U	4,750 U	900 J	4,750 U	2,300 J	4,750 U	4,750 U	4,750 U	4,750 U

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

* indicates non-validated data

[^] PAH compounds were analyzed via SIM

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.

J: The positive reported value for this analyte is a quantitative estimate.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

**Table 11 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Groundwater**

Parameter	Units	PAL	A5-008-PZ*	A5-010-PZ	A9-002-PZ*	A9-004-PZ	A9-011-PZ	A9-015-PZ	A9-024-PZ*	GRY-003-PZ	GRY-006-PZ	GRY-011-PZ*
Total Metals												
Aluminum	µg/L	20,000	N/A	1,400	533	833 J	736 J	2,280 J	1,180	N/A	N/A	N/A
Arsenic	µg/L	10	N/A	5 U	2.7 J	5 U	5 U	8.8	5 U	N/A	N/A	N/A
Barium	µg/L	2,000	N/A	13.5	21.3	24.4	28.8	88.3	27.7	N/A	N/A	N/A
Beryllium	µg/L	4	N/A	2.4	1.9	0.36 J	0.35 J	0.44 J	0.63 J	N/A	N/A	N/A
Cadmium	µg/L	5	N/A	1.1 J	3 U	3 U	3 U	0.87 J	3 U	N/A	N/A	N/A
Chromium	µg/L	100	N/A	4.3 J	2.4 J	2.1 J	2.4 J	20.6	13	N/A	N/A	N/A
Chromium VI	µg/L	0.035	N/A	10 R	10 U	10 U	10 U	10 U	10 U	N/A	N/A	N/A
Cobalt	µg/L	6	N/A	121	49	30.4	26.6	7.6	5 U	N/A	N/A	N/A
Copper	µg/L	1,300	N/A	8.2	5 U	5 U	5 U	9.7	9	N/A	N/A	N/A
Iron	µg/L	14,000	N/A	635	9,440	19,600	1,120	57,000	2,410	N/A	N/A	N/A
Lead	µg/L	15	N/A	2.6 J	5 U	5 U	5 U	12.6	5 U	N/A	N/A	N/A
Manganese	µg/L	430	N/A	418	945	1,380	368	2,910	19	N/A	N/A	N/A
Nickel	µg/L	390	N/A	174	50.9	39.9	24.1	14.2	3.1 J	N/A	N/A	N/A
Selenium	µg/L	50	N/A	8 U	8 U	8 U	8 U	8 U	8 U	N/A	N/A	N/A
Vanadium	µg/L	86	N/A	0.77 J	1.8 J	1.1 J	2.2 J	10.5	6.1	N/A	N/A	N/A
Zinc	µg/L	6,000	N/A	229	48.3	36.9	47.4	53.1	4.8 J	N/A	N/A	N/A
Dissolved Metals												
Aluminum, Dissolved	µg/L	20,000	397	N/A	N/A	N/A	N/A	N/A	N/A	50 U	30 J	61.4
Barium, Dissolved	µg/L	2,000	36.4	N/A	N/A	N/A	N/A	N/A	N/A	26.4	41.2	21.7
Beryllium, Dissolved	µg/L	4	3.6	N/A	N/A	N/A	N/A	N/A	N/A	1 U	1 U	0.43 J
Cadmium, Dissolved	µg/L	5	3 U	N/A	N/A	N/A	N/A	N/A	N/A	3 U	3 U	3 U
Chromium VI, Dissolved	µg/L	0.035	8.5 B	N/A	N/A	N/A	N/A	N/A	N/A	9.6 B	7.4 B	8.5 B
Chromium, Dissolved	µg/L	100	1.7 J	N/A	N/A	N/A	N/A	N/A	N/A	1.6 J	5 U	5 U
Cobalt, Dissolved	µg/L	6	96.6	N/A	N/A	N/A	N/A	N/A	N/A	3.1 J	58.5	23.3
Copper, Dissolved	µg/L	1,300	5 U	N/A	N/A	N/A	N/A	N/A	N/A	5 U	5 U	5 U
Iron, Dissolved	µg/L	14,000	10,700	N/A	N/A	N/A	N/A	N/A	N/A	5,670	13,200	9,540
Manganese, Dissolved	µg/L	430	1,120	N/A	N/A	N/A	N/A	N/A	N/A	332	2,810	335
Nickel, Dissolved	µg/L	390	172	N/A	N/A	N/A	N/A	N/A	N/A	3.4 J	21.8	34.9
Vanadium, Dissolved	µg/L	86	2.3 J	N/A	N/A	N/A	N/A	N/A	N/A	5 U	1.7 J	5 U
Zinc, Dissolved	µg/L	6,000	146	N/A	N/A	N/A	N/A	N/A	N/A	2.8 J	32.6	47
Other												
Available Cyanide	µg/L	200	2.3	2 U	2 U	2 U	2 U	2 U	2 U	0.89 J	0.61 J	0.91 J
Total Cyanide	µg/L	200	3.6 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

J: The positive result reported for this analyte is a quantitative estimate.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

**Table 11 - Parcel A5, Parcel A9, and Greys Rail Yard
Summary of Inorganics Detected in Groundwater**

Parameter	Units	PAL	GRY-013-PZ	GRY-019-PZ*	GRY-021-PZ	GRY-024-PZ*	GRY-027-PZ*	MW93-003	SW01-PZM004	W-14*	W-16*	W-6*
Total Metals												
Aluminum	µg/L	20,000	N/A	N/A	N/A	N/A	N/A	194 J	729 J	2,840	54.4	52.2
Arsenic	µg/L	10	N/A	N/A	N/A	N/A	N/A	5 U	5 U	5.2	5 U	5 U
Barium	µg/L	2,000	N/A	N/A	N/A	N/A	N/A	44.5	20.4	14.9	16.5	49.3
Beryllium	µg/L	4	N/A	N/A	N/A	N/A	N/A	1 U	0.89 B	6.2	1 U	0.37 J
Cadmium	µg/L	5	N/A	N/A	N/A	N/A	N/A	1.2 J	2.1 J	1.2 J	1.3 J	1.1 J
Chromium	µg/L	100	N/A	N/A	N/A	N/A	N/A	1.2 J	1.4 J	1.8 J	1.1 J	2.2 J
Chromium VI	µg/L	0.035	N/A	N/A	N/A	N/A	N/A	10.8	10.8	8.5 B	8.5 B	10 U
Cobalt	µg/L	6	N/A	N/A	N/A	N/A	N/A	5 U	86.4	106	5 U	5 U
Copper	µg/L	1,300	N/A	N/A	N/A	N/A	N/A	5 U	3.6 J	5 U	5 U	5 U
Iron	µg/L	14,000	N/A	N/A	N/A	N/A	N/A	2,060	3,490	16,900	81.7	3,870
Lead	µg/L	15	N/A	N/A	N/A	N/A	N/A	5 U	5 U	5 U	5 U	5 U
Manganese	µg/L	430	N/A	N/A	N/A	N/A	N/A	288	1,990	1,040	122	1,830
Nickel	µg/L	390	N/A	N/A	N/A	N/A	N/A	10 U	59	146	10 U	1 J
Selenium	µg/L	50	N/A	N/A	N/A	N/A	N/A	8 U	8 U	8 U	6.2 J	8 U
Vanadium	µg/L	86	N/A	N/A	N/A	N/A	N/A	4.7 J	1.7 J	3.9 J	9.6	3.4 J
Zinc	µg/L	6,000	N/A	N/A	N/A	N/A	N/A	3.6 J	108	226	3.6 J	5 J
Dissolved Metals												
Aluminum, Dissolved	µg/L	20,000	38.1 J	697	27 J	32.3 J	124	20.9 J	1,690	2,620	50 U	22.4 J
Barium, Dissolved	µg/L	2,000	24.3	24.5	16.7	16.6	28.3	43.6	24.1	14.3	17.2 B	53.3
Beryllium, Dissolved	µg/L	4	0.34 J	4	1 U	0.3 J	1.5	0.32 J	1.3	5.9	1 U	0.46 J
Cadmium, Dissolved	µg/L	5	3 U	0.87 J	3 U	3 U	3 U	3 U	1.9 J	1 J	3 U	3 U
Chromium VI, Dissolved	µg/L	0.035	8.5 B	6.3 B	7.4 B	8.5 B	8.5 B	11.9	9.6 B	8.5 B	8.5 B	10 U
Chromium, Dissolved	µg/L	100	0.97 J	2.4 J	5 U	5 U	5 U	1.3 J	2.7 J	1.7 J	5 U	2.2 J
Cobalt, Dissolved	µg/L	6	15.6	126	19.6	19.1	246	5 U	87.4	100	5 U	5 U
Copper, Dissolved	µg/L	1,300	5 U	5 U	5 U	5 U	5 U	5 U	3.6 J	5 U	5 U	5 U
Iron, Dissolved	µg/L	14,000	2,800	26,900	14,100	12,000	2,690	3,010	4,020	16,100	70 U	3,070 B
Manganese, Dissolved	µg/L	430	301	3,420	919	530	4,690	270	2,020	984	140	2,110 B
Nickel, Dissolved	µg/L	390	25.8	75.6	22.2	20.6	75.5	10 U	62.5	137	10 U	10 U
Vanadium, Dissolved	µg/L	86	5 U	2.5 J	5 U	5 U	1.1 J	5.6	3.2 J	3.7 J	10.4	3.5 J
Zinc, Dissolved	µg/L	6,000	41.4	141	36.4	28.4	95.8	13.5	113	213	1.4 B	10 U
Other												
Available Cyanide	µg/L	200	0.38 J	0.62 J	1.4 J	2 U	0.35 J	1.9 J	2 U	0.74 J	2 U	1 J
Total Cyanide	µg/L	200	3.1 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4.7 J	18

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

N/A indicates that the parameter was not analyzed for this sample

* indicates non-validated data

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

J: The positive result reported for this analyte is a quantitative estimate.

B: This analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.

**Table 12 - Parcel A5, Parcel A9, and Greys Rail Yard
Cumulative Vapor Intrusion Criteria Comparison**

				A5-008-PZ		A5-010-PZ		A9-002-PZ		A9-004-PZ		A9-011-PZ	
Parameter	Type	Organ Systems	VI Screening Criteria	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard
Cancer Risk													
1,4-Dioxane	SVOC		130,000	0.099 U	0	0.098 U	0	0.32	2.5E-11	0.098 U	0	0.099 U	0
Naphthalene	SVOC		200	0.099 U	0	0.098 U	0	0.098 U	0	0.098 U	0	0.099 U	0
Benzene	VOC		69	1 U	0	1 U	0	1 U	0	1 U	0	1 U	0
Vinyl chloride	VOC		25	1 U	0	1 U	0	1 U	0	1 U	0	1 U	0
Cumulative Vapor Intrusion Cancer Risk				0E+00		0E+00		2E-11		0E+00		0E+00	
Non-Cancer Hazard													
Cumulative Vapor Intrusion Non-Cancer Hazard				0		0		0		0		0	

				A9-024-PZ		GRY-003-PZ		GRY-006-PZ		GRY-011-PZ		GRY-013-PZ	
Parameter	Type	Organ Systems	VI Screening Criteria	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard
Cancer Risk													
1,4-Dioxane	SVOC		130,000	0.1 U	0	0.041 J	3.2E-12	0.098 U	0	0.1 U	0	0.099 U	0
Naphthalene	SVOC		200	0.1 U	0	0.098 U	0	0.14	7.0E-09	0.1 U	0	0.099 U	0
Benzene	VOC		69	1 U	0	1 U	0	1 U	0	1 U	0	1 U	0
Vinyl chloride	VOC		25	1 U	0	1 U	0	1 U	0	1 U	0	1 U	0
Cumulative Vapor Intrusion Cancer Risk				0E+00		3E-12		7E-09		0E+00		0E+00	
Non-Cancer Hazard													
Cumulative Vapor Intrusion Non-Cancer Hazard				0		0		0		0		0	

Highlighted values indicate an exceedance of the cumulative vapor intrusion criteria:

TCR > 1E-05

THI > 1

Conc. = Concentration

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

J: The positive result reported for this analyte is a quantitative estimate.

**Table 12 - Parcel A5, Parcel A9, and Greys Rail Yard
Cumulative Vapor Intrusion Criteria Comparison**

				A9-015-PZ		GRY-021-PZ		GRY-024-PZ		GRY-027-PZ		MW93-003	
Parameter	Type	Organ Systems	VI Screening Criteria	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard
Cancer Risk													
1,4-Dioxane	SVOC		130,000	0.098 U	0	0.7	5.4E-11	0.099 U	0	0.098 U	0	0.68	5.2E-11
Naphthalene	SVOC		200	0.098 U	0	0.17	8.5E-09	0.099 U	0	0.098 U	0	0.066 J	3.3E-09
Benzene	VOC		69	1 U	0	138	2.0E-05	1 U	0	1 U	0	1 U	0
Vinyl chloride	VOC		25	1 U	0	1 U	0	1 U	0	1 U	0	1 U	0
Cumulative Vapor Intrusion Cancer Risk				0E+00		2E-05		0E+00		0E+00		3E-09	
Non-Cancer Hazard													
Cumulative Vapor Intrusion Non-Cancer Hazard				0		0		0		0		0	

				GRY-019-PZ		SW01-PZM004		W-14		W-16		W-6	
Parameter	Type	Organ Systems	VI Screening Criteria	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard	Conc. (ug/L)	Risk/Hazard
Cancer Risk													
1,4-Dioxane	SVOC		130,000	0.097 U	0	0.27	2.1E-11	0.099 U	0	0.097 U	0	1.9	1.5E-10
Naphthalene	SVOC		200	0.097 U	0	0.098 U	0	0.099 U	0	0.097 U	0	0.097 U	0
Benzene	VOC		69	1 U	0	1 U	0	1 U	0	1 U	0	1 U	0
Vinyl chloride	VOC		25	1 U	0	1 U	0	1 U	0	1 U	0	1.1	4.4E-07
Cumulative Vapor Intrusion Cancer Risk				0E+00		2E-11		0E+00		0E+00		4E-07	
Non-Cancer Hazard													
Cumulative Vapor Intrusion Non-Cancer Hazard				0		0		0		0		0	

Highlighted values indicate an exceedance of the cumulative vapor intrusion criteria:

TCR > 1E-05

THI > 1

Conc. = Concentration

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

J: The positive result reported for this analyte is a quantitative estimate.

Parcels A5, A9, and GRY - Table 13

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
-----------	--------	-------	-----	--------------	------

Sample: **A5-005-TP**

1,4-Dioxane	0.087	mg/kg	24	no	R
-------------	-------	-------	----	----	---

Sample: **A5-007-SB-1**

1,4-Dioxane	0.1	mg/kg	24	no	R
-------------	-----	-------	----	----	---

Sample: **A5-008-SB-9**

2,3,4,6-Tetrachlorophenol	0.079	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.2	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.079	mg/kg	210	no	R
2,4-Dichlorophenol	0.079	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.079	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.2	mg/kg	1,600	no	R
2-Chlorophenol	0.079	mg/kg	5,800	no	R
2-Methylphenol	0.079	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.16	mg/kg	41,000	no	R
Pentachlorophenol	0.2	mg/kg	4	no	R
Phenol	0.079	mg/kg	250,000	no	R

Sample: **A5-009-SB-9**

1,4-Dioxane	0.084	mg/kg	24	no	R
-------------	-------	-------	----	----	---

Sample: **A5-010-SB-9**

1,4-Dioxane	0.1	mg/kg	24	no	R
-------------	-----	-------	----	----	---

Sample: **A5-014-SB-1**

1,4-Dioxane	0.14	mg/kg	24	no	R
-------------	------	-------	----	----	---

Sample: **A5-014-SB-4**

1,4-Dioxane	0.12	mg/kg	24	no	R
-------------	------	-------	----	----	---

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
-----------	--------	-------	-----	--------------	------

Sample: **A9-001-SB-1**

1,4-Dioxane	0.096	mg/kg	24	no	R
-------------	-------	-------	----	----	---

Sample: **A9-001-SB-6**

1,4-Dioxane	0.093	mg/kg	24	no	R
-------------	-------	-------	----	----	---

Sample: **A9-001-TP**

2,3,4,6-Tetrachlorophenol	0.079	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.2	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.079	mg/kg	210	no	R
2,4-Dichlorophenol	0.079	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.079	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.2	mg/kg	1,600	no	R
2-Chlorophenol	0.079	mg/kg	5,800	no	R
2-Methylphenol	0.079	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.16	mg/kg	41,000	no	R
Pentachlorophenol	0.2	mg/kg	4	no	R
Phenol	0.079	mg/kg	250,000	no	R

Sample: **A9-004-SB-1**

4-Chloroaniline	0.072	mg/kg	11	no	R
Benzaldehyde	0.072	mg/kg	120,000	no	R

Sample: **A9-004-SB-7**

Benzaldehyde	0.076	mg/kg	120,000	no	R
--------------	-------	-------	---------	----	---

Sample: **A9-005-SB-1**

3,3'-Dichlorobenzidine	0.071	mg/kg	5.1	no	R
Caprolactam	0.18	mg/kg	400,000	no	R

Sample: **A9-006-SB-1**

1,4-Dioxane	0.096	mg/kg	24	no	R
-------------	-------	-------	----	----	---

Sample: **A9-006-SB-10**

1,4-Dioxane	0.084	mg/kg	24	no	R
-------------	-------	-------	----	----	---

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
-----------	--------	-------	-----	--------------	------

Sample: *A9-006-SB-4*

1,4-Dioxane	0.087	mg/kg	24	no	R
-------------	-------	-------	----	----	---

Sample: *A9-008-SB-5*

Pentachlorophenol	0.19	mg/kg	4	no	R
-------------------	------	-------	---	----	---

Sample: *A9-009-SB-1*

1,4-Dioxane	0.096	mg/kg	24	no	R
Benzaldehyde	0.075	mg/kg	120,000	no	R

Sample: *A9-009-SB-10*

1,4-Dioxane	0.087	mg/kg	24	no	R
Benzaldehyde	0.08	mg/kg	120,000	no	R

Sample: *A9-009-SB-9*

1,4-Dioxane	0.082	mg/kg	24	no	R
Benzaldehyde	0.077	mg/kg	120,000	no	R

Sample: *A9-010-SB-1*

1,4-Dioxane	0.12	mg/kg	24	no	R
-------------	------	-------	----	----	---

Sample: *A9-013-SB-9*

1,4-Dioxane	0.095	mg/kg	24	no	R
-------------	-------	-------	----	----	---

Sample: *A9-014-SB-9*

1,4-Dioxane	0.1	mg/kg	24	no	R
-------------	-----	-------	----	----	---

Sample: *GRY-010-SB-1*

1,4-Dioxane	0.12	mg/kg	24	no	R
-------------	------	-------	----	----	---

Sample: *GRY-010-SB-10*

1,4-Dioxane	0.081	mg/kg	24	no	R
-------------	-------	-------	----	----	---

Sample: *GRY-010-SB-4*

1,4-Dioxane	0.15	mg/kg	24	no	R
-------------	------	-------	----	----	---

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
-----------	--------	-------	-----	--------------	------

Sample: **GRY-011-SB-1**

1,4-Dioxane	0.092	mg/kg	24	no	R
-------------	-------	-------	----	----	---

Sample: **GRY-011-SB-10**

1,4-Dioxane	0.095	mg/kg	24	no	R
-------------	-------	-------	----	----	---

Sample: **GRY-011-SB-7**

1,4-Dioxane	0.08	mg/kg	24	no	R
2,3,4,6-Tetrachlorophenol	0.077	mg/kg	25,000	no	R
Pentachlorophenol	0.19	mg/kg	4	no	R

Sample: **GRY-012-SB-5**

1,4-Dioxane	0.31	mg/kg	24	no	R
-------------	------	-------	----	----	---

Sample: **GRY-020-SB-1**

2,3,4,6-Tetrachlorophenol	0.073	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.073	mg/kg	210	no	R
2,4-Dichlorophenol	0.073	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.073	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.073	mg/kg	5,800	no	R
2-Methylphenol	0.073	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.15	mg/kg	41,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.073	mg/kg	250,000	no	R

Sample: **GRY-020-SB-5**

2,4-Dinitrophenol	0.19	mg/kg	1,600	no	R
-------------------	------	-------	-------	----	---

Sample: **GRY-022-SB-1**

2,4-Dinitrophenol	0.19	mg/kg	1,600	no	R
-------------------	------	-------	-------	----	---

Sample: **GRY-022-SB-5**

2,4-Dinitrophenol	0.2	mg/kg	1,600	no	R
-------------------	-----	-------	-------	----	---

Rejected Results for Soil

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
-----------	--------	-------	-----	--------------	------

Sample: **GRY-023-SB-1**

2,3,4,6-Tetrachlorophenol	0.07	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.07	mg/kg	210	no	R
2,4-Dichlorophenol	0.07	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.07	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.07	mg/kg	5,800	no	R
2-Methylphenol	0.07	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.07	mg/kg	250,000	no	R

Sample: **GRY-025-SB-1**

1,4-Dioxane	0.097	mg/kg	24	no	R
-------------	-------	-------	----	----	---

Sample: **GRY-026-SB-1**

2,3,4,6-Tetrachlorophenol	0.071	mg/kg	25,000	no	R
2,4,5-Trichlorophenol	0.18	mg/kg	82,000	no	R
2,4,6-Trichlorophenol	0.071	mg/kg	210	no	R
2,4-Dichlorophenol	0.071	mg/kg	2,500	no	R
2,4-Dimethylphenol	0.071	mg/kg	16,000	no	R
2,4-Dinitrophenol	0.18	mg/kg	1,600	no	R
2-Chlorophenol	0.071	mg/kg	5,800	no	R
2-Methylphenol	0.071	mg/kg	41,000	no	R
3&4-Methylphenol(m&p Cresol)	0.14	mg/kg	41,000	no	R
Pentachlorophenol	0.18	mg/kg	4	no	R
Phenol	0.071	mg/kg	250,000	no	R

Parcels A5, A9, and GRY - Table 14

Rejected Results for Groundwater

Parameter	Result	Units	PAL	Exceeds PAL?	Flag
Sample: A5-010-PZ					
Chromium VI	10	µg/L	0.035	YES	R
Sample: MW93-003					
3,3'-Dichlorobenzidine	0.98	µg/L	0.12	YES	R

"

"

"

"

"

"

"

"

"

APPENDIX A

"

"

"

"

"

"

"

"

"

"

"

"

**Parcel A5, Parcel A9, and Greys Rail Yard Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland**

Table 1 - Parcel A5 Soil Samples

Source Area/ Description	REC & Finding/ SWMU/ AOC	Figure or Drawing of Reference	Rationale	Number of Locations	Sample Locations	Boring Depth	Sample Depth	Analytical Parameters: Soil Samples
Parcel A5 Site Coverage			Investigate potential impacts related to any historical activities which may have occurred on the site (potential leaks or releases).	13	A5-001 through A5-013	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC [^] , SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
Topographic Pits		Topographic Lines	Investigate potential impacts related to any historical activities within pits observed on topographic maps (potential leaks or releases).	8	A5-014 through A5-021	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC [^] , SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
Parcel A5 BERA copper hotspot		BERA Locations	Investigate potential impacts related to any historical activities surrounding the CL-SS-12 copper hotspot identified in the BERA Report.	3	A5-022 through A5-024	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC [^] , SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
Total:				24				

Sampling Density Requirements (from **Worksheet 17 - Sampling Design and Rationale**)

No Engineered Barrier (16 to 40 acres): 1 boring per 1.5 acres with no less than 15

*No Engineered Barrier (35.3 acres) = **24 Borings Required, 24 Completed***

VOC - Volatile Organic Compounds (Target Compound List)

SVOCs - Semivolatile Organic Compounds (Target Compound List)

Metals - (Target Analyte List plus Hexavalent Chromium and Cyanide)

DRO/GRO - Diesel Range Organics/Gasoline Range Organics

O&G - Oil and Grease

[^]VOCs are only collected if the PID reading exceeds 10 ppm

bgs - Below Ground Surface

PCBs - Polychlorinated Biphenyls

**Parcel A5, Parcel A9, and Greys Rail Yard Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland**

Table 2 - Parcel A9 Soil Samples

Source Area/ Description	REC & Finding/ SWMU/ AOC	Figure or Drawing of Reference	Rationale	Number of Locations	Sample Locations	Boring Depth	Sample Depth	Analytical Parameters: Soil Samples
Parcel A9 Site Coverage			Investigate potential impacts related to any historical activities which may have occurred on the site (potential leaks or releases).	14	A9-001 through A9-014	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC [^] , SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
Trap & Skeet Field			Investigate potential impacts related to any historical activities which may have occurred at the Trap & Skeet Field (potential leaks or releases).	6	A9-015 through A9-020	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC [^] , SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
Police Department Pistol Range			Investigate potential impacts related to any historical activities which may have occurred at the Police Department Pistol Range (potential leaks or releases).	7	A9-021 through A9-027	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC [^] , SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
			Total:	27				

Sampling Density Requirements (from **Worksheet 17 - Sampling Design and Rationale**)

No Engineered Barrier (41 to 70 acres): 1 per 2 acres with no less than 27

No Engineered Barrier (44.3 acres) = **27 Borings Required, 27 Completed**

VOC - Volatile Organic Compounds (Target Compound List)

SVOCs - Semivolatile Organic Compounds (Target Compound List)

Metals - (Target Analyte List plus Hexavalent Chromium and Cyanide)

DRO/GRO - Diesel Range Organics/Gasoline Range Organics

O&G - Oil and Grease

[^]VOCs are only collected if the PID reading exceeds 10 ppm

bgs - Below Ground Surface

PCBs - Polychlorinated Biphenyls

**Parcel A5, Parcel A9, and Greys Rail Yard Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland**

Table 3 - Greys Rail Yard Soil Samples

Source Area/ Description	REC & Finding/ SWMU/ AOC	Figure or Drawing of Reference	Rationale	Number of Locations	Sample Locations	Boring Depth	Sample Depth	Analytical Parameters: Soil Samples
Greys Rail Yard Site Coverage			Investigate potential impacts related to any historical activities which may have occurred at the Greys Rail Yard (potential leaks or releases).	28	GRY-001 through GRY-028	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC [^] , SVOC, Metals, DRO/GRO, O&G, PCBs (0-1')
			Total:	28				

Sampling Density Requirements (from **Worksheet 17 - Sampling Design and Rationale**)

No Engineered Barrier (41 to 70 acres): 1 per 2 acres with no less than 27

No Engineered Barrier (54.3 acres) = **28 Borings Required, 28 Completed**

VOC - Volatile Organic Compounds (Target Compound List)

SVOCs - Semivolatile Organic Compounds (Target Compound List)

Metals - (Target Analyte List plus Hexavalent Chromium and Cyanide)

DRO/GRO - Diesel Range Organics/Gasoline Range Organics

O&G - Oil and Grease

[^]VOCs are only collected if the PID reading exceeds 10 ppm

bgs - Below Ground Surface

PCBs - Polychlorinated Biphenyls

**Parcel A5, Parcel A9, and Greys Rail Yard Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland**

Table 4 - Parcel A5 Groundwater Samples

Source Area/ Description	REC & Finding/ SWMU/ AOC	Figure or Drawing of Reference	Condition of Existing Well	Number of Locations	Sample Locations	Boring Depth	Screen Interval	Analytical Parameters: Groundwater Samples†
Parcel A5 Coverage			N/A	2	A5-008 and A5-010	Total depth of 7 feet below water table.	7 feet below water table to 3 feet above water table.	VOC, SVOC, Metals (dissolved), Cyanide (total/available), Oil & Grease, DRO/GRO
Existing Wells			Good structural condition. See Work Plan for additional detail.	5	SW01- PZM004, W-6, W-14, W-16, and MW93-003	See Work Plan for measured depths.	See Work Plan for screen intervals.	VOC, SVOC, Metals (total/dissolved), Cyanide (total/available), Oil & Grease, DRO/GRO
			Total:	7				

†Field measurements include pH, DO, ORP, conductivity, temperature.
Metals analysis includes dissolved hexavalent chromium

**Parcel A5, Parcel A9, and Greys Rail Yard Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland**

Table 5 - Parcel A9 Groundwater Samples

Source Area/ Description	REC & Finding/ SWMU/ AOC	Figure or Drawing of Reference	Condition of Existing Well	Number of Locations	Sample Locations	Boring Depth	Screen Interval	Analytical Parameters: Groundwater Samples†
Parcel A9 Coverage			<i>N/A</i>	5	A9-002, A9-004, A9-011, A9-015, and A9-024	Total depth of 7 feet below water table.	7 feet below water table to 3 feet above water table.	VOC, SVOC, Metals (dissolved), Cyanide (total/available), Oil & Grease, DRO/GRO
			Total:	5				

†Field measurements include pH, DO, ORP, conductivity, temperature.
Metals analysis includes dissolved hexavalent chromium

**Parcel A5, Parcel A9, and Greys Rail Yard Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland**

Table 6 - Greys Rail Yard Groundwater Samples

Source Area/ Description	REC & Finding/ SWMU/ AOC	Figure or Drawing of Reference	Condition of Existing Well	Number of Locations	Sample Locations	Boring Depth	Screen Interval	Analytical Parameters: Groundwater Samples†
Greys Rail Yard Coverage			N/A	8	GRY-003, GRY-006, GRY-011, GRY-013, GRY-019, GRY-021, GRY-024 and GRY-027	Total depth of 7 feet below water table.	7 feet below water table to 3 feet above water table.	VOC, SVOC, Metals (dissolved), Cyanide (total/available), Oil & Grease, DRO/GRO
			Total:	8				

†Field measurements include pH, DO, ORP, conductivity, temperature.
Metals analysis includes dissolved hexavalent chromium

**Parcel A5, Parcel A9, and Greys Rail Yard Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland**

Table 7 - Combined Parcels - Test Pit Samples

Source Area/ Description	REC & Finding/ SWMU/ AOC	Figure or Drawing of Reference	Rationale	Number of Locations	Sample Locations	Boring Depth	Sample Depth	Analytical Parameters: Soil Samples
Slag/Soil Berm Test Pits - Spoil Piles		Topographic Lines	MDE Request. Presence of slag/soil berms surrounding pits and larger topographic depressions. Investigate to determine whether the materials in the berms are indicative of potential contamination.	10	A5-001-TP, A5-002-TP, A5-003-TP, A5-004-TP, A5-005-TP, A5-006-TP, A5-007-TP, A5-008-TP, A9-001-TP, and GRY-001-TP	Varies depending on orientation and size of berm. Determined by environmental professional providing oversight.	10-point composite sample from spoil piles.	VOC [^] , SVOC, Metals, DRO/GRO, Oil & Grease, PCBs*
			Total:	10				

[^]VOC samples are not appropriate to composite. The VOC sample will be collected as a grab sample from the spoil pile (or exposed wall of the test pit) in the area exhibiting the highest PID reading, and only if the PID reading exceeds 10 ppm.

