RESPONSE ACTION COMPLETION REPORT

AREA B: PARCEL B13
B13-031 RESPONSE AREA
TRADEPOINT ATLANTIC
SPARROWS POINT, MARYLAND

Prepared For:

ENVIROANALYTICS GROUP
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Prepared By:

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ARM Project No. 160443M-19

Respectfully Submitted,

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Staff Scientist

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Revision 0 – August 22, 2019

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1.0 INTRODUCTION

1.1. BACKGROUND

ARM Group Inc. (ARM), on behalf of EnviroAnalytics Group (EAG), has prepared this Response Action Completion Report to document the remedial excavation performed on a portion of the Tradepoint Atlantic property that has been designated as Area B: Parcel B13 (the Site), which is shown on **Figure 1**. Parcel B13 comprises approximately 243 acres of the approximately 3,100-acre former steel mill property located in Sparrows Point, Maryland.

During the Phase II Investigation of Parcel B13, an elevated concentration of arsenic (896 mg/kg) was identified within the shallow soil sample collected from the 0 to 1 foot below ground surface (bgs) interval from soil boring B13-031-SB. According to the human health Screening Level Risk Assessment (SLRA) using *generic* exposure units (EUs) that was provided in the Parcel B13 Phase II Investigation Report dated April 19, 2017, the elevated concentration of arsenic in sample B13-031-SB-1 contributed to an unacceptable carcinogenic risk estimate of 1E-4 for a future Composite Worker in the area defined as EU3. In a comment dated May 22, 2017, the Maryland Department of the Environment (MDE) concluded that the arsenic concentration of 896 mg/kg required delineation. The completed delineation activities are described below in Section 1.2.

Excavation of the soil containing elevated concentrations of arsenic was selected as the preferred remedial response action to address the impacts in the vicinity of B13-031-SB (the Response Area). Currently, MCM Management Corp. (MCM) is conducting site grading (slag reclamation) activities in the northeastern portion of Parcel B13 which will ultimately extend through the majority of Parcel B13. Due to the identification of the arsenic contamination in the vicinity of B13-031-SB, approval from the MDE is required before slag reclamation activities can be conducted in the Response Area. The response actions described herein were performed in accordance with the Response Action Work Plan: Delineation Activities and Proposed Excavation of Arsenic Impacted Soil – Area B: Parcel B13 (Revision 0 dated June 12, 2019).

1.2. ARSENIC DELINEATION

A Work Plan for the Delineation/Characterization of Arsenic Impacted Soil at B13-031-SB dated June 9, 2017 was submitted to the MDE and the United States Environmental Protection Agency (USEPA). Following review of the Delineation/Characterization Work Plan, the proposed sampling approach was approved by the agencies on June 22, 2017. The results of the completed arsenic delineation at B13-031-SB were discussed in detail in the Response Action Work Plan and are summarized below.

To delineate the elevated arsenic impacts at location B13-031-SB, a total of 23 supplemental borings (including resampling at the original location) were completed between June 30, 2017 and November 2, 2017. Continuous core soil samples were collected surrounding B13-031-SB on a

grid spacing of 20 feet at the positions shown on **Figure 1**. Soil boring logs from the delineation activities are included with the Response Action Work Plan.

At each of the delineation boring locations, soil samples were collected from intervals of 0 to 1, 4 to 5, and 9 to 10 feet bgs. In some cases, the designated sampling intervals were adjusted based on equipment refusal. Groundwater was not observed in any of the delineation soil cores. Since the initial elevated arsenic concentration of 896 mg/kg was identified in the 0 to 1 foot bgs interval, the samples collected from 9 to 10 feet bgs were designated to be held pending the analysis of the overlying samples. None of the 4 to 5 foot bgs samples had concentrations comparable to the initial elevated detection of 896 mg/kg; therefore, none of the 9 to 10 foot bgs samples were required to be analyzed. It should be noted that a limited number of the 9 to 10 foot bgs samples were analyzed in error because they were improperly included on a Chain of Custody where samples were not designated to be held.

Soil samples were submitted to Pace Analytical Services, Inc. (PACE) and analyzed for arsenic via USEPA Method 6010C. The laboratory reports for the arsenic delineation samples are included as electronic attachments to the Response Action Work Plan.

In accordance with the approved Delineation/Characterization Work Plan, the initial delineation grid was expanded in order to fully delineate the extent of the soils containing elevated concentrations of arsenic. The delineation investigation identified elevated arsenic concentrations at a total of six locations (including B13-031-SB), all of which were collected from the interval of 0 to 1 foot bgs. The maximum concentration of arsenic identified during the delineation investigation was 975 mg/kg in sample B13-031N-SB-1. Although the concentration of arsenic in sample B13-031N-SB-1 exceeded the initial elevated arsenic detection (896 mg/kg), the elevated arsenic impacts had been fully delineated and were limited to the shallow soils. The analytical results from the delineation samples are provided in the Response Action Work Plan and are shown on **Figure 1**.

2.0 SITE RESPONSE ACTIVITIES

The preliminary extent of the excavation required to remove the arsenic contaminated soil, as presented in the Response Action Work Plan, was based on the analytical arsenic data from the delineation soil borings. The proposed excavation boundary for the Response Area is shown on **Figure 2** and **Figure 3**. The actual extent of the excavation (as shown on **Figure 3** and **Figure 4**) is very similar to the proposed boundary and was recorded following implementation using a hand-held GPS unit. The following sections provide detailed descriptions of the completed response action. A photograph log of the response action implementation is included in **Appendix A**. All response activities were conducted in accordance with the property-wide Health and Safety Plan (HASP) developed by EAG. Excavation work was performed by MCM. Response Action oversight was performed by an ARM Environmental Professional (EP).

2.1. SOIL MANAGEMENT

The excavation was completed to a final depth of 4 feet bgs. A total of approximately 600 cubic yards (bank) of potentially impacted material was removed from the Response Area. Since the SLRA had indicated that the removal of material containing arsenic above 100 mg/kg would be acceptable, materials containing concentrations of arsenic below this threshold are considered suitable for reclamation by MCM. MCM is currently performing slag reclamation activities on Parcel B13, so backfilling the excavation was not necessary. Because groundwater was not encountered during excavation, no water management systems were required.

Soil was excavated from the Response Area on July 16, 2019 and July 17, 2019. Excavated material was segregated into stockpiles based on its location within the excavation boundary and depth below the surface. Prior to breaking ground, the excavation was divided into northern, middle, and southern sections and marked on the ground surface. Since elevated concentrations of arsenic were identified in the delineation soil samples collected from the 0 to 1 foot bgs interval, and elevated concentrations were not expected to extended vertically down to the final excavation depth of 4 feet bgs, the material was excavated in 1-foot lifts and placed in individual stockpiles. This procedure generated relatively small stockpiles which minimized the volume of material which would potentially be characterized as a hazardous waste.

The excavation area was divided into three sections (north, middle, and south) of roughly equal area as shown on **Figure 3**. The material associated with each lift (approximately 150 cubic yards of bank soil in each lift) was placed into three individual stockpiles (approximately 50 cubic yards of bank soil in each stockpile). Each of the stockpiles was placed adjacent to the excavation on polyethylene sheeting to protect the ground surface, and clean slag material provided by MCM was placed as berms around the stockpiles. Each stockpile was tracked and labeled with bright orange paint according to the lift and area from which the material was removed. The stockpiles were covered at the end of the excavation activities with polyethylene sheeting and will remain

covered in order to minimize the generation of dust and prevent run-on/off until disposal or reclamation approval is received from the MDE. A weighted cover system is being used to keep the covers in place. A total of 12 stockpiles were generated, and each stockpile was tested in accordance with the sampling and disposal protocols outlined below.

2.1.1. Waste Characterization Sampling

One composite sample was collected from each of the 12 excavation stockpiles (i.e., one sample per 50 cubic yards of bank soil). Each composite sample consisted of 10 randomly selected grab aliquots from the designated stockpile. The composite samples were submitted for TCLP analysis and arsenic analysis (via USEPA Method 6010C) to facilitate proper disposal or to confirm that the material is suitable to be reclaimed by MCM. Based on the existing delineation data, material taken from the first lift (0 to 1 foot bgs interval) was not considered for reclamation or any other use; therefore, the composite samples from these specific stockpiles were only required to be submitted for TCLP analysis to facilitate proper disposal.

The highest concentration of arsenic detected in the excavated material stockpiles was 76.7 mg/kg in a sample that originated from the second lift (1 to 2 feet bgs) in the southern section of the excavation. The waste characterization sample results indicated that all excavated materials in the stockpiles are non-hazardous, and off-site disposal is not required. Laboratory reports from the waste characterization testing are included in **Appendix B**.

Based on these sampling results, EAG requests approval for the material excavated from the first lift (0 to 1 foot bgs interval) to be disposed of at the on-site non-hazardous Greys Landfill, and the material taken from the remaining subsurface lifts to be reclaimed by MCM. The quantity of material to be disposed of at Greys Landfill includes approximately 150 cubic yards of bank soil (equivalent to roughly 200 cubic yards of loose excavated soil), and the quantity of material to be reclaimed by MCM includes approximately 450 cubic yards of bank soil (equivalent to roughly 600 cubic yards of loose excavated soil).

2.1.2. Confirmation Sampling

Once excavation activities were completed, confirmation soil samples were collected from the sidewalls (at a minimum rate of one sample from each sidewall) and from the bottom of the excavation (at a minimum rate of one sample per every 1,000 square feet) to confirm that all soils exceeding 100 mg/kg of arsenic were removed. The confirmation samples were submitted to PACE and analyzed for arsenic via USEPA Method 6010C. The confirmation sample locations and arsenic results (in mg/kg) are provided on **Figure 3** and **Figure 4**, respectively.

Confirmation samples collected from the bottom of the excavation and along each of the sidewalls all yielded arsenic concentrations below 100 mg/kg, with the highest concentration of 17.4 mg/kg being detected in the northwestern sidewall. These results suggest that the extent of the elevated

arsenic contamination has been adequately removed. Analytical results for the confirmation soil samples are included in **Table 1**. Laboratory reports from the arsenic confirmation testing are included in **Appendix C**.