*PCBs were not analyzed in the test pit composite samples, with the exception of A9-001-TP.

"

"

"

"

"

"

"

"

"

APPENDIX B

"

"

"

"

"

"

"

"

"

"

"

"



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/3/17
 Weather : Sunny, 70s

Northing (US ft) : 575089.52
 Easting (US ft) : 1460351.28

Boring ID: A5-001-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS	
0		-	A5-001-SB-1	(0-2') SILTY SAND with some SLAG GRAVEL, loose to medium dense, light brown, dry, no plasticity, no cohesion	SM	Light petroleum-like odor 7.5-9' bgs	
60	0.1	-		(2-4.5') SLAG, SAND and GRAVEL-sized, medium dense, grayish brown and light gray, dry, no plasticity, no cohesion	SW/GW		
5	0.8	-		(4.5-7.3') CLAYEY SILT, soft, brownish red, very moist, low plasticity, cohesive	ML		
60	1.3	-		(7.3-7.5') SLAG GRAVEL, loose, very dark brown, wet, no plasticity, no cohesion	GP		
	0.6	-	A5-001-SB-9	(7.5-9') CLAY, hard, brownish gray, dry, low plasticity, cohesive	CL		
10	0.8	-	A5-001-SB-10	(9-11.5') CLAYEY SAND, dense, yellowish brown with reddish yellow, dry, no plasticity, no cohesion	SC		
50	-	-		(11.5-20') CLAY, hard, brownish yellow and reddish yellow mottling, dry to moist, low plasticity, cohesive			No water encountered
15	-	-			CL		
90	-	-					
20	-	-					
End of boring							

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : M. Replogle
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/5/17
 Weather : Sunny, 60s

Northing (US ft) : 575275.98
 Easting (US ft) : 1460251.88

Boring ID: A5-002-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-002-SB-1	(0-3.5') SLAG, SAND and GRAVEL-sized, loose to medium dense, light brown grading to dark gray, dry then very moist at 2.5' bgs, no plasticity, no cohesion, GRAVEL content increases with depth	SW/GW	
	80	51.2				
		58.1				
		0.7				
5		0.1		(3.5-7') CLAY, soft then very stiff at 4.5' bgs, gray with black grading to gray, very moist, medium plasticity, cohesive	CL	
		1.2				
		17.0	A5-002-SB-7			
	100	0.1		(7-8') CLAY, soft, gray and brown, very moist, medium plasticity, cohesive	CL	
		4.1		(8-12') CLAY, very stiff, gray and brown grading to light gray with reddish yellow mottling, moist, medium plasticity, cohesive	CL	
10		0.3				
	10	-		(12-19') CLAY, stiff to soft at 17.5' bgs, light gray, moist, medium plasticity, cohesive		
		-				
15		-			CL	
		-				
	100	-				Wet at 19' bgs
		-				
		-				
20		-		(19-20') SAND, loose from 19-19.5' bgs then dense 19.5-20' bgs, light gray and reddish yellow, wet, no plasticity, no cohesion	SP	
				End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to water.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/3/17
 Weather : Sunny, 70s

Northing (US ft) : 575177.27
 Easting (US ft) : 1459881.11

Boring ID: A5-003-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0	100	0.7	A5-003-SB-1	(0-1') Non-native SAND and SLAG, SAND and GRAVEL-sized, light reddish brown, light brown, and brown, dry, no plasticity, no cohesion	SW/GW	No water encountered
End of boring						
5						

Total Borehole Depth: 1' bgs.
 Boring terminated at 1' bgs due to refusal.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/3/17
 Weather : Sunny, 70s

Northing (US ft) : 575024.32
 Easting (US ft) : 1459812.22

Boring ID: A5-004-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-004-SB-1	(0-3.5') SLAG, SAND and GRAVEL-sized, medium dense, grayish brown and gray, dry, no plasticity, no cohesion	SW/GW	
40		-				
		1.6		(3.5-7') CLAYEY SILT with some SLAG GRAVEL and SAND, firm, brownish red, moist, low plasticity, cohesive	ML	No water encountered
5		0.1				
75		15.1	A5-004-SB-6			
		9.8				
End of boring						
10						

Total Borehole Depth: 7' bgs.
 Boring terminated at 7' bgs due to refusal.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : M. Replogle
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/5/17
 Weather : Sunny, 70s

Northing (US ft) : 575541.39
 Easting (US ft) : 1459655.11

Boring ID: A5-005-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-005-SB-1	(0-2') SLAG, SAND and GRAVEL-sized, loose, grayish brown, dry, no plasticity, no cohesion	SW/GW	
	80	3.1				
		23.4		(2-4.5') SLAG GRAVEL with SAND-sized SLAG, medium dense, dark brown, dry, no plasticity, no cohesion, GRAVEL size increases with depth	GW/SW	
		98.1	A5-005-SB-4			
5		10.4		(4.5-5') SAND, fine, dense, reddish yellow, moist, no plasticity, no cohesion	SP	
		7.1				
	100	8.9		(5-10') CLAY with some reddish yellow SAND, very stiff, light gray with brownish gray from 7-7.5' bgs, slightly moist, low plasticity, cohesive	CL	
		11.7				
		7.9				
		1.4	A5-005-SB-10			
10		10.3		(10-17') CLAY with some reddish yellow SAND from 14.5-15' bgs, stiff, light gray, moist, medium plasticity, cohesive	CL	
	94	64.2				
		78.0				
		80.2				
		14.7				
15		-				
	70	-		(17-17.5') SAND with some CLAY, fine, medium dense to loose, reddish yellow, moist, no plasticity, no cohesion	SP	Wet at 17.5' bgs
		-		(17.5-20') SAND, fine, medium dense, yellowish brown, wet, no plasticity, no cohesion	SP	
20		-		End of boring		
25						

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to water.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/9/17
 Weather : Sunny, 60s

Northing (US ft) : 574846.67
 Easting (US ft) : 1460001.40

Boring ID: A5-006-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-006-SB-1	(0-2') CLAY with some GRAVEL, hard, reddish yellow and very pale brown, dry, low plasticity, cohesive	CL	Trace organic matter present
	74	0.1		(2-6.8') SLAG GRAVEL with SAND and SILT, loose, gray with brown, dry, no plasticity, no cohesion	GW/SW	
		0.2				
		0.7				
5		2.1	A5-006-SB-5			
		-				
	68	1.3		(6.8-8') CLAYEY SILT, very soft, brownish red, very moist, low plasticity, cohesive	ML	
		0.0		(8-9.5') SLAG GRAVEL, coarse, loose, light gray, dry, no plasticity, no cohesion	GP	
		1.9				
		0.1	A5-006-SB-10	(9.5-10.5') CLAY with some SAND, stiff, reddish yellow and pale brown, dry, low plasticity, cohesive	CL	No water encountered
10		-		(10.5-11.7') SANDY CLAY, very firm, reddish brown, moist, low plasticity, cohesive	CL	
	80	0.0		(11.7-12.5') SAND, fine to medium, dense, light gray, moist, no plasticity, no cohesion	SW	
		0.1		(12.5-20') CLAY, hard, light brownish gray, dry, medium plasticity, cohesive, small SAND layers at 14.9-15' and 19.7-19.9' bgs	CL	
		0.1				
15	50	0.0				
		0.0				
		0.0				
20				End of boring		
25						

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to maximum allowable depth.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/6/17
 Weather : Sunny, 80s

Northing (US ft) : 575705.28
 Easting (US ft) : 1458465.05

Boring ID: A5-007-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-007-SB-1	(0-4') SLAG, SAND and GRAVEL-sized, medium dense, light brown and light gray, dry then wet at 4' bgs, no plasticity, no cohesion	SW/GW	
	60	23.1				
		2.5				
5		0.1	A5-007-SB-5	(4-5') CLAY with SAND, hard, reddish yellow and very pale brown mottling, dry, low plasticity, cohesive	CL	
		0.1		(5-5.7') SANDY CLAY, hard, reddish yellow and very pale brown, moist, low plasticity, cohesive	CL	
	100	0.2		(5.7-14.1') CLAY with SAND, hard, reddish yellow and very pale brown mottling, dry, low plasticity, cohesive		
		1.0				
		0.5			CL	
10		-				
	90	-				
		0.0				
		0.0		(14.1-14.6') SANDY CLAY, firm, very pale brown, very moist, low plasticity, cohesive	CL	
15				(14.6-15') CLAYEY SAND, medium dense, very pale brown, wet, no plasticity, no cohesion	SC	Wet at 14.6' bgs
				End of boring		
20						

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to water



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/6/17
 Weather : Sunny, 80s

Northing (US ft) : 575727.53
 Easting (US ft) : 1458110.30

Boring ID: A5-008-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-008-SB-1	(0-8') SLAG GRAVEL with SAND, medium dense, gray, dry then wet at 4.5' bgs, no plasticity, no cohesion		
4.0	70	6.4				Trace large metal fragment at 2' bgs
5		0.1			GW/SW	
		0.2				
5		-				
	40	-				
		2.3				
		0.1	A5-008-SB-9	(8-9') SANDY CLAY with coarse SLAG GRAVEL, firm, black and gray, very moist, low plasticity, cohesive	CL	Light metallic and petroleum-like odor 8-9' bgs
10		0.1		(9-10.5') SANDY CLAY, very firm, reddish yellow with black mottling and streaking, moist, low plasticity, cohesive	CL	
		-		(10.5-14.5') CLAY, hard, reddish yellow and very pale brown, dry, low plasticity, cohesive	CL	
60		-			CL	
		-				
15		-		(14.5-15') SAND, fine to medium, very pale brown, wet, no plasticity, no cohesion	SW	Wet at 14.9' bgs
		-		(15-22') NO RECOVERY, could not use liners due to heaving sands		
0		-				
		-				
20		-				
	0	-				
		-				
25		-				
End of boring						

Total Borehole Depth: 22' bgs.
 Boring terminated at 22' bgs due to water and piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/6/17
 Weather : Sunny, 80s

Northing (US ft) : 575755.70
 Easting (US ft) : 1458259.49

Boring ID: A5-009-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-009-SB-1	(0-2.5') SAND and SLAG, GRAVEL and SAND-sized, loose to medium dense, brown and gray, dry, no plasticity, no cohesion	SW/GW	
	74	7.4		(2.5-5') SANDY CLAY, soft, light gray, moist, low plasticity, no cohesion	CL	
		1.9				
		0.3				
5		0.4		(5-12.5') CLAY, hard grading to very firm, very light brown with reddish yellow mottling, trace black streak at 10-12' bgs, dry grading to moist, low plasticity, cohesive		
	100	5.8				
		1.3				
		13.8	A5-009-SB-9		CL	
		5.7	A5-009-SB-10			
10		-				
	90	84.8		(12.5-13.8') SANDY CLAY, soft, very light brown with reddish yellow mottling, moist, dry, low plasticity, cohesive	CL	
		0.0				
		0.0		(13.8-15') SAND, fine to medium, medium dense, very light brown grading to reddish yellow, wet, no plasticity, no cohesion	SW	
		0.1				
15				End of boring		
						Wet at 13.8' bgs
20						

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to water.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 11/1/17
 Weather : Cloudy, 60s
 Northing (US ft) : 575967.55
 Easting (US ft) : 1457489.47

Boring ID: A5-010-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-010-SB-1	(0-0.7') SAND with SILT, very fine to fine, dark brown, dry to moist, no plasticity, no cohesion	SP-SM	Trace to light organic matter
2.2	84	0.7		(0.7-2.7') SAND with SILT to SILTY SAND, dense, yellowish brown grading to reddish yellow, moist, no plasticity, no cohesion	SW-SM	
0.9		0.5		(2.7-5') SAND, fine to medium, medium dense, reddish yellow, moist, no plasticity, no cohesion	SW	
5		11.7		(5-13.5') CLAY with trace SAND, hard grading to firm, reddish yellow and light grayish brown, dry, low plasticity, cohesive	CL	Wet at 14.9' bgs
8.5	100	7.5	A5-010-SB-9			
20.3		4.2	A5-010-SB-10			
4.2		-				
10	100	-				
15		-		(13.5-14.9') SANDY CLAY, soft, light brownish gray, moist, low plasticity, cohesive	CL	
40		-		(14.9-20') SAND, fine to medium, dense, reddish yellow, wet, no plasticity, no cohesion	SW	
20	0	-		(20-22') NO RECOVERY, drillers encountered heaving sands in dual tube and could not use liners to recover material, pushed through same hole to 22' bgs	-	
End of boring						
25						

Total Borehole Depth: 22' bgs.
 Boring terminated at 22' bgs due to water and piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/3/17
 Weather : Sunny, 70s

Northing (US ft) : 575143.96
 Easting (US ft) : 1460074.49

Boring ID: A5-012-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0				(0-2.2') Non-native SAND with SLAG GRAVEL, medium dense, light brown and brown, dry, no plasticity, no cohesion		No water encountered
1		-	A5-012-SB-1		SW	
2	80	1.1		(2.2-3.2') SLAG, SAND and GRAVEL-sized, medium dense, gray and light gray, dry, no plasticity, no cohesion	SW/GW	
3		1.6				
4		0.1	A5-012-SB-4	(3.2-4') CLAYEY SILT with trace SAND, red, moist, low plasticity, cohesive	ML	
4				End of boring		
5						

Total Borehole Depth: 4' bgs.
 Boring terminated at 4' bgs due to refusal.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/3/17
 Weather : Sunny, 70s

Northing (US ft) : 575297.06
 Easting (US ft) : 1459717.67

Boring ID: A5-013-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-013-SB-1	(0-3') SLAG GRAVEL with SILT, coarse, medium dense to dense, gray and reddish brown, dry, no plasticity, no cohesion	GP-GM	
46	54.4	-				
		1.3		(3-3.5') CONCRETE GRAVEL, dense, gray, dry, no plasticity, no cohesion	NA	
		0.8		(3.5-10.5') SANDY SILT with SLAG and BRICK GRAVEL, hard, dry to moist, yellowish red, very light red, and strong brown, no plasticity, no cohesion		
5		-				
		-				
30		-			ML/GP	
		40.2	A5-013-SB-9			
		0.6	A5-013-SB-10			
10		-				
		0.6		(10.5-12') SLAG GRAVEL with SILT and trace WOOD fragments, medium dense, very dark brown, wet, no plasticity, no cohesion	GW-GM	Wet at 11' bgs Light petroleum-like odor with no sheen or visible product
				End of boring		
15						

Total Borehole Depth: 12' bgs.
 Boring terminated at 12' bgs due to refusal.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 11/1/17
 Weather : Cloudy, 70s
 Northing (US ft) : 575814.55
 Easting (US ft) : 1457787.86

Boring ID: A5-014-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		70.7	A5-014-SB-1	(0-0.7') SILTY SAND, medium dense, brown, dry, no plasticity, no cohesion	SM	Light organic matter
	96	96.0		(0.7-5') SAND with SILT, very fine to medium, hard, reddish yellow, dry, no plasticity, no cohesion	SW-SM	
		125.6				
		132.2	A5-014-SB-4			
5		0.2				
		7.2		(5-8') CLAY with some SAND, hard, reddish yellow and light brownish gray, dry, low plasticity, cohesive	CL/SW	
	100	32.3				
		80.1				
		0.8		(8-8.8') SANDY SILT, very firm grading to soft, light gray, moist grading to very moist, low plasticity, cohesive	ML	Wet at 9.1' bgs
10		0.9		(8.8-9.1') SILTY SAND, medium dense, light gray, very moist, no plasticity, no cohesion	SM	
	40	-		(9.1-14.5') SAND, fine to coarse, reddish yellow to yellowish red, wet, no plasticity, no cohesion	SW	
		-				
15		-		(14.5-19') CLAY, soft, light reddish brown, very moist, low plasticity, no cohesion	CL	
	100	-				
		-				
20		-		(19-19.8') SANDY CLAY, firm to soft, yellowish brown, very moist, low plasticity, cohesive	CL	
		-		(19.8-20') SAND, fine to medium, medium dense, reddish yellow and yellowish red, wet, no plasticity, no cohesion	SW	
		-		End of boring		
25						

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to water.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : M. Replogle
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/31/17
 Weather : Sunny, 50s

Northing (US ft) : 575586.72
 Easting (US ft) : 1459112.91

Boring ID: A5-015-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-015-SB-1	(0-1') ORGANIC CLAY, very soft, brown, wet, medium plasticity, cohesive	OL	Wet at 5' bgs
	76	2.2		(1-1.5') ORGANIC SANDY SILT, medium dense to loose, dark brown, dry, no plasticity, no cohesion	OL	
		0.5		(1.5-2.3') CLAY, stiff, light brown, dry, medium plasticity, cohesive	CL	
		0.7		(2.3-6.2') SAND with some thin gray CLAY lenses, fine, medium dense to loose, light reddish yellow, moist to wet at 5', no plasticity, no cohesion, some thin gray clay lenses	SP	
		0.3	A5-015-SB-5			
5		-		(6.2-8') CLAY with some reddish yellow SAND, stiff with some soft pockets, moist but wet in soft pockets, medium plasticity, cohesive	CL	
	100	-				
		-				(8-10') SAND with some gray CLAY, very dense, reddish yellow, wet, no plasticity, no cohesion
10				End of boring		
15						

Total Borehole Depth: 10' bgs.
 Boring terminated at 10' bgs due to water.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/19/17
 Weather : Sunny, 60s

Northing (US ft) : 575078.88
 Easting (US ft) : 1459534.82

Boring ID: A5-016-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0			A5-016-SB-1	(0-5') CLAY, very firm, brownish red, dry, low plasticity, cohesive, blocky	CL	No water encountered
1		-				
2	40	-				
3		0.0				
4		0.0	A5-016-SB-5			
5			End of boring			
6						
7						
8						
9						
10						

Total Borehole Depth: 5' bgs.
 Boring terminated at 5' bgs due to refusal.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/18/17
 Weather : Sunny, 70s

Northing (US ft) : 575246.73
 Easting (US ft) : 1459314.49

Boring ID: A5-017-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-017-SB-1	(0-6.5') SILTY CLAY with trace SAND, very firm, brownish red, dry, low plasticity, cohesive, blocky	CL	Trace fine metallic grains
	70	0.0				
		0.0				
		0.0				
		0.0	A5-017-SB-5			
5		0.2		(6.5-14') CLAY, hard, pale brown and reddish yellow mottling, dry, low plasticity, cohesive	CL	
	100	0.0				
		0.0				
		0.0				
		0.0	A5-017-SB-10			
10		0.1		(14-15') SAND, fine to medium, medium dense to dense, very pale brown, wet, no plasticity, no cohesion	SW	Wet at 14' bgs
	100	0.0				
		0.0				
		0.3				
		0.2				
15	End of boring					
20						

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to water.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/18/17
 Weather : Sunny, 70s
 Northing (US ft) : 575266.08
 Easting (US ft) : 1459095.28

Boring ID: A5-018-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-018-SB-1	(0-1.5') SLAG GRAVEL with CLAY, loose, gray with brown, dry, no plasticity, no cohesion	GW-GC	Wet at 18' bgs
	80	0.5		(1.5-5') CLAY, hard, brown, dry, low plasticity, cohesive	CL	
		2.6				
		6.7	A5-018-SB-4		GC/SW	
		1.9		(5-6') CLAYEY GRAVEL with SAND and WOOD fragments, loose, dark gray, wet, no plasticity, no cohesion		
5		-		(6-11') CLAY with some SAND at 9-9.5' bgs, firm, light olive gray and olive gray, moist, low plasticity, cohesive, some sand 9-9.5'	CL	
	88	7.5				
		1.3			SW	
		0.5				
		0.2	A5-018-SB-10		CL	
10		-		(11-13.5') SAND, medium dense, pale brown, very moist, no plasticity, no cohesion		
	30	-			CL	
		0.7		(13.5-15.5') CLAY, firm, light olive gray and olive gray, moist, low plasticity, cohesive		
		0.7			SW-SC	
15		-		(15.5-19') SAND with CLAY, medium dense, light gray, wet, no plasticity, no cohesion		
	40	-			CL	
		-		(19-20') CLAY, very firm, light brown, moist, low plasticity, cohesive		
20		-		End of boring		
25						

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to water.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : M. Replogle
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/31/17
 Weather : Sunny, 50s

Northing (US ft) : 575323.52
 Easting (US ft) : 1458921.57

Boring ID: A5-019-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-019-SB-1	(0-7.7') CLAY with ORGANICS, firm, reddish brown, dry then wet at 6.5' bgs, medium plasticity, cohesive	CL	Wet at 14.7' bgs
	66	8.0				
		1.1				
5		0.4	A5-019-SB-5			
		-				
	80	0.3				
		0.4				
		0.8		(7.7-9') CLAYEY SAND, dense, light reddish yellow, moist, no plasticity, no cohesion	SC	
10		0.2	A5-019-SB-10	(9-14.7') CLAY, dense, light gray with some reddish yellow mottling, dry to very moist, medium plasticity, cohesive	CL	
		-				
	100	-				
		-				
		-				
15		-		(14.7-17.5') CLAYEY SAND grading to SANDY CLAY, medium dense grading to very loose, gray, wet, no plasticity, no cohesion	SC/CL	
		-				
	70	-				
		-				
		-		(17.5-20') CLAY, soft, gray, wet, medium plasticity, cohesive	CL	
		-				
20				End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to water.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : M. Replogle
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/5/17
 Weather : Sunny, 70s

Northing (US ft) : 575497.32
 Easting (US ft) : 1458753.94

Boring ID: A5-020-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0	84	20.7	A5-020-SB-1	(0-8.5') ORGANIC SILTY CLAY, medium stiff, dark reddish brown, dry to moist, low plasticity, cohesive	OL	
		20.5				
		29.1				
		1.0				
		0.9	A5-020-SB-5			
5	94	1.9		(8.5-12.5') CLAY, very stiff, light reddish yellow and light gray mottling, moist, medium plasticity, cohesive	CL	Wet at 13.5' bgs
		2.4				
		2.3				
		3.0				
		2.5	A5-020-SB-10			
10	70	4.5		(12.5-13.5') CLAYEY SAND, fine, dense, light brownish gray, moist, no plasticity, no cohesion	SC	
		0.4				
		0.4				
		0.3				
		0.3				
15	End of boring					
20						

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to water.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/6/17
 Weather : Sunny, 80s

Northing (US ft) : 575567.37
 Easting (US ft) : 1458550.39

Boring ID: A5-021-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-021-SB-1	(0-8.7') SILTY CLAY, very firm, brownish red, moist, low plasticity, cohesive, blocky	CL	Light organic matter
	76	0.0				
		0.0				
		0.0				
		0.0	A5-021-SB-5			
5		0.0		(8.7-12') CLAY, hard, light brownish gray and reddish yellow mottling, moist, low plasticity, cohesive	CL	Trace metallic grains 4-5' bgs
		0.0				
	100	0.0		(12-13.5') SANDY CLAY, very firm, light gray, very moist, low plasticity, cohesive	CL	Trace organics (wood chips) 9-12' bgs
		0.0				
		0.0	A5-021-SB-10			
10		0.0		(13.5-14.6') CLAYEY SAND, medium dense, light gray, wet, no plasticity, no cohesion	CL	Wet at 13.5' bgs
		0.0				
	96	0.0		(14.6-15') SAND, firm, reddish yellow, wet, no plasticity, no cohesion	SC	
		0.0				
15				End of boring		
20						

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to water.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 9/29/17
 Weather : Sunny, 70s
 Northing (US ft) : 574914.66
 Easting (US ft) : 1460248.94

Boring ID: A5-022-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-022-SB-1	(0-2') SAND with SILT and SLAG GRAVEL, loose, brown, no plasticity, no cohesion	SW-SM	
	60	0.6		(2-2.2') CONCRETE GRAVEL, dry, no plasticity, no cohesion	GW	
		1.7		(2.2-5.4') SLAG GRAVEL, fine to coarse, medium dense, gray and grayish brown, dry, no plasticity, no cohesion	GW	
5		1.4				
		0.0		(5.4-7.5') SILT, very soft, red, very moist, low plasticity, cohesive	ML	
	100	0.0	A5-022-SB-8	(7.5-7.7') GRAVEL with SAND, medium dense, black, wet, no plasticity, no cohesion	GW/SW	Trace solvent-like odor at 7.5' bgs
		0.2				
		0.0	A5-022-SB-10	(7.7-20') CLAY, very firm to hard then soft at 17.5' bgs, grayish brown grading to light yellowish brown, dry, low plasticity grading to medium plasticity, cohesive		
10		-				
	70	0.0				
		0.0				
		0.0			CL	No water encountered
15		-				
	100	-				
		-				
		-				
20		-		End of boring		
		-				
25		-				

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to maximum allowable depth.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 9/29/17
 Weather : Sunny, 70s
 Northing (US ft) : 574913.80
 Easting (US ft) : 1460282.81

Boring ID: A5-023-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-023-SB-1	(0-1') SAND with SILT, fine to medium, loose, brown, no plasticity, no cohesion	SW-SM	Heavy organic matter
	70	-		(1-3.5') SLAG GRAVEL, fine to coarse, with SAND, medium dense to dense, gray and grayish brown, dry, no plasticity, no cohesion	GW	
		0.3		(3.5-7') CLAYEY SILT with trace coarse GRAVEL, very soft, red, very moist, low plasticity, cohesive	ML	Solvent-like odor at 7-7.5' bgs
		0.2				
5		0.3				
		0.2				
	100	0.0				
		1.0	A5-023-SB-8	(7-7.5') SLAG GRAVEL, medium dense, dark bluish gray and black, wet, no plasticity, no cohesion	GW	
		0.0		(7.5-8') SILT, very firm, black, moist, no plasticity, no cohesion	ML	
		0.0	A5-023-SB-10	(8-11') SILTY CLAY, firm, brownish gray, very moist, low plasticity, cohesive	CL	
10		-		(11-20') CLAY, very firm, light brown and gray, dry, low plasticity, cohesive	CL	
	60	0.0				
		0.0				No water encountered
		0.0				
15		-			CL	
	50	-				
20		-		End of boring		
25		-				

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to maximum allowable depth.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-6-3
 Project Description : Sparrows Point - Parcel A5
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Glumac
 Drilling Company : Allied Drilling Co.
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/3/17
 Weather : Sunny, 70s
 Northing (US ft) : 574951.27
 Easting (US ft) : 1460288.29

Boring ID: A5-024-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A5-024-SB-1	(0-0.5') SILTY SAND with SLAG GRAVEL, loose, brownish red grading to light brown, dry, no plasticity, no cohesion	SM ML	Heavy organic matter
	60	-		(0.5-1') SILT, hard, yellowish brown, dry, low plasticity, cohesive	GW	
		0.9		(1-3.3') SLAG GRAVEL, medium dense, brownish gray, dry, no plasticity, no cohesion		
		5.1	A5-024-SB-4	(3.3-6.5') CLAYEY SILT, very soft, red, very moist, low plasticity, cohesive	ML	
5		0.0				
		0.0				
	100	0.2		(6.5-7.5') SLAG GRAVEL with some SILT, medium dense, very dark gray and red, wet, no plasticity, no cohesion	GW-GM	
		1.0		(7.5-13') CLAY, hard, light gray and yellowish brown mottling, dry, low plasticity, cohesive		
		0.5				
		0.7	A5-024-SB-10		CL	
10		-				No water encountered
	64	-		(13-13.4') SANDY CLAY, very firm, light yellowish brown, moist, low plasticity, cohesive	CL	
		-		(13.4-20') CLAY, hard, light gray and yellowish brown, moist, low plasticity, cohesive		
15		-			CL	
	100	-				
		-				
		-				
20				End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to maximum allowable depth.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Glumac
 Checked by : M. Replogle, E.I.T.
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/20/17
 Weather : Sunny, 60s