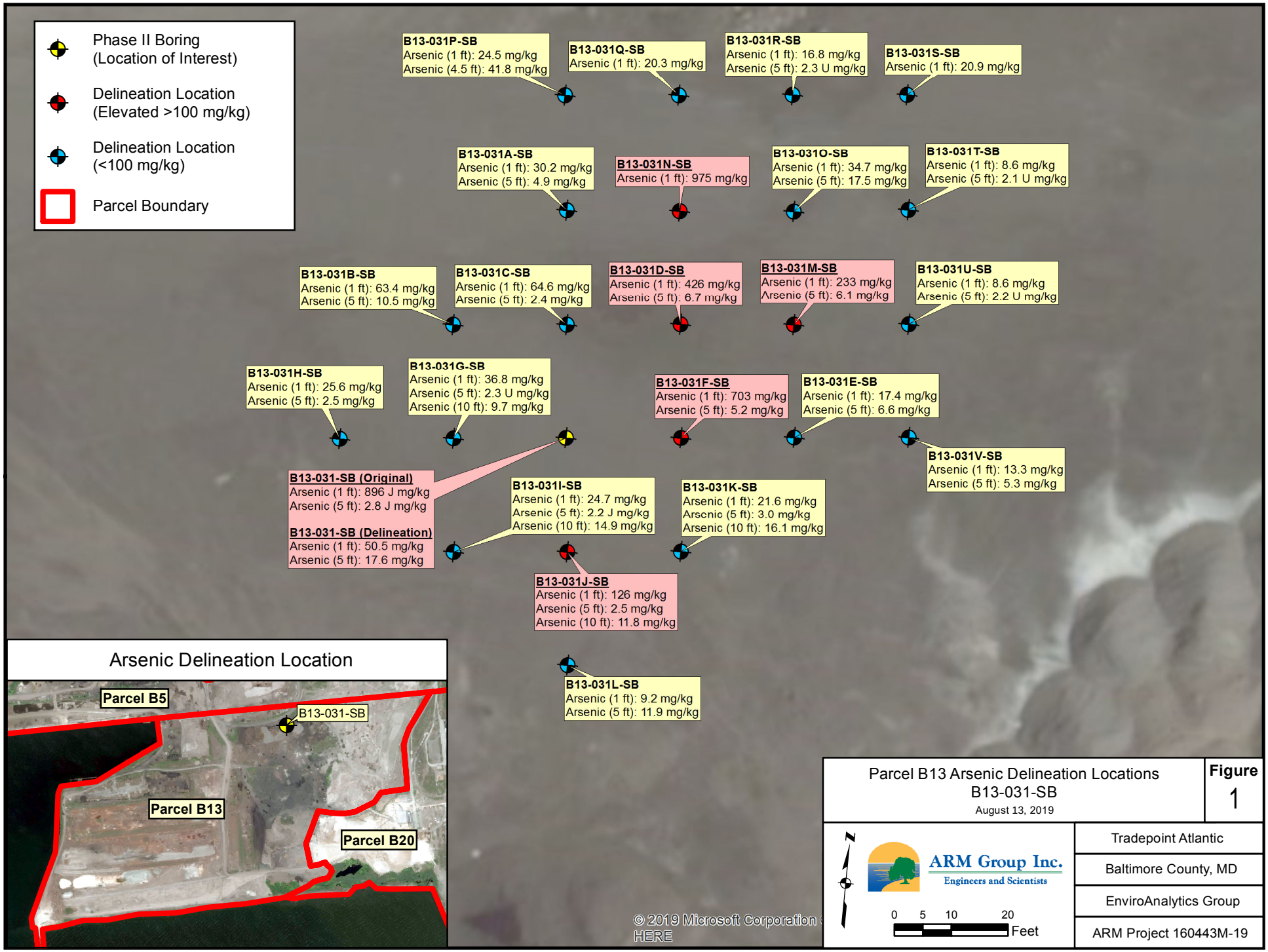
2.2. DUST MONITORING

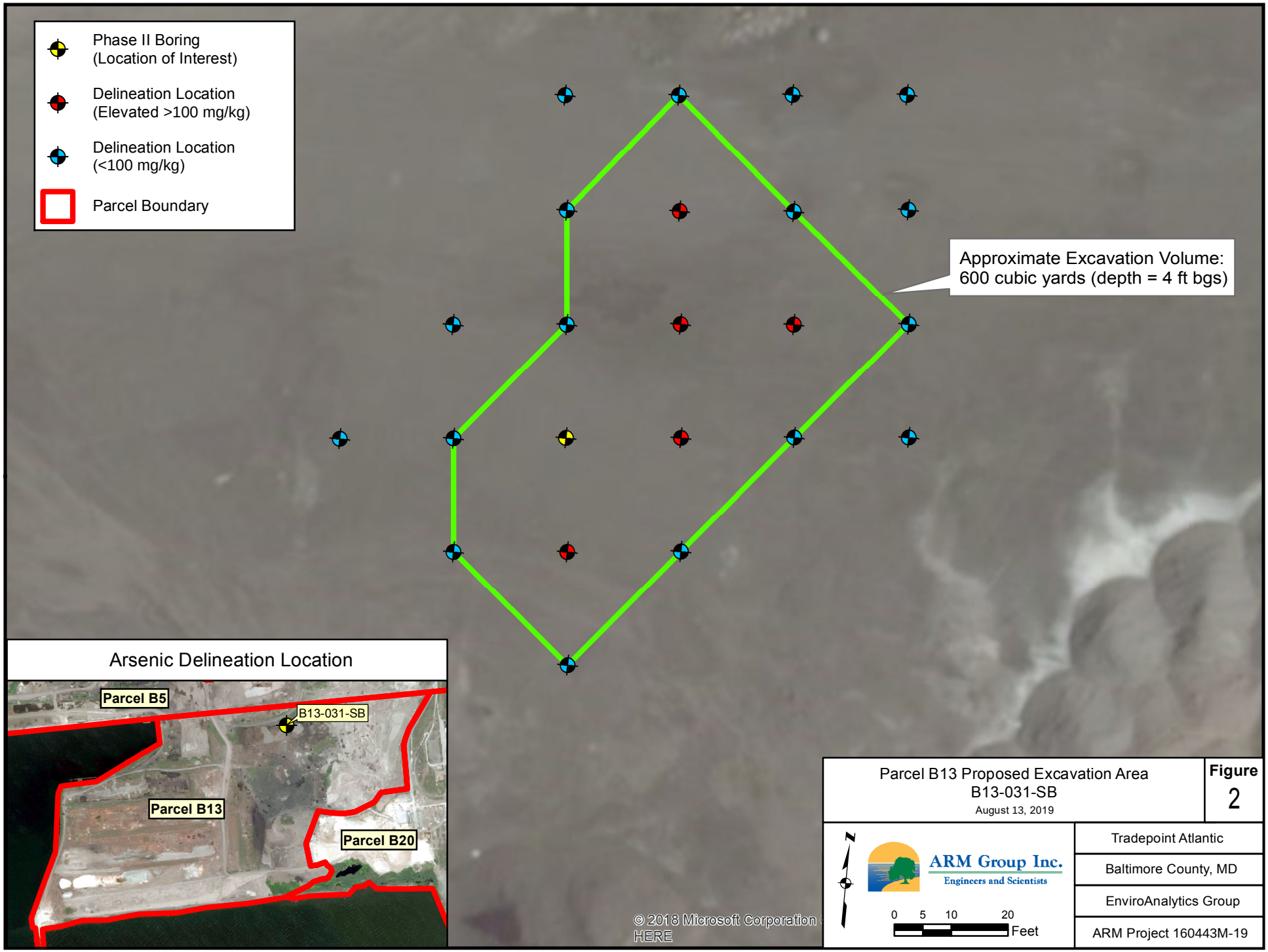
Before excavation activities began each day, a representative from Hillis-Carnes Engineering Associates, Inc. (HCEA) placed two real-time dust monitors, one upwind and one downwind, to monitor the dust produced during excavation activities. The monitors were then collected at the end of each day after excavation activities had concluded. Heavy truck traffic along the haul roads adjacent to the Response Area produced visible dust. In order to isolate the dust produced by excavation activities, upwind dust readings were subtracted from downwind dust readings when reporting dust monitoring data. No dust concentrations exceeding 3.0 mg/m^3 were generated during excavation activities. The maximum recorded dust readings during each day of excavation, not adjusted to isolate dust generated solely from the excavation activities, were 1.553 mg/m^3 and 1.631 mg/m^3 on July 16, 2019 and July 17, 2019, respectively. Adjusted dust monitor readings are provided in **Appendix D**.

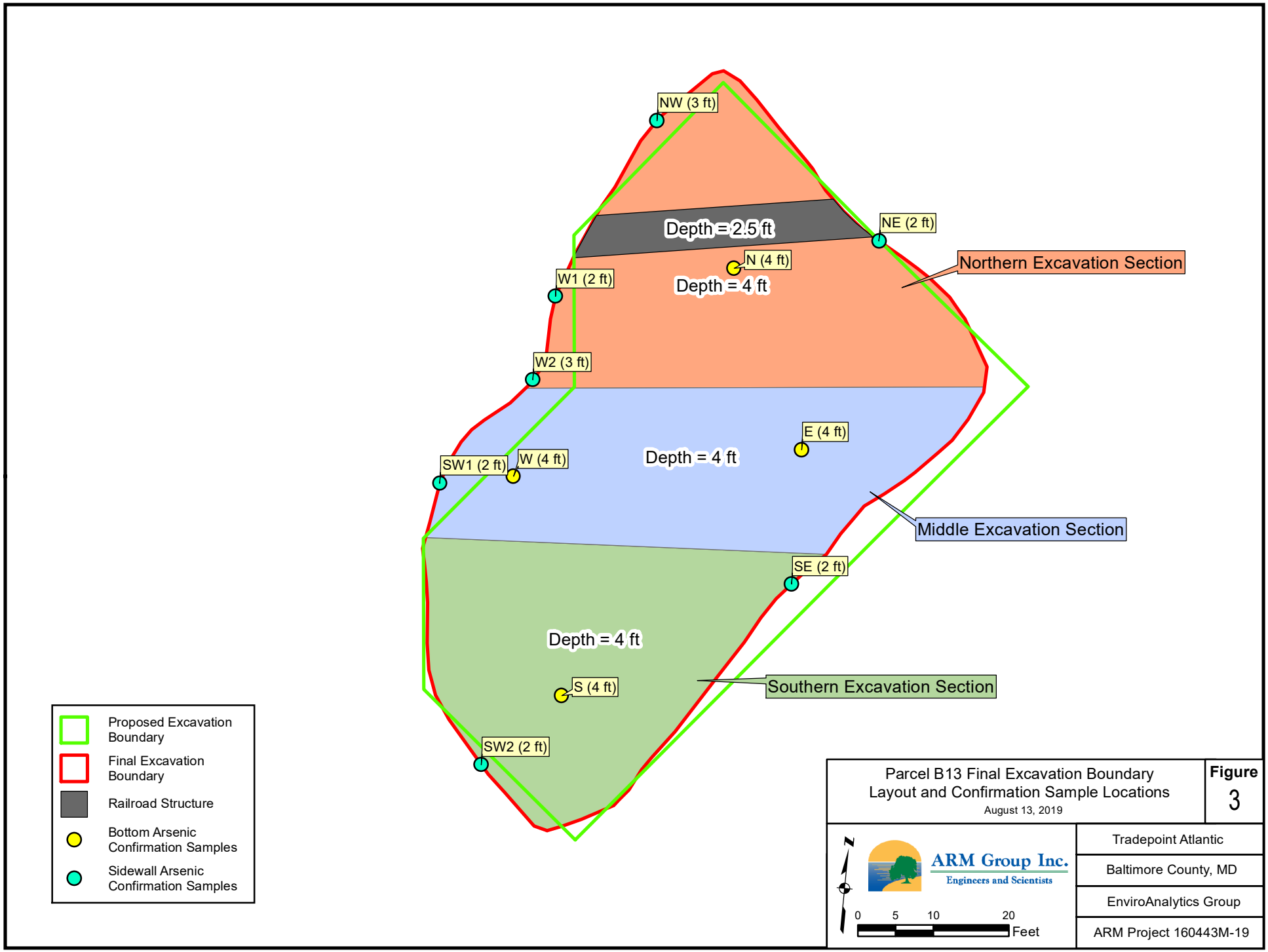
2.3. SUBGRADE STRUCTURES

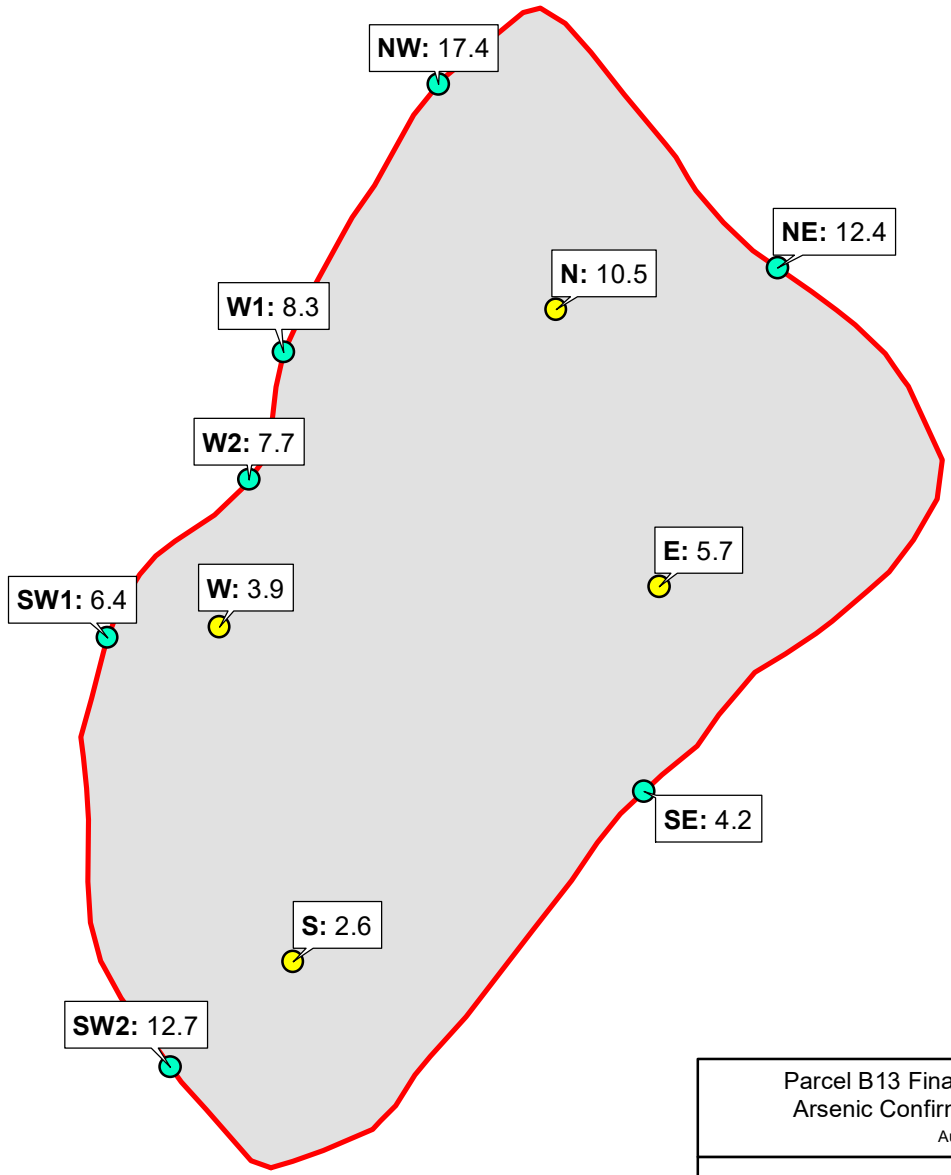
A buried concrete and metal structure was encountered during excavation activities. The structure appeared to be a type of railway system that ran in an east-west orientation within the northern section of the excavation at a depth of approximately 2.5 feet bgs. At the request of a representative from the MDE on July 16, 2019, the structure was left in place and cleared of all soil until the analytical results of the soil samples from the corresponding stockpiles could be reviewed (presented herein), at such time a decision could be made about possible future actions to be taken. Given the low concentrations of arsenic that remain in place following the excavation activities, as confirmed by the bottom and sidewall samples, no special requirements are necessary. The subgrade structure will likely be removed by MCM as reclamation activities proceed in the area following MDE approval.

FIGURES


Phase II Boring
(Location of Interest)
Delineation Location
(Elevated >100 mg/kg)
Delineation Location
(<100 mg/kg)
Parcel Boundary
B13-031P-SB
Arsenic (1 ft): 24.5 mg/kg
Arsenic (4.5 ft): 41.8 mg/kg
B13-031Q-SB
Arsenic (1 ft): 20.3 mg/kg
B13-031R-SB
Arsenic (1 ft): 16.8 mg/kg
Arsenic (5 ft): 2.3 U mg/kg
B13-031S-SB
Arsenic (1 ft): 20.9 mg/kg
B13-031A-SB
Arsenic (1 ft): 30.2 mg/kg
Arsenic (5 ft): 4.9 mg/kg
B13-031N-SB
Arsenic (1 ft): 975 mg/kg
B13-031O-SB
Arsenic (1 ft): 34.7 mg/kg
Arsenic (5 ft): 17.5 mg/kg
B13-031T-SB
Arsenic (1 ft): 8.6 mg/kg
Arsenic (5 ft): 2.1 U mg/kg
B13-031B-SB
Arsenic (1 ft): 63.4 mg/kg
Arsenic (5 ft): 10.5 mg/kg
B13-031C-SB
Arsenic (1 ft): 64.6 mg/kg
Arsenic (5 ft): 2.4 mg/kg
B13-031D-SB
Arsenic (1 ft): 426 mg/kg
Arsenic (5 ft): 6.7 mg/kg
B13-031M-SB
Arsenic (1 ft): 233 mg/kg
Arsenic (5 ft): 6.1 mg/kg
B13-031U-SB
Arsenic (1 ft): 8.6 mg/kg
Arsenic (5 ft): 2.2 U mg/kg
B13-031H-SB
Arsenic (1 ft): 25.6 mg/kg
Arsenic (5 ft): 2.5 mg/kg
B13-031G-SB
Arsenic (1 ft): 36.8 mg/kg
Arsenic (5 ft): 2.3 U mg/kg
Arsenic (10 ft): 9.7 mg/kg
B13-031F-SB
Arsenic (1 ft): 703 mg/kg
Arsenic (5 ft): 5.2 mg/kg
B13-031E-SB
Arsenic (1 ft): 17.4 mg/kg
Arsenic (5 ft): 6.6 mg/kg
B13-031V-SB
Arsenic (1 ft): 13.3 mg/kg
Arsenic (5 ft): 5.3 mg/kg
B13-031-SB (Original)
Arsenic (1 ft): 896 J mg/kg
Arsenic (5 ft): 2.8 J mg/kg
B13-031-SB (Delineation)
Arsenic (1 ft): 50.5 mg/kg
Arsenic (5 ft): 17.6 mg/kg
B13-031I-SB
Arsenic (1 ft): 24.7 mg/kg
Arsenic (5 ft): 2.2 J mg/kg
Arsenic (10 ft): 14.9 mg/kg
B13-031K-SB
Arsenic (1 ft): 21.6 mg/kg
Arsenic (5 ft): 3.0 mg/kg
Arsenic (10 ft): 16.1 mg/kg
B13-031J-SB
Arsenic (1 ft): 126 mg/kg
Arsenic (5 ft): 2.5 mg/kg
Arsenic (10 ft): 11.8 mg/kg
B13-031L-SB
Arsenic (1 ft): 9.2 mg/kg
Arsenic (5 ft): 11.9 mg/kg
Arsenic Delineation Location
Parcel B5
B13-031-SB
Parcel B13
Parcel B20
© 2019 Microsoft Corporation
HERE
Parcel B13 Arsenic Delineation Locations
B13-031-SB
August 13, 2019
Figure
1
ARM Group Inc.
Engineers and Scientists
0 5 10 20
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 160443M-19


Phase II Boring
(Location of Interest)
Delineation Location
(Elevated >100 mg/kg)
Delineation Location
(<100 mg/kg)
Parcel Boundary
Approximate Excavation Volume:
600 cubic yards (depth = 4 ft bgs)
Arsenic Delineation Location
Parcel B5
B13-031-SB
Parcel B13
Parcel B20
© 2018 Microsoft Corporation
HERE
Parcel B13 Proposed Excavation Area
B13-031-SB
August 13, 2019
Figure
2
ARM Group Inc.
Engineers and Scientists
0 5 10 20
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 160443M-19


NW (3 ft)
Depth = 2.5 ft
NE (2 ft)
N (4 ft)
Northern Excavation Section
W1 (2 ft)
Depth = 4 ft
W2 (3 ft)
E (4 ft)
SW1 (2 ft)
W (4 ft)
Depth = 4 ft
Middle Excavation Section
SE (2 ft)
Depth = 4 ft
S (4 ft)
Southern Excavation Section
SW2 (2 ft)
Proposed Excavation Boundary
Final Excavation Boundary
Railroad Structure
Bottom Arsenic Confirmation Samples
Sidewall Arsenic Confirmation Samples
Parcel B13 Final Excavation Boundary
Layout and Confirmation Sample Locations
August 13, 2019
Figure
3
ARM Group Inc.
Engineers and Scientists
0 5 10 20
Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 160443M-19



Final Excavation Boundary
Bottom Arsenic Confirmation Samples
Sidewall Arsenic Confirmation Samples

Labels denote sample arsenic concentrations in mg/kg

Parcel B13 Final Excavation Boundary
Arsenic Confirmation Sample Results
August 13, 2019

Figure 4

ARM Group Inc.
Engineers and Scientists

0 5 10 20 Feet

Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
ARM Project 160443M-19

TABLES

Table 1
Arsenic Confirmation Sample Results
Parcel B13 - B13-031-SB Excavation
Tradepoint Atlantic
Sparrows Point, Maryland

Sample ID	Abbrev. Sample ID	Removal Criterion (mg/kg)	Arsenic Concentration (mg/kg)
Bottom North	N	100	10.5
Bottom South	S	100	2.6 U
Bottom East	E	100	5.7
Bottom West	W	100	3.9
Northeast Sidewall 2ft	NE	100	12.4
Northwest Sidewall 3ft	NW	100	17.4
West Sidewall 1 2ft	W1	100	8.3
West Sidewall 2 3ft	W2	100	7.7
Southwest Sidewall 1 2ft	SW1	100	6.4
Southwest Sidewall 2 2 ft	SW2	100	12.7
Southeast Sidewall 2 ft	SE	100	4.2

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

APPENDIX A

Photograph Log
Excavation of Arsenic Contaminated Soil
B13-031 Response Area

07/16/19-1: View to the south of the marked excavation boundary. The excavation is divided into a northern, southern, and middle section to facilitate stockpile management.