Northing (US ft) : 576487.12
 Easting (US ft) : 1459198.88

Boring ID: A9-001-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		28.8	A9-001-SB-1	(0-1') SANDY SILT, loose, brown, dry, no plasticity, no cohesion	ML	Wet at 12.5' bgs
	100	33.4		(1-2.5') CLAYEY SAND, dense, light brown to reddish yellow, dry, no plasticity, no cohesion	SC	
		37.9		(2.5-7') SAND, fine, medium dense, light brownish gray to light reddish yellow grading to reddish yellow, dry, no plasticity, no cohesion	SP	
		23.5				
5		4.2				
		38.0	A9-001-SB-6			
	100	13.7				
		2.9		(7-8') SAND, fine, yellowish red, moist, no plasticity, no cohesion	SP	
		1.6		(8-11') SANDY CLAY, soft, gray, moist, low plasticity, cohesive	CL	
10		0.6				
	50	-		(11-15') SAND, fine, light brown grading to yellowish red, wet, no plasticity, no cohesion	SP	
		-				
		-				
15				End of boring		

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/23/17
 Weather : Cloudy, 70s

Northing (US ft) : 576443.60
 Easting (US ft) : 1459556.10

Boring ID: A9-002-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		0.0	A9-002-SB-1	(0-5') SAND with SILT grading to SILTY SAND, medium dense to dense, brown grading to reddish yellow, dry, no plasticity, no cohesion	SM	
	90	0.2				
		0.9				
		0.9				
		0.9	A9-002-SB-5			
5		3.3		(5-14') CLAY, very firm to hard, light grayish brown and reddish yellow mottling, dry, low plasticity, cohesive	CL	
	100	1.8				
		0.5				
		0.0				
		0.0				
		0.3				
10		-				
	80	3.3				
		1.5				
		0.0				
15		0.0		(14-15') SAND, fine to medium, medium dense, light brown and reddish yellow, wet, no plasticity, no cohesion	SW	Wet at 14' bgs
	0	-		(15-21') NO RECOVERY; heaving sands in dual tube; pushed through same hole to 21' bgs; could not use liners to recover material		
		-				
		-				
		-				
20		-				
	0	-				
		-				
25		-		End of boring		

Total Borehole Depth: 21' bgs.
 Boring terminated at 21' bgs due to water and piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : M. Replogle, E.I.T.
 Checked by : M. Replogle, E.I.T.
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/31/17
 Weather : Sunny, 50s

Northing (US ft) : 576380.88
 Easting (US ft) : 1459930.13

Boring ID: A9-003-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		0.2	A9-003-SB-1	(0-0.6') SANDY SILT, loose, brown, moist, no plasticity, no cohesion	ML	Wet at 16.2' bgs
	88	0.3		(0.6-5') SAND, fine, very dense to dense, reddish yellow, moist, no plasticity, no cohesion	SP	
		0.4				
		0.4				
		0.3	A9-003-SB-5			
5		0.1		(5-9.2') SILTY CLAY, stiff to very stiff, light gray to dark grayish brown, dry, low plasticity, cohesive	CL	
	100	0.1				
		0.1				
		0.1	A9-003-SB-10	(9.2-9.4') SAND, loose, light gray, moist, no plasticity, no cohesion	SP	
		0.5		(9.4-15.6') CLAY, stiff to medium stiff, gray, medium grained, medium plasticity, cohesive	CL	
	100	1.8				
		0.2				
		0.1				
		0.1				
15		0.0		(15.6-20') SAND, fine, loose, light brown from 16.2-17' bgs, reddish yellow from 17-19' bgs, light yellow from 19-19.5' bgs, and light gray from 19.5-20' bgs, wet, no plasticity, no cohesion	SP	
	96	0.0				
		0.1				
		0.0				
		0.1				
20				End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/24/17
 Weather : Sunny, 70s
 Northing (US ft) : 576228.79
 Easting (US ft) : 1460430.13

Boring ID: A9-004-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		1.2	A9-004-SB-1	(0-5') SILTY SAND, medium dense to dense, light brown to reddish yellow, dry, no plasticity, no cohesion	SM	
	76	6.6				
		14.6				
		9.0				
5		1.5		(5-15.5') CLAY with some SAND, hard grading to firm, light gray and reddish yellow mottling, dry grading to moist, low plasticity, cohesive	CL	
		3.4				
	100	9.2	A9-004-SB-7			
		8.8				
		6.9		(15.5-20') SAND, fine to medium, medium dense, reddish yellow then very pale brown from 18.5-20' bgs, wet, no plasticity, no cohesion	SW	Wet at 15.5' bgs
		4.0	A9-004-SB-10			
	100	-				
		-				
15		-		(20-23') NO RECOVERY; drillers pushed without a liner		
		-				
	80	-				
		-				
20		-				
	0	-				
		-				
25				End of boring		

Total Borehole Depth: 23' bgs.
 Boring terminated at 23' bgs due to water and piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/27/17
 Weather : Sunny, 60s

Northing (US ft) : 576062.13
 Easting (US ft) : 1460873.88

Boring ID: A9-005-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		7.9	A9-005-SB-1	(0-5') SILTY SAND, dense, very pale brown, light brown, and reddish brown, dry, no plasticity, no cohesion	SM	Trace organics throughout
		30.2				
90		40.2				
		7.6				
		3.9				
5		2.4		(5-12') SILTY CLAY grading to CLAY, hard, very light brown and reddish yellow mottling, low plasticity, cohesive	CL	
		10.2				
100		38.2				
		57.5	A9-005-SB-9			
		53.8	A9-005-SB-10			
10		-		(12-15') SAND, fine to medium, medium dense, reddish yellow then very pale brown at 14.3' bgs, wet, no plasticity, no cohesion	SW	Wet at 12' bgs
		-				
20		-				
		-				
		1.4				
15	End of boring					

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/23/17
 Weather : Sunny, 70s

Northing (US ft) : 576301.71
 Easting (US ft) : 1458936.38

Boring ID: A9-006-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS		
0		-	A9-006-SB-1	(0-0.3') WOOD FRAGMENTS, large	NA	Wet at 14' bgs		
	90	35.5		(0.3-6.5') SAND with SILT to SILTY SAND, very fine to medium, medium dense to dense, reddish yellow to reddish brown, dry to moist, no plasticity, no cohesion	SM			
		29.6						
		68.5	A9-006-SB-4					
		14.5						
5		26.8						
		34.5						
	100	56.8					(6.5-14') CLAY, hard, very pale brown with reddish yellow grading to brownish gray, dry, low plasticity, cohesive	CL
		38.8						
		21.8	A9-006-SB-10					
10		55.2						
	94	57.1		(14-15') SAND, fine to medium, medium dense, very pale brown, wet, no plasticity, no cohesion	SW			
		217.3						
		3.1						
		0.0						
15				End of boring				

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/23/17
 Weather : Cloudy, 70s

Northing (US ft) : 576210.04
 Easting (US ft) : 1459398.88

Boring ID: A9-007-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A9-007-SB-1	(0-3') SILTY SAND, medium dense, brown to yellowish brown, dry, no plasticity, no cohesion	SM	Trace organics
0.4						
10.1	86			(3-5') SAND, very fine to medium, medium dense, very pale brown to pale yellow, dry, no plasticity, no cohesion	SW	
0.4						
1.7			A9-007-SB-5	(5-17') CLAY, very firm to hard, light grayish brown with reddish yellow mottling, dry, low plasticity, cohesive	CL	
1.7						
2.9						
3.8	100					
3.8						
0.6				(17-20') SAND, fine to medium, medium dense, reddish yellow grading to gray, wet, no plasticity, no cohesion	SW	
0.0						
0.0						
0.0	100					
0.0						
0.0				(17-20') SAND, fine to medium, medium dense, reddish yellow grading to gray, wet, no plasticity, no cohesion	SW	
-						
-						
1.9	70					Wet at 17' bgs
0.0						
0.0						
20				End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : M. Replogle, E.I.T.
 Checked by : M. Replogle, E.I.T.
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/31/17
 Weather : Sunny, 50s

Northing (US ft) : 576207.18
 Easting (US ft) : 1460024.92

Boring ID: A9-008-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A9-008-SB-1	(0-1') SANDY SILT with ORGANICS, soft, brown, moist, no plasticity, no cohesion	ML	
	70	0.9		(1-6') SAND with some SILT at 2-2.5' bgs, fine, loose, reddish yellow, moist, no plasticity, no cohesion	SP	
		0.1				
		0.2	A9-008-SB-5			
5		-				
		0.0		(6-8') SILTY CLAY, medium stiff, gray, slightly moist, medium plasticity, cohesive	CL	
	90	0.0				
		0.0		(8-10.2') CLAY, stiff, dark grayish brown, slightly moist, medium plasticity, cohesive	CL	
		0.0				
10		0.2		(10.2-16') CLAY, stiff to medium stiff at 14' bgs, gray with some reddish yellow from 10.5-13' bgs, moist, low plasticity, cohesive	CL	
	90	0.6				
		1.2				
		1.1				
		0.1				
15		-				
		0.7		(16-19.5') CLAY, soft, dark gray, moist, medium plasticity, cohesive	CL	
	60	0.4				
		0.2				
		0.1				
20				(19.5-20') SAND, fine, medium dense, reddish yellow, wet, no plasticity, no cohesion	SP	Wet at 19.5' bgs
				End of boring		
25						

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/24/17
 Weather : Cloudy, 70s
 Northing (US ft) : 575964.21
 Easting (US ft) : 1460346.79

Boring ID: A9-009-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		14.7	A9-009-SB-1	(0-0.3') SAND with SILT, very fine to fine, loose, light brown, dry, no plasticity, no cohesion	SW-SM	
	98	30.6		(0.3-5') SILT with SAND grading to SILTY SAND with few intermittent SAND layers, hard, light brown and yellowish red mottling, dry, no plasticity, no cohesion	SM	
		15.0				
		34.3				
		22.8				
5		60.0		(5-6') SILTY SAND, very firm to dense, pale brown with trace reddish yellow, dry, no plasticity, no cohesion	SM	
	100	56.4		(6-17') CLAY with trace SAND, hard then soft at 16' bgs, light grayish brown and yellowish red mottling, dry, low plasticity, cohesive		
		53.3				
		65.4	A9-009-SB-9			
		19.8	A9-009-SB-10			
10		67.1				
		46.1			CL	
	100	26.7				
		3.0				
		0.0				
15		-				
		2.5				
	80	1.7		(17-20') SAND, very fine to medium with trace coarse, medium dense, very pale brown and reddish yellow, wet, no plasticity, no cohesion	SW	Wet at 17' bgs
		1.3				
		1.3				
20				End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/27/17
 Weather : Sunny, 60s

Northing (US ft) : 576066.29
 Easting (US ft) : 1458644.71

Boring ID: A9-011-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A9-011-SB-1	(0-11') SAND with trace SILT, very fine to medium, dense to medium dense, light grayish brown then reddish yellow from 1-10' bgs, dry then very moist at 9' bgs, no plasticity, no cohesion	SW	
	84	343.7				
		88.9				
		68.2	A9-011-SB-4			
		2.2				
5		7.8				
	90	0.4				
		4.0				
		0.6				
		0.6	A9-011-SB-10			
10		-		(11-15') SAND, fine to medium, medium dense, reddish yellow, wet, no plasticity, no cohesion	SW	Wet at 11' bgs
	60	0.0				
		0.0				
		0.0				
15		-		(15-20') NO RECOVERY; could not use liners in dual tube to recover material due to heaving sands; pushed through same hole to 19' bgs		
	0	-				
		-				
		-				
20				End of boring		

Total Borehole Depth: 19' bgs.
 Boring terminated at 19' bgs due to water and piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Glumac
 Checked by : M. Replogle, E.I.T.
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/20/17
 Weather : Sunny, 60s

Northing (US ft) : 575963.95
 Easting (US ft) : 1459098.88

Boring ID: A9-012-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		4.3	A9-012-SB-1	(0-0.2') ORGANICS	NA	
				(0.2-1') SILT, soft, dark brown, dry, no plasticity, no cohesion	ML	
	100	1.9		(1-9') CLAY, hard, dark brown grading to light gray with yellowish red mottling, dry, low plasticity, cohesive	CL	
		0.6				
		2.1				
5		0.9	A9-012-SB-5			
	100	1.8		(9-9.5') CLAY, very soft, light gray, moist, low plasticity, cohesive	CL	
		4.7				
		5.5				
10		6.1				
		1.2	A9-012-SB-10	(9.5-11.5') SAND, fine, dense, yellowish red, moist, no plasticity, no cohesion	SP	
	40	-		(11.5-15') SAND, fine to medium, dense, light gray, wet, no plasticity, no cohesion	SP	Wet at 13' bgs
		-				
		-				
15				End of boring		
20						

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Glumac
 Checked by : M. Replogle, E.I.T.
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/20/17
 Weather : Sunny, 60s

Northing (US ft) : 576199.72
 Easting (US ft) : 1457657.49

Boring ID: A9-013-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		0.7	A9-013-SB-1	(0-0.7') SILT with medium grained SLAG, loose, dark brown, dry, no plasticity, no cohesion	ML	Sulfur odor 6-6.5' bgs
	98	1.8		(0.7-2') SLAG GRAVEL, fine to coarse, loose, gray and dark brown, dry, no plasticity, no cohesion	GW	
		2.6		(2-2.2') SAND, fine, medium dense, yellowish red, dry, no plasticity, no cohesion	SP CL	
		9.1		(2.2-2.7') CLAY, hard, yellowish red grading to light gray, dry, low plasticity, cohesive	GW	
		4.1		(2.7-4') SLAG GRAVEL, medium to coarse, loose, gray, moist, no plasticity, no cohesion	CL	
5		6.9		(4-6') CLAY, hard, gray to black, dry, low plasticity, cohesive		
	100	1.4		(6-6.5') SANDY SILT with ORGANICS, fine, loose, black, moist, low plasticity, no cohesion	ML	
		11.0		(6.5-11.5') CLAY, hard, yellowish red grading to light gray, dry, low plasticity, cohesive	CL	
		11.7	A9-013-SB-9			
10		1.5	A9-013-SB-10			
	40	-		(11.5-15') CLAY grading to fine SANDY CLAY, firm grading to very soft, light gray, wet, no plasticity, no cohesion	CL	Attempted to bore to 20' bgs; heaving sands in core barrels
15				End of boring		
20						

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/23/17
 Weather : Partly cloudy, 70s

Northing (US ft) : 575712.13
 Easting (US ft) : 1460267.63

Boring ID: A9-014-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		0.0	A9-014-SB-1	(0-0.5') SILTY SAND, very firm, brown, dry, no plasticity, no cohesion	SM	Light organic matter
		0.0		(0.5-6') SANDY SILT, very fine to fine, hard, very pale brown with trace reddish yellow, dry, no plasticity, no cohesion	ML	
100		0.0				
		0.0				
		0.0				
5		6.0		(6-17') CLAY with some SILT, trace SAND, and few ORGANICS, hard grading to soft, light brown with trace reddish yellow, low plasticity, cohesive		
		1.4				
	100	15.2				
		17.4	A9-014-SB-9			
		4.4	A9-014-SB-10			
10		0.1		(17-20') SAND, very fine to medium, medium dense, reddish yellow then pale brown from 19.5-20' bgs, wet, no plasticity, no cohesion	CL	
		0.1				
	100	2.3				
		0.0				
		0.0				
		0.0				
15		0.0				Wet at 17' bgs
		0.0				
	90	0.0			SW	
20		-				
End of boring						

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : M. Replogle, E.I.T.
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/30/17
 Weather : Sunny, 60s

Northing (US ft) : 575940.25
 Easting (US ft) : 1459818.67

Boring ID: A9-015-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS	
0		0.5	A9-015-SB-1	(0-0.8') SILT with SAND, soft, dark brown, moist, low plasticity, cohesive	ML	Light organic matter	
	86	0.3		(0.8-4') SILTY SAND, very fine to fine, dense, brown then reddish yellow at 2.5' bgs, dry to moist, no plasticity, no cohesion	SM		
		0.6					
		0.2					
5		0.6	A9-015-SB-5	(4-6') SAND with SILT, very fine to medium, medium dense, reddish yellow to yellowish red, moist to very moist, no plasticity, no cohesion	SW-SM		
		0.7					
	100	0.1		(6-7.2') CLAY with some SAND grading to CLAY, hard, brown, dry, low plasticity, cohesive	CL		
		0.5		(7.2-8.3') SILTY CLAY with SAND, firm, dark brown, very moist, low plasticity, cohesive	CL		
		0.1					
		0.0	A9-015-SB-10	(8.3-10') CLAY with some SAND grading to CLAY, hard, brown, dry, low plasticity, cohesive	CL		
10		-		(10-19') CLAY, firm grading to soft, low plasticity to medium plasticity, moist, cohesive	CL	Wet at 19' bgs	
	44	-					
		-					
		0.0					
15		0.0					
	54	-					
		0.0					
		0.0					
		0.0		(19-20') SAND, fine to medium, grayish brown, wet, no plasticity, no cohesion			SW
20		-		(20-26') NO RECOVERY; could not use liners to recover material due to heaving sands; pushed through same hole to 26' bgs			
	0	-					
		-					
25		-					
	0	-					
		-					
30				End of boring			

Total Borehole Depth: 26' bgs.
 Boring terminated at 26' bgs due to water and piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/27/17
 Weather : Sunny, 60s
 Northing (US ft) : 575911.35
 Easting (US ft) : 1459623.76

Boring ID: A9-016-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A9-016-SB-1	(0-0.7') SAND with trace SILT, very fine to fine, loose, dark brown, dry, no plasticity, no cohesion	SW	Moderate organic matter
	82	0.8		(0.7-2.4') SAND with some coarse SLAG GRAVEL, fine to medium, medium dense, dark brown with some gray, dry, no plasticity, no cohesion	SW	
		1.9		(2.4-3.2') CLAYEY SILT with trace SAND, hard, very light brown and reddish yellow, dry, low plasticity, cohesive	CL	
		3.0		(3.2-5') SAND, very fine to medium, dense, reddish yellow, dry, no plasticity, no cohesion	SW	
5		2.1		(5-5.8') SILTY SAND, hard, light gray and yellowish red, dry, no plasticity, no cohesion	SM	
	94	1.0	A9-016-SB-7	(5.8-7.9') SAND, very fine to medium, very firm, reddish yellow and pale brown, very moist, no plasticity, no cohesion	SW	
		8.6		(7.9-8.6') CLAY, hard, light grayish brown, moist, low plasticity, cohesive	CL	
		8.0		(8.6-9.3') SANDY CLAY, soft, brown, very moist to wet, low plasticity, cohesive	CL	
		6.4		(9.3-18.3') CLAY, hard, gray, moist, low plasticity grading to medium plasticity, cohesive	CL	
10		1.0				
	48	-				
		-			CL	
		0.8				
		1.6				
		0.0				
15		0.0				
	70	-			SW	
		0.0				
		0.0				
		0.0		(18.3-20') SAND, fine to medium, reddish yellow to pale brown, wet, no plasticity, no cohesion		
20		0.0				Wet at 18.3' bgs
				End of boring		
25						

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : M. Replogle, E.I.T.
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/30/17
 Weather : Sunny, 60s
 Northing (US ft) : 575912.18
 Easting (US ft) : 1459943.84

Boring ID: A9-018-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A9-018-SB-1	(0-3') SILTY SAND, very fine to fine, medium dense, dark brown then reddish yellow at 2' bgs, moist, no plasticity, no cohesion	SM	Light organic matter
	84	0.0		(3-4.3') SAND with SILT, medium dense, yellowish red, moist, no plasticity, no cohesion	SW-SM	
		0.0		(4.3-5') SILTY SAND, dense, pale brown and reddish yellow, dry, no plasticity, no cohesion	SM	
5		1.1	A9-018-SB-5	(5-6.7') CLAY, hard, light brownish gray with reddish yellow mottling, dry, low plasticity, cohesive	CL	
		0.9		(6.7-7.5') CLAYEY SAND to SAND, fine to medium, medium dense, reddish yellow to brown, moist, no plasticity, no cohesion	SC/SW	
	100	1.9		(7.5-18.7') CLAY, with some SAND 9-10' bgs, hard to soft, light brownish gray with reddish yellow mottling then gray 18-18.7' bgs dry, low plasticity, cohesive	CL	
		0.1				
		0.3	A9-018-SB-10			
10	30	-				
		-			CL	
		-				
	40	-				
		-				
15		6.0			CL	
		0.0				
		-			SW	
		-		(18.7-20') SAND, fine to medium, pale brown, wet, no plasticity, no cohesion		
20		-		End of boring		Wet at 18.7' bgs
25						

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/27/17
 Weather : Sunny, 60s

Northing (US ft) : 575982.49
 Easting (US ft) : 1459725.09

Boring ID: A9-019-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A9-019-SB-1	(0-1.5') SILTY SAND, medium dense, brown, dry, no plasticity, no cohesion	SM	
	60	151.7		(1.5-6') SAND, very fine to medium, yellowish red to reddish yellow and very pale brown, moist to very moist, no plasticity, no cohesion	SW	
		0.0				
		0.1	A9-019-SB-5			
5		3.3				
		0.2		(6-7') SILT, very firm, brownish gray, moist, low plasticity, cohesive	ML	
	100	0.1		(7-7.6') SILTY SAND, medium dense, grayish brown, wet, no plasticity, no cohesion	SM	
		0.2		(7.6-10') CLAY with SILT and SAND, gray, very firm, dry to moist, low plasticity, cohesive	CL	
		0.0				
10		-		(10-18.1') NO RECOVERY		
	0	-				
		-				
		-				
15		-				
	38	-				
		-				
		-		(18.1-20') SAND, very fine to medium, yellowish red grading to very pale brown, wet, no plasticity, no cohesion	SW	Wet at 18.1' bgs
20		-		End of boring		
		-				
		-				
25		-				

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : M. Replogle, E.I.T.
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/30/17
 Weather : Sunny, 60s

Northing (US ft) : 576025.46
 Easting (US ft) : 1459873.53

Boring ID: A9-020-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A9-020-SB-1	(0-1') SANDY SILT, firm, brown, moist, low plasticity, cohesive	ML	Light organic matter
	82	14.9		(1-6') SILTY SAND to SAND with SILT, dense, pale brown and reddish yellow, dry, no plasticity, no cohesion	SM/SW	
		18.3				
		5.8		(6-18') CLAY with some GRAVEL from 16.5-18' bgs, hard grading to soft, light grayish brown with reddish yellow mottling, low plasticity to medium plasticity, cohesive	CL	
5		0.6				
		2.0				
	100	7.8		(18-20') SAND, very fine to medium, medium dense, very pale brown to reddish yellow, wet, no plasticity, no cohesion	SW	
		4.7	A9-020-SB-9			
		6.8	A9-020-SB-10			
		4.6				
10		-		End of boring		
	70	23.9				
		4.9				
		0.4				
		0.0				
15		-		End of boring		
	70	-				
		0.0				
		0.0				
20		0.0		End of boring		
		0.0				
25		0.0		End of boring		
		0.0				

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/26/17
 Weather : Sunny, 60s

Northing (US ft) : 575780.12
 Easting (US ft) : 1460704.33

Boring ID: A9-021-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0	94	11.8	A9-021-SB-1	(0-3.8') SILTY SAND grading to SAND with SILT, hard, light brown with reddish yellow at depth, dry, no plasticity, no cohesion	SM/SW	Light organic matter
		11.3				
		22.2				
		2.8				
5	100	6.5		(3.8-12.5') CLAY with trace SAND, hard then soft at 11.5' bgs, light brown with reddish yellow mottling, dry to moist, low plasticity, cohesive	CL	
		0.1				
		0.3				
		10.0	A9-021-SB-8			
10	72	0.2		(12.5-14') SANDY CLAY, soft, light brown, moist, low plasticity, cohesive	CL	
		0.4	A9-021-SB-10			
		-				
		12.3				
15		0.1		(14-15') SAND, fine to medium, medium dense, very pale brown and reddish yellow, wet, no plasticity, no cohesion	SW	Wet at 14' bgs
		0.0				
		0.0				
20				End of boring		

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/25/17
 Weather : Sunny, 70s
 Northing (US ft) : 575659.82
 Easting (US ft) : 1460811.81

Boring ID: A9-022-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS	
0		0.0	A9-022-SB-1	(0-0.8') SLAG, SAND and GRAVEL-sized, loose, brown and gray, moist, no plasticity, no cohesion	SW/GW		
	94	0.0		(0.8-7') CLAY, hard, light grayish brown and reddish brown, dry, low plasticity, cohesive	CL		
		0.0					
		0.0	A9-022-SB-5				
5		0.1					
	100	0.0					
		0.3		(7-9') SAND with CLAY, fine to medium, very firm, light brown, moist to very moist, no plasticity, no cohesion	SW-SC		
		0.1					
		0.6	A9-022-SB-10	(9-10') CLAY, hard, light grayish brown and reddish brown, dry, low plasticity, cohesive	CL		
10		-		(10-15') NO RECOVERY; trace wet SAND; did not push to 20' bgs due to heaving sands	SW		
	0	-					
		-					
		-					
15			End of boring				Wet at 15' bgs
20							

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/25/17
 Weather : Sunny, 60s

Northing (US ft) : 575745.79
 Easting (US ft) : 1460847.45

Boring ID: A9-023-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0	80	-	A9-023-SB-1	(0-4.2') CLAY with trace SAND and SLAG GRAVEL, hard, light brown with reddish yellow mottling, dry, low plasticity, cohesive	CL	
		0.0				
		0.0				
		0.0				
5	100	0.0	A9-023-SB-5	(4.2-5.5') CLAYEY SAND, firm, brown, moist, no plasticity, no cohesion	SC	
		0.6		(5.5-10') CLAY, hard, light brown with reddish yellow mottling, dry, low plasticity, cohesive	CL	
		3.0				
		0.0				
10	14	0.0	A9-023-SB-10	(10-14.3') NO RECOVERY	-	
		-		(14.3-14.9') SANDY CLAY, soft, pale brown, very moist, low plasticity, no cohesion	CL SW	Wet at 14.9' bgs
		-				
		-				
15		0.3		(14.9-15') SAND, fine to medium, yellowish red, wet, no plasticity, no cohesion		
				End of boring		
20						

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to encountering groundwater and heaving sands.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/26/17
 Weather : Sunny, 60s

Northing (US ft) : 575808.27
 Easting (US ft) : 1460828.30

Boring ID: A9-024-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		0.1	A9-024-SB-1	(0-0.5') SAND with SLAG GRAVEL, loose, brown, dry, no plasticity, no cohesion	SW/GW	
	100	0.1		(0.5-3') CLAY with SAND, hard, light brown with trace reddish yellow, dry, low plasticity, cohesive	CL	
		0.7				
		0.6		(3-4') CLAYEY SAND, dense, light brown, moist, no plasticity, no cohesion	SC	
5		0.4	A9-024-SB-5	(4-10') CLAY, hard, light brown with trace reddish yellow, dry, low plasticity, cohesive	CL	
	100	5.9				
		4.2				
		0.9				
		1.5				
10		0.4	A9-024-SB-10	(10-14.5') NO RECOVERY		
	10	-				
		-				
		-				
		-				
15		-		(14.5-15') SAND, fine to medium, medium dense, very pale brown, wet, no plasticity, no cohesion	SW	Wet at 14.5' bgs
	0	-		(15-22') NO RECOVERY; heaving sands down borehole; could not use liners to recover material; pushed to 22' bgs		
		-				
		-				
20		-				
	0	-				
		-				
25		-		End of boring		

Total Borehole Depth: 22' bgs.
 Boring terminated at 22' bgs due to water and piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/26/17
 Weather : Sunny, 70s

Northing (US ft) : 575714.65
 Easting (US ft) : 1460707.47

Boring ID: A9-025-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0	90	4.3	A9-025-SB-1	(0-4.5') SAND with SILT, very fine to fine, loose then dense at 1' bgs, brown then pale brown with reddish yellow mottling, dry, no plasticity, no cohesion	SW-SM	
		1.8				
		12.6				
		1.5				
		14.5	A9-025-SB-5			
5	98	1.1		(4.5-14.2') CLAY, hard, very pale brown with reddish yellow mottling then light gray at 10' bgs, dry then moist at 10' bgs, low plasticity grading to medium plasticity, cohesive	CL	
		0.4				
		1.9				
		6.8				
		8.6				
		8.6				
10	90	3.4				
		17.4				
		0.0				
		0.0				
15		0.0		(14.2-15') SAND, fine to medium, medium dense, reddish yellow to very pale brown, wet, no plasticity, no cohesion	SW	Wet at 14.2' bgs
End of boring						
20						

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/26/17
 Weather : Cloudy, 60s

Northing (US ft) : 575833.90
 Easting (US ft) : 1460730.51

Boring ID: A9-026-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		-	A9-026-SB-1	(0-0.3') CONCRETE GRAVEL, gray	NA	
	80	3.5		(0.3-3.5') CLAY with some SAND, hard, light brown, dry, low plasticity, cohesive	CL	
		21.8				
		15.2	A9-026-SB-4	(3.5-6') CLAYEY SAND, dense, light brown, moist, no plasticity, no cohesion	SC	
5		0.9				
		0.1				
	100	0.2		(6-10') CLAY, very firm to hard, very light brown and reddish yellow mottling, moist, low plasticity, cohesive	CL	
		0.3				
		0.0				
		0.0	A9-026-SB-10	(10-16.5') NO RECOVERY	-	
10	0	-				
		-				
		-				
		-				
15		-				
		-				
	70	0.0		(16.5-20') SAND, fine to medium, medium dense, reddish yellow grading to very light brown, wet, no plasticity, no cohesion	SW	Wet at 16.5' bgs
		0.0				
		0.0				
20				End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150298M-4-3
 Project Description : Sparrows Point - Parcel A9
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied Drilling Co.
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/26/17
 Weather : Cloudy, 60s

Northing (US ft) : 575848.55
 Easting (US ft) : 1460858.79

Boring ID: A9-027-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample No/Interval	DESCRIPTION	USCS	REMARKS
0		12.1	A9-027-SB-1	(0-2.7') CLAYEY SAND, dense, light brown, moist to dry, no plasticity, no cohesion	SC	
	90	106.7				
		112.6				
		58.8	A9-027-SB-4	(2.7-13.5') CLAY with trace SAND at depth, hard to soft, light grayish brown and reddish yellow mottling, dry to moist, low plasticity, cohesive	CL	
5		0.6				
	100	1.4				
		2.7				
		4.4		(13.5-14') SANDY CLAY, soft, light grayish brown, moist, low plasticity, cohesive	CL	
		1.8				
10		2.5	A9-027-SB-10			
	80	-				
		4.6				
		0.2		(14-15') SAND, fine to medium, yellowish red, wet, no plasticity, no cohesion	SW	
		0.1				
15		0.1				Wet at 14' bgs
				End of boring		
20						

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to encountering groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : R. Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/10/17
 Weather : 80s, sunny
 Northing (US ft) : 576026.46
 Easting (US ft) : 1458402.97

Boring ID: GRY-001-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-001-SB-1	(0-0.3') CINDER BALLAST, loose to medium dense, black, moist, no plasticity, no cohesion	NA	
	76	1.5		(0.3-2') SLAG GRAVEL with SAND-sized SLAG, medium dense, brown and gray, dry, no plasticity, no cohesion	GW	
		2.6		(2-4') SILTY SAND, dense, reddish yellow grading to dark brown, moist, no plasticity, no cohesion	SM	
		2.3				
		0.4	GRY-001-SB-5	(4-5') SANDY CLAY, very firm, yellowish brown, dry to moist, low plasticity, cohesive	CL	
5		0.5		(5-14.9') CLAY, hard, brownish gray and gray then reddish yellow and very pale brown from 6-14.9' bgs, dry, low plasticity, cohesive	CL	
	100	2.9				
		1.1				
		5.2				
		0.9				
10		-				
	16	-				
		-				
		-				
15		-		(14.9-20') SAND, fine to medium, medium dense, reddish yellow grading to brownish gray, wet, no plasticity, no cohesion	SW	Wet at 14.9' bgs
	44	-				
		-				
		-				
20				End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : R. Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/10/17
 Weather : 80s, sunny
 Northing (US ft) : 575959.36
 Easting (US ft) : 1458751.84

Boring ID: GRY-002-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-002-SB-1	(0-1.5') SLAG GRAVEL with SAND, medium dense, dark brown with gray, dry, no plasticity, no cohesion	GW	
	80	1.0		(1.5-4.5') SILTY SAND, dense, dark brown then reddish yellow at 3' bgs, moist to dry, no plasticity, no cohesion	SM	
		2.5				
		2.1		(4.5-12') CLAY with SAND grading to CLAY, hard, reddish yellow and very pale brown, dry, low plasticity, cohesive	CL	
5		1.0				
		0.8				
	100	12.2	GRY-002-SB-7			
		8.0		(12-15') SAND, medium dense, very pale brown with trace reddish yellow, wet, no plasticity, no cohesion	SW	
		2.2				
10		0.5				
	20	-				
		-				
		-				
		-				
15				End of boring		

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : R. Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/11/17
 Weather : 70s, cloudy
 Northing (US ft) : 575864.22
 Easting (US ft) : 1459244.03

Boring ID: GRY-003-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS	
0	94	0.2	GRY-003-SB-1	(0-1.5') SLAG GRAVEL and SAND, medium dense, dark brown and gray, dry, no plasticity, no cohesion	GW/SW	Wet at 13' bgs	
		1.5		(1.5-4.5') SILTY SAND, dense, brown, reddish yellow, and grayish brown, moist to dry, no plasticity, no cohesion	SM		
		1.2					
		0.7					
5	100	0.3	GRY-003-SB-5	(4.5-13') CLAY with SAND, hard, grayish brown, dry, low plasticity, cohesive	CL		
		0.3					
		1.1					
		0.6					
		0.6					
10	60	0.1	GRY-003-SB-10				
		-					
		-					
		-		(13-15') SAND, medium dense, very pale brown with trace reddish yellow, wet, no plasticity, no cohesion	SW		
15	0	-		(15-20') NO RECOVERY, heaving sands down borehole, could not use liner to recover material, pushed through same hole to 20' bgs			
		-					
		-					
		-					
20				End of boring			

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to groundwater and piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : R. Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/11/17
 Weather : 70s, cloudy
 Northing (US ft) : 575778.62
 Easting (US ft) : 1459643.96

Boring ID: GRY-004-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		0.0	GRY-004-SB-1	(0-2') SLAG GRAVEL with SAND, loose to medium dense, grayish brown and gray, dry, no plasticity, no cohesion	GW/SW	
	92	2.0				
		1.8		(2-5') SILTY CLAY grading to CLAY, hard, very pale brown, reddish yellow, and brown, dry, no plasticity, no cohesion	CL	
		0.5				
		0.3	GRY-004-SB-5			
5		1.6		(5-12') CLAY, very firm then soft at 9.5' bgs, very pale brown and reddish yellow then grayish brown at 9.5' bgs, moist to very moist, low plasticity grading to medium plasticity, cohesive	CL	
	100	1.1				
		0.6				
		0.1				
		0.3	GRY-004-SB-10			
10		-				
	20	-		(12-15') SAND, fine to medium, medium dense, strong brown, wet, no plasticity, no cohesion	SW	
		-				
		-				
15				End of boring		Wet at 14' bgs

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : R. Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/11/17
 Weather : 70s, cloudy

Northing (US ft) : 575680.41
 Easting (US ft) : 1460082.16

Boring ID: GRY-005-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-005-SB-1	(0-2') SAND with heavy SLAG GRAVEL, medium dense, dark brown with gray, dry, no plasticity, no cohesion	SW/GW	Possible cinder ballast at surface
	72	0.6				
		2.0		(2-7') SAND, fine to medium, medium dense to dense, very pale brown, moist to very moist, no plasticity, no cohesion		
		0.3				
		0.3	GRY-005-SB-5		SW	
5		0.1				
	100	0.1				
		0.3		(7-8.5') SILT with SAND at depth, very firm to soft, grayish brown to brown, very moist to wet, low plasticity, cohesive	ML	
		0.2				
		0.1		(8.5-12.5') CLAY, very firm, light gray, moist, low plasticity, cohesive		
10		-			CL	
	4	-				
		-		(12.5-15') SAND, fine to medium, medium dense, brown, wet, no plasticity, no cohesion	SW	Wet at 14.8' bgs
		-				
15				End of boring		

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : R. Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/11/17
 Weather : 70s, cloudy

Northing (US ft) : 575493.90
 Easting (US ft) : 1460904.37

Boring ID: GRY-006-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0	88	0.7	GRY-006-SB-1	(0-1.8') SAND with SLAG GRAVEL grading to SLAG GRAVEL with trace SAND, loose to medium dense, dark brown, grayish brown, and gray, dry grading to moist, no plasticity, no cohesion	SW/GW	
		2.1				
		3.1		(1.8-3.5') CLAY with trace metallic GRAVEL, hard, black grading to reddish yellow with pale brown, dry, low plasticity, cohesive	CL	
		1.0		(3.5-3.9') SAND, very fine to medium, very light gray, moist, no plasticity, no cohesion	SW	
5	100	0.3	GRY-006-SB-5	(3.9-13') CLAY, hard, very pale brown and reddish yellow mottling, dry, low plasticity, cohesive	CL	
		1.1				
		0.8				
		1.1				
		0.3				
		0.1				
10	0	-				
		-				
		-				
		-				
15	60	-		(13-20') SAND with trace CLAY at 20' bgs, fine to medium, medium dense, reddish yellow, wet, no plasticity, no cohesion	SW	Wet at 15' bgs
		-				
		-				
		-				
20				End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to groundwater and piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : R. Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/16/17
 Weather : 60s, sunny
 Northing (US ft) : 574683.62
 Easting (US ft) : 1463117.30

Boring ID: GRY-007-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0				(0-2') Non-native SAND with SLAG, SAND and GRAVEL-sized, dark brown, dry, no plasticity, no cohesion		No water encountered
		0.5	GRY-007-SB-1		SW/GW	
100		0.9				
				(2-2.5') BRICK-TYPE GRAVEL, medium dense, white with green staining, very moist, no plasticity, no cohesion, lightweight	GW	
				End of boring		
5						

Total Borehole Depth: 2.5' bgs.
 Boring terminated at 2.5' bgs due to refusal.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : R. Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/11/17
 Weather : 70s, cloudy
 Northing (US ft) : 575402.55
 Easting (US ft) : 1461438.46

Boring ID: GRY-008-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		0.9	GRY-008-SB-1	(0-0.5') SAND with SILT and ORGANICS, loose, dark brown, dry, no plasticity, no cohesion	SW-SM	Wet at 17' bgs
	94	1.2		(0.5-1.8') SLAG GRAVEL, medium dense, brownish gray, dry, no plasticity, no cohesion	GW	
		0.6		(1.8-5.8') CLAY, hard, light gray and reddish yellow, dry to moist, low plasticity, cohesive	CL	
		0.2			CL	
		0.2	GRY-008-SB-5			
5		0.8		(5.8-6.3') CLAYEY SILT, soft to very soft, grayish brown, very moist, low plasticity, cohesive	ML	
	100	0.4		(6.3-7') SAND with SILT, dense, pale brown, moist, no plasticity, no cohesion	SW-SM	
		0.2		(7-16') CLAY, hard, pale brown and reddish yellow, dry to moist, low plasticity to medium plasticity, cohesive		
		1.4				
10		0.4			CL	
	50	-				
		-				
		-				
15		-		(16-18') SAND, fine to medium, medium dense, very pale brown, wet, no plasticity, no cohesion	SW	
	60	-		(18-19') SANDY CLAY, soft, very pale brown, very moist, low plasticity, cohesive	CL	
		-		(19-20') SAND, fine to medium, medium dense, very pale brown with reddish yellow, wet, no plasticity, no cohesion	SW	
20		-		End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : R. Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/11/17
 Weather : 70s, cloudy
 Northing (US ft) : 575196.29
 Easting (US ft) : 1462372.87

Boring ID: GRY-009-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-009-SB-1	(0-1') SLAG GRAVEL with SAND, medium dense, brown and dark gray, dry, no plasticity, no cohesion	GW/SW	Large metal fragments
	82	9.7		(1-4.5') CLAY, hard, light brown and reddish yellow mottling, dry, low plasticity, cohesive	CL	
		1.4				
		1.3				
5		1.1	GRY-009-SB-5	(4.5-6.5') SANDY CLAY, firm, light brown and reddish yellow mottling, moist, low plasticity, cohesive	CL	
	40	-		(6.5-9') CLAYEY SAND, medium dense, reddish yellow, very moist, no plasticity, no cohesion	SC	
		0.3				
10		3.6	GRY-009-SB-10	(9-15.4') CLAY, hard, light brown and reddish yellow mottling, dry, low plasticity, cohesive	CL	
	70	-				
		-				
15		-		(15.4-18') SILT with SAND, soft, light brownish gray, very moist, low plasticity, cohesive	ML	Wet at 18' bgs
	84	-				
		-		(18-20') SAND, fine to medium, medium dense, reddish yellow and very pale brown, wet, no plasticity, no cohesion	SW	
20				End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - GRY
 Site Location : Sparrows Point, MD
 ARM Representative : M. Replogle, E.I.T.
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : R. Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/17/17
 Weather : 60s, sunny

Northing (US ft) : 575089.29
 Easting (US ft) : 1462859.19

Boring ID: GRY-010-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-010-SB-1	(0-3.6') SLAG, SAND and GRAVEL-sized, with some COBBLES at depth and some CLAY, medium dense, brown, dry to moist, no plasticity, no cohesion	SW/GW	Some organics
	50	36.3				
		46.3	GRY-010-SB-4	(3.6-6.3') CLAY, firm to soft, black, moist, low plasticity, cohesive	CL	
5		28.3				
		4.0		(6.3-15.5') CLAY, firm from 6.3-9' bgs, then medium soft from 9-13' bgs, and soft from 13-15' bgs, brownish gray and grayish brown at 6.3' bgs, moist to very moist at 13' bgs, medium plasticity, cohesive	CL	
	80	8.6				
		12.3				
		13.3	GRY-010-SB-10			
10		-		(6.3-15.5') CLAY, firm from 6.3-9' bgs, then medium soft from 9-13' bgs, and soft from 13-15' bgs, brownish gray and grayish brown at 6.3' bgs, moist to very moist at 13' bgs, medium plasticity, cohesive	CL	
	80	7.7				
		2.0				
		2.7				
		2.3				
15		-		(15.5-17') SILTY CLAY, very soft, gray, very moist, low plasticity, cohesive	CL	
	80	2.3		(17-19') SILT, some CLAY, soft brown grading to gray, moist, no plasticity, no cohesion	ML	
		2.5				
		2.7				
		3.5		(19-20') SAND, fine, medium dense, light brown and light reddish yellow, wet, no plasticity, no cohesion	SW	Wet at 19' bgs
20				End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - GRY
 Site Location : Sparrows Point, MD
 ARM Representative : M. Replogle, E.I.T.
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : R. Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/17/17
 Weather : 60s, sunny

Northing (US ft) : 574932.47
 Easting (US ft) : 1463457.86

Boring ID: GRY-011-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-011-SB-1	(0-2') SLAG, SAND and GRAVEL-sized, loose, dark brown, dry, no plasticity, no cohesion	SW/GW	
	60	35.4				
		34.3		(2-3') CINDER BALLAST and SLAG, loose, black, moist, no plasticity, no cohesion	NA	
		18.6		(3-5') SLAG, SAND and GRAVEL-sized, loose, light gray, dry, no plasticity, no cohesion	SW/GW	
5		15.1				
		26.2		(5-6.2') SILTY CLAY, hard, gray, moist, medium plasticity, cohesive	CL	
	100	57.0	GRY-011-SB-7	(6.2-7.2') SILTY CLAY with SAND, hard, light brown, moist, low plasticity, cohesive	CL	
		8.2		(7.2-8') SILTY SAND, hard, light grayish brown, moist, no plasticity, no cohesion	SM	
		36.1		(8-15') SANDY CLAY with SILT, then no SAND from 10-15' bgs, very hard, light gray and reddish yellow mottling, dry, low plasticity, cohesive		
10		12.8	GRY-011-SB-10			
	60	-			CL	
		-				
		-				
15		-		(15-17.5') SILTY CLAY, soft, gray, moist, medium plasticity, cohesive	CL	
	96	-				
		-		(17.5-19.7') SILT with some SAND and CLAY, soft, gray, moist, medium plasticity, cohesive	ML	
		-				
20		-		(19.7-20') SAND, fine, medium dense, reddish yellow, wet, no plasticity, no cohesion	SP	Wet at 19.7' bgs
				End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to groundwater and piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - GRY
 Site Location : Sparrows Point, MD
 ARM Representative : M. Replogle, E.I.T.
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : R. Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/17/17
 Weather : 50s, sunny

Northing (US ft) : 574879.22
 Easting (US ft) : 1463595.73

Boring ID: GRY-012-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-012-SB-1	(0-2') SLAG, SAND and GRAVEL-sized, loose, dark brown, dry, no plasticity, no cohesion	SW/GW	No water encountered
		-				
50		2.1		(2-3') CINDER BALLAST and SLAG, loose, black, slightly moist, no plasticity, no cohesion	NA	
		6.0		(3-5') SILTY SAND and GRAVEL, loose, light gray, moist, no plasticity, no cohesion	SM/GW	
		11.5	GRY-012-SB-5			
5	100	-		(5-6') 1' WOOD fragment	NA	
End of boring						
10						

Total Borehole Depth: 6' bgs.
 Boring terminated at 6' bgs due to refusal.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : R. Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/10/17
 Weather : 80s, sunny
 Northing (US ft) : 576099.29
 Easting (US ft) : 1457800.88

Boring ID: GRY-013-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-013-SB-1	(0-1.5') SLAG GRAVEL with SAND, medium dense, dark brown and gray, dry, no plasticity, no cohesion	GW/SW	Wet at 14' bgs
1.2	76	1.3		(1.5-3.5') SILTY SAND, fine to medium, dense, brown grading to reddish yellow and light brown, dry, no plasticity, no cohesion	SM	
0.1		0.1	GRY-013-SB-5	(3.5-4.5') SAND with SILT, fine to medium, dense, light brown and reddish yellow, very moist, no plasticity, no cohesion	CL	
0.1		0.1		(4.5-13') CLAY with SAND, hard then soft at 12' bgs, very light brown with reddish yellow, dry, low plasticity, cohesive	CL	
0.6	100	0.6				
0.3		0.4	GRY-013-SB-10			
0.0		0.0				
0.0	100	0.0		(13-14') SANDY CLAY, soft, very pale brown, very moist, low plasticity, cohesive	CL	
0.0		0.0		(14-15') SAND, medium dense to dense, reddish yellow, wet, no plasticity, no cohesion	SW	
0.0	0	-		(15-21') NO RECOVERY, heaving sands down borehole, could not use liner to recover material, pushed through same hole to 21' bgs		
0.0		-				
0.0		-				
20	0	-				
25				End of boring		

Total Borehole Depth: 21' bgs.
 Boring terminated at 21' bgs due to groundwater and piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/9/17
 Weather :
 Northing (US ft) : 575981.74
 Easting (US ft) : 1457971.69

Boring ID: GRY-014-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-014-SB-1	(0-2') SLAG GRAVEL with SAND, medium dense, grayish brown, dry, no plasticity, no cohesion	GW/SW	
	80	33.2				
		2.4		(2-5') CLAY grading to SANDY CLAY with trace shells at 2.5' bgs, hard then firm at 3' bgs, brown then yellowish brown at 3' bgs, dry then moist at 3' bgs, low plasticity, cohesive	CL	
		0.3				
		0.3	GRY-014-SB-5			
5		0.4		(5-12.5') CLAY, hard, reddish yellow and light grayish brown mottling, dry, low plasticity, cohesive	CL	
	100	2.0				
		1.4				
		0.0				
		0.0	GRY-014-SB-10			
10		0.0				
		0.0				
	100	0.0		(12.5-13') SANDY CLAY, very firm, light grayish brown, moist, low plasticity, cohesive	CL	
		0.0		(13-14') CLAYEY SAND, dense, light grayish brown, very moist, low plasticity, cohesive	SC	
		0.0		(14-15') SAND, fine to medium, medium dense to dense, reddish yellow, wet, no plasticity, no cohesion	SW	
15				End of boring		Wet at 14' bgs

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/9/17
 Weather : 70s, cloudy

Northing (US ft) : 575900.58
 Easting (US ft) : 1458254.20

Boring ID: GRY-015-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-015-SB-1	(0-2') SLAG GRAVEL, medium dense, grayish brown, dry to moist, no plasticity, no cohesion	GW	
	80	0.3				
		1.2		(2-9.5') CLAY, hard to very firm, brown grading to reddish yellow and very pale brown mottling, dry then moist at 3.5' bgs, low plasticity, cohesive		
		0.5				
		0.3	GRY-015-SB-5			
5		0.0			CL	
		0.0				
	96	0.1				
		0.0				
		0.8	GRY-015-SB-10		CL	
10		-		(9.5-10') SANDY CLAY, hard, reddish yellow and very pale brown, moist, low plasticity, cohesive		
		-		(10-14.5') CLAY with some SAND, very firm, reddish yellow and very pale brown, moist, low plasticity, cohesive	CL	
	100	-				
		-				
		-				
15		-		(14.5-15') SAND with CLAY, medium dense, very pale brown, wet, no plasticity, no cohesion	SW-SC	Wet at 14.5' bgs
				End of boring		

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/9/17
 Weather : 70s, cloudy

Northing (US ft) : 575816.69
 Easting (US ft) : 1458539.02

Boring ID: GRY-016-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-016-SB-1	(0-3.4') SLAG GRAVEL with SAND, medium dense, dark brown, dry, no plasticity, no cohesion	GW	
	74	0.7				
		0.4				
		1.1		(3.4-5.5') CLAY with trace SAND, very firm, brownish gray, moist, low plasticity, cohesive	CL	
		2.2	GRY-016-SB-5			
5		-		(5.5-10') SAND with CLAY, dense, yellowish red and light gray mottling, moist then wet at 8' bgs, no plasticity, no cohesion, with trace small, intermittent SANDY CLAY layers from 6-10' bgs	SW-SC	
	80	0.4				
		2.3				
		0.6				
		0.4				
10	End of boring					

Total Borehole Depth: 10' bgs.
 Boring terminated at 10' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/9/17
 Weather : 70s, drizzle
 Northing (US ft) : 575738.65
 Easting (US ft) : 1458964.69

Boring ID: GRY-017-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-018-SB-1	(0-3.2') SLAG GRAVEL with SAND, medium dense, grayish brown, dry then very moist at 4.5' bgs, no plasticity, no cohesion	GW/SW	
	60	0.4				
		0.3		(3.2-5.8') SANDY CLAY, soft to firm, grayish brown to reddish yellow, very moist to moist, low plasticity, cohesive	CL	
		0.3	GRY-018-SB-5			
5		0.3				
		0.4		(5.8-12') CLAY with trace SAND, hard, reddish yellow and very pale brown, dry to moist, low plasticity, cohesive	CL	
	100	1.1				
		1.2				
		0.4	GRY-018-SB-10			
10		-				
		0.4				
	70	0.3		(12-15') SAND, fine to medium, medium dense, reddish yellow, wet, no plasticity, no cohesion	SW	Wet at 12' bgs
		0.3				
		0.3				
15				End of boring		

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/9/17
 Weather : 70s, rainy
 Northing (US ft) : 575639.73
 Easting (US ft) : 1459362.71

Boring ID: GRY-018-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-018-SB-1	(0-1.5') SAND with some SLAG GRAVEL, very fine to medium, medium dense, dark brown, dry, no plasticity, no cohesion	SW	
		-		(1.5-5.5') SLAG GRAVEL with SAND-sized SLAG, medium dense, brown with gray, dry to moist, no plasticity, no cohesion		
60		0.5				
		26.8	GRY-018-SB-4		GW/SW	
		4.0				
5		-		(5.5-6') SAND with SILT, medium dense, reddish yellow, wet, no plasticity, no cohesion	SW-SM	
		0.0		(6-8.4') SANDY CLAY from 6-6.3' bgs then CLAY with SAND, hard to very firm, yellowish brown then black 7-8' bgs, moist, low plasticity, cohesive	CL	
90		0.7				
		0.4		(8.4-9.2') SAND with SILT, firm, grayish brown, wet, no plasticity, no cohesion	SW-SM	Wet at 8.4' bgs
		0.0		(9.2-10') CLAY, hard, very light brown and reddish yellow, dry, low plasticity, cohesive	CL	
10				End of boring		

Total Borehole Depth: 10' bgs.
 Boring terminated at 10' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/12/17
 Weather : 60s, cloudy
 Northing (US ft) : 575513.51
 Easting (US ft) : 1459997.78

Boring ID: GRY-019-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-019-SB-1	(0-1.5') SLAG GRAVEL with SAND, medium dense, very dark brown to black, dry to moist, no plasticity, no cohesion	GW/SW	
	80	0.6		(1.5-2.4') SAND, very fine to medium, medium dense, reddish yellow, moist, no plasticity, no cohesion	SW	
		0.8		(2.4-3.1') SILTY CLAY, hard, yellowish brown, dry, low plasticity, cohesive	CL	
		0.0				
5		0.0	GRY-019-SB-5	(3.1-15') CLAY, hard, pale brown with reddish yellow mottling, dry, low plasticity grading to medium plasticity, cohesive		
	100	0.0			CL	
		0.1				
		0.1				
		0.0				
10		-				
	60	-				
		0.0				
		0.1				
		0.1				
15		-		(15-18.5') CLAY, soft, reddish yellow, very moist, low plasticity, cohesive	CL	
	60	-				
		-				
20		-		(18.5-25') SAND, fine to medium, very pale brown to reddish yellow with gray at depth, wet, no plasticity, no cohesion		Wet at 18.5' bgs
	50	-			SW	
		-				
		-				
25		-		End of boring		

Total Borehole Depth: 25' bgs.
 Boring terminated at 25' bgs due to groundwater and piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/13/17
 Weather : 60s, cloudy

Northing (US ft) : 575432.14
 Easting (US ft) : 1460428.43

Boring ID: GRY-020-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-020-SB-1	(0-2') SLAG GRAVEL with SAND and some SILT, medium dense, very dark brown, dry to very moist, no plasticity, no cohesion	GW/SW	
	82	1.1				
		0.6		(2-6.8') CLAY, hard, gray grading to very pale brown and reddish yellow, dry, low plasticity, cohesive		
		0.8				
		0.2	GRY-020-SB-5		CL	
5		0.0				
		0.0				
	100	2.1		(6.8-13') CLAY with SAND grading to SANDY CLAY, firm to soft, brown, very moist, low plasticity grading to medium plasticity, cohesive		
		4.5				
		0.6			CL	
10		-				
		-				
	0	-				
		-				
		-				
15		-				
		-				
	60	-			SW	
		-				
		-				
20		-				
				End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to groundwater.