07/16/19-2: View to the north of the start of excavation at the B13-031 Response Area with a dust monitor present.

07/16/19-3: View to the southwest of the stockpile holding area.

07/16/19-4: View of the railway structure in the northern section of the excavation.

Photograph Log
Excavation of Arsenic Contaminated Soil
B13-031 Response Area

07/16/19-5: View to the west of the excavation at the end of the first day of digging.

07/16/19-6: View to the east of the covered stockpiles.

Photograph Log
Excavation of Arsenic Contaminated Soil
B13-031 Response Area

07/16/19-7: View of the covered and labeled stockpiles. The stockpiles are labelled on multiple sides for clear identification of each lift and excavation section.

07/17/19-1: View to the west of the completed excavation.

Photograph Log
Excavation of Arsenic Contaminated Soil
B13-031 Response Area

07/17/19-2: View to the north of the concrete barrier marked with yellow caution tape surrounding the completed excavation.

07/18/19-1: View of the berm material surrounding the stockpile holding area.

APPENDIX B

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 7:38
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Comp Lift 1 (0-1ft) Pile 1 N **Matrix: Soil** **Lab ID: 19071707-01**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:06	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 12:06	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:06	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:06	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:06	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 12:06	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:06	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:06	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/18/19 17:02	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/18/19 17:02	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 17:02	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/18/19 17:02	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 17:02	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 17:02	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/18/19 17:02	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/18/19 17:02	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/18/19 17:02	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 17:02	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/18/19 17:02	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	18	500	1311/8260	07/18/19	07/18/19 13:24	GFH
Carbon Tetrachloride	ND	ug/L	18	500	1311/8260	07/18/19	07/18/19 13:24	GFH
Chloroform	ND	ug/L	18	6000	1311/8260	07/18/19	07/18/19 13:24	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	18	500	1311/8260	07/18/19	07/18/19 13:24	GFH
Tetrachloroethene	ND	ug/L	18	700	1311/8260	07/18/19	07/18/19 13:24	GFH
Vinyl Chloride	ND	ug/L	18	200	1311/8260	07/18/19	07/18/19 13:24	GFH
2-Butanone (MEK)	ND	ug/L	37	200000	1311/8260	07/18/19	07/18/19 13:24	GFH
Chlorobenzene	ND	ug/L	18	100000	1311/8260	07/18/19	07/18/19 13:24	GFH
1,4-Dichlorobenzene	ND	ug/L	18	7500	1311/8260	07/18/19	07/18/19 13:24	GFH
1,1-Dichloroethene	ND	ug/L	18	700	1311/8260	07/18/19	07/18/19 13:24	GFH
Trichloroethene	ND	ug/L	18	500	1311/8260	07/18/19	07/18/19 13:24	GFH

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

Approved by: Matt Ochs
QC Chemist

8851 Orchard Tree Lane Towson, Maryland 21286 tel: 410.825.1151 fax: 410.825.2126 www.caslabs.net

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 7:42
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Comp Lift 2 (1-2ft) Pile 1 N **Matrix: Soil** **Lab ID: 19071707-02**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:10	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 12:10	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:10	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:10	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:10	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 12:10	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:10	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:10	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/18/19 17:40	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/18/19 17:40	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 17:40	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/18/19 17:40	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 17:40	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 17:40	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/18/19 17:40	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/18/19 17:40	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/18/19 17:40	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 17:40	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/18/19 17:40	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 13:56	GFH
Carbon Tetrachloride	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 13:56	GFH
Chloroform	ND	ug/L	15	6000	1311/8260	07/18/19	07/18/19 13:56	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 13:56	GFH
Tetrachloroethene	ND	ug/L	15	700	1311/8260	07/18/19	07/18/19 13:56	GFH
Vinyl Chloride	ND	ug/L	15	200	1311/8260	07/18/19	07/18/19 13:56	GFH
2-Butanone (MEK)	ND	ug/L	30	200000	1311/8260	07/18/19	07/18/19 13:56	GFH
Chlorobenzene	ND	ug/L	15	100000	1311/8260	07/18/19	07/18/19 13:56	GFH
1,4-Dichlorobenzene	ND	ug/L	15	7500	1311/8260	07/18/19	07/18/19 13:56	GFH
1,1-Dichloroethene	ND	ug/L	15	700	1311/8260	07/18/19	07/18/19 13:56	GFH
Trichloroethene	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 13:56	GFH

Approved by: Matt Ochs
QC Chemist

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 7:49
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Comp Lift 3 (2-3ft) Pile 1 N **Matrix: Soil** **Lab ID: 19071707-03**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:14	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 12:14	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:14	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:14	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:14	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 12:14	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:14	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:14	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/18/19 18:21	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/18/19 18:21	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 18:21	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/18/19 18:21	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 18:21	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 18:21	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/18/19 18:21	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/18/19 18:21	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/18/19 18:21	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 18:21	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/18/19 18:21	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	19	500	1311/8260	07/18/19	07/18/19 14:28	GFH
Carbon Tetrachloride	ND	ug/L	19	500	1311/8260	07/18/19	07/18/19 14:28	GFH
Chloroform	ND	ug/L	19	6000	1311/8260	07/18/19	07/18/19 14:28	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	19	500	1311/8260	07/18/19	07/18/19 14:28	GFH
Tetrachloroethene	ND	ug/L	19	700	1311/8260	07/18/19	07/18/19 14:28	GFH
Vinyl Chloride	ND	ug/L	19	200	1311/8260	07/18/19	07/18/19 14:28	GFH
2-Butanone (MEK)	ND	ug/L	39	200000	1311/8260	07/18/19	07/18/19 14:28	GFH
Chlorobenzene	ND	ug/L	19	100000	1311/8260	07/18/19	07/18/19 14:28	GFH
1,4-Dichlorobenzene	ND	ug/L	19	7500	1311/8260	07/18/19	07/18/19 14:28	GFH
1,1-Dichloroethene	ND	ug/L	19	700	1311/8260	07/18/19	07/18/19 14:28	GFH
Trichloroethene	ND	ug/L	19	500	1311/8260	07/18/19	07/18/19 14:28	GFH

Approved by: Matt Ochs
QC Chemist

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 7:54
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Comp Lift 4 (3-4ft) Pile 1 N **Matrix: Soil** **Lab ID: 19071707-04**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:18	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 12:18	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:18	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:18	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:18	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 12:18	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:18	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:18	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/18/19 19:00	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/18/19 19:00	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 19:00	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/18/19 19:00	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 19:00	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 19:00	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/18/19 19:00	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/18/19 19:00	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/18/19 19:00	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 19:00	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/18/19 19:00	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	24	500	1311/8260	07/18/19	07/18/19 15:00	GFH
Carbon Tetrachloride	ND	ug/L	24	500	1311/8260	07/18/19	07/18/19 15:00	GFH
Chloroform	ND	ug/L	24	6000	1311/8260	07/18/19	07/18/19 15:00	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	24	500	1311/8260	07/18/19	07/18/19 15:00	GFH
Tetrachloroethene	ND	ug/L	24	700	1311/8260	07/18/19	07/18/19 15:00	GFH
Vinyl Chloride	ND	ug/L	24	200	1311/8260	07/18/19	07/18/19 15:00	GFH
2-Butanone (MEK)	ND	ug/L	48	200000	1311/8260	07/18/19	07/18/19 15:00	GFH
Chlorobenzene	ND	ug/L	24	100000	1311/8260	07/18/19	07/18/19 15:00	GFH
1,4-Dichlorobenzene	ND	ug/L	24	7500	1311/8260	07/18/19	07/18/19 15:00	GFH
1,1-Dichloroethene	ND	ug/L	24	700	1311/8260	07/18/19	07/18/19 15:00	GFH
Trichloroethene	ND	ug/L	24	500	1311/8260	07/18/19	07/18/19 15:00	GFH

Approved by: Matt Ochs
QC Chemist

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

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Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 8:02
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Comp Lift 1 (0-1ft) Pile 2 Mid **Matrix: Soil** **Lab ID: 19071707-05**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:23	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 12:23	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:23	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:23	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:23	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 12:23	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:23	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:23	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/18/19 19:41	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/18/19 19:41	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 19:41	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/18/19 19:41	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 19:41	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 19:41	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/18/19 19:41	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/18/19 19:41	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/18/19 19:41	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 19:41	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/18/19 19:41	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	17	500	1311/8260	07/18/19	07/18/19 15:32	GFH
Carbon Tetrachloride	ND	ug/L	17	500	1311/8260	07/18/19	07/18/19 15:32	GFH
Chloroform	ND	ug/L	17	6000	1311/8260	07/18/19	07/18/19 15:32	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	17	500	1311/8260	07/18/19	07/18/19 15:32	GFH
Tetrachloroethene	ND	ug/L	17	700	1311/8260	07/18/19	07/18/19 15:32	GFH
Vinyl Chloride	ND	ug/L	17	200	1311/8260	07/18/19	07/18/19 15:32	GFH
2-Butanone (MEK)	ND	ug/L	34	200000	1311/8260	07/18/19	07/18/19 15:32	GFH
Chlorobenzene	ND	ug/L	17	100000	1311/8260	07/18/19	07/18/19 15:32	GFH
1,4-Dichlorobenzene	ND	ug/L	17	7500	1311/8260	07/18/19	07/18/19 15:32	GFH
1,1-Dichloroethene	ND	ug/L	17	700	1311/8260	07/18/19	07/18/19 15:32	GFH
Trichloroethene	ND	ug/L	17	500	1311/8260	07/18/19	07/18/19 15:32	GFH

Approved by: Matt Ochs
QC Chemist

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 8:05
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Comp Lift 2 (1-2ft) Pile 2 Mid Matrix: Soil Lab ID: 19071707-06

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:27	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 12:27	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:27	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:27	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:27	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 12:27	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:27	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:27	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/18/19 20:22	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/18/19 20:22	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 20:22	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/18/19 20:22	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 20:22	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 20:22	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/18/19 20:22	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/18/19 20:22	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/18/19 20:22	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 20:22	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/18/19 20:22	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 16:04	GFH
Carbon Tetrachloride	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 16:04	GFH
Chloroform	ND	ug/L	15	6000	1311/8260	07/18/19	07/18/19 16:04	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 16:04	GFH
Tetrachloroethene	ND	ug/L	15	700	1311/8260	07/18/19	07/18/19 16:04	GFH
Vinyl Chloride	ND	ug/L	15	200	1311/8260	07/18/19	07/18/19 16:04	GFH
2-Butanone (MEK)	ND	ug/L	31	200000	1311/8260	07/18/19	07/18/19 16:04	GFH
Chlorobenzene	ND	ug/L	15	100000	1311/8260	07/18/19	07/18/19 16:04	GFH
1,4-Dichlorobenzene	ND	ug/L	15	7500	1311/8260	07/18/19	07/18/19 16:04	GFH
1,1-Dichloroethene	ND	ug/L	15	700	1311/8260	07/18/19	07/18/19 16:04	GFH
Trichloroethene	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 16:04	GFH

Notes/Qualifiers:

LLQ- Lowest Level of Quantitation

ND - Not Detected at a concentration greater than or equal to the LLQ.

REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

Approved by: Matt Cohen

QC Chemist

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 9:45
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Comp Lift 3 (2-3ft) Pile 2 Mid **Matrix: Soil** **Lab ID: 19071707-07**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:31	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 12:31	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:31	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:31	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:31	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 12:31	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:31	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:31	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/18/19 21:03	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/18/19 21:03	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 21:03	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/18/19 21:03	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 21:03	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 21:03	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/18/19 21:03	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/18/19 21:03	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/18/19 21:03	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 21:03	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/18/19 21:03	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	24	500	1311/8260	07/18/19	07/18/19 16:35	GFH
Carbon Tetrachloride	ND	ug/L	24	500	1311/8260	07/18/19	07/18/19 16:35	GFH
Chloroform	ND	ug/L	24	6000	1311/8260	07/18/19	07/18/19 16:35	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	24	500	1311/8260	07/18/19	07/18/19 16:35	GFH
Tetrachloroethene	ND	ug/L	24	700	1311/8260	07/18/19	07/18/19 16:35	GFH
Vinyl Chloride	ND	ug/L	24	200	1311/8260	07/18/19	07/18/19 16:35	GFH
2-Butanone (MEK)	ND	ug/L	48	200000	1311/8260	07/18/19	07/18/19 16:35	GFH
Chlorobenzene	ND	ug/L	24	100000	1311/8260	07/18/19	07/18/19 16:35	GFH
1,4-Dichlorobenzene	ND	ug/L	24	7500	1311/8260	07/18/19	07/18/19 16:35	GFH
1,1-Dichloroethene	ND	ug/L	24	700	1311/8260	07/18/19	07/18/19 16:35	GFH
Trichloroethene	ND	ug/L	24	500	1311/8260	07/18/19	07/18/19 16:35	GFH

Approved by: Matt Ochs
QC Chemist

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

8851 Orchard Tree Lane Towson, Maryland 21286 tel: 410.825.1151 fax: 410.825.2126 www.caslabs.net

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 10:34
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Comp Lift 4 (3-4ft) Pile 2 Mid **Matrix: Soil** **Lab ID: 19071707-08**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:39	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 12:39	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:39	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:39	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:39	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 12:39	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:39	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:39	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/18/19 21:44	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/18/19 21:44	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 21:44	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/18/19 21:44	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 21:44	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 21:44	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/18/19 21:44	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/18/19 21:44	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/18/19 21:44	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 21:44	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/18/19 21:44	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	21	500	1311/8260	07/18/19	07/18/19 17:07	GFH
Carbon Tetrachloride	ND	ug/L	21	500	1311/8260	07/18/19	07/18/19 17:07	GFH
Chloroform	ND	ug/L	21	6000	1311/8260	07/18/19	07/18/19 17:07	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	21	500	1311/8260	07/18/19	07/18/19 17:07	GFH
Tetrachloroethene	ND	ug/L	21	700	1311/8260	07/18/19	07/18/19 17:07	GFH
Vinyl Chloride	ND	ug/L	21	200	1311/8260	07/18/19	07/18/19 17:07	GFH
2-Butanone (MEK)	ND	ug/L	41	200000	1311/8260	07/18/19	07/18/19 17:07	GFH
Chlorobenzene	ND	ug/L	21	100000	1311/8260	07/18/19	07/18/19 17:07	GFH
1,4-Dichlorobenzene	ND	ug/L	21	7500	1311/8260	07/18/19	07/18/19 17:07	GFH
1,1-Dichloroethene	ND	ug/L	21	700	1311/8260	07/18/19	07/18/19 17:07	GFH
Trichloroethene	ND	ug/L	21	500	1311/8260	07/18/19	07/18/19 17:07	GFH

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

Approved by: Matt Ochs
QC Chemist

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Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 11:13
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Comp Lift 1 (0-1ft) Pile 3 S **Matrix: Soil** **Lab ID: 19071707-09**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:43	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 12:43	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:43	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:43	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:43	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 12:43	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:43	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:43	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/18/19 22:26	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/18/19 22:26	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 22:26	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/18/19 22:26	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 22:26	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 22:26	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/18/19 22:26	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/18/19 22:26	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/18/19 22:26	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 22:26	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/18/19 22:26	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	17	500	1311/8260	07/18/19	07/18/19 17:39	GFH
Carbon Tetrachloride	ND	ug/L	17	500	1311/8260	07/18/19	07/18/19 17:39	GFH
Chloroform	ND	ug/L	17	6000	1311/8260	07/18/19	07/18/19 17:39	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	17	500	1311/8260	07/18/19	07/18/19 17:39	GFH
Tetrachloroethene	ND	ug/L	17	700	1311/8260	07/18/19	07/18/19 17:39	GFH
Vinyl Chloride	ND	ug/L	17	200	1311/8260	07/18/19	07/18/19 17:39	GFH
2-Butanone (MEK)	ND	ug/L	33	200000	1311/8260	07/18/19	07/18/19 17:39	GFH
Chlorobenzene	ND	ug/L	17	100000	1311/8260	07/18/19	07/18/19 17:39	GFH
1,4-Dichlorobenzene	ND	ug/L	17	7500	1311/8260	07/18/19	07/18/19 17:39	GFH
1,1-Dichloroethene	ND	ug/L	17	700	1311/8260	07/18/19	07/18/19 17:39	GFH
Trichloroethene	ND	ug/L	17	500	1311/8260	07/18/19	07/18/19 17:39	GFH

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

Approved by: Matt Ochs
QC Chemist

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 11:48
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Comp Lift 2 (1-2ft) Pile 3 S **Matrix: Soil** **Lab ID: 19071707-10**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:47	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 12:47	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:47	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:47	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:47	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 12:47	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 12:47	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 12:47	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/18/19 23:07	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/18/19 23:07	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 23:07	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/18/19 23:07	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 23:07	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 23:07	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/18/19 23:07	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/18/19 23:07	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/18/19 23:07	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 23:07	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/18/19 23:07	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	14	500	1311/8260	07/18/19	07/18/19 18:10	GFH
Carbon Tetrachloride	ND	ug/L	14	500	1311/8260	07/18/19	07/18/19 18:10	GFH
Chloroform	ND	ug/L	14	6000	1311/8260	07/18/19	07/18/19 18:10	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	14	500	1311/8260	07/18/19	07/18/19 18:10	GFH
Tetrachloroethene	ND	ug/L	14	700	1311/8260	07/18/19	07/18/19 18:10	GFH
Vinyl Chloride	ND	ug/L	14	200	1311/8260	07/18/19	07/18/19 18:10	GFH
2-Butanone (MEK)	ND	ug/L	28	200000	1311/8260	07/18/19	07/18/19 18:10	GFH
Chlorobenzene	ND	ug/L	14	100000	1311/8260	07/18/19	07/18/19 18:10	GFH
1,4-Dichlorobenzene	ND	ug/L	14	7500	1311/8260	07/18/19	07/18/19 18:10	GFH
1,1-Dichloroethene	ND	ug/L	14	700	1311/8260	07/18/19	07/18/19 18:10	GFH
Trichloroethene	ND	ug/L	14	500	1311/8260	07/18/19	07/18/19 18:10	GFH

Approved by:

QC Chemist

Notes/Qualifiers:

LLQ- Lowest Level of Quantitation

ND - Not Detected at a concentration greater than or equal to the LLQ.

REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 12:25
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Comp Lift 3 (2-3ft) Pile 3 S **Matrix: Soil** **Lab ID: 19071707-11**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:08	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 13:08	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:08	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:08	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:08	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 13:08	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:08	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:08	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/18/19 23:49	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/18/19 23:49	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 23:49	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/18/19 23:49	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/18/19 23:49	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 23:49	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/18/19 23:49	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/18/19 23:49	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/18/19 23:49	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/18/19 23:49	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/18/19 23:49	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 18:42	GFH
Carbon Tetrachloride	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 18:42	GFH
Chloroform	ND	ug/L	15	6000	1311/8260	07/18/19	07/18/19 18:42	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 18:42	GFH
Tetrachloroethene	ND	ug/L	15	700	1311/8260	07/18/19	07/18/19 18:42	GFH
Vinyl Chloride	ND	ug/L	15	200	1311/8260	07/18/19	07/18/19 18:42	GFH
2-Butanone (MEK)	ND	ug/L	30	200000	1311/8260	07/18/19	07/18/19 18:42	GFH
Chlorobenzene	ND	ug/L	15	100000	1311/8260	07/18/19	07/18/19 18:42	GFH
1,4-Dichlorobenzene	ND	ug/L	15	7500	1311/8260	07/18/19	07/18/19 18:42	GFH
1,1-Dichloroethene	ND	ug/L	15	700	1311/8260	07/18/19	07/18/19 18:42	GFH
Trichloroethene	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 18:42	GFH

Approved by: Matt Ochs
QC Chemist

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

8851 Orchard Tree Lane Towson, Maryland 21286 tel: 410.825.1151 fax: 410.825.2126 www.caslabs.net

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 13:16
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Comp Lift 4 (3-4ft) Pile 3 S **Matrix: Soil** **Lab ID: 19071707-12**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:12	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 13:12	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:12	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:12	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:12	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 13:12	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:12	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:12	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/19/19 0:30	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/19/19 0:30	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 0:30	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/19/19 0:30	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 0:30	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 0:30	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/19/19 0:30	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/19/19 0:30	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/19/19 0:30	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 0:30	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/19/19 0:30	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	17	500	1311/8260	07/18/19	07/18/19 19:13	GFH
Carbon Tetrachloride	ND	ug/L	17	500	1311/8260	07/18/19	07/18/19 19:13	GFH
Chloroform	ND	ug/L	17	6000	1311/8260	07/18/19	07/18/19 19:13	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	17	500	1311/8260	07/18/19	07/18/19 19:13	GFH
Tetrachloroethene	ND	ug/L	17	700	1311/8260	07/18/19	07/18/19 19:13	GFH
Vinyl Chloride	ND	ug/L	17	200	1311/8260	07/18/19	07/18/19 19:13	GFH
2-Butanone (MEK)	ND	ug/L	34	200000	1311/8260	07/18/19	07/18/19 19:13	GFH
Chlorobenzene	ND	ug/L	17	100000	1311/8260	07/18/19	07/18/19 19:13	GFH
1,4-Dichlorobenzene	ND	ug/L	17	7500	1311/8260	07/18/19	07/18/19 19:13	GFH
1,1-Dichloroethene	ND	ug/L	17	700	1311/8260	07/18/19	07/18/19 19:13	GFH
Trichloroethene	ND	ug/L	17	500	1311/8260	07/18/19	07/18/19 19:13	GFH

Approved by: Matt Ocker
QC Chemist

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

8851 Orchard Tree Lane Towson, Maryland 21286 tel: 410.825.1151 fax: 410.825.2126 www.caslabs.net

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 14:35
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Bottom North **Matrix: Soil** **Lab ID: 19071707-13**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:16	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 13:16	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:16	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:16	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:16	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 13:16	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:16	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:16	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/19/19 10:49	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/19/19 10:49	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 10:49	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/19/19 10:49	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 10:49	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 10:49	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/19/19 10:49	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/19/19 10:49	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/19/19 10:49	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 10:49	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/19/19 10:49	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	20	500	1311/8260	07/18/19	07/18/19 19:45	GFH
Carbon Tetrachloride	ND	ug/L	20	500	1311/8260	07/18/19	07/18/19 19:45	GFH
Chloroform	ND	ug/L	20	6000	1311/8260	07/18/19	07/18/19 19:45	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	20	500	1311/8260	07/18/19	07/18/19 19:45	GFH
Tetrachloroethene	ND	ug/L	20	700	1311/8260	07/18/19	07/18/19 19:45	GFH
Vinyl Chloride	ND	ug/L	20	200	1311/8260	07/18/19	07/18/19 19:45	GFH
2-Butanone (MEK)	ND	ug/L	41	200000	1311/8260	07/18/19	07/18/19 19:45	GFH
Chlorobenzene	ND	ug/L	20	100000	1311/8260	07/18/19	07/18/19 19:45	GFH
1,4-Dichlorobenzene	ND	ug/L	20	7500	1311/8260	07/18/19	07/18/19 19:45	GFH
1,1-Dichloroethene	ND	ug/L	20	700	1311/8260	07/18/19	07/18/19 19:45	GFH
Trichloroethene	ND	ug/L	20	500	1311/8260	07/18/19	07/18/19 19:45	GFH

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

Approved by: Matt Ochs
QC Chemist

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Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 14:21
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Bottom South | Matrix: Soil | Lab ID: 19071707-14

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:20	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 13:20	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:20	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:20	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:20	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 13:20	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:20	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:20	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/19/19 11:27	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/19/19 11:27	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 11:27	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/19/19 11:27	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 11:27	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 11:27	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/19/19 11:27	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/19/19 11:27	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/19/19 11:27	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 11:27	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/19/19 11:27	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 20:15	GFH
Carbon Tetrachloride	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 20:15	GFH
Chloroform	ND	ug/L	15	6000	1311/8260	07/18/19	07/18/19 20:15	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 20:15	GFH
Tetrachloroethene	ND	ug/L	15	700	1311/8260	07/18/19	07/18/19 20:15	GFH
Vinyl Chloride	ND	ug/L	15	200	1311/8260	07/18/19	07/18/19 20:15	GFH
2-Butanone (MEK)	ND	ug/L	30	200000	1311/8260	07/18/19	07/18/19 20:15	GFH
Chlorobenzene	ND	ug/L	15	100000	1311/8260	07/18/19	07/18/19 20:15	GFH
1,4-Dichlorobenzene	ND	ug/L	15	7500	1311/8260	07/18/19	07/18/19 20:15	GFH
1,1-Dichloroethene	ND	ug/L	15	700	1311/8260	07/18/19	07/18/19 20:15	GFH
Trichloroethene	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 20:15	GFH

Approved by: Matt Cohen

QC Chemist

Notes/Qualifiers:

LLQ- Lowest Level of Quantitation

ND - Not Detected at a concentration greater than or equal to the LLQ.

REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

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Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 14:17
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Bottom East **Matrix: Soil** **Lab ID: 19071707-15**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:25	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 13:25	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:25	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:25	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:25	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 13:25	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:25	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:25	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/19/19 12:06	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/19/19 12:06	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 12:06	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/19/19 12:06	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 12:06	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 12:06	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/19/19 12:06	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/19/19 12:06	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/19/19 12:06	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 12:06	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/19/19 12:06	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	20	500	1311/8260	07/18/19	07/18/19 20:46	GFH
Carbon Tetrachloride	ND	ug/L	20	500	1311/8260	07/18/19	07/18/19 20:46	GFH
Chloroform	ND	ug/L	20	6000	1311/8260	07/18/19	07/18/19 20:46	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	20	500	1311/8260	07/18/19	07/18/19 20:46	GFH
Tetrachloroethene	ND	ug/L	20	700	1311/8260	07/18/19	07/18/19 20:46	GFH
Vinyl Chloride	ND	ug/L	20	200	1311/8260	07/18/19	07/18/19 20:46	GFH
2-Butanone (MEK)	ND	ug/L	41	200000	1311/8260	07/18/19	07/18/19 20:46	GFH
Chlorobenzene	ND	ug/L	20	100000	1311/8260	07/18/19	07/18/19 20:46	GFH
1,4-Dichlorobenzene	ND	ug/L	20	7500	1311/8260	07/18/19	07/18/19 20:46	GFH
1,1-Dichloroethene	ND	ug/L	20	700	1311/8260	07/18/19	07/18/19 20:46	GFH
Trichloroethene	ND	ug/L	20	500	1311/8260	07/18/19	07/18/19 20:46	GFH

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

Approved by: Matt Ochs
QC Chemist

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 14:25
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Bottom West   Matrix: Soil   Lab ID: 19071707-16

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:29	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 13:29	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:29	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:29	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:29	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 13:29	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:29	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:29	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/19/19 12:44	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/19/19 12:44	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 12:44	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/19/19 12:44	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 12:44	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 12:44	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/19/19 12:44	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/19/19 12:44	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/19/19 12:44	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 12:44	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/19/19 12:44	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 21:17	GFH
Carbon Tetrachloride	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 21:17	GFH
Chloroform	ND	ug/L	15	6000	1311/8260	07/18/19	07/18/19 21:17	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 21:17	GFH
Tetrachloroethene	ND	ug/L	15	700	1311/8260	07/18/19	07/18/19 21:17	GFH
Vinyl Chloride	ND	ug/L	15	200	1311/8260	07/18/19	07/18/19 21:17	GFH
2-Butanone (MEK)	ND	ug/L	30	200000	1311/8260	07/18/19	07/18/19 21:17	GFH
Chlorobenzene	ND	ug/L	15	100000	1311/8260	07/18/19	07/18/19 21:17	GFH
1,4-Dichlorobenzene	ND	ug/L	15	7500	1311/8260	07/18/19	07/18/19 21:17	GFH
1,1-Dichloroethene	ND	ug/L	15	700	1311/8260	07/18/19	07/18/19 21:17	GFH
Trichloroethene	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 21:17	GFH

Approved by: Matt Cohen
QC Chemist

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 13:53
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Northeast Sidewall 2ft **Matrix:** Soil **Lab ID:** 19071707-17