Wet at 17' bgs



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/12/17
 Weather : 60s, cloudy
 Northing (US ft) : 575280.76
 Easting (US ft) : 1461947.48

Boring ID: GRY-021-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		0.1	GRY-021-SB-1	(0-2') SLAG GRAVEL and SAND, medium dense, very dark brown, dry to moist, no plasticity, no cohesion	GW/SW	
	96	0.4				
		0.5		(2-3.3') CLAY, hard, pale brown and reddish yellow, dry, low plasticity, cohesive	CL	
		0.1		(3.3-3.5') SAND with SILT, very fine to fine, pale brown, dry, no plasticity, no cohesion	SP-SM	
5		0.0	GRY-021-SB-5	(3.5-11') CLAY, hard, pale brown and reddish yellow, dry, low plasticity, cohesive		
		1.3				
	100	1.1			CL	
		1.7				
		0.3				
10		0.0	GRY-021-SB-10			
		-		(11-16') CLAY with some SAND and trace GRAVEL, soft, pale brown with trace reddish yellow, very moist, low plasticity, cohesive	CL	
	100	-				
		-				
15		-				
		-		(16-20') SAND, fine to medium with some coarse, medium dense, very pale brown grading to reddish yellow, wet, no plasticity, no cohesive	SW	Wet at 16' bgs
	90	-				
		-				
20		-				
		-		(20-23') NO RECOVERY, heaving sands, could not use liners to recover material, pushed through same hole to 23' bgs	-	
	0	-				
		-				
End of boring						

Total Borehole Depth: 23' bgs.
 Boring terminated at 23' bgs due to groundwater and piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/13/17
 Weather : 60s, cloudy
 Northing (US ft) : 575290.34
 Easting (US ft) : 1461082.32

Boring ID: GRY-022-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-022-SB-1	(0-2') SLAG GRAVEL with SAND and SILT, medium dense, brown to dark brown, dry grading to wet, no plasticity, no cohesion	GW/SW	Light petroleum-like odor at 2.6' bgs
	76	3.4				
		47.3		(2-4.9') CLAY, hard, very pale brown and reddish yellow mottling, dry, low plasticity, cohesive	CL	
		3.4				
		3.2	GRY-022-SB-5			
5		0.2		(4.9-6') SILT with SAND, soft, brown, very moist, low plasticity, cohesive	ML	
	100	2.0		(6-15.5') CLAY, hard, very pale brown and reddish yellow mottling, dry, low plasticity, cohesive		
		1.5				
		0.1				
		1.8	GRY-022-SB-10			
10		-			CL	Wet at 18.5' bgs
	40	-				
		-				
		-				
15		-		(15.5-18.5') CLAY, soft, reddish yellow, very moist, low plasticity, cohesive	CL	
	88	-				
		-		(18.5-20') SAND, fine to medium, medium dense, reddish yellow, wet, no plasticity, no cohesive	SW	
20		-		End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : M. Replogle, E.I.T
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/4/17
 Weather : 60s, sunny
 Northing (US ft) : 575108.48
 Easting (US ft) : 1460565.83

Boring ID: GRY-023-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-023-SB-1	(0-0.4') GRAVEL, very coarse, loose, gray, dry, no plasticity, no cohesion	GW	
				(0.4-1') SLAG SAND with some GRAVEL, coarse, loose, brown, dry, no plasticity, no cohesion	SW	
	100	5.2		(1-3.5') SLAG, SAND and GRAVEL-sized, medium dense, grayish brown, dry then wet at 3' bgs, no plasticity, no cohesion	SW/GW	
		1.7				
		0.7				
		0.0	GRY-023-SB-5	(3.5-10') CLAY with trace coarse GRAVEL from 4-5' bgs and trace SAND from 6-7' bgs, very stiff, light gray, moist, medium plasticity, cohesive		
5		0.2				
		1.9			CL	
	100	0.7				
		1.7				
		0.2	GRY-023-SB-10			
10		-		(10-15') NO RECOVERY, sleeve full of water, <2" of sand present		Wet at 10' bgs
	0	-				
		-				
		-				
15				End of boring		

Total Borehole Depth: 15' bgs.
 Boring terminated at 15' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : M. Replegle, E.I.T
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/4/17 and 10/16/18
 Weather : 60s, sunny

Northing (US ft) : 575010.40
 Easting (US ft) : 1460998.80

Boring ID: GRY-024-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		0.1	GRY-024-SB-1	(0-1') SLAG SAND with some GRAVEL, coarse, loose, dark brown, dry, no plasticity, no cohesion	SW	
	90	0.6		(1-2.5') SLAG, SAND and GRAVEL-sized, loose, grayish brown, moist, no plasticity, no cohesion	SW/GW	
		0.4		(2.5-8') CLAY with some SILT, very stiff, gray and yellowish red mottling to light gray, dry to slightly moist, medium plasticity, cohesive	CL	
5		0.5				
		0.2	GRY-024-SB-5			
	100	0.2				
		2.6				
		1.6				
		1.3		(8-8.2') SAND, dense, light brown, moist, no plasticity, no cohesion	SP	
10		1.6	GRY-024-SB-10	(8.2-18.5') CLAY, soft then stiff from 9.5-10' bgs, brown then light gray at 13' bgs, moist, medium plasticity, cohesive		
	40	-			CL	
		-				
15		-				
		-				
	100	-		(18.5-20') SAND, fine, dense, yellowish brown and reddish yellow, moist then wet at 19.5' bgs, no plasticity, no cohesion	SP	
20		-		(20-27') NO RECOVERY, could not use liners due to heaving sands		
	0	-				
		-				
25		-				
	0	-				
30				End of boring		

Total Borehole Depth: 27' bgs.
 Boring terminated at 27' bgs due to groundwater and piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : M. Replogle, E.I.T
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/4/17
 Weather : 70s, sunny
 Northing (US ft) : 574924.76
 Easting (US ft) : 1461417.46

Boring ID: GRY-025-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-025-SB-1	(0-1') SLAG, fine SAND and coarse GRAVEL-sized, loose, brown, dry, no plasticity, no cohesion	SW/GW	Trace organics at 5' bgs Wet at 8' bgs
	90	16.0		(1-4') SLAG, SAND and GRAVEL-sized, medium dense, dark gray, dry then wet at 3.8' bgs, no plasticity, no cohesion	SW/GW	
		4.0				
		2.9				
5		0.2	GRY-025-SB-5	(4-8') CLAY with some SAND at depth, firm, light gray with black streaks, moist then wet at 7.5' bgs, medium plasticity, cohesive	CL	
		0.7				
		0.0				
	100	0.1				
		1.0		(8-8.5') CLAYEY SAND, fine, medium dense, light gray, wet, no plasticity, no cohesion	SC	
		0.7		(8.5-10') CLAY with some SAND from 8.5-9' bgs, firm, light gray with black streaks, moist, medium plasticity, cohesive	CL	
10				End of boring		

Total Borehole Depth: 10' bgs.
 Boring terminated at 10' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : M. Replogle, E.I.T
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : Mike Garvine
 Drilling Equipment : Geoprobe 7822DT

Date : 10/4/17
 Weather : 70s, sunny

Northing (US ft) : 574825.56
 Easting (US ft) : 1461888.21

Boring ID: GRY-026-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-026-SB-1	(0-3.5') SLAG, SAND and GRAVEL-sized, medium dense, dark gray, dry, no plasticity, no cohesion	SW/GW	
60		0.6				
		3.8		(3.5-7.5') CLAY with GRAVEL from 4.5-5' bgs, firm, gray, moist, low plasticity, cohesive		
5		0.6	GRY-026-SB-5			
		-			CL	
90		-		(7.5-8') CLAYEY SAND, dense, gray, wet, no plasticity, no cohesion	SC	Wet at 7.5' bgs
		-		(8-10') SANDY CLAY, firm, gray, wet, low plasticity, cohesive	CL	
10				End of boring		

Total Borehole Depth: 10' bgs.
 Boring terminated at 10' bgs due to groundwater.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/16/17
 Weather : 60s, cloudy, windy
 Northing (US ft) : 574747.68
 Easting (US ft) : 1462229.96

Boring ID: GRY-027-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		16.8	GRY-027-SB-1	(0-2.6') SLAG GRAVEL with SAND, medium dense, dark brown and gray, dry grading to moist, no plasticity, no cohesion	GW	
	86	0.4				
		1.2				
		1.7		(2.6-7.5') CLAY with trace SAND, very firm grading to hard then soft at 7' bgs, grayish brown grading to reddish yellow with very pale brown mottling, moist to dry then very moist at 5' bgs, low plasticity, cohesive	CL	
5		0.2	GRY-027-SB-5			
		1.2				
	100	1.0				
		0.9		(7.5-12') SANDY CLAY, firm, very pale brown with reddish yellow, very moist, low plasticity, cohesive	CL	
		0.7				
10		0.4	GRY-027-SB-10			
		-				
	18	-		(12-17') CLAY, very firm grading to hard, then soft 15-17' bgs, grayish brown grading to reddish yellow with very pale brown mottling, moist to dry, low plasticity, cohesive	CL	
		-				
15		-				
		-		(17-19.3') SILTY CLAY, soft to firm, dark brownish gray, moist, low plasticity, cohesive	CL	
	90	-				
		-				
20		-		(19.3-20') SAND, medium dense, reddish yellow, wet, no plasticity, no cohesion	SW	Wet at 19.3' bgs
		-				
	0	-		(20-26') NO RECOVERY, could not use liners due to heaving sands, pushed through same hole to 26' bgs	-	
		-				
25		-				
	0	-				
		-				
30		-		End of boring		

Total Borehole Depth: 26' bgs.
 Boring terminated at 26' bgs due to groundwater and piezometer installation.



Client : EnviroAnalytics Group
 ARM Project No. : 150300M-17-3
 Project Description : Sparrows Point - Parcel GRY
 Site Location : Sparrows Point, MD
 ARM Representative : L. Perrin
 Checked by : L. Perrin
 Drilling Company : Allied
 Driller : Ryan Sites
 Drilling Equipment : Geoprobe 7822DT

Date : 10/16/17
 Weather : 60s, cloudy
 Northing (US ft) : 574674.02
 Easting (US ft) : 1462540.22

Boring ID: GRY-028-SB

(page 1 of 1)

Depth (ft.)	% Recovery	PID Reading (PPM)	Sample ID/Interval	DESCRIPTION	USCS	REMARKS
0		-	GRY-028-SB-1	(0-1') SILTY SAND with SLAG GRAVEL, medium dense, dark brown, moist, no plasticity, no cohesion	SM	
	80	0.5		(1-4.5') Non-native SAND and SLAG GRAVEL, medium dense, brown with some black and gray, dry to moist, no plasticity, no cohesion	SW/GW	
		1.0				
		1.2	GRY-028-SB-4			
5		0.1		(4.5-6.5') SLAG GRAVEL, coarse, dense, gray, very moist to wet, no plasticity, no cohesion	GP	
		-				
	90	0.1		(6.5-7') CLAY, hard, reddish yellow and very pale brown mottling, dry to moist, low plasticity, cohesive	CL	
		0.5		(7-7.5') CLAYEY SAND, dense, reddish yellow, moist, no plasticity, no cohesion	SC	
		0.1		(7.5-10') CLAY, hard, reddish yellow and very pale brown mottling, dry to moist, low plasticity, cohesive	CL	
		0.2	GRY-028-SB-10			
10		-		(10-17') NO RECOVERY, full of water	-	Wet at 15' bgs
	0	-				
		-				
		-				
15		-				
	6	-		(17-19.8') SAND, medium dense, yellowish red, wet, no plasticity, no cohesion	SW	
		-				
		-				
20		-		(19.8-20') CLAY, very firm, gray, moist, low plasticity, cohesive	CL	
				End of boring		

Total Borehole Depth: 20' bgs.
 Boring terminated at 20' bgs due to groundwater and piezometer installation.

APPENDIX C

APPENDIX D

PID CALIBRATION LOG

PROJECT NAME: Area A: Parcels A5, A9, and GRY				SAMPLER NAME: L. Perrin, N. Kurtz, M. Replogle			
PROJECT NUMBER: 150298M-6, 150298M-4, 150298M-17			DATE: September 29, 2017		PAGE <u>1</u> of <u>1</u>		
DATE/TIME	SAMPLER INITIALS	PID SERIAL #	FRESH AIR CAL	STANDARD	STANDARD CONCENTRATION	METER READING	COMMENTS
9/29/2017 8:05	LP	592-913262	0.0	Isobutylene	100 ppm	100.0	A5
10/3/2017 9:05	LP	592-913262	0.0	Isobutylene	100 ppm	100.0	A5
10/4/2017 9:05	NK	592-913262	0.0	Isobutylene	100 ppm	100.0	GRY
10/5/2017 9:15	NK	592-913262	0.0	Isobutylene	100 ppm	100.1	A5
10/6/2017 9:15	LP	592-913262	0.0	Isobutylene	100 ppm	99.9	A5
10/9/2017 9:50	LP	592-913262	0.0	Isobutylene	100 ppm	100.6	GRY
10/10/2017 8:30	LP	592-913262	0.0	Isobutylene	100 ppm	100.3	GRY
10/11/2017 8:55	LP	592-913262	0.0	Isobutylene	100 ppm	99.9	GRY
10/12/2017 8:50	LP	592-913262	0.0	Isobutylene	100 ppm	100.0	GRY
10/13/2017 9:10	LP	592-913262	0.0	Isobutylene	100 ppm	99.8	GRY
10/16/2017 8:50	LP	592-913262	0.0	Isobutylene	100 ppm	100.4	GRY
10/17/2017 9:55	MR	592-913262	0.0	Isobutylene	100 ppm	100.0	GRY
10/18/2017 11:05	LP	592-913262	0.0	Isobutylene	100 ppm	99.9	A5
10/19/2017 9:30	LP	592-913262	0.0	Isobutylene	100 ppm	100.0	A5
10/20/2017 9:00	NK	592-913262	0.0	Isobutylene	100 ppm	100.0	A9
10/23/2017 9:15	LP	592-913262	0.0	Isobutylene	100 ppm	100.0	A9
10/24/2017 9:10	LP	592-913262	0.0	Isobutylene	100 ppm	100.0	A9
10/25/2017 9:30	LP	592-913262	0.0	Isobutylene	100 ppm	100.0	A9
10/26/2017 9:20	LP	592-913262	0.0	Isobutylene	100 ppm	100.0	A9
10/27/2017 9:00	LP	592-913262	0.0	Isobutylene	100 ppm	100.0	A9
10/30/2017 9:35	LP	592-913262	0.0	Isobutylene	100 ppm	99.9	A9
10/31/2017 8:40	NK	592-913262	0.0	Isobutylene	100 ppm	100.0	A9/A5
11/1/2017 9:55	LP	592-913262	0.0	Isobutylene	100 ppm	100.0	A5
11/2/2018 8:30	NK	592-913262	0.0	Isobutylene	100 ppm	100.0	A9

APPENDIX E

Test Pit Photograph Log
Area A: Parcels A5, A9, and GRY
Sparrows Point, Maryland



Photo 1: View of A5-001-TP prior to excavation activities.



Photo 2: View of A5-001-TP during excavation activities. Trash and fine to coarse grained soils (silt and sand) and slag fill materials were observed. PID reading of 1.4 ppm was recorded.

Test Pit Photograph Log
Area A: Parcels A5, A9, and GRY
Sparrows Point, Maryland



Photo 3: View of A5-002-TP prior to excavation activities.



Photo 4: View of the completed A5-002-TP. Fine to coarse grained soils (silt, sand, and gravel) and slag fill materials were observed. PID reading of 3.3 ppm was recorded.

Test Pit Photograph Log
Area A: Parcels A5, A9, and GRY
Sparrows Point, Maryland



Photo 5: View of A5-003-TP prior to excavation activities. View is from the top of the berm.



Photo 6: View of A5-003-TP after excavation activities. View is from above looking down the side of the berm.
Fine to coarse grained soils (silt, sand, and gravel) and slag fill materials were observed.
PID reading of 3.4 ppm was recorded.

Test Pit Photograph Log
Area A: Parcels A5, A9, and GRY
Sparrows Point, Maryland



Photo 7: View of A5-004-TP prior to excavation activities.



Photo 8: View of A5-004-TP after excavation activities. Fine to coarse grained soils (silt, sand, and gravel) and slag fill materials were observed. PID reading of 4.1 ppm was recorded.

Test Pit Photograph Log
Area A: Parcels A5, A9, and GRY
Sparrows Point, Maryland



Photo 9: View of A5-005-TP prior to excavation activities. View is from the bottom of the berm.



Photo 10: View of A5-005-TP after excavation activities. Fine to coarse grained soils (silt, sand, and gravel) and slag fill materials were observed. A PID reading of 20.0 ppm was recorded.

Test Pit Photograph Log
Area A: Parcels A5, A9, and GRY
Sparrows Point, Maryland



Photo 11: View of A5-006-TP prior to excavation activities. View is from the bottom of the berm.



Photo 12: View of A5-006-TP after excavation activities. Fine to coarse grained soils (silt, sand, and gravel) and slag fill materials were observed. A PID reading of 5.1 ppm was recorded.

Test Pit Photograph Log
Area A: Parcels A5, A9, and GRY
Sparrows Point, Maryland



Photo 13: View of A5-007-TP prior to excavation activities. View is from the south facing north



Photo 14: View of A5-007-TP after excavation activities. Fine to coarse grained soils (silt, sand, and gravel) and slag fill materials were observed. PID reading of 2.8 ppm was recorded.

Test Pit Photograph Log
Area A: Parcels A5, A9, and GRY
Sparrows Point, Maryland

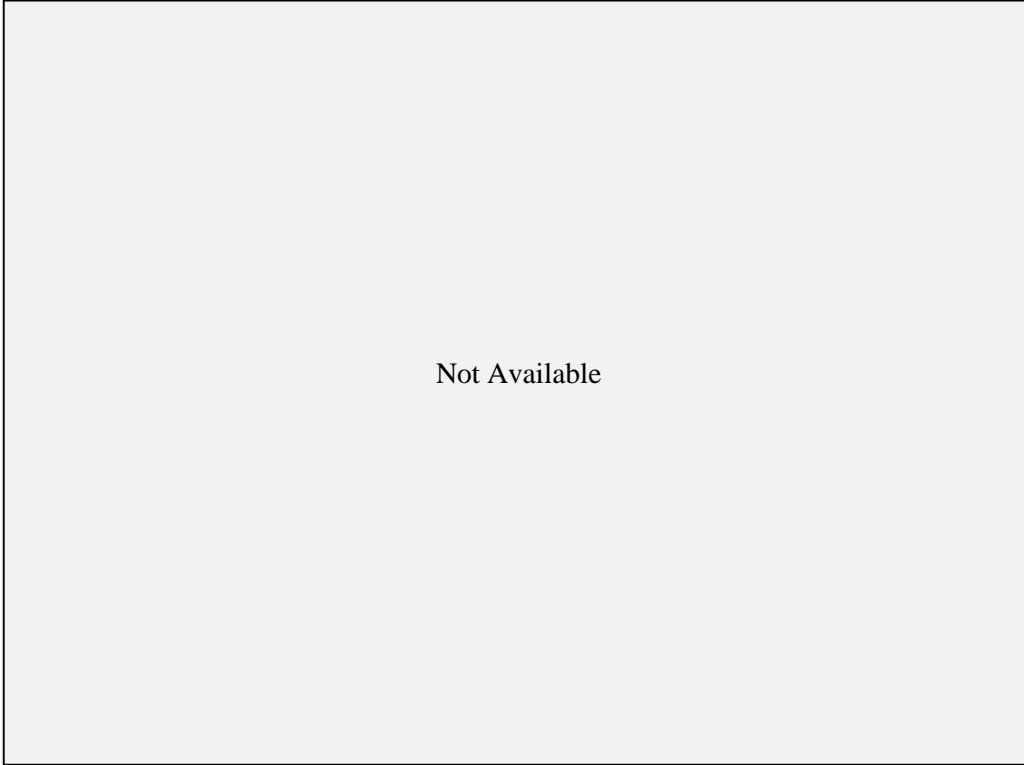


Photo 15: View of A5-008-TP prior to excavation activities. View is from the top of a sharp sloping berm from the north facing south.

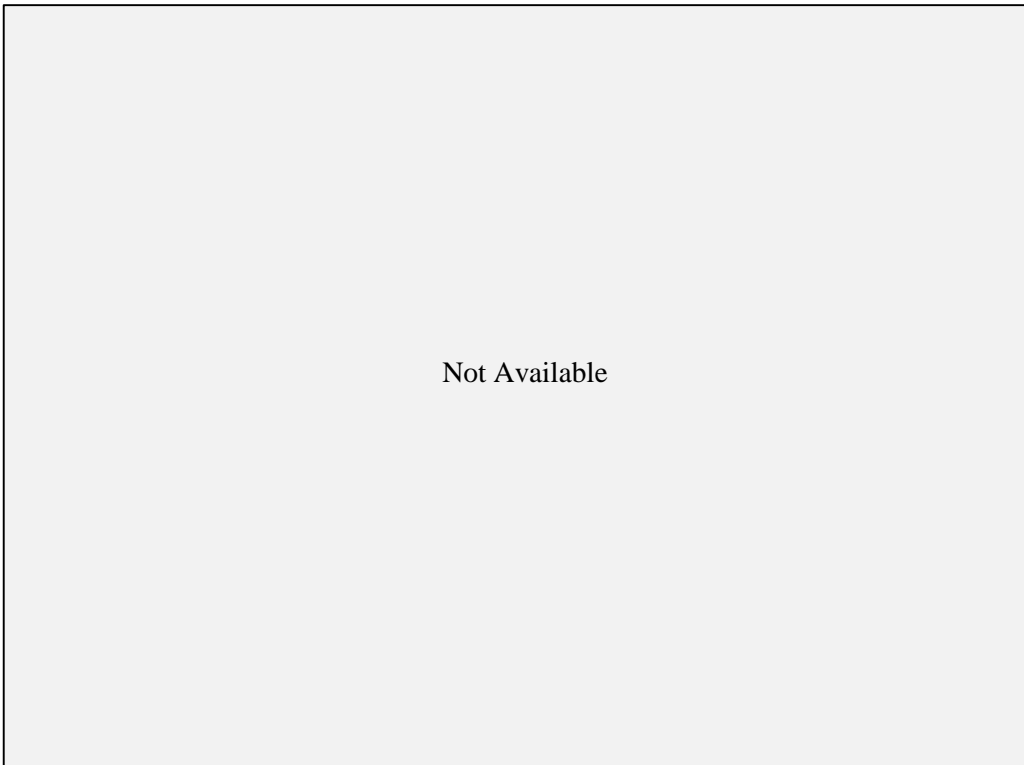


Photo 16: View of A5-008-TP after excavation activities. Fine to coarse grained soils (silt, sand, and gravel) and slag fill materials were observed. A PID reading of 4.2 ppm was recorded.

Test Pit Photograph Log
Area A: Parcels A5, A9, and GRY
Sparrows Point, Maryland



*Photographic records were not collected during the Parcel A9
test pit sampling event conducted on November 2, 2017.*



Test Pit Photograph Log
Area A: Parcels A5, A9, and GRY
Sparrows Point, Maryland



Photo 17: View of GRY-001-TP prior to excavation activities from the bottom of the berm. View is from the south facing north.



Photo 18: View of GRY-001-TP after excavation activities. Fine to coarse grained soils (silt, sand, and gravel) and slag fill materials were observed. A PID reading of 6.7 ppm was recorded.

APPENDIX F



LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: A5-008-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area A Parcel A5
Sparrows Point, MD
ARM Project No.: 150298M-6-3
Page 1 of 1

Date Installed : 10/6/17
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Mike Garvine

Drilling Company : Allied Drilling Co.
TOC Elevation : 14.12' AMSL
0-Hr DTW : 12.95' TOC
48-Hr DTW : 5.47' TOC
ARM Representative : L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION		REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 2.50' Riser Amount: 12.6'		<p>Northing (US ft): 575726.32 Easting (US ft): 1458106.11</p> <p>No LNAPL or DNAPL detected at 48 hours</p>
1		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"		
2		Sand Pack: Top: 10' bgs Bottom: 22.6' bgs Grain Size: WG #2		
3		Bentonite Seal: Top: 0' (surface) Bottom: 10' bgs Grain Size: 3/8" chips		
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23		End of Boring		

Total Depth: 22.6' bgs

TOC: Top of PVC casing
DTW: Depth to water



LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: A5-010-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area A Parcel A5
Sparrows Point, MD
ARM Project No.: 150298M-6-3
Page 1 of 1

Date Installed : 11/1/17
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Ryan Sites

Drilling Company : Allied Drilling Co.
TOC Elevation : 16.01' AMSL
0-Hr DTW : 15.81' TOC
48-Hr DTW : 15.44' TOC
ARM Representative : L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION		REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 2.75' Riser Amount: 12.2'		<p>Northing (US ft): 575952.75 Easting (US ft): 1457486.93</p> <p>No LNAPL or DNAPL detected at 48 hours</p>
1		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"		
2		Sand Pack: Top: 10' bgs Bottom: 22.2' bgs Grain Size: WG #2		
3		Bentonite Seal: Top: 0 (surface) Bottom: 10' bgs Grain Size: 3/8" chips		
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23		End of Boring		

Total Depth: 22.2' bgs

TOC: Top of PVC casing
DTW: Depth to water



LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: A9-002-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area A Parcel A9
Sparrows Point, MD
ARM Project No.: 150298M-4-3
Page 1 of 1

Date Installed : 10/23/17
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Ryan Sites

Drilling Company : Allied Drilling Co.
TOC Elevation : 14.24' AMSL
0-Hr DTW : 12.95' TOC
48-Hr DTW : 12.89' TOC
ARM Representative : L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION		REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 2.6' Riser Amount: 11'		<p>Northing (US ft): 576439.29 Easting (US ft): 1459558.25</p> <p>No LNAPL or DNAPL detected at 48 hours</p>
1				
2				
3		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"		
4				
5		Sand Pack: Top: 9' bgs Bottom: 21' bgs Grain Size: WG #2		
6				
7				
8		Bentonite Seal: Top: 0' (surface) Bottom: 9' bgs Grain Size: 3/8" chips		
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22		End of Boring		

Total Depth: 21' bgs

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
AMSL: Above mean sea level



LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: A9-004-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area A Parcel A9
Sparrows Point, MD
ARM Project No.: 150298M-4-3
Page 1 of 1

Date Installed : 10/24/17
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Ryan Sites

Drilling Company : Allied Drilling Co.
TOC Elevation : ----
0-Hr DTW : 13.83' TOC
48-Hr DTW : 14.32' TOC
ARM Representative : L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION		REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 3.0' Riser Amount: 13'		<p>Northing (US ft): 576229.79 Easting (US ft): 1460430.13</p> <p>No LNAPL or DNAPL detected at 48 hours</p>
1				
2				
3		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"		
4				
5		Sand Pack: Top: 11' bgs Bottom: 23' bgs Grain Size: WG #2		
6				
7				
8		Bentonite Seal: Top: 0' (surface) Bottom: 11' bgs Grain Size: 3/8" chips		
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23		End of Boring		
24				

Total Depth: 23' bgs

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
AMSL: Above mean sea level



LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: A9-011-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area A Parcel A9
Sparrows Point, MD
ARM Project No.: 150298M-4-3
Page 1 of 1

Date Installed : 10/27/17
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Ryan Sites

Drilling Company : Allied Drilling Co.
TOC Elevation : 14.35' AMSL
0-Hr DTW : 13.05' TOC
48-Hr DTW : 12.81' TOC
ARM Representative : L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION		REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 2.7' Riser Amount: 10'		<p>Northing (US ft): 576059.94 Easting (US ft): 1458648.33</p> <p>No LNAPL or DNAPL detected at 48 hours</p>
1				
2				
3		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"		
4				
5		Sand Pack: Top: 8' bgs Bottom: 20' bgs Grain Size: WG #2		
6				
7				
8		Bentonite Seal: Top: 0' (surface) Bottom: 8' bgs Grain Size: 3/8" chips		
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21		End of Boring		

Total Depth: 20' bgs

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
AMSL: Above mean sea level



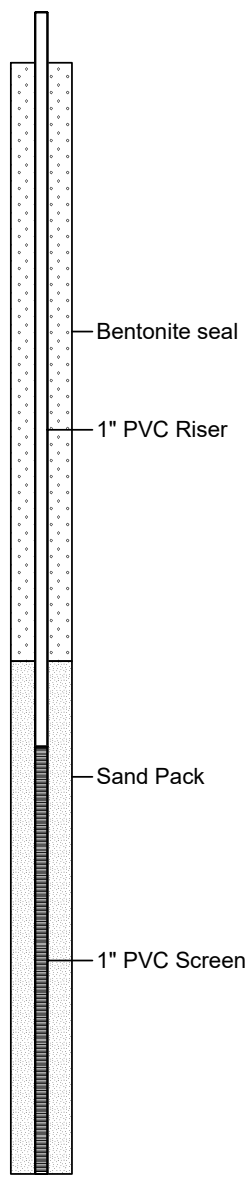
LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: A9-015-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area A Parcel A9
Sparrows Point, MD
ARM Project No.: 150298M-4-3
Page 1 of 1

Date Installed : 10/30/17
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Ryan Sites

Drilling Company : Allied Drilling Co.
TOC Elevation : 19.11' AMSL
0-Hr DTW : 16.45' TOC
48-Hr DTW : 16.38' TOC
ARM Representative : L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION	REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 2.7' Riser Amount: 16'	Northing (US ft): 575931.74 Easting (US ft): 1459821.28 No LNAPL or DNAPL detected at 48 hours
1			
2			
3		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"	
4			
5		Sand Pack: Top: 14' bgs Bottom: 26' bgs Grain Size: WG #2	
6			
7			
8		Bentonite Seal: Top: 0' (surface) Bottom: 14' bgs Grain Size: 3/8" chips	
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26		End of Boring	
27			
28			



Total Depth: 26' bgs

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
AMSL: Above means sea level



LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: A9-024-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area A Parcel A9
Sparrows Point, MD
ARM Project No.: 150298M-4-3
Page 1 of 1

Date Installed : 10/26/17
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Ryan Sites

Drilling Company : Allied Drilling Co.
TOC Elevation : 16.58' AMSL
0-Hr DTW : 12.83' TOC
48-Hr DTW : 12.67' TOC
ARM Representative : L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION		REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 2.6' Riser Amount: 12'		<p>Northing (US ft): 575805.99 Easting (US ft): 1460830.62</p> <p>No LNAPL or DNAPL detected at 48 hours</p>
1		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"		
2		Sand Pack: Top: 10' bgs Bottom: 22' bgs Grain Size: WG #2		
3		Bentonite Seal: Top: 0' (surface) Bottom: 10' bgs Grain Size: 3/8" chips		
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23		End of Boring		

Total Depth: 22' bgs

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
AMSL: Above mean sea level



LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: GRY-003-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area B Grey's Railyard
Sparrows Point, MD
ARM Project No.: 150300M-17-3
Page 1 of 1

Date Installed : 10/11/2017
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Ryan Sites

Drilling Company : Allied
TOC Elevation : 16.24' AMSL
0-Hr DTW : 13.95' TOC
48-Hr DTW : 13.53' TOC
ARM Representative : L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION		REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 3.0' Riser Amount: 10'		<p>Northing (US ft): 575856.78 Easting (US ft): 1459245.34</p> <p>No LNAPL or DNAPL detected at 48 hours</p>
5		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"		
10		Filter (sand) Pack: Top: 8' bgs Bottom: 20' bgs Grain Size: WG #2		
15		Bentonite Seal: Top: 0' (surface) Bottom: 8' bgs Grain Size: 3/8" chips		
20		End of Boring		

Total Depth: 20'

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
AMSL: Above mean sea level



LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: GRY-006-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area B Grey's Railyard
Sparrows Point, MD
ARM Project No.: 150300M-17-3
Page 1 of 1

Date Installed : 10/11/2017
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Ryan Sites

Drilling Company : Allied
TOC Elevation : 15.95' AMSL
0-Hr DTW : 14.01' TOC
48-Hr DTW : 13.71' TOC
ARM Representative : L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION		REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 2.9' Riser Amount: 9.5'	<p style="text-align: center;">Bentonite seal 1" PVC Riser Sand Pack 1" PVC Screen</p>	<p>Northing (US ft): 575494.63 Easting (US ft): 1460911.27</p> <p>No LNAPL or DNAPL detected at 48 hours</p>
5		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"		
10		Filter (sand) Pack: Top: 8' bgs Bottom: 20' bgs Grain Size: WG #2		
15		Bentonite Seal: Top: 0' (surface) Bottom: 8' bgs Grain Size: 3/8" chips		
20		End of Boring		

Total Depth: 20'

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
AMSL: Above mean sea level



LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: GRY-011-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area B Grey's Railyard
Sparrows Point, MD
ARM Project No.: 150300M-17-3
Page 1 of 1

Date Installed : 10/17/2017
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Ryan Sites

Drilling Company : Allied
TOC Elevation : 22.38
0-Hr DTW : 14.31' TOC
48-Hr DTW : 13.98' TOC
ARM Representative : M. Replogle, E.I.T.

Depth in Feet	Surf. Elev.	DESCRIPTION		REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 3.1' Riser Amount: 17'	<p style="text-align: center;">Bentonite seal 1" PVC Riser Sand Pack 1" PVC Screen</p>	Northing (US ft): 574937.44 Easting (US ft): 1463467.07 No LNAPL or DNAPL detected at 48 hours
5		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"		
10		Filter (sand) Pack: Top: 15' bgs Bottom: 27' bgs Grain Size: WG #2		
15		Bentonite Seal: Top: 0' (surface) Bottom: 15' bgs Grain Size: 3/8" chips		
20		End of Boring		
30				

Total Depth: 27'

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
AMSL: Above mean sea level



LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: GRY-013-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area B Grey's Railyard
Sparrows Point, MD
ARM Project No.: 150300M-17-3
Page 1 of 1

Date Installed : 10/10/2017
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Ryan Sites

Drilling Company : Allied
TOC Elevation : 15.44' AMSL
0-Hr DTW : 15.00' TOC
48-Hr DTW : 14.99' TOC
ARM Representative : L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION		REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 2.8' Riser Amount: 12.5'		Northing (US ft): 576094.80 Easting (US ft): 1457802.83 No LNAPL or DNAPL detected at 48 hours
5		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"	Bentonite seal 1" PVC Riser	
10		Filter (sand) Pack: Top: 9' bgs Bottom: 22.5' bgs Grain Size: WG #2	Sand Pack	
15		Bentonite Seal: Top: 0' (surface) Bottom: 9' bgs Grain Size: 3/8" chips	1" PVC Screen	
25		End of Boring		

Total Depth: 22.5'

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
AMSL: Above mean sea level



LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: GRY-019-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area B Grey's Railyard
Sparrows Point, MD
ARM Project No.: 150300M-17-3
Page 1 of 1

Date Installed : 10/12/2017
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Mike Garvine

Drilling Company : Allied
TOC Elevation : 18.59' AMSL
0-Hr DTW : 15.01' TOC
48-Hr DTW : 14.75' TOC
ARM Representative : L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION		REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 4.2' Riser Amount: 14.6'		<p>Northing (US ft): 575514.98 Easting (US ft): 1459994.29</p> <p>No LNAPL or DNAPL detected at 48 hours</p>
5		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"		
10		Filter (sand) Pack: Top: 13' bgs Bottom: 25' bgs Grain Size: WG #2		
15		Bentonite Seal: Top: 0' (surface) Bottom: 13' bgs Grain Size: 3/8" chips		
25		End of Boring		

Total Depth: 25'

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
AMSL: Above mean sea level



LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: GRY-021-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area B Grey's Railyard
Sparrows Point, MD
ARM Project No.: 150300M-17-3
Page 1 of 1

Date Installed : 10/12/2017
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Mike Garvine

Drilling Company : Allied
TOC Elevation : 19.73' AMSL
0-Hr DTW : 13.74' TOC
48-Hr DTW : 13.48' TOC
ARM Representative : L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION		REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 3.8' Riser Amount: 13'		Northing (US ft): 575279.37 Easting (US ft): 1461948.54 No LNAPL or DNAPL detected at 48 hours
5		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"		
10		Filter (sand) Pack: Top: 11' bgs Bottom: 23' bgs Grain Size: WG #2		
15		Bentonite Seal: Top: 0' (surface) Bottom: 11' bgs Grain Size: 3/8" chips		
20				
25		End of Boring		

Total Depth: 23'

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
AMSL: Above mean sea level



LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: GRY-024-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area B Grey's Railyard
Sparrows Point, MD
ARM Project No.: 150300M-17-3
Page 1 of 1

Date Installed : 10/17/2017
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Ryan Sites

Drilling Company : Allied
TOC Elevation : 18.18' AMSL
0-Hr DTW : 13.22' TOC
48-Hr DTW : 12.92' TOC
ARM Representative : L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION		REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 2.8' Riser Amount: 17'	<p style="text-align: center;">Bentonite seal 1" PVC Riser Sand Pack 1" PVC Screen</p>	Northing (US ft): 575003.50 Easting (US ft): 1460992.83 No LNAPL or DNAPL detected at 48 hours
5		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"		
10		Filter (sand) Pack: Top: 15' bgs Bottom: 27' bgs Grain Size: WG #2		
15		Bentonite Seal: Top: 0' (surface) Bottom: 15' bgs Grain Size: 3/8" chips		
20				
25				
30		End of Boring		

Total Depth: 27'

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
AMSL: Above mean sea level



LOG OF TEMPORARY GROUNDWATER SAMPLE COLLECTION POINT: GRY-027-PZ

Client: EnviroAnalytics Group
Site: Sparrows Point - Area B Grey's Railyard
Sparrows Point, MD
ARM Project No.: 150300M-17-3
Page 1 of 1

Date Installed : 10/16/2017
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Ryan Sites

Drilling Company : Allied
TOC Elevation : 18.60' AMSL
0-Hr DTW : 11.75' TOC
48-Hr DTW : 11.66' TOC
ARM Representative : L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION	Diagram	REMARKS	
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 2.3' Riser Amount: 16.3'		Northing (US ft): 574736.17 Easting (US ft): 1462230.09	
5		Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"		Bentonite seal	No LNAPL or DNAPL detected at 48 hours
10		Filter (sand) Pack: Top: 13' bgs Bottom: 26.3' bgs Grain Size: WG #2		1" PVC Riser	
15		Bentonite Seal: Top: 0' (surface) Bottom: 13' bgs Grain Size: granular (30-50 mesh)		Sand Pack	
20				1" PVC Screen	
25					
30		End of Boring			

Total Depth: 26.3'

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
AMSL: Above mean sea level



**LOG OF PIEZOMETER (NOT SAMPLED)
GRY-028-PZ**

Client: EnviroAnalytics Group
Site: Sparrows Point - Area B Grey's Railyard
Sparrows Point, MD
ARM Project No.: 150300M-17-3
Page 1 of 1

Date Installed : 10/16/2017
Casing/Riser Type : PVC
Borehole Diameter : 2.25"
Drilling Method : 7822DT Geoprobe
Driller : Ryan Sites

Drilling Company : Allied
TOC Elevation : 20.00' AMSL
0-Hr DTW : 12.77' TOC
48-Hr DTW : 12.32' TOC
ARM Representative : L. Perrin

Depth in Feet	Surf. Elev.	DESCRIPTION		REMARKS
0		Riser Type: PVC Riser Diameter: 1" Riser Stickup: 3.0' Riser Amount: 9.7'	<p style="text-align: center;">Bentonite seal</p> <p style="text-align: center;">1" PVC Riser</p> <p style="text-align: center;">Sand Pack</p> <p style="text-align: center;">1" PVC Screen</p>	<p>Northing (US ft): 574671.89 Easting (US ft): 1462545.88</p> <p>No LNAPL or DNAPL detected at 48 hours</p>
5	Screen Type: PVC Screen Diameter: 1" Screen Amount: 10' Slot Size: 0.010"			
10	Filter (sand) Pack: Top: 8' bgs Bottom: 20' bgs Grain Size: WG #2			
15	Bentonite Seal: Top: 0' (surface) Bottom: 8' bgs Grain Size: 3/8" chips			
20		End of Boring		

Total Depth: 20'

TOC: Top of PVC casing
DTW: Depth to water

bgs: Below ground surface
AMSL: Above mean sea level

CRRGPFKZ'I "

Low Flow Sampling Temporary Piezometers



ARM Group Inc.
Earth Resource Engineers and Consultants

Project Name: <u>AS Phase II</u>	Project Number: <u>1502984</u>
Piezometer Number: <u>A5-008-PZ</u>	Date: <u>12/18/17</u>
Piezometer Diameter (in): <u>1</u>	One Well Volume (gal):
Depth to Product (ft): <u>none</u>	QED Controller Settings:
Depth to Water (ft): <u>12.77</u>	Flow Rate (mL/min) <u>300</u>
Product Thickness (ft): <u>none</u>	Length of time Purged (min)
Depth to Bottom (ft): <u>24.81</u>	

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1430	1	12.77	26.24	6.38	1.22	0.40	7	125	clear
1435	1.4	12.77	25.83	6.32	1.21	0.00	-15	71.8	
1440	1.8	12.77	25.11	6.28	1.21	0.00	-22	50.6	
1445	2.2	12.77	24.33	6.24	1.21	0.00	-24	48.2	

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
A5-008-PZ	1450	TCL-VOCs	3 - 40 mL VOA	HCl	Y
		TPH-GRO	3 - 40 mL VOA	HCl	Y
		TPH-DRO	2 - 1 L Amber	none	
		TCL-SVOCs	2 - 1 L Amber	none	
		Oil & Grease	2 - 1 L Amber	HCl	
		Total Cyanide	1 - 250 mL Plastic	NaOH	
		TAL-Metals & Mercury (Dissolved) Field Filtered	1 - 250 mL Plastic	HNO3	
Hexavalent Chromium (Dissolved) Field Filtered	1 - 250 mL Plastic	None			
Matrix Spike					
Duplicate					

Sampled By: cmc Comments:

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
_____ ft x _____ gal/ft = _____ (gal)

Low Flow Sampling Permanent Wells



ARM Group Inc.
Earth Resource Engineers and Consultants

Project Name: <u>A9 Phase 4 GW</u>	Project Number: <u>150298m- -3</u>
Well Number: <u>A9-002-P2</u>	Date: <u>1-19-18</u>
Well Diameter (in): <u>1</u>	One Well Volume (gal): <u>0.44 x 3 = 1.32</u>
Depth to Product (ft): <u>NA</u>	QED Controller Settings: <u>---</u>
Depth to Water (ft): <u>13.09</u>	Flow Rate (mL/min): <u>204</u>
Product Thickness (ft): <u>NA</u>	Length of time Purged (min): <u>55</u>
Depth to Bottom (ft): <u>23.76</u>	Condition of Pad/Cover: <u>---</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1255	1.35 - initial	13.11	11.2	4.89	.667	1.49	295.7		
1300	1.65		11.7	4.81	.676	.86	273.5		
1305	1.95		11.8	4.82	.635	.71	252.5		
1310	2.20		11.3	4.83	.638	.70	247.8		
1315	2.35		12.5	4.79	.705	1.87	232.5		
1320	2.50		12.4	4.78	.648	.61	230.0		
1325	2.75		12.1	4.77	.649	.58	229.2		
1330	3.00		12.0	4.76	.649	.56	228.6		
		13.15							
		Final							

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
<u>A9-002-P2</u> A9-002-P2	<u>1400</u>	TCL-VOCs	3 - 40 mL VOA	HCl	Y
		TPH-GRO	3 - 40 mL VOA	HCl	Y
		TPH-DRO	2 - 1 L Amber	none	Y
		TCL-SVOCs	2 - 1 L Amber	none	Y
		TAL-Metals & Mercury (total)	1 - 250 mL Plastic	HNO3	Y
		Hexavalent Chromium (total)	1 - 250 mL Plastic	none	Y
		Cyanide	1 - 250 mL Plastic	NaOH	Y
		TAL-Metals & Mercury (Dissolved) Field Filtered	1 - 250 mL Plastic	HNO3	N
		Hexavalent Chromium (Dissolved) Field Filtered	1 - 250 mL Plastic	none	N
		PCB	2 - 1 L Amber	None	N
Matrix Spike					N
Duplicate					Y

Sampled By: LUP

Comments: very silty during initial purge
Brown/Grey

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
10.67 ft x 0.041 gal/ft = 0.44 (gal)

Low Flow Sampling
Temporary
Permanent Wells



ARM Group Inc.
Earth Resource Engineers and Consultants

Project Name: A9 GW Phase II	Project Number: 158298M-
Well Number: A9-004-P2	Date: 1-22-18
Well Diameter (in): 1	One Well Volume (gal): 0.49 x 3 = 1.5~
Depth to Product (ft): NA	QED Controller Settings: ---
Depth to Water (ft): 14.25	Flow Rate (mL/min): 182
Product Thickness (ft): NA	Length of time Purged (min): 52
Depth to Bottom (ft): 26.19	Condition of Pad/Cover: ---

PURGING RECORD

905

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
942	1.5	14.25	12.4	5.21	0.473	1.53	188.0		
947	1.8	14.25	11.8	4.97	0.440	0.97	177.7		
952	2.2	14.25	11.9	4.98	0.439	0.97	176.0		
957	2.5	14.18	11.8	5.00	0.438	0.45	175.3		

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
A9-004-P2	1100	TCL-VOCs	3 - 40 mL VOA	HCl	Y
		TPH-GRO	3 - 40 mL VOA	HCl	Y
		TPH-DRO	2 - 1 L Amber	none	Y
		TCL-SVOCs	2 - 1 L Amber	none	Y
		TAL-Metals & Mercury (total)	1 - 250 mL Plastic	HNO3	Y
		Hexavalent Chromium (total)	1 - 250 mL Plastic	none	Y
		Total Cyanide	1 - 250 mL Plastic	NaOH	Y
		TAL-Metals & Mercury (Dissolved) Field Filtered	1 - 250 mL Plastic	HNO3	N
		Hexavalent Chromium (Dissolved) Field Filtered	1 - 250 mL Plastic	none	N
		PCB	2 - 1 L Amber	None	N
Matrix Spike					Y
Duplicate					N

Sampled By: **LLP**

Comments: **Heavy yellow silt upon purging**

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
 11.94 ft x 0.041 gal/ft = 0.49 (gal) X 3 = 1.5 gal

Low Flow Sampling

Permanent Wells
Temporary



ARM Group Inc.

Earth Resource Engineers and Consultants

Project Name: A9 Phase # GW

Project Number: 150298m-4.3

Well Number: A9-011-PZ

Date: 1-22-18

Well Diameter (in): 1

One Well Volume (gal): 0.40 x 3 = 1.20

Depth to Product (ft): NA

QED Controller Settings: ---

Depth to Water (ft): 12.55

Flow Rate (mL/min) 291

Product Thickness (ft): NA

Length of time Purged (min) 29

Depth to Bottom (ft): 22.30

Condition of Pad/Cover: ---

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1214	1.25	12.55	13.0	5.49	0.351	0.99	124.2		
1219	1.55	12.55	13.0	5.46	0.348	0.75	126.7		
1224	1.85	12.55	13.0	5.43	0.344	0.66	129.7		
1229	2.25	12.54	13.0	6.40	0.340	0.60	132.7		

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
A9-011-PZ	1245	TCL-VOCs	3 - 40 mL VOA	HCl	Y
		TPH-GRO	3 - 40 mL VOA	HCl	Y
		TPH-DRO	2 - 1 L Amber	none	Y
		TCL-SVOCs	2- 1 L Amber	none	Y
		TAL-Metals & Mercury (total)	1 - 250 mL Plastic	HNO3	Y
		Hexavalent Chromium (total)	1 - 250 mL Plastic	none	Y
		Total Available Cyanide	1 - 250 mL Plastic	NaOH	Y
		TAL-Metals & Mercury (Dissolved) Field Filtered	1 - 250 mL Plastic	HNO3	N
		Hexavalent Chromium (Dissolved) Field Filtered	1 - 250 mL Plastic	none	N
		PCB	2 - 1 L Amber	None	N
Matrix Spike					N
Duplicate					N

Sampled By: LLP

Comments: Silty during purging

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
 9.75 ft x 0.041 gal/ft = 0.40 (gal)

Low Flow Sampling Temporary Piezometers



ARM Group Inc.

Earth Resource Engineers and Consultants

Project Name: <u>GRY Phase II</u>	Project Number: <u>150298M-17-3</u>
Piezometer Number: <u>GRY-006-P2</u>	Date: <u>10/17/17</u>
Piezometer Diameter (in): <u>1</u>	One Well Volume (gal):
Depth to Product (ft): <u>none</u>	QED Controller Settings:
Depth to Water (ft): <u>13.72</u>	Flow Rate (mL/min) <u>200</u>
Product Thickness (ft): <u>none</u>	Length of time Purged (min)
Depth to Bottom (ft): <u>22.31</u>	

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1027	0.3	13.72	18.94	5.54	0.418	0.00	137		
1032	0.5	13.72	18.29	5.93	0.414	0.00	-6		
1037	0.7	13.72	18.20	5.88	0.391	0.00	-16		
1042	0.9	13.72	18.29	5.82	0.374	0.00	-21		
1047	1.1	13.72	18.42	5.79	0.361	0.00	-28		
1052	1.3	13.72	18.57	5.77	0.351	0.00	-38		

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
GRY-006-P2	1057	TCL-VOCs	3 - 40 mL VOA	HCl	y
		TPH-GRO	3 - 40 mL VOA	HCl	
		TPH-DRO	2 - 1 L Amber	none	
		TCL-SVOCs	2 - 1 L Amber	none	
		Oil & Grease	1 - 1 L Amber	HCl	
		Total Cyanide	1 - 250 mL Plastic	NaOH	
		TAL-Metals & Mercury (Dissolved) Field Filtered	1 - 250 mL Plastic	HNO3	
		Hexavalent Chromium (Dissolved) Field Filtered	1 - 250 mL Plastic	None	

Matrix Spike

Duplicate

Sampled By: lmb

Comments:

turb suspect

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
 _____ ft x _____ gal/ft = _____ (gal)

Low Flow Sampling Temporary Piezometers



ARM Group Inc.
Earth Resource Engineers and Consultants

Project Name: <u>GRY Phase II</u>	Project Number:
Piezometer Number: <u>GRY-011-PZ</u>	Date: <u>10/19/17</u>
Piezometer Diameter (in): <u>1</u>	One Well Volume (gal):
Depth to Product (ft): <u>none</u>	QED Controller Settings:
Depth to Water (ft): <u>13.98</u>	Flow Rate (mL/min) <u>200</u>
Product Thickness (ft): <u>none</u>	Length of time Purged (min)
Depth to Bottom (ft): <u>20.06</u>	

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1303	1.1	13.98	19.43	5.90	0.451	0.00	59	2521 AD	
1308	1.4	13.98	19.52	5.81	0.446	0.00	0	582	clear
1313	1.8	13.98	20.02	5.81	0.434	0.00	-14	2409 AD	turbid
1318	2.2	13.98	20.26	5.69	0.399	0.00	-1	3228 AD	
1323	2.5	13.98	20.55	5.58	0.397	0.00	-6	3001 AD	
1328	2.9	13.98	20.45	5.59	0.402	0.00	-23		
1333	3.3	13.98	20.57	5.50	0.398	0.00	-31		
1338	3.7		20.51	5.57	0.398	0.00	-40		

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
GRY-011-PZ	1343	TCL-VOCs	3 - 40 mL VOA	HCl	
		TPH-GRO	3 - 40 mL VOA	HCl	
		TPH-DRO	2 - 1 L Amber	none	
		TCL-SVOCs	2 - 1 L Amber	none	
		Oil & Grease	1 - 1 L Amber	HCl	
		Total Cyanide	1 - 250 mL Plastic	NaOH	
		TAL-Metals & Mercury (Dissolved) Field Filtered	1 - 250 mL Plastic	HNO3	
		Hexavalent Chromium (Dissolved) Field Filtered	1 - 250 mL Plastic	None	

Matrix Spike

Duplicate

Sampled By: LMH

Comments:

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
_____ ft x _____ gal/ft = _____ (gal)

Low Flow Sampling Temporary Piezometers



ARM Group Inc.
Earth Resource Engineers and Consultants

Project Name: <u>GLY Phase II</u>	Project Number: <u>150298M-17-3</u>
Piezometer Number: <u>GLY-019-P2</u>	Date: <u>10/18/19</u>
Piezometer Diameter (in): <u>1</u>	One Well Volume (gal):
Depth to Product (ft): <u>none</u>	QED Controller Settings:
Depth to Water (ft): <u>14.78</u>	Flow Rate (mL/min) <u>200</u>
Product Thickness (ft): <u>none</u>	Length of time Purged (min)
Depth to Bottom (ft): <u>28.62</u>	

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1158	2	14.78	16.87	5.53	0.424	0.00	53	988 AU	milky color
1203	2.25	14.78	17.40	5.59	0.419	0.00	3	704 AU	
1208	2.5	14.78	18.17	5.64	0.416	0.00	-44	384 AU	
1213	2.75	14.78	18.70	5.70	0.413	0.00	-72	198 AU	
1218	3	14.78	19.25	5.73	0.408	0.00	-95	110	
1223	3.25	14.78	19.66	5.73	0.405	0.00	-105	90	
1228	3.5	14.78	20.17	5.70	0.403	0.00	-115	72	

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
<u>GLY-019-P2</u> <u>LMG</u>	1233	TCL-VOCs	3 - 40 mL VOA	HCl	Y
		TPH-GRO	3 - 40 mL VOA	HCl	
		TPH-DRO	2 - 1 L Amber	none	
		TCL-SVOCs	2 - 1 L Amber	none	
		Oil & Grease	2 - 1 L Amber	HCl	
		Total Cyanide	1 - 250 mL Plastic	NaOH	
		TAL-Metals & Mercury (Dissolved) Field Filtered	1 - 250 mL Plastic	HNO3	
		Hexavalent Chromium (Dissolved) Field Filtered	1 - 250 mL Plastic	None	

Matrix Spike

Duplicate

Sampled By: LMG

Comments:

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
_____ ft x _____ gal/ft = _____ (gal)

Low Flow Sampling Temporary Piezometers



ARM Group Inc.

Earth Resource Engineers and Consultants

Project Name: GRY Phase II

Project Number: 150898M-17-3

Piezometer Number: GRY-021-PZ

Date: 10/17/19

Piezometer Diameter (in): 1

One Well Volume (gal):

Depth to Product (ft): none

QED Controller Settings:

Depth to Water (ft): 13.46

Flow Rate (mL/min) 190

Product Thickness (ft): none

Length of time Purged (min)

Depth to Bottom (ft): 26.72

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0901	0.4	13.46	15.89	5.00	0.509	0.00	190		
0906	0.55	13.46	16.30	6.30	0.458	0.00	88		
0911	0.7	13.46	16.44	5.61	0.439	0.00	-112		
0916	0.85	13.46	16.75	5.58	0.419	0.00	-122		
0921	1.0	13.46	17.21	5.61	0.399	0.00	-129		

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
GRY-021-PZ	0926	TCL-VOCs	3 - 40 mL VOA	HCl	Y
		TPH-GRO	3 - 40 mL VOA	HCl	
		TPH-DRO	2 - 1 L Amber	none	
		TCL-SVOCs	2 - 1 L Amber	none	
		Oil & Grease	1 & 2 - 1 L Amber	HCl	
		Total Cyanide	1 - 250 mL Plastic	NaOH	
		TAL-Metals & Mercury (Dissolved) Field Filtered	1 - 250 mL Plastic	HNO3	
		Hexavalent Chromium (Dissolved) Field Filtered	1 - 250 mL Plastic	None	

Matrix Spike

Duplicate

Sampled By: lmh

Comments:

turb suspect

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
 _____ ft x _____ gal/ft = _____ (gal)

Low Flow Sampling Temporary Piezometers



ARM Group Inc.

Earth Resource Engineers and Consultants

Project Name: GRY Phase II
 Piezometer Number: GRY-024-P2
 Piezometer Diameter (in): 1
 Depth to Product (ft): none
 Depth to Water (ft): 12.92
 Product Thickness (ft): none
 Depth to Bottom (ft): 20.77

Project Number: _____
 Date: 10/19/17
 One Well Volume (gal): _____
 QED Controller Settings: _____
 Flow Rate (mL/min) 300
 Length of time Purged (min): _____

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1110	1.5	12.92	16.27	5.74	0.292	0.00	45	2852AV	
1115	1.8	12.92	16.24	5.72	0.277	0.00	-32	522	clear
1120	2.1	12.92	16.29	5.72	0.272	0.00	-60	319	
1125	2.4	12.92	16.37	5.71	0.267	0.00	-74	200	
1130	2.7	12.92	16.40	5.70	0.263	0.00	-82	141	
1135	3.0	12.92	16.44	5.65	0.260	0.00	-91	122	

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
GRY-024-P2	1140	TCL-VOCs	3 - 40 mL VOA	HCl	y
		TPH-GRO	3 - 40 mL VOA	HCl	
		TPH-DRO	2 - 1 L Amber	none	
		TCL-SVOCs	2 - 1 L Amber	none	
		Oil & Grease	2 - 1 L Amber	HCl	
		Total Cyanide	1 - 250 mL Plastic	NaOH	
		TAL-Metals & Mercury (Dissolved) Field Filtered	1 - 250 mL Plastic	HNO3	
		Hexavalent Chromium (Dissolved) Field Filtered	1 - 250 mL Plastic	None	

Matrix Spike

Duplicate

Sampled By: lmh

Comments: _____

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
 _____ ft x _____ gal/ft = _____ (gal)

Low Flow Sampling Temporary Piezometers



ARM Group Inc.
Earth Resource Engineers and Consultants

Project Name: <u>GRY Phase II</u>	Project Number: <u>150298M-17-3</u>
Piezometer Number: <u>GRY-027-P2</u>	Date: <u>10/18/17</u>
Piezometer Diameter (in): <u>1</u>	One Well Volume (gal):
Depth to Product (ft): <u>none</u>	QED Controller Settings:
Depth to Water (ft): <u>11.66</u>	Flow Rate (mL/min) <u>200</u>
Product Thickness (ft): <u>none</u>	Length of time Purged (min)
Depth to Bottom (ft): <u>28.101</u>	

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0919	1.2	11.66	15.22	5.69	0.488	0.00	14	3100AU	milky color
0924	1.5	11.66	15.35	5.65	0.455	0.00	-40	2100AU	
0929	1.8	11.66	15.32	5.65	0.438	0.00	-59	1400AU	
0934	2.1	11.66	15.38	5.63	0.427	0.00	-73	321	
0939	2.4	11.66	15.48	5.63	0.420	0.00	-84	127	
0944	2.7	11.66	15.43	5.62	0.415	0.00	-91	52	
0949	3.0	11.66	15.46	5.60	0.409	0.00	-100	-5	

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
GRY-027-P2	0959	TCL-VOCs	3 - 40 mL VOA	HCl	y r3
		TPH-GRO	3 - 40 mL VOA	HCl	
		TPH-DRO	2 - 1 L Amber	none	
		TCL-SVOCs	2 - 1 L Amber	none	
		Oil & Grease	2 - 1 L Amber	HCl	
		Total Cyanide	1 - 250 mL Plastic	NaOH	
		TAL-Metals & Mercury (Dissolved) Field Filtered	not available 1 - 250 mL Plastic	HNO3	
		Hexavalent Chromium (Dissolved) Field Filtered	1 - 250 mL Plastic	None	

~~Matrix Spike~~
Duplicate

Sampled By: UMh

Comments:

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
_____ ft x _____ gal/ft = _____ (gal)

Low Flow Sampling Permanent Wells



ARM Group Inc.

Earth Resource Engineers and Consultants

Project Name: <u>AS Phase II</u>	Project Number: <u>15009 150298M-6-3</u>
Well Number: <u>MW93-003</u>	Date: <u>10/16/17</u>
Well Diameter (in): <u>4</u>	One Well Volume (gal):
Depth to Product (ft): <u>None</u>	QED Controller Settings:
Depth to Water (ft): <u>13.77</u>	Flow Rate (mL/min) <u>200</u>
Product Thickness (ft): <u>None</u>	Length of time Purged (min)
Depth to Bottom (ft): <u>21.62</u>	Condition of Pad/Cover: <u>None / good</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1212	0	13.77	16.70	7.36	1.85	0.00	-92		
1217	0.15	13.77	16.77	7.39	1.84	0.00	-129		
1222	0.3	13.77	16.74	7.39	1.86	0.00	-143		
1227	0.45	13.77	16.35	7.38	1.89	0.00	-142		

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
MW93-003	1237	TCL-VOCs	3 - 40 mL VOA	HCl	✓
		TPH-GRO	3 - 40 mL VOA	HCl	
		TPH-DRO	2 - 1 L Amber	none	
		TCL-SVOCs	2- 1 L Amber	none	
		Oil & Grease	2- 1 L Amber	HCl	
		TAL-Metals & Mercury (total)	1 - 250 mL Plastic	HNO3	
		Hexavalent Chromium (total)	1 - 250 mL Plastic	none	
		Total Cyanide	1 - 250 mL Plastic	NaOH	
		TAL-Metals & Mercury (Dissolved) Field Filtered	1 - 250 mL Plastic	HNO3	
		Hexavalent Chromium (Dissolved) Field Filtered	1 - 250 mL Plastic	none	
PCB	2 - 1 L Amber	None	✓		
Matrix Spike Duplicate					

Sampled By: MLK

Comments:

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
ft x gal/ft = (gal)

Low Flow Sampling Permanent Wells



ARM Group Inc.