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:33	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 13:33	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:33	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:33	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:33	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 13:33	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:33	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:33	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/19/19 13:23	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/19/19 13:23	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 13:23	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/19/19 13:23	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 13:23	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 13:23	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/19/19 13:23	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/19/19 13:23	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/19/19 13:23	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 13:23	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/19/19 13:23	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	22	500	1311/8260	07/18/19	07/18/19 21:48	GFH
Carbon Tetrachloride	ND	ug/L	22	500	1311/8260	07/18/19	07/18/19 21:48	GFH
Chloroform	ND	ug/L	22	6000	1311/8260	07/18/19	07/18/19 21:48	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	22	500	1311/8260	07/18/19	07/18/19 21:48	GFH
Tetrachloroethene	ND	ug/L	22	700	1311/8260	07/18/19	07/18/19 21:48	GFH
Vinyl Chloride	ND	ug/L	22	200	1311/8260	07/18/19	07/18/19 21:48	GFH
2-Butanone (MEK)	ND	ug/L	43	200000	1311/8260	07/18/19	07/18/19 21:48	GFH
Chlorobenzene	ND	ug/L	22	100000	1311/8260	07/18/19	07/18/19 21:48	GFH
1,4-Dichlorobenzene	ND	ug/L	22	7500	1311/8260	07/18/19	07/18/19 21:48	GFH
1,1-Dichloroethene	ND	ug/L	22	700	1311/8260	07/18/19	07/18/19 21:48	GFH
Trichloroethene	ND	ug/L	22	500	1311/8260	07/18/19	07/18/19 21:48	GFH

Approved by: Matt Cohen
QC Chemist

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

8851 Orchard Tree Lane Towson, Maryland 21286 tel: 410.825.1151 fax: 410.825.2126 www.caslabs.net

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 13:52
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Northwest Sidewall 3ft **Matrix: Soil** **Lab ID: 19071707-18**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:37	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 13:37	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:37	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:37	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:37	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 13:37	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:37	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:37	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/19/19 14:02	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/19/19 14:02	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 14:02	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/19/19 14:02	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 14:02	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 14:02	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/19/19 14:02	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/19/19 14:02	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/19/19 14:02	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 14:02	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/19/19 14:02	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	20	500	1311/8260	07/18/19	07/18/19 22:18	GFH
Carbon Tetrachloride	ND	ug/L	20	500	1311/8260	07/18/19	07/18/19 22:18	GFH
Chloroform	ND	ug/L	20	6000	1311/8260	07/18/19	07/18/19 22:18	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	20	500	1311/8260	07/18/19	07/18/19 22:18	GFH
Tetrachloroethene	ND	ug/L	20	700	1311/8260	07/18/19	07/18/19 22:18	GFH
Vinyl Chloride	ND	ug/L	20	200	1311/8260	07/18/19	07/18/19 22:18	GFH
2-Butanone (MEK)	ND	ug/L	39	200000	1311/8260	07/18/19	07/18/19 22:18	GFH
Chlorobenzene	ND	ug/L	20	100000	1311/8260	07/18/19	07/18/19 22:18	GFH
1,4-Dichlorobenzene	ND	ug/L	20	7500	1311/8260	07/18/19	07/18/19 22:18	GFH
1,1-Dichloroethene	ND	ug/L	20	700	1311/8260	07/18/19	07/18/19 22:18	GFH
Trichloroethene	ND	ug/L	20	500	1311/8260	07/18/19	07/18/19 22:18	GFH

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

Approved by: Matt Ochs
QC Chemist

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 13:46
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: West Sidewall 1 2ft **Matrix: Soil** **Lab ID: 19071707-19**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:41	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 13:41	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:41	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:41	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:41	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 13:41	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:41	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:41	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/19/19 14:42	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/19/19 14:42	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 14:42	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/19/19 14:42	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 14:42	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 14:42	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/19/19 14:42	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/19/19 14:42	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/19/19 14:42	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 14:42	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/19/19 14:42	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 22:49	GFH
Carbon Tetrachloride	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 22:49	GFH
Chloroform	ND	ug/L	15	6000	1311/8260	07/18/19	07/18/19 22:49	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 22:49	GFH
Tetrachloroethene	ND	ug/L	15	700	1311/8260	07/18/19	07/18/19 22:49	GFH
Vinyl Chloride	ND	ug/L	15	200	1311/8260	07/18/19	07/18/19 22:49	GFH
2-Butanone (MEK)	ND	ug/L	31	200000	1311/8260	07/18/19	07/18/19 22:49	GFH
Chlorobenzene	ND	ug/L	15	100000	1311/8260	07/18/19	07/18/19 22:49	GFH
1,4-Dichlorobenzene	ND	ug/L	15	7500	1311/8260	07/18/19	07/18/19 22:49	GFH
1,1-Dichloroethene	ND	ug/L	15	700	1311/8260	07/18/19	07/18/19 22:49	GFH
Trichloroethene	ND	ug/L	15	500	1311/8260	07/18/19	07/18/19 22:49	GFH

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

Approved by: Matt Ochs
QC Chemist

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Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 13:41
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: West Sidewall 2 3ft **Matrix: Soil** **Lab ID: 19071707-20**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:45	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 13:45	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:45	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:45	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:45	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 13:45	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 13:45	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 13:45	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/19/19 15:19	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/19/19 15:19	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 15:19	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/19/19 15:19	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 15:19	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 15:19	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/19/19 15:19	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/19/19 15:19	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/19/19 15:19	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 15:19	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/19/19 15:19	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	23	500	1311/8260	07/18/19	07/18/19 23:19	GFH
Carbon Tetrachloride	ND	ug/L	23	500	1311/8260	07/18/19	07/18/19 23:19	GFH
Chloroform	ND	ug/L	23	6000	1311/8260	07/18/19	07/18/19 23:19	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	23	500	1311/8260	07/18/19	07/18/19 23:19	GFH
Tetrachloroethene	ND	ug/L	23	700	1311/8260	07/18/19	07/18/19 23:19	GFH
Vinyl Chloride	ND	ug/L	23	200	1311/8260	07/18/19	07/18/19 23:19	GFH
2-Butanone (MEK)	ND	ug/L	46	200000	1311/8260	07/18/19	07/18/19 23:19	GFH
Chlorobenzene	ND	ug/L	23	100000	1311/8260	07/18/19	07/18/19 23:19	GFH
1,4-Dichlorobenzene	ND	ug/L	23	7500	1311/8260	07/18/19	07/18/19 23:19	GFH
1,1-Dichloroethene	ND	ug/L	23	700	1311/8260	07/18/19	07/18/19 23:19	GFH
Trichloroethene	ND	ug/L	23	500	1311/8260	07/18/19	07/18/19 23:19	GFH

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

Approved by: Matt Ochs
QC Chemist

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 13:37
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Southwest Sidewall 1 2ft **Matrix: Soil** **Lab ID: 19071707-21**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 14:06	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 14:06	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 14:06	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 14:06	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 14:06	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 14:06	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 14:06	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 14:06	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/19/19 15:57	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/19/19 15:57	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 15:57	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/19/19 15:57	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 15:57	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 15:57	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/19/19 15:57	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/19/19 15:57	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/19/19 15:57	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 15:57	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/19/19 15:57	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	19	500	1311/8260	07/18/19	07/18/19 23:49	GFH
Carbon Tetrachloride	ND	ug/L	19	500	1311/8260	07/18/19	07/18/19 23:49	GFH
Chloroform	ND	ug/L	19	6000	1311/8260	07/18/19	07/18/19 23:49	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	19	500	1311/8260	07/18/19	07/18/19 23:49	GFH
Tetrachloroethene	ND	ug/L	19	700	1311/8260	07/18/19	07/18/19 23:49	GFH
Vinyl Chloride	ND	ug/L	19	200	1311/8260	07/18/19	07/18/19 23:49	GFH
2-Butanone (MEK)	ND	ug/L	37	200000	1311/8260	07/18/19	07/18/19 23:49	GFH
Chlorobenzene	ND	ug/L	19	100000	1311/8260	07/18/19	07/18/19 23:49	GFH
1,4-Dichlorobenzene	ND	ug/L	19	7500	1311/8260	07/18/19	07/18/19 23:49	GFH
1,1-Dichloroethene	ND	ug/L	19	700	1311/8260	07/18/19	07/18/19 23:49	GFH
Trichloroethene	ND	ug/L	19	500	1311/8260	07/18/19	07/18/19 23:49	GFH

Approved by: Matt Ochs
QC Chemist

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

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CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 13:32
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Southwest Sidewall 2 2ft **Matrix: Soil** **Lab ID: 19071707-22**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 14:10	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 14:10	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 14:10	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 14:10	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 14:10	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 14:10	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 14:10	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 14:10	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/19/19 16:36	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/19/19 16:36	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 16:36	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/19/19 16:36	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 16:36	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 16:36	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/19/19 16:36	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/19/19 16:36	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/19/19 16:36	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 16:36	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/19/19 16:36	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	20	500	1311/8260	07/18/19	07/19/19 0:20	GFH
Carbon Tetrachloride	ND	ug/L	20	500	1311/8260	07/18/19	07/19/19 0:20	GFH
Chloroform	ND	ug/L	20	6000	1311/8260	07/18/19	07/19/19 0:20	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	20	500	1311/8260	07/18/19	07/19/19 0:20	GFH
Tetrachloroethene	ND	ug/L	20	700	1311/8260	07/18/19	07/19/19 0:20	GFH
Vinyl Chloride	ND	ug/L	20	200	1311/8260	07/18/19	07/19/19 0:20	GFH
2-Butanone (MEK)	ND	ug/L	39	200000	1311/8260	07/18/19	07/19/19 0:20	GFH
Chlorobenzene	ND	ug/L	20	100000	1311/8260	07/18/19	07/19/19 0:20	GFH
1,4-Dichlorobenzene	ND	ug/L	20	7500	1311/8260	07/18/19	07/19/19 0:20	GFH
1,1-Dichloroethene	ND	ug/L	20	700	1311/8260	07/18/19	07/19/19 0:20	GFH
Trichloroethene	ND	ug/L	20	500	1311/8260	07/18/19	07/19/19 0:20	GFH

Approved by: Matt Ochs
QC Chemist

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

8851 Orchard Tree Lane Towson, Maryland 21286 tel: 410.825.1151 fax: 410.825.2126 www.caslabs.net

CALIBER ANALYTICAL SERVICES

Certificate of Analysis

EnviroAnalytics Group, LLC
1650 Des Peres Rd.
Suite 303
St. Louis, MO 63131

Date Sampled: 07/17/19 14:04
Date Received: 07/17/19 16:36
Date Issued: 07/22/19

Project: B13 Arsenic
Site Location: Sparrows Point, MD
Project Number: 160443M-19

SDG Number: 19071707

Field Sample ID: Southeast Sidewall 2ft **Matrix: Soil** **Lab ID: 19071707-23**

	Result	Unit	LLQ	REGL	Method	Prepared	Analyzed	Init.
TCLP Metals							Batch:	22428
Arsenic	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 14:14	MBC
Barium	ND	mg/L	10	100	1311/6020A	07/18/19	07/19/19 14:14	MBC
Cadmium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 14:14	MBC
Chromium	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 14:14	MBC
Lead	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 14:14	MBC
Mercury	ND	mg/L	0.02	0.2	1311/6020A	07/18/19	07/19/19 14:14	MBC
Selenium	ND	mg/L	0.1	1	1311/6020A	07/18/19	07/19/19 14:14	MBC
Silver	ND	mg/L	0.5	5	1311/6020A	07/18/19	07/19/19 14:14	MBC
TCLP Semi-Volatiles							Batch:	22427
2-Methylphenol	ND	ug/L	100	200000	1311/8270	07/18/19	07/19/19 17:16	GFH
3+4-Methylphenol	ND	ug/L	200	200000	1311/8270	07/18/19	07/19/19 17:16	GFH
2,4-Dinitrotoluene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 17:16	GFH
Hexachloroethane	ND	ug/L	100	3000	1311/8270	07/18/19	07/19/19 17:16	GFH
Hexachlorobenzene	ND	ug/L	100	130	1311/8270	07/18/19	07/19/19 17:16	GFH
Nitrobenzene	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 17:16	GFH
Pentachlorophenol	ND	ug/L	500	100000	1311/8270	07/18/19	07/19/19 17:16	GFH
Pyridine	ND	ug/L	100	5000	1311/8270	07/18/19	07/19/19 17:16	GFH
2,4,5-Trichlorophenol	ND	ug/L	100	400000	1311/8270	07/18/19	07/19/19 17:16	GFH
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1311/8270	07/18/19	07/19/19 17:16	GFH
Hexachlorobutadiene`	ND	ug/L	100	500	1311/8270	07/18/19	07/19/19 17:16	GFH
TCLP Volatiles							Batch:	22426
Benzene	ND	ug/L	19	500	1311/8260	07/18/19	07/19/19 0:50	GFH
Carbon Tetrachloride	ND	ug/L	19	500	1311/8260	07/18/19	07/19/19 0:50	GFH
Chloroform	ND	ug/L	19	6000	1311/8260	07/18/19	07/19/19 0:50	GFH
1,2-Dichloroethane (EDC)	ND	ug/L	19	500	1311/8260	07/18/19	07/19/19 0:50	GFH
Tetrachloroethene	ND	ug/L	19	700	1311/8260	07/18/19	07/19/19 0:50	GFH
Vinyl Chloride	ND	ug/L	19	200	1311/8260	07/18/19	07/19/19 0:50	GFH
2-Butanone (MEK)	ND	ug/L	38	200000	1311/8260	07/18/19	07/19/19 0:50	GFH
Chlorobenzene	ND	ug/L	19	100000	1311/8260	07/18/19	07/19/19 0:50	GFH
1,4-Dichlorobenzene	ND	ug/L	19	7500	1311/8260	07/18/19	07/19/19 0:50	GFH
1,1-Dichloroethene	ND	ug/L	19	700	1311/8260	07/18/19	07/19/19 0:50	GFH
Trichloroethene	ND	ug/L	19	500	1311/8260	07/18/19	07/19/19 0:50	GFH

Approved by: Matt Ochs
QC Chemist

Notes/Qualifiers:
LLQ- Lowest Level of Quantitation
ND - Not Detected at a concentration greater than or equal to the LLQ.
REGL - RCRA Regulatory Limit. For TCLP reference 40CFR, Part 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

8851 Orchard Tree Lane Towson, Maryland 21286 tel: 410.825.1151 fax: 410.825.2126 www.caslabs.net

CALIBER ANALYTICAL SERVICES
8081 Orchard Tree Lane
Phone: 410.825.1151
Fax: 410.825.2126
www.caslabs.net

Chain of Custody Record

Customer:	EnviroAnalytics Group
Contact/Report to:	James Calenda
Phone:	314-620-3056
Fax:	

E-mail address:	jcalenda@enviroanalyticsgroup.com
Project Name:	TMC - Stockpile Sampling (B13 Arsenic)
Project Number:	160443M-19
Site Location:	Sparrows Point, MD

SDG Number:	1907707
Sampled by:	Bill Trentzsch TCV
PO Number:	

Page 1 of 3

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Matrix *	Preservative	TCLP VOC 6010	TCLP SVOC 6010	TCLP Metals 6010							Sampling Remarks/ Comments
							V	V	V							
	Comp Lift 1 (0-1 ft) - Pile 1 N	7-17-19	0736	1	soil		X	X	X							
	Comp Lift 2 (1-2 ft) - Pile 1 N		0742	1			X	X	X							
	Comp Lift 3 (2-3 ft) - Pile 1 N		0749	1			X	X	X							
	Comp Lift 4 (3-4 ft) - Pile 1 N		0754	1			X	X	X							
	Comp Lift 1 (0-1 ft) - Pile 2 mid		0802	1			X	X	X							
	Comp Lift 2 (1-2 ft) - Pile 2 mid		0805	1			X	X	X							
	Comp Lift 3 (2-3 ft) - Pile 2 mid		0945	1			X	X	X							
	Comp Lift 4 (3-4 ft) - Pile 2 mid		1034	1			X	X	X							
	Comp Lift 1 (0-1 ft) - Pile 3 S		1113	1			X	X	X							
	Comp Lift 2 (1-2 ft) - Pile 3 S		1148	1			X	X	X							

Relinquished by:		Date/Time:	7-17-19 1636
Received by:		Date/Time:	7/17/19 1636
Relinquished by:		Date/Time:	
Received by:		Date/Time:	
Relinquished by:		Date/Time:	
Received by:		Date/Time:	

Deliverables: I II III CLP EDD

Custody Seals: Sample Cooler; Delivered by client; CAS Courier

Receipt Temperature: Temp ____ On Ice

Turnaround Time: STD Next Day 2-Day Other ____

Comments/Special Instructions:

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES
8001 Orchard Tree Lane [illegible]
Phone: 410.825.1151
Fax: 410.825.2126
www.caslabs.net

Chain of Custody Record

Customer:	EnviroAnalytics Group
Contact/Report to:	James Calenda
Phone:	314-620-3056
Fax:	

E-mail address:	jcalenda@enviroanalyticsgroup.com
Project Name:	TMC - Stockpile Sampling
Project Number:	160443 M-19
Site Location:	Sparrows Point, MD

SDG Number:	9071707
Sampled by:	Bill Trentzsch TCV
PO Number:	

Page 22 of 23

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Matrix *	Preservative	TCLP VOC 6010	TCLP SVOC 6010	TCLP Metals 6010	Sampling Remarks/ Comments
	Comp Lift 3 (2-3 ft) - Pile 3S	7-17-19	1225	1	soil		X	X	X	
	Comp Lift 4 (3-4 ft) - Pile 3S		1316	1			X	X	X	
	Bottom North		1435	1			X	X	X	
	Bottom South		1421	1			X	X	X	
	Bottom East		1417	1			X	X	X	
	Bottom West		1425	1			X	X	X	
	Northeast Sidewall 2 ft		1353	1			X	X	X	
	Northwest Sidewall 3 ft		1352	1			X	X	X	
	West Sidewall 1 2 ft		1346	1			X	X	X	
	West Sidewall 2 3 ft		1341	1			X	X	X	

Relinquished by:	[signature]	Date/Time:	7-17-19 1636
Received by:	[signature]	Date/Time:	7/17/19 1636
Relinquished by:		Date/Time:	
Received by:		Date/Time:	
Relinquished by:		Date/Time:	
Received by:		Date/Time:	

Deliverables: I II III CLP EDD

Receipt Temperature: Temp.____ On Ice

Turnaround Time: STD Next Day 2-Day Other____

Custody Seals: Sample Cooler

Delivered by client

CAS Courier

Comments/Special Instructions:

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

CALIBER ANALYTICAL SERVICES
8891 Orchard Tree Lane [illegible]
Phone: 410.825.1151
Fax: 410.825.2126
www.caslabs.net

Chain of Custody Record

Customer:	EnviroAnalytics Group
Contact/Report to:	James Calenda
Phone:	314-620-3056
Fax:	

E-mail address:	jcalenda@enviroanalyticsgroup.com
Project Name:	TMC - Stockpile Sampling
Project Number:	160443 M-19
Site Location:	Sparrows Point, MD

SDG Number:	1907707
Sampled by:	Bill Trentzsch TCV
PO Number:	

Page #3 of #3

Analysis Requested

Lab Number	Field Sample ID	Date Sampled	Time Sampled	No. of Bottles	Matrix *	Preservative	[illegible]	TCLP VOC 6010	TCLP SVOC 6010	TCLP Metals 6010							Sampling Remarks/ Comments
	~~[illegible]~~	7-17-19		3	Soil												
	Southwest Sidewall 1 2ft		1337	1	Soil			X	X	X							
	Southwest Sidewall 2 2ft		1332	1				X	X	X							
	South east Sidewall 2ft		1404	1				X	X	X							

Relinquished by:	[signature]	Date/Time:	7-17-19 1636	Deliverables:	Receipt Temperature:	Turnaround Time:
Received by:	[signature]	Date/Time:	7/17/19 1636	I II III CLP EDD	Temp. On Ice	STD Next Day 2-Day Other
Relinquished by:		Date/Time:		Custody Seals:	Comments/Special Instructions:	
Received by:		Date/Time:		Sample Cooler		
Relinquished by:		Date/Time:		Delivered by client		
Received by:		Date/Time:		CAS Courier		

* W = Water; WW = Wastewater; GW = Groundwater; S = Soil; SL = Sludge

APPENDIX C

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

July 22, 2019

Mr. James Calenda
EnviroAnalytics Group, LLC
1600 Sparrows Point Blvd
Suite B2
Sparrows Point, MD 21219

RE: Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Dear Mr. Calenda:
Enclosed are the analytical results for sample(s) received by the laboratory on July 17, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This project follows the April 5, 2016 revision 3 Quality Assurance Project Plan for Sparrows Point Terminal Site, Sparrows Point, MD prepared for EnviroAnalytics Group and is not for PA DEP compliance reporting.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Samantha Bayura

Samantha Bayura
samantha.bayura@pacelabs.com
(724)850-5622
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30314518001	**Comp lift 2 (1-2ft)-Pile 1 N**	Solid	07/17/19 07:42	07/17/19 23:30
30314518002	**Comp lift 3 (2-3ft)-Pile 1 N**	Solid	07/17/19 07:49	07/17/19 23:30
30314518003	**Comp lift 4 (3-4ft)-Pile 1 N**	Solid	07/17/19 07:54	07/17/19 23:30
30314518004	**Comp lift 2 (1-2ft)-Pile 2 Mid**	Solid	07/17/19 08:05	07/17/19 23:30
30314518005	**Comp lift 3 (2-3ft)-Pile 2 Mid**	Solid	07/17/19 09:45	07/17/19 23:30
30314518006	**Comp lift 4 (3-4ft)-Pile 2 Mid**	Solid	07/17/19 10:34	07/17/19 23:30
30314518007	**Comp lift 2 (1-2ft)-Pile 3 S**	Solid	07/17/19 11:48	07/17/19 23:30
30314518008	**Comp lift 3 (2-3ft)-Pile 3 S**	Solid	07/17/19 12:25	07/17/19 23:30
30314518009	**Comp lift 4 (3-4ft)-Pile 3 S**	Solid	07/17/19 13:16	07/17/19 23:30
30314518010	**Bottom North**	Solid	07/17/19 14:35	07/17/19 23:30
30314518011	**Bottom South**	Solid	07/17/19 14:21	07/17/19 23:30
30314518012	**Bottom East**	Solid	07/17/19 14:17	07/17/19 23:30
30314518013	**Bottom West**	Solid	07/17/19 14:25	07/17/19 23:30
30314518014	**Northwest Sidewall 2ft**	Solid	07/17/19 13:53	07/17/19 23:30
30314518015	**Northwest Sidewall 3ft**	Solid	07/17/19 13:52	07/17/19 23:30
30314518016	**West Sidewall 1 2ft**	Solid	07/17/19 13:46	07/17/19 23:30
30314518017	**West Sidewall 2 3ft**	Solid	07/17/19 13:41	07/17/19 23:30
30314518018	**Southwest Sidewall 1 2ft**	Solid	07/17/19 13:37	07/17/19 23:30
30314518019	**Southwest Sidewall 2 2ft**	Solid	07/17/19 13:32	07/17/19 23:30
30314518020	**Southeast Sidewall 2ft**	Solid	07/17/19 14:04	07/17/19 23:30

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30314518001	**Comp lift 2 (1-2ft)-Pile 1 N**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518002	**Comp lift 3 (2-3ft)-Pile 1 N**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518003	**Comp lift 4 (3-4ft)-Pile 1 N**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518004	**Comp lift 2 (1-2ft)-Pile 2 Mid**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518005	**Comp lift 3 (2-3ft)-Pile 2 Mid**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518006	**Comp lift 4 (3-4ft)-Pile 2 Mid**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518007	**Comp lift 2 (1-2ft)-Pile 3 S**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518008	**Comp lift 3 (2-3ft)-Pile 3 S**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518009	**Comp lift 4 (3-4ft)-Pile 3 S**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518010	**Bottom North**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518011	**Bottom South**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518012	**Bottom East**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518013	**Bottom West**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518014	**Northwest Sidewall 2ft**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518015	**Northwest Sidewall 3ft**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518016	**West Sidewall 1 2ft**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518017	**West Sidewall 2 3ft**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518018	**Southwest Sidewall 1 2ft**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1
30314518019	**Southwest Sidewall 2 2ft**	EPA 6010C	KAS	1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		ASTM D2974-87	VAK	1
30314518020	**Southeast Sidewall 2ft**	EPA 6010C	KAS	1
		ASTM D2974-87	VAK	1

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Method: **EPA 6010C**
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: July 22, 2019

General Information:
20 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3050B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 352553

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30314518001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 1712703)
  - Arsenic

R1: RPD value was outside control limits.

- MSD (Lab ID: 1712703)
  - Arsenic

Additional Comments:

Batch Comments:

The serial dilution failed for As.

- QC Batch: 352578

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Method: **EPA 6010C**
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: July 22, 2019

Analyte Comments:

QC Batch: 352553

1c: The precision between the sample and serial dilution exceeded laboratory control limits.
- Comp lift 2 (1-2ft)-Pile 1 N (Lab ID: 30314518001)
  - Arsenic

2c: The serial dilution failed for As.
- BLANK (Lab ID: 1712700)
  - Arsenic
- Bottom East (Lab ID: 30314518012)
  - Arsenic
- Bottom North (Lab ID: 30314518010)
  - Arsenic
- Bottom South (Lab ID: 30314518011)
  - Arsenic
- Bottom West (Lab ID: 30314518013)
  - Arsenic
- Comp lift 2 (1-2ft)-Pile 1 N (Lab ID: 30314518001)
  - Arsenic
- Comp lift 2 (1-2ft)-Pile 2 Mid (Lab ID: 30314518004)
  - Arsenic
- Comp lift 2 (1-2ft)-Pile 3 S (Lab ID: 30314518007)
  - Arsenic
- Comp lift 3 (2-3ft)-Pile 1 N (Lab ID: 30314518002)
  - Arsenic
- Comp lift 3 (2-3ft)-Pile 2 Mid (Lab ID: 30314518005)
  - Arsenic
- Comp lift 3 (2-3ft)-Pile 3 S (Lab ID: 30314518008)
  - Arsenic
- Comp lift 4 (3-4ft)-Pile 1 N (Lab ID: 30314518003)
  - Arsenic
- Comp lift 4 (3-4ft)-Pile 2 Mid (Lab ID: 30314518006)
  - Arsenic
- Comp lift 4 (3-4ft)-Pile 3 S (Lab ID: 30314518009)
  - Arsenic
- LCS (Lab ID: 1712701)
  - Arsenic
- MS (Lab ID: 1712702)
  - Arsenic
- MSD (Lab ID: 1712703)
  - Arsenic
- Northwest Sidewall 2ft (Lab ID: 30314518014)
  - Arsenic
- Northwest Sidewall 3ft (Lab ID: 30314518015)
  - Arsenic

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PROJECT NARRATIVE

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Method: **EPA 6010C**
Description: 6010C MET ICP
Client: EnviroAnalytics Group, LLC
Date: July 22, 2019

Analyte Comments:

QC Batch: 352553

2c: The serial dilution failed for As.

- Southeast Sidewall 2ft (Lab ID: 30314518020)
  - Arsenic
- Southwest Sidewall 1 2ft (Lab ID: 30314518018)
  - Arsenic
- Southwest Sidewall 2 2ft (Lab ID: 30314518019)
  - Arsenic
- West Sidewall 1 2ft (Lab ID: 30314518016)
  - Arsenic
- West Sidewall 2 3ft (Lab ID: 30314518017)
  - Arsenic

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Comp lift 2 (1-2ft)-Pile 1 N **Lab ID: 30314518001** Collected: 07/17/19 07:42 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**21.8**	mg/kg	2.4	2.3	5	07/18/19 16:27	07/19/19 16:44	7440-38-2	1c,2c, M1,R1
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**5.2**	%	0.10	0.10	1		07/21/19 14:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Comp lift 3 (2-3ft)-Pile 1 N **Lab ID: 30314518002** Collected: 07/17/19 07:49 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**20.4**	mg/kg	2.4	2.3	5	07/18/19 16:27	07/19/19 16:56	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**4.9**	%	0.10	0.10	1		07/21/19 14:00		D6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Comp lift 4 (3-4ft)-Pile 1 N **Lab ID: 30314518003** Collected: 07/17/19 07:54 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**12.3**	mg/kg	2.4	2.3	5	07/18/19 16:27	07/19/19 16:58	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**6.8**	%	0.10	0.10	1		07/21/19 14:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Comp lift 2 (1-2ft)-Pile 2 Mid **Lab ID: 30314518004** Collected: 07/17/19 08:05 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**31.6**	mg/kg	2.4	2.3	5	07/18/19 16:27	07/19/19 17:01	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**5.0**	%	0.10	0.10	1		07/21/19 14:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Comp lift 3 (2-3ft)-Pile 2 Mid **Lab ID: 30314518005** Collected: 07/17/19 09:45 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**8.9**	mg/kg	2.5	2.4	5	07/18/19 16:27	07/19/19 17:09	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**8.3**	%	0.10	0.10	1		07/21/19 14:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Comp lift 4 (3-4ft)-Pile 2 Mid **Lab ID: 30314518006** Collected: 07/17/19 10:34 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**8.6**	mg/kg	2.5	2.4	5	07/18/19 16:27	07/19/19 17:12	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**8.7**	%	0.10	0.10	1		07/21/19 14:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Comp lift 2 (1-2ft)-Pile 3 S **Lab ID: 30314518007** Collected: 07/17/19 11:48 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**76.7**	mg/kg	2.4	2.3	5	07/18/19 16:27	07/19/19 17:14	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**4.8**	%	0.10	0.10	1		07/21/19 14:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Comp lift 3 (2-3ft)-Pile 3 S **Lab ID: 30314518008** Collected: 07/17/19 12:25 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**18.2**	mg/kg	2.4	2.3	5	07/18/19 16:27	07/19/19 17:17	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**6.6**	%	0.10	0.10	1		07/21/19 14:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Comp lift 4 (3-4ft)-Pile 3 S **Lab ID: 30314518009** Collected: 07/17/19 13:16 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**3.2**	mg/kg	2.5	2.4	5	07/18/19 16:27	07/19/19 17:19	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**8.6**	%	0.10	0.10	1		07/21/19 14:00		