Earth Resource Engineers and Consultants

Project Name: A5 Phase II
 Well Number: SW01-P2M004
 Well Diameter (in): 2
 Depth to Product (ft): none
 Depth to Water (ft): 20.08
 Product Thickness (ft): none
 Depth to Bottom (ft): 27.82

Project Number:
 Date: 10/16/17
 One Well Volume (gal):
 QED Controller Settings:
 Flow Rate (mL/min) 200
 Length of time Purged (min):
 Condition of Pad/Cover: none / good

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1002	0	20.08	17.23	5.23	2.539	0.00	35		
1007	0.15	20.08	16.79	4.81	0.582	0.00	178		
1012	0.3	20.08	16.72	4.79	0.586	0.00	200		
1017	0.45	20.08	16.67	4.71	0.604	0.00	233		
1022	0.6	20.08	16.67	4.68	0.622	0.00	235		
1027	0.8	20.08	16.68	4.69	0.643	0.00	252		
1032	1.0	20.08	16.72	4.60	0.650	0.00	263		
1037	1.2	20.08	16.77	4.69	0.663	0.00	265		

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
SW01-P2M004	1042	TCL-VOCs	3 - 40 mL VOA	HCl	Y
		TPH-GRO	3 - 40 mL VOA	HCl	
		TPH-DRO	2 - 1 L Amber	none	
		TCL-SVOCs	2 - 1 L Amber	none	
		Oil & Grease	2 - 1 L Amber	HCl	
		TAL-Metals & Mercury (total)	1 - 250 mL Plastic	HNO3	
		Hexavalent Chromium (total)	1 - 250 mL Plastic	none	
		Total Cyanide	1 - 250 mL Plastic	NaOH	
		TAL-Metals & Mercury (Dissolved) Field Filtered	1 - 250 mL Plastic	HNO3	
		Hexavalent Chromium (Dissolved) Field Filtered	1 - 250 mL Plastic	none	
PCB	2 - 1 L Amber	None	N		

Matrix Spike

Duplicate

Sampled By: lml

Comments:

turb suspect

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
 ft x _____ gal/ft = _____ (gal)

Low Flow Sampling Permanent Wells



ARM Group Inc.
Earth Resource Engineers and Consultants

Project Name: <u>A5 Phase II GW</u>	Project Number: <u>150298M-6.3</u>
Well Number: <u>W-6</u>	Date: <u>1-23-18</u>
Well Diameter (in): <u>4</u>	One Well Volume (gal): <u>0.25 x 3 = 0.75</u>
Depth to Product (ft): <u>NA</u>	QED Controller Settings: <u>---</u>
Depth to Water (ft): <u>15.77</u>	Flow Rate (mL/min) <u>269</u>
Product Thickness (ft): <u>NA</u>	Length of time Purged (min) <u>28</u>
Depth to Bottom (ft): <u>21.76</u>	Condition of Pad/Cover: <u>None / Good</u>

PURGING RECORD

1030

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1043	0.75	15.77	15.0	6.95	1.971	2.18	200.9		
1048	1.20	16.45	14.9	7.06	1.953	0.76	186.3		
1053	1.60	16.50	14.8	7.08	1.945	0.72	179.7		
1058	2.00	16.52	14.1	7.10	1.939	0.72	169.9		

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
W-6	1110	TCL-VOCs	3 - 40 mL VOA	HCl	Y
		TPH-GRO	3 - 40 mL VOA	HCl	Y
		TPH-DRO	2 - 1 L Amber	none	Y
		TCL-SVOCs	2 - 1 L Amber	none	Y
		TAL-Metals & Mercury (total)	1 - 250 mL Plastic	HNO3	Y
		Hexavalent Chromium (total)	1 - 250 mL Plastic	none	Y
		^{total} Cyanide	1 - 250 mL Plastic	NaOH	Y
		TAL-Metals & Mercury (Dissolved) Field Filtered	1 - 250 mL Plastic	HNO3	Y
		Hexavalent Chromium (Dissolved) Field Filtered	1 - 250 mL Plastic	none	Y
		PCB	2 - 1 L Amber	None	N
Matrix Spike					N
Duplicate					N

Sampled By: LLP

Comments:

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
6 ft x 0.041 gal/ft = 0.25 (gal)

Low Flow Sampling
~~Temporary Piezometers~~
 Permanent well



ARM Group Inc.
 Earth Resource Engineers and Consultants

Project Name: <u>A7 Phase II</u>	Project Number:
Piezometer Number: <u>W-14</u>	Date: <u>10/19/17</u>
Piezometer Diameter (in): <u>1/2</u>	One Well Volume (gal):
Depth to Product (ft): <u>none</u>	QED Controller Settings:
Depth to Water (ft): <u>18.11</u>	Flow Rate (mL/min) <u>175</u>
Product Thickness (ft): <u>none</u>	Length of time Purged (min)
Depth to Bottom (ft): <u>20.82</u>	

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0920	0		15.34	4.08	0.780	3.37	217	24.0	V. clear
0925	0.15		15.16	4.29	0.765	1.20	162	17.4	
0930	0.3		15.05	4.44	0.757	0.37	134	13.2	
0935	0.45		14.96	4.46	0.749	0.00	121	10.1	
0940	0.6		14.89	4.45	0.745	0.00	115	8.82	
0945	0.75		14.85	4.43	0.743	0.00	110	7.24	

MONITORING SAMPLE RECORD

Sample ID	Time Collected	Parameter/Order	Container	Perservative	Collected?
W-14	0950	TCL-VOCs	3 - 40 mL VOA	HCl	Y
		TPH-GRO	3 - 40 mL VOA	HCl	
		TPH-DRO	2 - 1 L Amber	none	
		TCL-SVOCs	2 - 1 L Amber	none	
		Oil & Grease	2 - 1 L Amber	HCl	
		Total Cyanide	1 - 250 mL Plastic	NaOH	
		TAL-Metals & Mercury (Dissolved) *Field Filtered	1 - 250 mL Plastic	HNO3	
Hexavalent Chromium (Dissolved) *Field Filtered	1 - 250 mL Plastic	None			
Matrix Spike					
Duplicate					

Sampled By: umc

Comments:

d/n have skinny probe (in service) for 5min interval readings

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
 _____ ft x _____ gal/ft = _____ (gal)

TABLE 1
MULTIPARAMETER CALIBRATION LOG

Project Name Area A Parcel A7/A5 Phase II Date 10-12-17
 Weather 70s, Cloudy, rainy
 Calibrated by L. Glumac Instrument Horiba
 Serial Number 2B0MSAX4

Parameters	Morning Calibration	Morning Temperature	End of Day Calibration Check	End of Day Temperature
Specific Conductance Standard 4.49 mS/cm	4.48	65 F	4.70	61 F
Specific Conductance Standard #2	-		-	
pH (7)	-		-	
pH (4)	4.01		4.05	
pH(10)	-		-	
ORP Zobel Solution	-		-	
Dissolved Oxygen 100% water saturated air mg/L	9.01		8.53 [¥]	
Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L	-		-	
Barometric Pressure in. Hg	30.17		30.30	
Turbidity #1 (0 NTU)	¥		¥	
Turbidity #2 (1 NTU)	-		-	
Turbidity #3 (10 NTU)	-		-	

[¥] DO is outside of the calibration acceptance criteria. Values displayed on field purge logs may be inaccurate. Turbidity was inoperable and was not recorded on the purge logs.

TABLE 1
MULTIPARAMETER CALIBRATION LOG

Project Name Area A/B Parcel B14/A5 Phase II Date 10-16-17
 Weather 60s, Rainy
 Calibrated by L. Glumac Instrument Horiba
 Serial Number 2B0MSAX4

Parameters	Morning Calibration	Morning Temperature	End of Day Calibration Check	End of Day Temperature
Specific Conductance Standard #1	4.49	62 F	4.65	61 F
Specific Conductance Standard #2	-		-	
pH (7)	-		-	
pH (4)	4.00		3.99	
pH(10)	-		-	
ORP Zobel Solution	-		-	
Dissolved Oxygen 100% water saturated air mg/L	9.06 [¥]		6.64 [¥]	
Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L	-		-	
Barometric Pressure in. Hg	29.97	N/A	30.10	N/A
Turbidity #1 (0 NTU)	¥		¥	
Turbidity #2 (1 NTU)	-		-	
Turbidity #3 (10 NTU)	-		-	

[¥] DO is outside of the calibration acceptance criteria. Values displayed on field purge logs may be inaccurate. Turbidity was inoperable and was not recorded on the purge logs

TABLE 1
MULTIPARAMETER CALIBRATION LOG

Project Name Area A Parcel GRY Phase II Date 10-17-17
 Weather 40s/50s, Sunny
 Calibrated by L. Glumac Instrument Horiba
 Serial Number 2B0MSAX4

Parameters	Morning Calibration	Morning Temperature	End of Day Calibration Check	End of Day Temperature
Specific Conductance Standard 4.49 mS/cm	4.51	44 F	4.52	56 F
Specific Conductance Standard #2	-		-	
pH (7)	-		-	
pH (4)	4.00		3.92	
pH(10)	-		-	
ORP Zobel Solution	-		-	
Dissolved Oxygen 100% water saturated air mg/L	9.64 [¥]		5.10 [¥]	
Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L	-		-	
Barometric Pressure in. Hg	30.30		30.32	
Turbidity #1 (0 NTU)	¥		¥	
Turbidity #2 (1 NTU)	-		-	
Turbidity #3 (10 NTU)	-		-	

[¥] DO is outside of the calibration acceptance criteria. Values displayed on field purge logs may be inaccurate. Turbidity was inoperable and was not recorded on the purge logs.

TABLE 1
MULTIPARAMETER CALIBRATION LOG

Project Name Area A Parcel GRY/A5 Phase II Date 10-18-17
 Weather 40s, Sunny
 Calibrated by L. Glumac Instrument Horiba, Lamotte 3028-0913
 Serial Number _____

Parameters	Morning Calibration	Morning Temperature	End of Day Calibration Check	End of Day Temperature
Specific Conductance Standard #1	4.56	45 F	4.43	69 F
Specific Conductance Standard #2	-		-	
pH (7)	-		-	
pH (4)	4.00		4.06	
pH(10)	-		-	
ORP Zobel Solution	-		-	
Dissolved Oxygen 100% water saturated air mg/L	7.62 [¥]		7.74 [¥]	
Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L	-		-	
Barometric Pressure in. Hg	30.37	N/A	30.33	N/A
Turbidity #1 (0 NTU)	0.00		0.21 [¥]	
Turbidity #2 (1 NTU)	1.00		1.11 [¥]	
Turbidity #3 (10 NTU)	10.00		9.87	

[¥] DO and turbidity were outside of the calibration acceptance criteria. Values displayed on field purge logs may be inaccurate.

TABLE 1
MULTIPARAMETER CALIBRATION LOG

Project Name Area A Parcel GRY/A7 Phase II Date 10-19-17
 Weather 50s, Sunny
 Calibrated by L. Glumac Instrument Horiba, Lamotte 3028-0913
 Serial Number _____

Parameters	Morning Calibration	Morning Temperature	End of Day Calibration Check	End of Day Temperature
Specific Conductance Standard #1	4.51	49 F	4.48	75 F
Specific Conductance Standard #2	-		-	
pH (7)	-		-	
pH (4)	3.99		4.04	
pH(10)	-		-	
ORP Zobel Solution	-		-	
Dissolved Oxygen 100% water saturated air mg/L	8.53 [¥]		9.62 [¥]	
Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L	-		-	
Barometric Pressure in. Hg	30.27	N/A	30.22	N/A
Turbidity #1 (0 NTU)	0.00		0.08 [¥]	
Turbidity #2 (1 NTU)	1.00		1.07 [¥]	
Turbidity #3 (10 NTU)	10.00		9.92	

[¥] **DO and turbidity were outside of the calibration acceptance criteria. Values displayed on field purge logs may be inaccurate.**

TABLE 1
MULTIPARAMETER CALIBRATION LOG

Project Name Area A Parcel A9 Phase II Date 1-19-18
 Weather 40s, Sunny
 Calibrated by L. Perrin Instrument YSI ProDSS
 Serial Number 17E102514

Parameters	Morning Calibration	Morning Temperature	End of Day Calibration Check	End of Day Temperature
Specific Conductance Standard 1.413 mS/cm	1.413	67 F [¥]	1.339	70 F [¥]
Specific Conductance Standard #2	-		-	
pH (7)	7.00		7.29	
pH (4)	4.00		-	
pH(10)	10.00		-	
ORP Zobel Solution 240 mV	240.0		239.4	
Dissolved Oxygen 100% water saturated air mg/L	100.7% [¥]		103.9% [¥]	
Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L	-		-	
Barometric Pressure in. Hg	30.14		30.06	
Turbidity #1 (0 NTU)	¥		¥	
Turbidity #2 (1 NTU)	-		-	
Turbidity #3 (10 NTU)	-		-	

[¥]DO was recorded as a percent. Temperature is an estimate. Values displayed on field purge logs may be inaccurate. Turbidity was inoperable and was not recorded on the purge logs.

TABLE 1
MULTIPARAMETER CALIBRATION LOG

Project Name Area A Parcel A9 Phase II Date 1-22-18
 Weather 50s/60s, Cloudy
 Calibrated by L. Perrin Instrument YSI ProDSS
 Serial Number 17E102514

Parameters	Morning Calibration	Morning Temperature	End of Day Calibration Check	End of Day Temperature
Specific Conductance Standard 1.413 mS/cm	1.413	73 F [¥]	1.423	71 F [¥]
Specific Conductance Standard #2	-		-	
pH (7)	7.00		7.12	
pH (4)	4.00		-	
pH(10)	10.00		-	
ORP Zobel Solution 240 mV	240.0		243.1	
Dissolved Oxygen 100% water saturated air mg/L	100.8% [¥]		98.7% [¥]	
Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L	-		-	
Barometric Pressure in. Hg	30.15		30.11	
Turbidity #1 (0 NTU)	¥		¥	
Turbidity #2 (1 NTU)	-		-	
Turbidity #3 (10 NTU)	-		-	

[¥]DO was recorded as a percent. Temperature is an estimate. Values displayed on field purge logs may be inaccurate. Turbidity was inoperable and was not recorded on the purge logs.

TABLE 1
MULTIPARAMETER CALIBRATION LOG

Project Name Area A Parcel A5 and A9 Phase II Date 1-23-18
 Weather 50s, Cloudy
 Calibrated by L. Perrin Instrument YSI ProDSS
 Serial Number 17E102514

Parameters	Morning Calibration	Morning Temperature	End of Day Calibration Check	End of Day Temperature
Specific Conductance Standard 1.413 mS/cm	1.413	70 F [¥]	1.429	64 F [¥]
Specific Conductance Standard #2	-		-	
pH (7)	7.00		7.14	
pH (4)	4.00		-	
pH(10)	10.00		-	
ORP Zobel Solution 240 mV	240.0		244.1	
Dissolved Oxygen 100% water saturated air mg/L	99.2% [¥]		100.9% [¥]	
Dissolved Oxygen Zero Dissolved Oxygen Solution mg/L	-		-	
Barometric Pressure in. Hg	29.67		29.67	
Turbidity #1 (0 NTU)	¥		¥	
Turbidity #2 (1 NTU)	-		-	
Turbidity #3 (10 NTU)	-		-	

[¥]DO was recorded as a percent. Temperature is an estimate. Values displayed on field purge logs may be inaccurate. Turbidity was inoperable and was not recorded on the purge logs.

"

"

"

"

"

"

"

"

"

APPENDIX H

"

"

Parcel A5, Parcel A9, and Greys Rail Yard - IDW Drum Log

Drum Identification Number	Designation	Activity/Phase	Contents	Open Date
952-Liners-9/29/17-A5	Non-Haz	Parcel A5 Phase II Investigation	Liners	9/29/2017
953-Soil-9/29/17-A5	Non-Haz	Parcel A5 Phase II Investigation	Soil	9/29/2017
954-PPE-9/29/17-A5	Non-Haz	Parcel A5 Phase II Investigation	PPE	9/29/2017
955-Decon Water- 9/29/17-A5	Non-Haz	Parcel A5 Phase II Investigation	Water	9/29/2017
956-Soil-10/4/17-GRY	Non-Haz	Grey's Rail Yard Phase II Investigation	Soil	10/4/2017
957-Liners-10/4/17-GRY	Non-Haz	Grey's Rail Yard Phase II Investigation	Liners	10/4/2017
958-PPE-10/4/17-GRY	Non-Haz	Grey's Rail Yard Phase II Investigation	PPE	10/4/2017
964-Purge Water-10/9/17-B14/A7/A5	Non-Haz	Parcels B14/A7/A5 Phase II Investigation	Water	10/9/2017
965-Purge Water-10/9/17-B14/A7/A5	Non-Haz	Parcels B14/A7/A5 Phase II Investigation	Water	10/9/2017
966-PPE-10/9/17-B14/A7/A5	Non-Haz	Parcels B14/A7/A5 Phase II Investigation	PPE	10/9/2017
967-Purge Water-10/11/17-B14/A5	Non-Haz	B14/A5	Water	10/11/2017
968-Purge Water-10/11/17-B14/A7/A5	Non-Haz	Parcels B14/A7/A5 Phase II Investigation	Water	10/11/2017
969-PPE-10/11/17-B14/A5/GRY	Non-Haz	Parcels B14/A5/GRY Phase II Investigation	PPE	10/11/2017
970-Purge H2O-10/17/17-GRY	Non-Haz	Grey's Rail Yard Phase II Investigation	Water	10/11/2017
971-Soil-10/20/17-A9	Non-Haz	Parcel A9 Phase II Investigation	Soil	10/11/2017
972-Liners-10/20/17-A9	Non-Haz	Parcel A9 Phase II Investigation	Liners	10/11/2017
973-PPE-10/20/17-A9	Non-Haz	Parcel A9 Phase II Investigation	PPE	10/11/2017
977-Decon Water-10/15/17-A5/B18/B17/A9/GRY/B13	Non-Haz	Parcels A5/B18/B17/A9/GRY/B13 Phase II Investigation	Water	10/15/2017
974-PPE-10/26/17-A9	Non-Haz	Parcel A9 Phase II Investigation	PPE	10/26/2017
975-Soil-10/26/17-A9	Non-Haz	Parcel A9 Phase II Investigation	Soil	10/26/2017
976-Soil-10/30/17-A9	Non-Haz	Parcel A9 Phase II Investigation	Soil	10/30/2017
992-Purge Water-1/19/18-A5/A9	Non-Haz	Parcels A5/A9 Phase II Investigation	Water	1/19/2018

APPENDIX I

QA/QC Tracking Log

Trip Blank:	Date:	Sample IDs:		Trip Blank:	Date:	Sample IDs:		
	9/29/2017	1) A5-022-SB-1			10/6/2017	1) A5-007-SB-10		
		2) A5-022-SB-8			10/18/2017	2) A5-017-SB-1		
		3) A5-022-SB-10				3) A5-017-SB-5		
		4) A5-023-SB-1				4) A5-017-SB-10		
		5) A5-023-SB-8				5) A5-018-SB-1		
		6) A5-023-SB-10				6) A5-018-SB-4		
	10/3/2017	7) A5-024-SB-1	Duplicate: A5-001-SB-9			10/19/2017	7) A5-018-SB-10	Duplicate: A5-018-SB-4
		8) A5-024-SB-4	Date: 10/3/2017		8) A5-016-SB-1		Date: 10/18/2017	
		9) A5-024-SB-10	MS/MSD: A5-020-SB-1		9) A5-016-SB-5		MS/MSD: A5-006-SB-1	
		10) A5-001-SB-1	Date: 10/5/2017		10) A5-006-SB-1		Date: 10/19/2017	
		11) A5-001-SB-9	Field Blank:		11) A5-006-SB-5		Field Blank:	
		12) A5-001-SB-10	Date: 10/3/2017		12) A5-006-SB-10		Date: 10/18/2017	
		13) A5-012-SB-1	Eq. Blank:		X		13) A5-011-SB-1	Eq. Blank:
		14) A5-012-SB-4	Date: 10/3/2017				14) A5-011-SB-6	Date: 10/18/2017
X		15) A5-003-SB-1					15) A5-011-SB-10	
X		16) A5-013-SB-1					16) A5-015-SB-1	
		17) A5-013-SB-9					17) A5-015-SB-5	
		18) A5-013-SB-10					18) A5-019-SB-1	
		19) A5-004-SB-1					19) A5-019-SB-5	
X		20) A5-004-SB-6					20) A5-019-SB-10	

	10/5/2017	1) A5-002-SB-1		X	11/1/2017	1) A5-014-SB-1	
		2) A5-002-SB-7		X		2) A5-014-SB-4	
		3) A5-002-SB-10				3) A5-010-SB-1	
X		4) A5-005-SB-1		X		4) A5-010-SB-9	
		5) A5-005-SB-4				5) A5-010-SB-10	
		6) A5-005-SB-10				6) A5-001-TP	
X	7) A5-020-SB-1	Duplicate: A5-005-SB-4			7) A5-002-TP	Duplicate: A5-014-SB-1	
	8) A5-020-SB-5	Date: 10/5/2017			8) A5-003-TP	Date: 11/1/2017	
	9) A5-020-SB-10	MS/MSD: A5-020-SB-5			9) A5-004-TP	MS/MSD: A5-014-SB-4	
	10) A5-021-SB-1	Date: 10/5/2017		X	10) A5-005-TP	Date: 11/1/2017	
	11) A5-021-SB-5	Field Blank:			11) A5-006-TP	Field Blank:	
	12) A5-021-SB-10	Date: 10/6/2017			12) A5-007-TP	Date: 11/1/2017	
	13) A5-009-SB-1	Eq. Blank:			13) A5-008-TP	Eq. Blank:	
X	14) A5-009-SB-9	Date: 10/6/2017			14)	Date: 11/1/2017	
	15) A5-009-SB-10				15)		
	16) A5-008-SB-1				16)		
	17) A5-008-SB-9				17)		
	18) A5-008-SB-10				18)		
X	19) A5-007-SB-1				19)		
	20) A5-007-SB-5				20)		

Soil samples with a sustained PID reading of 10 ppm or greater were collected for VOCs.
 VOC samples were placed in a cooler with a trip blank.

QA/QC Tracking Log

Trip Blank:	Date:	Sample IDs:		Trip Blank:	Date:	Sample IDs:	
	10/20/2017	1) A9-013-SB-1		X	10/26/2017	1) A9-021-SB-8	
X		2) A9-013-SB-9				2) A9-021-SB-10	
		3) A9-013-SB-10				3) A9-026-SB-1	
X		4) A9-010-SB-1		X		4) A9-026-SB-4	
		5) A9-010-SB-9				5) A9-026-SB-10	
		6) A9-010-SB-10		X		6) A9-027-SB-1	
		7) A9-012-SB-1	Duplicate: A9-013-SB-9	X		7) A9-027-SB-4	Duplicate: A9-021-SB-8
		8) A9-012-SB-5	Date: 10/20/2017			8) A9-027-SB-10	Date: 10/26/2017
		9) A9-012-SB-10	MS/MSD: A9-001-SB-1			9) A9-024-SB-1	MS/MSD: A9-026-SB-4
X		10) A9-001-SB-1	Date: 10/20/2017			10) A9-024-SB-5	Date: 10/26/2017
X		11) A9-001-SB-6	Field Blank:			11) A9-024-SB-10	Field Blank:
		12) A9-001-SB-10	Date: 10/23/2017			12) A9-005-SB-1	Date: 10/27/2017
X	10/23/2017	13) A9-006-SB-1	Eq. Blank:	X	10/27/2017	13) A9-005-SB-9	Eq. Blank:
X		14) A9-006-SB-4	Date: 10/23/2017	X		14) A9-005-SB-10	Date: 10/27/2017
X		15) A9-006-SB-10		X		15) A9-011-SB-1	
		16) A9-007-SB-1		X		16) A9-011-SB-4	
		17) A9-007-SB-5				17) A9-011-SB-10	
		18) A9-007-SB-10				18) A9-016-SB-1	
		19) A9-002-SB-1				19) A9-016-SB-7	
		20) A9-002-SB-5				20) A9-016-SB-10	
	10/23/2017	1) A9-002-SB-10		X	10/27/2017	1) A9-019-SB-1	
		2) A9-014-SB-1				2) A9-019-SB-5	
X		3) A9-014-SB-9				3) A9-019-SB-10	
		4) A9-014-SB-10		X		4) A9-020-SB-1	
X	10/24/2017	5) A9-009-SB-1			10/30/2017	5) A9-020-SB-9	
X		6) A9-009-SB-9				6) A9-020-SB-10	
X		7) A9-009-SB-10	Duplicate: A9-004-SB-7			7) A9-018-SB-1	Duplicate: A9-018-SB-5
		8) A9-004-SB-1	Date: 10/24/2017			8) A9-018-SB-5	Date: 10/30/2017
	10/25/2017	9) A9-004-SB-7	MS/MSD: A9-004-SB-1		10/31/2017	9) A9-018-SB-10	MS/MSD: A9-008-SB-5
		10) A9-004-SB-10	Date: 10/24/2017			10) A9-015-SB-1	Date: 10/31/2017
		11) A9-023-SB-1	Field Blank:			11) A9-015-SB-5	Field Blank:
		12) A9-023-SB-5	Date: 10/25/2017			12) A9-015-SB-10	Date: 10/20/2017
	10/26/2017	13) A9-023-SB-10	Eq. Blank:		10/31/2017	13) A9-017-SB-1	Eq. Blank:
		14) A9-022-SB-1	Date: 10/25/2017			14) A9-017-SB-5	Date: 10/30/2017
		15) A9-022-SB-5				15) A9-017-SB-10	
		16) A9-022-SB-10				16) A9-008-SB-1	
X	10/26/2017	17) A9-025-SB-1			10/31/2017	17) A9-008-SB-5	
		18) A9-025-SB-5				18) A9-008-SB-10	
		19) A9-025-SB-10				19) A9-003-SB-1	
X		20) A9-021-SB-1				20) A9-003-SB-5	

Soil samples with a sustained PID reading of 10 ppm or greater were collected for VOCs.
VOC samples were placed in a cooler with a trip blank.

QA/QC Tracking Log

<u>Trip</u>	<u>Blank:</u>	<u>Date:</u>	<u>Sample IDs:</u>		<u>Trip</u>	<u>Blank:</u>	<u>Date:</u>	<u>Sample IDs:</u>		
		10/31/2017	1) A9-003-SB-10	*Note: Did not collect/start new QA/QC set per phone call with EM on 10/31/17 because not all of the 10-foot interval samples collected would be analyzed.		X		1) GRY-014-SB-1		
		11/2/2017	2) A9-001-TP					10/9/2017	2) GRY-014-SB-5	
			3)						3) GRY-014-SB-10	
			4)						4) GRY-013-SB-1	
			5)						5) GRY-013-SB-5	
			6)						6) GRY-013-SB-10	
			7)						7) GRY-001-SB-1	<u>Duplicate:</u> GRY-013-SB-5
			8)					10/10/2017	8) GRY-001-SB-5	<u>Date:</u> 10/10/2017
			9)						9) GRY-001-SB-10	<u>MS/MSD:</u> GRY-014-SB-5
			10)						10) GRY-002-SB-1	<u>Date:</u> 10/9/2017
			11)				X		11) GRY-002-SB-7	<u>Field Blank:</u>
			12)						12) GRY-002-SB-10	<u>Date:</u> 10/10/2017
			13)						13) GRY-003-SB-1	<u>Eq. Blank:</u>
			14)						14) GRY-003-SB-5	<u>Date:</u> 10/10/2017
			15)						15) GRY-003-SB-10	
			16)					10/11/2017	16) GRY-004-SB-1	
			17)						17) GRY-004-SB-5	
			18)						18) GRY-004-SB-10	
			19)						19) GRY-005-SB-1	
			20)						20) GRY-005-SB-5	

		10/4/2017	1) GRY-023-SB-1					1) GRY-005-SB-10	
			2) GRY-023-SB-5					2) GRY-006-SB-1	
			3) GRY-023-SB-10					3) GRY-006-SB-5	
			4) GRY-024-SB-1					4) GRY-006-SB-10	
			5) GRY-024-SB-5					5) GRY-008-SB-1	
			6) GRY-024-SB-10					6) GRY-008-SB-5	
	X		7) GRY-025-SB-1	<u>Duplicate:</u> GRY-018-SB-4				7) GRY-008-SB-10	<u>Duplicate:</u> GRY-009-SB-5
			8) GRY-025-SB-5	<u>Date:</u> 10/9/2017				8) GRY-009-SB-1	<u>Date:</u> 10/11/2017
			9) GRY-026-SB-1	<u>MS/MSD:</u> GRY-016-SB-5				9) GRY-009-SB-5	<u>MS/MSD:</u> GRY-019-SB-5
			10) GRY-026-SB-5	<u>Date:</u> 10/9/2017				10) GRY-009-SB-10	<u>Date:</u> 10/13/2017
			11) GRY-018-SB-1	<u>Field Blank:</u>				11) GRY-021-SB-1	<u>Field Blank:</u>
	X		12) GRY-018-SB-4	<u>Date:</u> 10/4/2017			10/12/2017	12) GRY-021-SB-5	<u>Date:</u> 10/12/2017
			13) GRY-017-SB-1	<u>Eq. Blank:</u>				13) GRY-021-SB-10	<u>Eq. Blank:</u>
			14) GRY-017-SB-5	<u>Date:</u> 10/4/2017				14) GRY-020-SB-1	<u>Date:</u> 10/12/2017
		10/9/2017	15) GR-017-SB-10					15) GRY-020-SB-5	
			16) GRY-016-SB-1				10/13/2017	16) GRY-020-SB-10	
			17) GRY-016-SB-5					17) GRY-022-SB-1	
			18) GRY-015-SB-1					18) GRY-022-SB-5	
			19) GRY-015-SB-5					19) GRY-022-SB-10	
			20) GRY-015-SB-10				10/16/2017	20) GRY-028-SB-1	

Soil samples with a sustained PID reading of 10 ppm or greater were collected for VOCs. VOC samples were placed in a cooler with a trip blank.