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Bottom North **Lab ID: 30314518010** Collected: 07/17/19 14:35 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.
Comments: • Time of collection on containers does not match COC.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**10.5**	mg/kg	2.6	2.5	5	07/18/19 16:27	07/19/19 17:22	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**12.4**	%	0.10	0.10	1		07/21/19 14:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Bottom South **Lab ID: 30314518011** Collected: 07/17/19 14:21 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**2.6 U**	mg/kg	2.6	2.5	5	07/18/19 16:27	07/19/19 17:24	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**12.6**	%	0.10	0.10	1		07/21/19 14:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Bottom East **Lab ID: 30314518012** Collected: 07/17/19 14:17 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**5.7**	mg/kg	2.6	2.5	5	07/18/19 16:27	07/19/19 17:26	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**9.7**	%	0.10	0.10	1		07/21/19 14:01		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Bottom West **Lab ID: 30314518013** Collected: 07/17/19 14:25 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**3.9**	mg/kg	3.0	2.8	5	07/18/19 16:27	07/19/19 17:29	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**23.2**	%	0.10	0.10	1		07/21/19 14:01		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Northwest Sidewall 2ft **Lab ID: 30314518014** Collected: 07/17/19 13:53 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**12.4**	mg/kg	2.4	2.4	5	07/18/19 16:27	07/19/19 17:31	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**7.2**	%	0.10	0.10	1		07/21/19 14:01		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Northwest Sidewall 3ft **Lab ID: 30314518015** Collected: 07/17/19 13:52 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**17.4**	mg/kg	2.4	2.3	5	07/18/19 16:27	07/19/19 17:40	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**5.0**	%	0.10	0.10	1		07/21/19 14:01		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: West Sidewall 1 2ft **Lab ID: 30314518016** Collected: 07/17/19 13:46 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**8.3**	mg/kg	2.5	2.4	5	07/18/19 16:27	07/19/19 17:43	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**10.0**	%	0.10	0.10	1		07/21/19 14:01		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: West Sidewall 2 3ft **Lab ID: 30314518017** Collected: 07/17/19 13:41 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**7.7**	mg/kg	2.5	2.4	5	07/18/19 16:27	07/19/19 17:45	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**9.7**	%	0.10	0.10	1		07/21/19 14:01		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Southwest Sidewall 1 2ft **Lab ID: 30314518018** Collected: 07/17/19 13:37 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**6.4**	mg/kg	2.4	2.3	5	07/18/19 16:27	07/19/19 17:47	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**7.1**	%	0.10	0.10	1		07/21/19 14:01		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Southwest Sidewall 2 2ft **Lab ID: 30314518019** Collected: 07/17/19 13:32 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**12.7**	mg/kg	2.4	2.3	5	07/18/19 16:27	07/19/19 17:50	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**4.8**	%	0.10	0.10	1		07/21/19 14:01		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Sample: Southeast Sidewall 2ft **Lab ID: 30314518020** Collected: 07/17/19 14:04 Received: 07/17/19 23:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050B								
Arsenic	**4.2**	mg/kg	2.5	2.4	5	07/18/19 16:27	07/19/19 17:52	7440-38-2	2c
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**9.0**	%	0.10	0.10	1		07/21/19 14:01		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

QC Batch: 352553 Analysis Method: EPA 6010C
QC Batch Method: EPA 3050B Analysis Description: 6010C MET
Associated Lab Samples: 30314518001, 30314518002, 30314518003, 30314518004, 30314518005, 30314518006, 30314518007, 30314518008, 30314518009, 30314518010, 30314518011, 30314518012, 30314518013, 30314518014, 30314518015, 30314518016, 30314518017, 30314518018, 30314518019, 30314518020

METHOD BLANK: 1712700 Matrix: Solid
Associated Lab Samples: 30314518001, 30314518002, 30314518003, 30314518004, 30314518005, 30314518006, 30314518007, 30314518008, 30314518009, 30314518010, 30314518011, 30314518012, 30314518013, 30314518014, 30314518015, 30314518016, 30314518017, 30314518018, 30314518019, 30314518020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	0.50 U	0.50	0.48	07/19/19 16:39	2c

LABORATORY CONTROL SAMPLE: 1712701

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	46.6	93	80-120	2c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1712702 1712703

Parameter	Units	30314518001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	21.8	48.9	48.9	64.6	106	88	173	75-125	49	20	2c,M1, R1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

QC Batch: 352796 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 30314518001, 30314518002, 30314518003, 30314518004, 30314518005, 30314518006, 30314518007, 30314518008, 30314518009, 30314518010, 30314518011, 30314518012, 30314518013, 30314518014, 30314518015, 30314518016, 30314518017, 30314518018, 30314518019, 30314518020

SAMPLE DUPLICATE: 1714243

Parameter	Units	30314518001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	5.2	6.1	16	20	

SAMPLE DUPLICATE: 1714244

Parameter	Units	30314518002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.9	6.2	23	20	D6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 352578

[1] The serial dilution failed for As.

ANALYTE QUALIFIERS

1c The precision between the sample and serial dilution exceeded laboratory control limits.

2c The serial dilution failed for As.

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: B13 Arsenic Excav. 160443M-19
Pace Project No.: 30314518

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30314518001	Comp lift 2 (1-2ft)-Pile 1 N	EPA 3050B	352553	EPA 6010C	352578
30314518002	Comp lift 3 (2-3ft)-Pile 1 N	EPA 3050B	352553	EPA 6010C	352578
30314518003	Comp lift 4 (3-4ft)-Pile 1 N	EPA 3050B	352553	EPA 6010C	352578
30314518004	Comp lift 2 (1-2ft)-Pile 2 Mid	EPA 3050B	352553	EPA 6010C	352578
30314518005	Comp lift 3 (2-3ft)-Pile 2 Mid	EPA 3050B	352553	EPA 6010C	352578
30314518006	Comp lift 4 (3-4ft)-Pile 2 Mid	EPA 3050B	352553	EPA 6010C	352578
30314518007	Comp lift 2 (1-2ft)-Pile 3 S	EPA 3050B	352553	EPA 6010C	352578
30314518008	Comp lift 3 (2-3ft)-Pile 3 S	EPA 3050B	352553	EPA 6010C	352578
30314518009	Comp lift 4 (3-4ft)-Pile 3 S	EPA 3050B	352553	EPA 6010C	352578
30314518010	Bottom North	EPA 3050B	352553	EPA 6010C	352578
30314518011	Bottom South	EPA 3050B	352553	EPA 6010C	352578
30314518012	Bottom East	EPA 3050B	352553	EPA 6010C	352578
30314518013	Bottom West	EPA 3050B	352553	EPA 6010C	352578
30314518014	Northwest Sidewall 2ft	EPA 3050B	352553	EPA 6010C	352578
30314518015	Northwest Sidewall 3ft	EPA 3050B	352553	EPA 6010C	352578
30314518016	West Sidewall 1 2ft	EPA 3050B	352553	EPA 6010C	352578
30314518017	West Sidewall 2 3ft	EPA 3050B	352553	EPA 6010C	352578
30314518018	Southwest Sidewall 1 2ft	EPA 3050B	352553	EPA 6010C	352578
30314518019	Southwest Sidewall 2 2ft	EPA 3050B	352553	EPA 6010C	352578
30314518020	Southeast Sidewall 2ft	EPA 3050B	352553	EPA 6010C	352578
30314518001	Comp lift 2 (1-2ft)-Pile 1 N	ASTM D2974-87	352796		
30314518002	Comp lift 3 (2-3ft)-Pile 1 N	ASTM D2974-87	352796		
30314518003	Comp lift 4 (3-4ft)-Pile 1 N	ASTM D2974-87	352796		
30314518004	Comp lift 2 (1-2ft)-Pile 2 Mid	ASTM D2974-87	352796		
30314518005	Comp lift 3 (2-3ft)-Pile 2 Mid	ASTM D2974-87	352796		
30314518006	Comp lift 4 (3-4ft)-Pile 2 Mid	ASTM D2974-87	352796		
30314518007	Comp lift 2 (1-2ft)-Pile 3 S	ASTM D2974-87	352796		
30314518008	Comp lift 3 (2-3ft)-Pile 3 S	ASTM D2974-87	352796		
30314518009	Comp lift 4 (3-4ft)-Pile 3 S	ASTM D2974-87	352796		
30314518010	Bottom North	ASTM D2974-87	352796		
30314518011	Bottom South	ASTM D2974-87	352796		
30314518012	Bottom East	ASTM D2974-87	352796		
30314518013	Bottom West	ASTM D2974-87	352796		
30314518014	Northwest Sidewall 2ft	ASTM D2974-87	352796		
30314518015	Northwest Sidewall 3ft	ASTM D2974-87	352796		
30314518016	West Sidewall 1 2ft	ASTM D2974-87	352796		
30314518017	West Sidewall 2 3ft	ASTM D2974-87	352796		
30314518018	Southwest Sidewall 1 2ft	ASTM D2974-87	352796		
30314518019	Southwest Sidewall 2 2ft	ASTM D2974-87	352796		
30314518020	Southeast Sidewall 2ft	ASTM D2974-87	352796		

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorde

ALL SHADED

WO# : 30314518

30314518

Company: EnviroAnalytics Group	Billing Information:
Address:	
Report To: James Calenda	Email To: jcalenda@enviroanalyticsgroup.com
Copy To: tsmith@armgroup.net	Site Collection Info/Address: Sparrows Point
Customer Project Name/Number: B13 Arsenic Excav. 160443.m-19	State: MD County/City: Sparrows Point Time Zone Collected: [ ]PT [ ]MT [ ]CT [ ]ET
Phone: Email:	Site/Facility ID #:
Collected By (print): Tyler Van Ness	Purchase Order #: Quote #:
Collected By (signature):	Turnaround Date Required:
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: [ ] Same Day [ ] Next Day [X] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)

Compliance Monitoring? [ ] Yes [ ] No

DW PWS ID #: DW Location Code:

Immediately Packed on Ice: [ ] Yes [ ] No

Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **: U

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: Arsenic 6010	Lab Sample # / Comments: BCM/BCM
Comp 1-ft 2 (1-2 ft)-Pile 1	N soil	comp	7-17-19	~~0742~~		0742		1	X	001
Comp 1-ft 3 (2-3 ft)-Pile 1	N			~~0749~~		0749		1	X	002
Comp 1-ft 4 (3-4 ft)-Pile 1	N			~~0754~~		0754		1	X	003
Comp 1-ft 2 (1-2 ft)-Pile 2	mid			~~0805~~		0805		1	X	004
Comp 1-ft 3 (2-3 ft)-Pile 2	mid			~~0945~~		0945		1	X	005
Comp 1-ft 4 (3-4 ft)-Pile 2	mid					1034		1	X	006
Comp 1-ft 2 (1-2 ft)-Pile 3	S					1148		1	X	007
Comp 1-ft 3 (2-3 ft)-Pile 3	S					1225		1	X	008
Comp 1-ft 4 (3-4 ft)-Pile 3	S					1316		1	X	009
Bottom North		grab				1435		1	X	010

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	(NA)
Custody Signatures Present	(Y)	N	NA
Collector Signature Present	(Y)	N	NA
Bottles Intact	(Y)	N	NA
Correct Bottles	(Y)	N	NA
Sufficient Volume	(Y)	N	NA
Samples Received on Ice	(Y)	N	NA
VOA - Headspace Acceptable	Y	N	(NA)
USDA Regulated Soils	Y	(N)	NA
Samples in Holding Time	(Y)	N	NA
Residual Chlorine Present	Y	N	(NA)
Cl Strips: _____			
Sample pH Acceptable	Y	N	(NA)
pH Strips: _____			
Sulfide Present	Y	N	(NA)
Lead Acetate Strips: _____			

LAB USE ONLY:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used: N/A

Radchem sample(s) screened (<500 cpm): Y N (NA)

SHORT HOLDS PRESENT (<72 hours): Y (N) N/A

Lab Tracking #: N/A 2405641

Samples received via: FEDEX UPS Client Courier (Pace Courier)

Lab Sample Temperature Info:

Temp Blank Received: Y N (NA)

Therm ID#: 10

Cooler 1 Temp Upon Receipt: 3.8 oC

Cooler 1 Therm Corr. Factor: -0.2 oC

Cooler 1 Corrected Temp: 3.6 oC

Comments: BCM 7-18-19

Relinquished by/Company: (Signature)	Date/Time: 7-17-19 1600	Received by/Company: (Signature)	Date/Time: 7/17/19 1623	MTJL LAB USE ONLY	
Relinquished by/Company: (Signature)	Date/Time: 7/17/19 2030	Received by/Company: (Signature) RDS PACE	Date/Time: 7-17-19 2030	Table #: Acctnum: Template: Prelogin: PM: PB:	
Relinquished by/Company: (Signature) RDS PACE	Date/Time: 7-17-19 2330	Received by/Company: (Signature)	Date/Time: 7-17-19 2330		

Trip Blank Received: Y N (NA) HCL MeOH TSP Other

Non Conformance(s): (YES) / NO

Page: 1 of: 2

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorde
M

ALL SHADED

WO# : 30314518

PM: SMB Due Date: 07/22/19

CLIENT: ENVIROANLYTC

Company: Enviro Analytics Group	Billing Information:
Address:	
Report To: James Calenda	Email To: jcalenda@enviroanalyticsgroup.com
Copy To: tsmith@armgroup.net	Site Collection Info/Address: Sparrows Point
Customer Project Name/Number: B13 Arsenic Excav. 160443M-19	State: MD County/City: Sparrows Point Time Zone Collected: [ ] PT [ ] MT [ ] CT [ ] ET
Phone: Email:	Site/Facility ID #: Compliance Monitoring? [ ] Yes [ ] No
Collected By (print): Tyler Van Ness	Purchase Order #: Quote #: DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Immediately Packed on Ice: [ ] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [X] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
	Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **: V

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

Analyses: Arsenic 6010

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Arsenic 6010	Lab Sample # / Comments:
Bottom South	soil	grab	7-17-19	1421				1	X	011
Bottom East				1417				1	X	012
Bottom West				1425				1	X	013
Northeast Sidewall 2ft				1353				1	X	014
Northwest Sidewall 3ft				1352				1	X	015
West Sidewall 1 2ft				1346				1	X	016
West Sidewall 2 3ft				1341				1	X	017
Southwest Sidewall 1 2ft				1337				1	X	018
Southwest Sidewall 2 2ft				1332				1	X	019
Southeast Sidewall 2ft				1404				1	X	020

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

LAB USE ONLY:

Lab Sample # / Comments: See Page #1

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 2405642

Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:

Temp Blank Received: Y N NA

Therm ID#:

Cooler 1 Temp Upon Receipt: oC

Cooler 1 Therm Corr. Factor: oC

Cooler 1 Corrected Temp: oC

Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
ARM	7-17-19 1600	David J Hall Pace	7/17/19 16 23
David Hall Pace	7/17/19 20:20	RDS PACE	7-17-19 2030
RDS PACE	7-17-19 2330	Ben Mantua	7-17-19 2330

MTJL LAB USE ONLY

Table #:

Acctnum:

Template:

Prelogin:

PM:

PB:

Trip Blank Received: Y N NA

HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: 2 of: 2

Pace Analytical
www.paceLabs.com

Sample Receiving Non-Confo

Date: 7-8-19	Evaluated by: BLM
Client: Enviro Analytics	

WO#: 30314518

PM: SMB **Due Date: 07/22/19**
CLIENT: ENVIROANLYTC

1. If Chain-of-Custody (COC) is not received: contact client and if necessary, fill out a COC and indicate that it was filled out by lab personnel. Note issues on this NCF.

2. If COC is incomplete, check applicable issues below and add details where appropriate:

/	Collection date/time missing or incorrect		Analyses or analytes: missing or clarification needed		Samples listed on COC do not match samples received (missing, additional, etc.)
	Sample IDs on COC do not match sample labels		Required trip blanks were not received		Required signatures are missing

Comments/Details/Other Issues not listed above:
Sample Bottom North has a time of 1413.

3. Sample integrity issues: check applicable issues below and add details where appropriate:

	Samples: Past holding time		Samples: Condition needs to be brought to lab personnel's attention (details below)		Preservation: Improper
	Samples: Not field filtered		Containers: Broken or compromised		Temperature: not within acceptance criteria (typically 0-6C)
	Samples: Insufficient volume received		Containers: Incorrect		Temperature: Samples arrived frozen
	Samples: Cooler damaged or compromised		Custody Seals: Missing or compromised on samples, trip blanks or coolers		Vials received with improper headspace
	Samples: contain chlorine or sulfides		Packing Material: Insufficient/Improper		Other:

Comments/Details:

4. If Samples not preserved properly and Sample Receiving adjusts pH, add details below:

Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:

5. Client Contact: If client is contacted for any issue listed above, fill in details below:

Client:	Contacted per:	
PM Initials:	Date/Time:	

Client Comments/Instructions:

F-ALL-C-011-rev.00, 05Jul2018

APPENDIX D

B13-031 Response Area
Adjusted Dust Monitor Readings
(15 minute averages)

July 16, 2019							
Time	**Dust Reading (mg/m^3)**	**Time**	**Dust Reading (mg/m^3)**	**Time**	**Dust Reading (mg/m^3)**	**Time**	**Dust Reading (mg/m^3)**
8:30	0.000	9:15	0.109	10:00	0.024	10:45	0.020
8:31	0.000	9:16	0.181	10:01	0.001	10:46	0.016
8:32	0.000	9:17	0.198	10:02	0.000	10:47	0.021
8:33	0.001	9:18	0.202	10:03	0.000	10:48	0.021
8:34	0.011	9:19	0.206	10:04	0.001	10:49	0.020
8:35	0.016	9:20	0.230	10:05	0.005	10:50	0.014
8:36	0.015	9:21	0.189	10:06	0.007	10:51	0.015
8:37	0.018	9:22	0.189	10:07	0.008	10:52	0.034
8:38	0.003	9:23	0.287	10:08	0.006	10:53	0.030
8:39	0.003	9:24	0.288	10:09	0.007	10:54	0.030
8:40	0.000	9:25	0.238	10:10	0.000	10:55	0.032
8:41	0.000	9:26	0.221	10:11	0.000	10:56	0.092
8:42	0.000	9:27	0.217	10:12	0.000	10:57	0.149
8:43	0.000	9:28	0.224	10:13	0.000	10:58	0.152
8:44	0.000	9:29	0.206	10:14	0.000	10:59	0.205
8:45	0.002	9:30	0.211	10:15	0.000	11:00	0.205
8:46	0.000	9:31	0.136	10:16	0.000	11:01	0.203
8:47	0.010	9:32	0.116	10:17	0.012	11:02	0.195
8:48	0.009	9:33	0.109	10:18	0.011	11:03	0.193
8:49	0.032	9:34	0.111	10:19	0.027	11:04	0.212
8:50	0.030	9:35	0.083	10:20	0.112	11:05	0.206
8:51	0.029	9:36	0.082	10:21	0.115	11:06	0.209
8:52	0.032	9:37	0.075	10:22	0.113	11:07	0.190
8:53	0.043	9:38	0.000	10:23	0.130	11:08	0.207
8:54	0.042	9:39	0.000	10:24	0.133	11:09	0.206
8:55	0.045	9:40	0.047	10:25	0.152	11:10	0.220
8:56	0.045	9:41	0.051	10:26	0.156	11:11	0.173
8:57	0.049	9:42	0.061	10:27	0.156	11:12	0.125
8:58	0.031	9:43	0.078	10:28	0.157	11:13	0.128
8:59	0.048	9:44	0.087	10:29	0.156	11:14	0.091
9:00	0.044	9:45	0.094	10:30	0.157	11:15	0.099
9:01	0.062	9:46	0.119	10:31	0.160	11:16	0.107
9:02	0.044	9:47	0.123	10:32	0.147	11:17	0.113
9:03	0.045	9:48	0.124	10:33	0.146	11:18	0.190
9:04	0.019	9:49	0.118	10:34	0.128	11:19	0.181
9:05	0.022	9:50	0.116	10:35	0.049	11:20	0.190
9:06	0.063	9:51	0.115	10:36	0.045	11:21	0.185
9:07	0.073	9:52	0.108	10:37	0.046	11:22	0.215
9:08	0.075	9:53	0.109	10:38	0.033	11:23	0.199
9:09	0.075	9:54	0.103	10:39	0.030	11:24	0.198
9:10	0.075	9:55	0.086	10:40	0.026	11:25	0.183
9:11	0.090	9:56	0.077	10:41	0.024	11:26	0.172
9:12	0.097	9:57	0.064	10:42	0.023	11:27	0.169
9:13	0.114	9:58	0.040	10:43	0.021	11:28	0.162
9:14	0.115	9:59	0.033	10:44	0.021	11:29	0.146

B13-031 Response Area
Adjusted Dust Monitor Readings
(15 minute averages)

July 16, 2019							
Time	**Dust Reading (mg/m^3)**	**Time**	**Dust Reading (mg/m^3)**	**Time**	**Dust Reading (mg/m^3)**	**Time**	**Dust Reading (mg/m^3)**
11:30	0.137	12:15	0.035	13:00	0.024	13:45	0.033
11:31	0.133	12:16	0.039	13:01	0.027	13:46	0.017
11:32	0.128	12:17	0.042	13:02	0.031	13:47	0.007
11:33	0.054	12:18	0.045	13:03	0.033	13:48	0.008
11:34	0.045	12:19	0.044	13:04	0.033	13:49	0.003
11:35	0.043	12:20	0.039	13:05	0.030	13:50	0.001
11:36	0.048	12:21	0.042	13:06	0.028	13:51	0.000
11:37	0.006	12:22	0.043	13:07	0.026	13:52	0.000
11:38	0.004	12:23	0.043	13:08	0.026	13:53	0.000
11:39	0.004	12:24	0.049	13:09	0.029	13:54	0.000
11:40	0.003	12:25	0.056	13:10	0.029	13:55	0.000
11:41	0.001	12:26	0.062	13:11	0.027	13:56	0.000
11:42	0.000	12:27	0.064	13:12	0.032	13:57	0.000
11:43	0.000	12:28	0.074	13:13	0.031	13:58	0.000
11:44	0.000	12:29	0.085	13:14	0.032	13:59	0.000
11:45	0.000	12:30	0.092	13:15	0.029	14:00	0.000
11:46	0.000	12:31	0.095	13:16	0.031	14:01	0.000
11:47	0.000	12:32	0.093	13:17	0.032	14:02	0.000
11:48	0.000	12:33	0.096	13:18	0.045	14:03	0.000
11:49	0.000	12:34	0.097	13:19	0.053	14:04	0.000
11:50	0.000	12:35	0.136	13:20	0.089	14:05	0.000
11:51	0.000	12:36	0.139	13:21	0.128	14:06	0.000
11:52	0.000	12:37	0.138	13:22	0.160	14:07	0.000
11:53	0.000	12:38	0.136	13:23	0.225	14:08	0.000
11:54	0.000	12:39	0.127	13:24	0.249	14:09	0.000
11:55	0.000	12:40	0.118	13:25	0.257	14:10	0.000
11:56	0.000	12:41	0.110	13:26	0.261	14:11	0.008
11:57	0.000	12:42	0.115	13:27	0.264	14:12	0.009
11:58	0.000	12:43	0.103	13:28	0.265	14:13	0.008
11:59	0.000	12:44	0.089	13:29	0.263	14:14	0.004
12:00	0.000	12:45	0.078	13:30	0.263	14:15	0.004
12:01	0.000	12:46	0.071	13:31	0.263	14:16	0.004
12:02	0.000	12:47	0.070	13:32	0.262	14:17	0.004
12:03	0.009	12:48	0.066	13:33	0.247	14:18	0.004
12:04	0.005	12:49	0.063	13:34	0.241	14:19	0.000
12:05	0.018	12:50	0.026	13:35	0.207	14:20	0.000
12:06	0.024	12:51	0.023	13:36	0.165	14:21	0.000
12:07	0.025	12:52	0.023	13:37	0.131	14:22	0.000
12:08	0.025	12:53	0.023	13:38	0.069	14:23	0.000
12:09	0.029	12:54	0.023	13:39	0.043	14:24	0.000
12:10	0.028	12:55	0.024	13:40	0.039	14:25	0.000
12:11	0.029	12:56	0.026	13:41	0.028	14:26	0.000
12:12	0.029	12:57	0.019	13:42	0.025	14:27	0.000
12:13	0.031	12:58	0.019	13:43	0.028	14:28	0.000
12:14	0.034	12:59	0.021	13:44	0.033	14:29	0.000

B13-031 Response Area
Adjusted Dust Monitor Readings
(15 minute averages)

July 16, 2019							
Time	**Dust Reading (mg/m^3)**	**Time**	**Dust Reading (mg/m^3)**	**Time**	**Dust Reading (mg/m^3)**	**Time**	**Dust Reading (mg/m^3)**
14:30	0.000	14:45	0.000	15:00	0.013	15:15	0.000
14:31	0.000	14:46	0.000	15:01	0.013	15:16	0.000
14:32	0.000	14:47	0.000	15:02	0.012	15:17	0.000
14:33	0.000	14:48	0.000	15:03	0.010	15:18	0.000
14:34	0.000	14:49	0.000	15:04	0.000	15:19	0.000
14:35	0.000	14:50	0.000	15:05	0.000	15:20	0.000
14:36	0.000	14:51	0.000	15:06	0.000	15:21	0.000
14:37	0.000	14:52	0.000	15:07	0.000	15:22	0.000
14:38	0.000	14:53	0.008	15:08	0.000	15:23	0.000
14:39	0.000	14:54	0.013	15:09	0.000		
14:40	0.000	14:55	0.009	15:10	0.000		
14:41	0.000	14:56	0.016	15:11	0.000		
14:42	0.000	14:57	0.017	15:12	0.000		
14:43	0.000	14:58	0.019	15:13	0.000		
14:44	0.000	14:59	0.022	15:14	0.000		

B13-031 Response Area
Adjusted Dust Monitor Readings
(15 minute averages)

July 17, 2019							
Time	**Dust Reading (mg/m^3)**	**Time**	**Dust Reading (mg/m^3)**	**Time**	**Dust Reading (mg/m^3)**	**Time**	**Dust Reading (mg/m^3)**
9:00	0.005	9:45	0.003	10:30	0.000	11:15	0.000
9:01	0.005	9:46	0.001	10:31	0.000	11:16	0.000
9:02	0.006	9:47	0.000	10:32	0.000	11:17	0.000
9:03	0.006	9:48	0.000	10:33	0.000	11:18	0.000
9:04	0.006	9:49	0.000	10:34	0.000	11:19	0.000
9:05	0.012	9:50	0.000	10:35	0.000	11:20	0.000
9:06	0.012	9:51	0.000	10:36	0.000	11:21	0.000
9:07	0.010	9:52	0.000	10:37	0.000	11:22	0.000
9:08	0.008	9:53	0.000	10:38	0.000	11:23	0.000
9:09	0.017	9:54	0.000	10:39	0.000	11:24	0.000
9:10	0.021	9:55	0.000	10:40	0.000	11:25	0.000
9:11	0.022	9:56	0.000	10:41	0.002	11:26	0.000
9:12	0.021	9:57	0.000	10:42	0.000	11:27	0.000
9:13	0.021	9:58	0.000	10:43	0.000	11:28	0.000
9:14	0.018	9:59	0.000	10:44	0.000	11:29	0.000
9:15	0.016	10:00	0.000	10:45	0.000	11:30	0.000
9:16	0.015	10:01	0.000	10:46	0.000	11:31	0.000
9:17	0.014	10:02	0.000	10:47	0.000	11:32	0.000
9:18	0.014	10:03	0.000	10:48	0.000	11:33	0.000
9:19	0.014	10:04	0.000	10:49	0.000	11:34	0.000
9:20	0.010	10:05	0.000	10:50	0.000	11:35	0.000
9:21	0.010	10:06	0.000	10:51	0.000	11:36	0.000
9:22	0.011	10:07	0.001	10:52	0.000	11:37	0.000
9:23	0.012	10:08	0.000	10:53	0.000	11:38	0.000
9:24	0.008	10:09	0.000	10:54	0.000	11:39	0.000
9:25	0.004	10:10	0.001	10:55	0.000	11:40	0.000
9:26	0.002	10:11	0.002	10:56	0.000	11:41	0.000
9:27	0.003	10:12	0.005	10:57	0.000	11:42	0.000
9:28	0.014	10:13	0.005	10:58	0.000	11:43	0.000
9:29	0.021	10:14	0.004	10:59	0.000	11:44	0.000
9:30	0.020	10:15	0.004	11:00	0.000	11:45	0.000
9:31	0.020	10:16	0.004	11:01	0.000	11:46	0.000
9:32	0.022	10:17	0.005	11:02	0.000	11:47	0.000
9:33	0.022	10:18	0.004	11:03	0.000	11:48	0.000
9:34	0.026	10:19	0.000	11:04	0.000	11:49	0.000
9:35	0.024	10:20	0.000	11:05	0.000	11:50	0.000
9:36	0.024	10:21	0.000	11:06	0.000	11:51	0.000
9:37	0.023	10:22	0.000	11:07	0.000	11:52	0.000
9:38	0.022	10:23	0.000	11:08	0.000	11:53	0.000
9:39	0.019	10:24	0.000	11:09	0.000	11:54	0.000
9:40	0.020	10:25	0.000	11:10	0.000	11:55	0.000
9:41	0.020	10:26	0.000	11:11	0.000	11:56	0.000
9:42	0.019	10:27	0.000	11:12	0.000	11:57	0.000
9:43	0.008	10:28	0.000	11:13	0.000	11:58	0.000
9:44	0.002	10:29	0.000	11:14	0.000	11:59	0.000

B13-031 Response Area
Adjusted Dust Monitor Readings
(15 minute averages)

July 17, 2019							
Time	**Dust Reading (mg/m^3)**	**Time**	**Dust Reading (mg/m^3)**	**Time**	**Dust Reading (mg/m^3)**	**Time**	**Dust Reading (mg/m^3)**
12:00	0.000	12:20	0.000	12:40	0.000	13:00	0.000
12:01	0.000	12:21	0.000	12:41	0.000	13:01	0.000
12:02	0.000	12:22	0.000	12:42	0.000	13:02	0.000
12:03	0.000	12:23	0.000	12:43	0.000	13:03	0.000
12:04	0.000	12:24	0.000	12:44	0.000	13:04	0.000
12:05	0.000	12:25	0.000	12:45	0.000	13:05	0.000
12:06	0.000	12:26	0.000	12:46	0.000	13:06	0.000
12:07	0.000	12:27	0.000	12:47	0.000	13:07	0.000
12:08	0.000	12:28	0.000	12:48	0.000	13:08	0.000
12:09	0.000	12:29	0.000	12:49	0.000	13:09	0.000
12:10	0.000	12:30	0.000	12:50	0.000	13:10	0.000
12:11	0.000	12:31	0.000	12:51	0.000	13:11	0.000
12:12	0.000	12:32	0.000	12:52	0.000	13:12	0.000
12:13	0.000	12:33	0.000	12:53	0.000	13:13	0.000
12:14	0.000	12:34	0.000	12:54	0.000	13:14	0.000
12:15	0.000	12:35	0.000	12:55	0.000	13:15	0.000
12:16	0.000	12:36	0.000	12:56	0.000	13:16	0.000
12:17	0.000	12:37	0.000	12:57	0.000	13:17	0.000
12:18	0.000	12:38	0.000	12:58	0.000	13:18	0.000
12:19	0.000	12:39	0.000	12:59	0.000	13:19	0.000