QA/QC Tracking Log

Trip Blank:	Date:	Sample IDs:		Trip Blank:	Date:	Sample IDs:	
	10/16/2017	1) GRY-028-SB-4		TB2	1/19/2018	1) A9-002-PZ	
		2) GRY-028-SB-10		TB1	1/22/2018	2) A9-004-PZ	
X		3) GRY-027-SB-1		TB1		3) A9-011-PZ	
		4) GRY-027-SB-5		TB1		4) A9-015-PZ	
		5) GRY-027-SB-10		TB2	1/23/2018	5) A9-024-PZ	
		6) GRY-007-SB-1				6)	
	10/17/2017	7) GRY-012-SB-1	Duplicate: GRY-011-SB-1			7)	Duplicate: A9-002-PZ
X		8) GRY-012-SB-5	Date: 10/17/2017			8)	Date: 1/19/2018
X		9) GRY-011-SB-1	MS/MSD: GRY-011-SB-7			9)	MS/MSD: A9-004-PZ
X		10) GRY-011-SB-7	Date: 10/17/2017			10)	Date: 1/22/2018
X		11) GRY-011-SB-10	Field Blank:			11)	Field Blank:
X		12) GRY-010-SB-1	Date: 10/17/2017			12)	Date: 1/19/2018
X		13) GRY-010-SB-4	Eq. Blank:			13)	Eq. Blank:
X		14) GRY-010-SB-10	Date: 10/17/2017			14)	Date:
	11/1/2017	15) GRY-001-TP				15)	
		16)				16)	
		17)				17)	
		18)				18)	
		19)				19)	
		20)				20)	

X	10/12/2017	1) W-16		X	10/17/2017	1) GRY-021-PZ		
X	10/16/2017	2) SW01-PZM004		X		2) GRY-006-PZ		
X		3) MW93-003		X		3) GRY-003-PZ		
X	10/18/2017	4) A5-008-PZ		X		10/18/2018	4) GRY-013-PZ	
X	1/19/2018	5) A5-010-PZ		X			5) GRY-027-PZ	
X	1/23/2018	6) W-6		X		6) GRY-019-PZ		
		7)	Duplicate: SW01-PZM004	X	10/19/2018	7) GRY-024-PZ	Duplicate: GRY-013-PZ	
		8)	Date: 10/16/2017	X		8) GRY-011-PZ	Date: 10/17/2017	
		9)	MS/MSD: MW93-003			9)	MS/MSD: GRY-027-PZ	
		10)	Date: 10/16/2017			10)	Date: 10/18/2017	
		11)	Field Blank:			11)	Field Blank:	
		12)	Date: 10/16/2017			12)	Date: 10/18/2017	
		13)	Eq. Blank:			13)	Eq. Blank:	
		14)	Date:			14)	Date:	
		15)				15)		
		16)				16)		
		17)				17)		
		18)				18)		
		19)				19)		
		20)				20)		

Soil samples with a sustained PID reading of 10 ppm or greater were collected for VOCs.
 VOC samples were placed in a cooler with a trip blank.

APPENDIX J

EVALUATION OF DATA COMPLETENESS
Percentage of Non-Rejected Results vs Total Results

Parameter	Parameter Group	Matrix	Unit	Number of Validated Results	Detections	Number of Rejected Results	Number of Non-rejected Results	Completeness
Cyanide	CN	Soil	mg/kg	96	58	0	96	100.00%
Aluminum	Metal	Soil	mg/kg	96	96	0	96	100.00%
Antimony	Metal	Soil	mg/kg	96	19	0	96	100.00%
Arsenic	Metal	Soil	mg/kg	111	96	0	111	100.00%
Barium	Metal	Soil	mg/kg	96	93	0	96	100.00%
Beryllium	Metal	Soil	mg/kg	96	74	0	96	100.00%
Cadmium	Metal	Soil	mg/kg	96	35	0	96	100.00%
Chromium	Metal	Soil	mg/kg	96	96	0	96	100.00%
Chromium VI	Metal	Soil	mg/kg	96	13	0	96	100.00%
Cobalt	Metal	Soil	mg/kg	96	94	0	96	100.00%
Copper	Metal	Soil	mg/kg	96	95	0	96	100.00%
Iron	Metal	Soil	mg/kg	96	96	0	96	100.00%
Lead	Metal	Soil	mg/kg	96	94	0	96	100.00%
Manganese	Metal	Soil	mg/kg	98	98	0	98	100.00%
Mercury	Metal	Soil	mg/kg	96	70	0	96	100.00%
Nickel	Metal	Soil	mg/kg	96	96	0	96	100.00%
Selenium	Metal	Soil	mg/kg	96	19	0	96	100.00%
Silver	Metal	Soil	mg/kg	96	29	0	96	100.00%
Thallium	Metal	Soil	mg/kg	96	2	0	96	100.00%
Vanadium	Metal	Soil	mg/kg	96	96	0	96	100.00%
Zinc	Metal	Soil	mg/kg	96	95	0	96	100.00%
Aroclor 1016	PCB	Soil	mg/kg	44	0	0	44	100.00%
Aroclor 1221	PCB	Soil	mg/kg	44	0	0	44	100.00%
Aroclor 1232	PCB	Soil	mg/kg	44	0	0	44	100.00%
Aroclor 1242	PCB	Soil	mg/kg	44	0	0	44	100.00%
Aroclor 1248	PCB	Soil	mg/kg	44	0	0	44	100.00%
Aroclor 1254	PCB	Soil	mg/kg	44	1	0	44	100.00%
Aroclor 1260	PCB	Soil	mg/kg	44	3	0	44	100.00%
Aroclor 1262	PCB	Soil	mg/kg	44	0	0	44	100.00%
Aroclor 1268	PCB	Soil	mg/kg	44	0	0	44	100.00%
PCBs (total)	PCB	Soil	mg/kg	44	2	0	44	100.00%
1,1-Biphenyl	SVOC	Soil	mg/kg	101	4	0	101	100.00%
1,2,4,5-Tetrachlorobenzene	SVOC	Soil	mg/kg	101	0	0	101	100.00%
2,3,4,6-Tetrachlorophenol	SVOC	Soil	mg/kg	101	0	6	95	94.06%
2,4,5-Trichlorophenol	SVOC	Soil	mg/kg	101	0	5	96	95.05%
2,4,6-Trichlorophenol	SVOC	Soil	mg/kg	101	0	5	96	95.05%
2,4-Dichlorophenol	SVOC	Soil	mg/kg	101	0	5	96	95.05%
2,4-Dimethylphenol	SVOC	Soil	mg/kg	101	0	5	96	95.05%
2,4-Dinitrophenol	SVOC	Soil	mg/kg	101	1	8	93	92.08%
2,4-Dinitrotoluene	SVOC	Soil	mg/kg	101	0	0	101	100.00%
2,6-Dinitrotoluene	SVOC	Soil	mg/kg	101	0	0	101	100.00%
2-Chloronaphthalene	SVOC	Soil	mg/kg	101	0	0	101	100.00%
2-Chlorophenol	SVOC	Soil	mg/kg	101	0	5	96	95.05%
2-Methylnaphthalene	SVOC	Soil	mg/kg	101	67	0	101	100.00%
2-Methylphenol	SVOC	Soil	mg/kg	101	1	5	96	95.05%
2-Nitroaniline	SVOC	Soil	mg/kg	101	0	0	101	100.00%
3&4-Methylphenol(m&p Cresol)	SVOC	Soil	mg/kg	101	0	5	96	95.05%
3,3'-Dichlorobenzidine	SVOC	Soil	mg/kg	101	1	1	100	99.01%
4-Chloroaniline	SVOC	Soil	mg/kg	101	0	1	100	99.01%
4-Nitroaniline	SVOC	Soil	mg/kg	101	0	0	101	100.00%
Acenaphthene	SVOC	Soil	mg/kg	101	40	0	101	100.00%
Acenaphthylene	SVOC	Soil	mg/kg	101	51	0	101	100.00%
Acetophenone	SVOC	Soil	mg/kg	101	2	0	101	100.00%
Anthracene	SVOC	Soil	mg/kg	101	67	0	101	100.00%
Benz[a]anthracene	SVOC	Soil	mg/kg	101	73	0	101	100.00%

EVALUATION OF DATA COMPLETENESS
Percentage of Non-Rejected Results vs Total Results

Parameter	Parameter Group	Matrix	Unit	Number of Validated Results	Detections	Number of Rejected Results	Number of Non-rejected Results	Completeness
Benzaldehyde	SVOC	Soil	mg/kg	101	21	5	96	95.05%
Benzo[a]pyrene	SVOC	Soil	mg/kg	101	69	0	101	100.00%
Benzo[b]fluoranthene	SVOC	Soil	mg/kg	101	70	0	101	100.00%
Benzo[g,h,i]perylene	SVOC	Soil	mg/kg	101	69	0	101	100.00%
Benzo[k]fluoranthene	SVOC	Soil	mg/kg	101	71	0	101	100.00%
bis(2-chloroethoxy)methane	SVOC	Soil	mg/kg	101	0	0	101	100.00%
bis(2-Chloroethyl)ether	SVOC	Soil	mg/kg	101	0	0	101	100.00%
bis(2-Chloroisopropyl)ether	SVOC	Soil	mg/kg	101	0	0	101	100.00%
bis(2-Ethylhexyl)phthalate	SVOC	Soil	mg/kg	101	3	0	101	100.00%
Caprolactam	SVOC	Soil	mg/kg	101	1	1	100	99.01%
Carbazole	SVOC	Soil	mg/kg	101	11	0	101	100.00%
Chrysene	SVOC	Soil	mg/kg	101	69	0	101	100.00%
Dibenz[a,h]anthracene	SVOC	Soil	mg/kg	101	55	0	101	100.00%
Diethylphthalate	SVOC	Soil	mg/kg	101	0	0	101	100.00%
Di-n-butylphthalate	SVOC	Soil	mg/kg	101	0	0	101	100.00%
Di-n-octylphthalate	SVOC	Soil	mg/kg	101	0	0	101	100.00%
Fluoranthene	SVOC	Soil	mg/kg	101	81	0	101	100.00%
Fluorene	SVOC	Soil	mg/kg	101	42	0	101	100.00%
Hexachlorobenzene	SVOC	Soil	mg/kg	101	0	0	101	100.00%
Hexachlorobutadiene	SVOC	Soil	mg/kg	101	0	0	101	100.00%
Hexachlorocyclopentadiene	SVOC	Soil	mg/kg	101	0	0	101	100.00%
Hexachloroethane	SVOC	Soil	mg/kg	101	0	0	101	100.00%
Indeno[1,2,3-c,d]pyrene	SVOC	Soil	mg/kg	101	64	0	101	100.00%
Isophorone	SVOC	Soil	mg/kg	101	0	0	101	100.00%
Naphthalene	SVOC	Soil	mg/kg	101	39	0	101	100.00%
Nitrobenzene	SVOC	Soil	mg/kg	101	0	0	101	100.00%
N-Nitroso-di-n-propylamine	SVOC	Soil	mg/kg	101	0	0	101	100.00%
N-Nitrosodiphenylamine	SVOC	Soil	mg/kg	101	1	0	101	100.00%
Pentachlorophenol	SVOC	Soil	mg/kg	101	0	7	94	93.07%
Phenanthrene	SVOC	Soil	mg/kg	101	80	0	101	100.00%
Phenol	SVOC	Soil	mg/kg	101	2	5	96	95.05%
Pyrene	SVOC	Soil	mg/kg	101	77	0	101	100.00%
Diesel Range Organics	TPH	Soil	mg/kg	101	66	0	101	100.00%
Gasoline Range Organics	TPH	Soil	mg/kg	101	10	0	101	100.00%
Oil and Grease	TPH	Soil	mg/kg	101	100	0	101	100.00%
1,1,1-Trichloroethane	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,1,2,2-Tetrachloroethane	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,1,2-Trichloro-1,2,2-Trifluoroethane	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,1,2-Trichloroethane	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,1-Dichloroethane	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,1-Dichloroethene	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,2,3-Trichlorobenzene	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,2,4-Trichlorobenzene	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,2-Dibromo-3-chloropropane	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,2-Dibromoethane	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,2-Dichlorobenzene	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,2-Dichloroethane	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,2-Dichloroethene (Total)	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,2-Dichloropropane	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,3-Dichlorobenzene	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,4-Dichlorobenzene	VOC	Soil	mg/kg	30	0	0	30	100.00%
2-Butanone (MEK)	VOC	Soil	mg/kg	30	0	0	30	100.00%
2-Hexanone	VOC	Soil	mg/kg	30	0	0	30	100.00%
4-Methyl-2-pentanone (MIBK)	VOC	Soil	mg/kg	30	0	0	30	100.00%
Acetone	VOC	Soil	mg/kg	30	12	0	30	100.00%

EVALUATION OF DATA COMPLETENESS
Percentage of Non-Rejected Results vs Total Results

Parameter	Parameter Group	Matrix	Unit	Number of Validated Results	Detections	Number of Rejected Results	Number of Non-rejected Results	Completeness
Benzene	VOC	Soil	mg/kg	30	0	0	30	100.00%
Bromodichloromethane	VOC	Soil	mg/kg	30	0	0	30	100.00%
Bromoform	VOC	Soil	mg/kg	30	0	0	30	100.00%
Bromomethane	VOC	Soil	mg/kg	30	0	0	30	100.00%
Carbon disulfide	VOC	Soil	mg/kg	30	5	0	30	100.00%
Carbon tetrachloride	VOC	Soil	mg/kg	30	0	0	30	100.00%
Chlorobenzene	VOC	Soil	mg/kg	30	0	0	30	100.00%
Chloroethane	VOC	Soil	mg/kg	30	0	0	30	100.00%
Chloroform	VOC	Soil	mg/kg	30	0	0	30	100.00%
Chloromethane	VOC	Soil	mg/kg	30	0	0	30	100.00%
cis-1,2-Dichloroethene	VOC	Soil	mg/kg	30	0	0	30	100.00%
cis-1,3-Dichloropropene	VOC	Soil	mg/kg	30	0	0	30	100.00%
Cyclohexane	VOC	Soil	mg/kg	30	1	0	30	100.00%
Dibromochloromethane	VOC	Soil	mg/kg	30	0	0	30	100.00%
Dichlorodifluoromethane	VOC	Soil	mg/kg	30	0	0	30	100.00%
Ethylbenzene	VOC	Soil	mg/kg	30	1	0	30	100.00%
Isopropylbenzene	VOC	Soil	mg/kg	30	0	0	30	100.00%
Methyl Acetate	VOC	Soil	mg/kg	30	3	0	30	100.00%
Methyl tert-butyl ether (MTBE)	VOC	Soil	mg/kg	30	0	0	30	100.00%
Methylene Chloride	VOC	Soil	mg/kg	30	0	0	30	100.00%
Styrene	VOC	Soil	mg/kg	30	1	0	30	100.00%
Tetrachloroethene	VOC	Soil	mg/kg	30	0	0	30	100.00%
Toluene	VOC	Soil	mg/kg	30	0	0	30	100.00%
trans-1,2-Dichloroethene	VOC	Soil	mg/kg	30	0	0	30	100.00%
trans-1,3-Dichloropropene	VOC	Soil	mg/kg	30	0	0	30	100.00%
Trichloroethene	VOC	Soil	mg/kg	30	0	0	30	100.00%
Trichlorofluoromethane	VOC	Soil	mg/kg	30	0	0	30	100.00%
Vinyl chloride	VOC	Soil	mg/kg	30	0	0	30	100.00%
Xylenes	VOC	Soil	mg/kg	30	0	0	30	100.00%
1,4-Dioxane	VOC/SVOC	Soil	mg/kg	30	0	25	5	16.67%
Available Cyanide	CN	Water	ug/L	10	5	0	10	100.00%
Cyanide	CN	Water	ug/L	10	1	0	10	100.00%
Aluminum	Metal	Water	ug/L	12	11	0	12	100.00%
Antimony	Metal	Water	ug/L	12	0	0	12	100.00%
Arsenic	Metal	Water	ug/L	12	1	0	12	100.00%
Barium	Metal	Water	ug/L	12	12	0	12	100.00%
Beryllium	Metal	Water	ug/L	12	7	0	12	100.00%
Cadmium	Metal	Water	ug/L	12	5	0	12	100.00%
Chromium	Metal	Water	ug/L	12	10	0	12	100.00%
Chromium VI	Metal	Water	ug/L	12	3	1	11	91.67%
Cobalt	Metal	Water	ug/L	12	10	0	12	100.00%
Copper	Metal	Water	ug/L	12	4	0	12	100.00%
Iron	Metal	Water	ug/L	12	12	0	12	100.00%
Lead	Metal	Water	ug/L	12	2	0	12	100.00%
Manganese	Metal	Water	ug/L	12	12	0	12	100.00%
Mercury	Metal	Water	ug/L	12	0	0	12	100.00%
Nickel	Metal	Water	ug/L	12	10	0	12	100.00%
Selenium	Metal	Water	ug/L	12	0	0	12	100.00%
Silver	Metal	Water	ug/L	12	0	0	12	100.00%
Thallium	Metal	Water	ug/L	12	0	0	12	100.00%
Vanadium	Metal	Water	ug/L	12	9	0	12	100.00%
Zinc	Metal	Water	ug/L	12	12	0	12	100.00%
1,1-Biphenyl	SVOC	Water	ug/L	10	0	0	10	100.00%
1,2,4,5-Tetrachlorobenzene	SVOC	Water	ug/L	10	0	0	10	100.00%
2,3,4,6-Tetrachlorophenol	SVOC	Water	ug/L	10	0	0	10	100.00%

EVALUATION OF DATA COMPLETENESS
Percentage of Non-Rejected Results vs Total Results

Parameter	Parameter Group	Matrix	Unit	Number of Validated Results	Detections	Number of Rejected Results	Number of Non-rejected Results	Completeness
2,4,5-Trichlorophenol	SVOC	Water	ug/L	10	0	0	10	100.00%
2,4,6-Trichlorophenol	SVOC	Water	ug/L	10	0	0	10	100.00%
2,4-Dichlorophenol	SVOC	Water	ug/L	10	0	0	10	100.00%
2,4-Dimethylphenol	SVOC	Water	ug/L	10	0	0	10	100.00%
2,4-Dinitrophenol	SVOC	Water	ug/L	10	0	0	10	100.00%
2,4-Dinitrotoluene	SVOC	Water	ug/L	10	0	0	10	100.00%
2,6-Dinitrotoluene	SVOC	Water	ug/L	10	1	0	10	100.00%
2-Chloronaphthalene	SVOC	Water	ug/L	10	0	0	10	100.00%
2-Chlorophenol	SVOC	Water	ug/L	10	0	0	10	100.00%
2-Methylnaphthalene	SVOC	Water	ug/L	10	1	0	10	100.00%
2-Methylphenol	SVOC	Water	ug/L	10	0	0	10	100.00%
2-Nitroaniline	SVOC	Water	ug/L	10	0	0	10	100.00%
3&4-Methylphenol(m&p Cresol)	SVOC	Water	ug/L	10	0	0	10	100.00%
3,3'-Dichlorobenzidine	SVOC	Water	ug/L	10	0	1	9	90.00%
4-Chloroaniline	SVOC	Water	ug/L	10	0	0	10	100.00%
4-Nitroaniline	SVOC	Water	ug/L	10	0	0	10	100.00%
Acenaphthene	SVOC	Water	ug/L	10	0	0	10	100.00%
Acenaphthylene	SVOC	Water	ug/L	10	0	0	10	100.00%
Acetophenone	SVOC	Water	ug/L	10	0	0	10	100.00%
Anthracene	SVOC	Water	ug/L	10	2	0	10	100.00%
Benz[a]anthracene	SVOC	Water	ug/L	10	0	0	10	100.00%
Benzaldehyde	SVOC	Water	ug/L	10	0	0	10	100.00%
Benzo[a]pyrene	SVOC	Water	ug/L	10	0	0	10	100.00%
Benzo[b]fluoranthene	SVOC	Water	ug/L	10	0	0	10	100.00%
Benzo[g,h,i]perylene	SVOC	Water	ug/L	10	0	0	10	100.00%
Benzo[k]fluoranthene	SVOC	Water	ug/L	10	0	0	10	100.00%
bis(2-chloroethoxy)methane	SVOC	Water	ug/L	10	0	0	10	100.00%
bis(2-Chloroethyl)ether	SVOC	Water	ug/L	10	0	0	10	100.00%
bis(2-Chloroisopropyl)ether	SVOC	Water	ug/L	10	0	0	10	100.00%
bis(2-Ethylhexyl)phthalate	SVOC	Water	ug/L	10	2	0	10	100.00%
Caprolactam	SVOC	Water	ug/L	10	2	0	10	100.00%
Carbazole	SVOC	Water	ug/L	10	0	0	10	100.00%
Chrysene	SVOC	Water	ug/L	10	0	0	10	100.00%
Dibenz[a,h]anthracene	SVOC	Water	ug/L	10	0	0	10	100.00%
Diethylphthalate	SVOC	Water	ug/L	10	1	0	10	100.00%
Di-n-butylphthalate	SVOC	Water	ug/L	10	0	0	10	100.00%
Di-n-octylphthalate	SVOC	Water	ug/L	10	0	0	10	100.00%
Fluoranthene	SVOC	Water	ug/L	10	0	0	10	100.00%
Fluorene	SVOC	Water	ug/L	10	1	0	10	100.00%
Hexachlorobenzene	SVOC	Water	ug/L	10	0	0	10	100.00%
Hexachlorobutadiene	SVOC	Water	ug/L	10	0	0	10	100.00%
Hexachlorocyclopentadiene	SVOC	Water	ug/L	10	0	0	10	100.00%
Hexachloroethane	SVOC	Water	ug/L	10	0	0	10	100.00%
Indeno[1,2,3-c,d]pyrene	SVOC	Water	ug/L	10	0	0	10	100.00%
Isophorone	SVOC	Water	ug/L	10	0	0	10	100.00%
Naphthalene	SVOC	Water	ug/L	10	3	0	10	100.00%
Nitrobenzene	SVOC	Water	ug/L	10	0	0	10	100.00%
N-Nitroso-di-n-propylamine	SVOC	Water	ug/L	10	0	0	10	100.00%
N-Nitrosodiphenylamine	SVOC	Water	ug/L	10	0	0	10	100.00%
Pentachlorophenol	SVOC	Water	ug/L	10	0	0	10	100.00%
Phenanthrene	SVOC	Water	ug/L	10	1	0	10	100.00%
Phenol	SVOC	Water	ug/L	10	2	0	10	100.00%
Pyrene	SVOC	Water	ug/L	10	0	0	10	100.00%
Diesel Range Organics	TPH	Water	ug/L	10	4	0	10	100.00%
Gasoline Range Organics	TPH	Water	ug/L	10	2	0	10	100.00%

EVALUATION OF DATA COMPLETENESS
Percentage of Non-Rejected Results vs Total Results

Parameter	Parameter Group	Matrix	Unit	Number of Validated Results	Detections	Number of Rejected Results	Number of Non-rejected Results	Completeness
Oil and Grease	TPH	Water	ug/L	10	1	0	10	100.00%
1,1,1-Trichloroethane	VOC	Water	ug/L	10	0	0	10	100.00%
1,1,2,2-Tetrachloroethane	VOC	Water	ug/L	10	0	0	10	100.00%
1,1,2-Trichloro-1,2,2-Trifluoroethane	VOC	Water	ug/L	10	0	0	10	100.00%
1,1,2-Trichloroethane	VOC	Water	ug/L	10	0	0	10	100.00%
1,1-Dichloroethane	VOC	Water	ug/L	10	0	0	10	100.00%
1,1-Dichloroethene	VOC	Water	ug/L	10	0	0	10	100.00%
1,2,3-Trichlorobenzene	VOC	Water	ug/L	10	0	0	10	100.00%
1,2,4-Trichlorobenzene	VOC	Water	ug/L	10	0	0	10	100.00%
1,2-Dibromo-3-chloropropane	VOC	Water	ug/L	10	0	0	10	100.00%
1,2-Dibromoethane	VOC	Water	ug/L	10	0	0	10	100.00%
1,2-Dichlorobenzene	VOC	Water	ug/L	10	0	0	10	100.00%
1,2-Dichloroethane	VOC	Water	ug/L	10	0	0	10	100.00%
1,2-Dichloroethene (Total)	VOC	Water	ug/L	10	0	0	10	100.00%
1,2-Dichloropropane	VOC	Water	ug/L	10	0	0	10	100.00%
1,3-Dichlorobenzene	VOC	Water	ug/L	10	0	0	10	100.00%
1,4-Dichlorobenzene	VOC	Water	ug/L	10	0	0	10	100.00%
2-Butanone (MEK)	VOC	Water	ug/L	10	0	0	10	100.00%
2-Hexanone	VOC	Water	ug/L	10	0	0	10	100.00%
4-Methyl-2-pentanone (MIBK)	VOC	Water	ug/L	10	0	0	10	100.00%
Acetone	VOC	Water	ug/L	10	1	0	10	100.00%
Benzene	VOC	Water	ug/L	10	1	0	10	100.00%
Bromodichloromethane	VOC	Water	ug/L	10	0	0	10	100.00%
Bromoform	VOC	Water	ug/L	10	0	0	10	100.00%
Bromomethane	VOC	Water	ug/L	10	1	0	10	100.00%
Carbon disulfide	VOC	Water	ug/L	10	0	0	10	100.00%
Carbon tetrachloride	VOC	Water	ug/L	10	0	0	10	100.00%
Chlorobenzene	VOC	Water	ug/L	10	0	0	10	100.00%
Chloroethane	VOC	Water	ug/L	10	0	0	10	100.00%
Chloroform	VOC	Water	ug/L	10	0	0	10	100.00%
Chloromethane	VOC	Water	ug/L	10	0	0	10	100.00%
cis-1,2-Dichloroethene	VOC	Water	ug/L	10	0	0	10	100.00%
cis-1,3-Dichloropropene	VOC	Water	ug/L	10	0	0	10	100.00%
Cyclohexane	VOC	Water	ug/L	10	0	0	10	100.00%
Dibromochloromethane	VOC	Water	ug/L	10	0	0	10	100.00%
Dichlorodifluoromethane	VOC	Water	ug/L	10	0	0	10	100.00%
Ethylbenzene	VOC	Water	ug/L	10	0	0	10	100.00%
Isopropylbenzene	VOC	Water	ug/L	10	0	0	10	100.00%
Methyl Acetate	VOC	Water	ug/L	10	0	0	10	100.00%
Methyl tert-butyl ether (MTBE)	VOC	Water	ug/L	10	0	0	10	100.00%
Methylene Chloride	VOC	Water	ug/L	10	0	0	10	100.00%
Styrene	VOC	Water	ug/L	10	0	0	10	100.00%
Tetrachloroethene	VOC	Water	ug/L	10	0	0	10	100.00%
Toluene	VOC	Water	ug/L	10	0	0	10	100.00%
trans-1,2-Dichloroethene	VOC	Water	ug/L	10	0	0	10	100.00%
trans-1,3-Dichloropropene	VOC	Water	ug/L	10	0	0	10	100.00%
Trichloroethene	VOC	Water	ug/L	10	0	0	10	100.00%
Trichlorofluoromethane	VOC	Water	ug/L	10	0	0	10	100.00%
Vinyl chloride	VOC	Water	ug/L	10	0	0	10	100.00%
Xylenes	VOC	Water	ug/L	10	0	0	10	100.00%
1,4-Dioxane	VOC/SVOC	Water	ug/L	10	4	0	10	100.00%

Data validation has been completed for a representative 50% of all samples