

RESPONSE AND DEVELOPMENT COMPLETION REPORT

AREA B: SUB-PARCEL B1-2
TRADEPOINT ATLANTIC
SPARROWS POINT, MARYLAND

Prepared For:



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Prepared By:



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ARM Project No. 21010201

Respectfully Submitted,
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Revision 1 – June 20, 2023

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1.0 INTRODUCTION

ARM Group LLC (ARM) has prepared this Response and Development Completion Report for the portion of the Tradepoint Atlantic (TPA) property that has been designated as Area B: Sub-Parcel B1-2 (the Site). This report documents the work completed under the Sub-Parcel B1-2 Response and Development Work Plan (RADWP), Revision 1, dated February 5, 2019, which was approved for implementation by the Maryland Department of the Environment (MDE) via email on February 6, 2019. The MDE provided approval of a subsequent revision of the RADWP (Revision 2) dated June 4, 2019, via email on June 18, 2019. A comment response letter was submitted to accompany a revised version of the RADWP (Revision 3) on August 30, 2019, to address comments received from the United States Environmental Protection Agency (USEPA) via email on August 21, 2019, regarding the previous version of the RADWP (Revision 2 dated June 4, 2019). A further comment response letter was submitted on March 16, 2020, which was approved by the MDE and the USEPA via email on April 8, 2020.

The Sub-Parcel B1-2 development area consists of approximately 106 acres within the eastern portion of Parcel B1, northwestern portion of Parcel B2, and northwestern portion of Parcel B5. Outside of the main development area designated as Sub-Parcel B1-2, easements with a total area of approximately 0.4 acres within the construction Limit of Disturbance (LOD) utilized to install a rail spur and subgrade utilities for the project. All documents related to the investigation and development of the sub-parcel are listed in the Reference List in **Appendix A**. Copies of relevant email communication are provided in **Appendix B**.

A Phase II Investigation specific to soil conditions was performed for Parcel B1 in accordance with the requirements outlined in the Administrative Consent Order (ACO) as further described in the Phase II Investigation Work Plan – Area B: Parcel B1 (Revision 3) dated March 3, 2016. This Work Plan was approved by the agencies on March 15, 2016. Findings from the Phase II Investigation are presented in the Phase II Investigation Report – Area B: Parcel B1 (Revision 1) dated August 7, 2019. The Phase II Investigation Work Plan for Area B: Parcel B2 (Revision 1) dated May 17, 2017, and associated comment response letter (dated June 14, 2017) were approved by the agencies on June 26, 2017. Findings from the Phase II Investigation are presented in the Phase II Investigation Report – Area B: Parcel B2 (Revision 2) dated October 12, 2018. The Phase II Investigation Work Plan for Area B: Parcel B5 (Revision 1) dated December 3, 2015, was approved by the agencies on December 16, 2015. Findings from the Phase II Investigation are presented in the Phase II Investigation Report – Area B: Parcel B5 (Revision 3) dated July 8, 2019. Regarding the easements located outside of the Site boundary, a limited dataset obtained from Parcel B23 is also relevant for the evaluation of soil data along the easements. Although the easements themselves did not extend into Parcel B23, soil and groundwater data obtained near the parcel boundary was considered. The Parcel B23 Phase II Investigation was completed in accordance with the approved Phase II Investigation Work Plan (Revision 0) dated July 24, 2018, and a subsequent comment response letter dated November 2, 2018. The findings of the Parcel

B23 Phase II Investigation are presented in the Phase II Investigation Report – Area B: Parcel B23 (Revision 0) dated December 20, 2019, and associated comment response letter (dated July 17, 2020).

Non-aqueous phase liquid (NAPL) impacts at one location close to the Sub-Parcel B1-2 development area was delineated and excavated, extending within the Site boundary, from April 16, 2019, to May 15, 2019, as documented in the Response Action Completion Report – B5-098 Response Area, dated July 12, 2019. Details are provided in Section 2.2 below.

The development of Sub-Parcel B1-2 generally included grading, placement of subbase, installation of utilities, construction of a warehouse building, paving, landscaping improvements, and installation of stormwater management features.

1.1. REPORT PURPOSE

The purpose of this Response and Development Completion Report is to document response actions and development activities undertaken in order to secure a No Further Action (NFA) Letter and Certificate of Completion (COC) for the Site. In addition, this report is being submitted in accordance with the requirements outlined in the following agreements:

- Administrative Consent Order (ACO) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and the Maryland Department of the Environment (MDE), effective September 12, 2014; and
- Settlement Agreement and Covenant Not to Sue (SA) between Tradepoint Atlantic (formerly Sparrows Point Terminal, LLC) and the United States Environmental Protection Agency (USEPA), effective November 25, 2014.

The following section (Section 1.2) provides the project background and Section 1.3 provides an overview of the Site development and response action activities. The response actions performed are described in Section 2, development actions are described in Section 3, and conclusions are provided in Section 4.

1.2. PROJECT BACKGROUND

1.2.1. Site Description and History

From the late 1800s until 2012, the production and manufacturing of steel was conducted at Sparrows Point. Iron and steel production operations and processes at Sparrows Point included raw material handling, coke production, sinter production, iron production, steel production, and semi-finished and finished product preparation. In 1970, Sparrows Point was the largest steel facility in the United States, producing hot and cold rolled sheets, coated materials, pipes, plates, and rod and wire. The steel making operations at the Facility ceased in fall 2012. From 2013 to the

present day, a demolition contractor has been demolishing the majority of the above-grade structures on the site-wide property.

Parcel B1, Parcel B2, and Parcel B5 include areas of 217 acres, 123 acres, and 305 acres, respectively, as shown on **Figure 1**. The Site consists of approximately 106 acres intended for occupancy in the eastern portion of Parcel B1, northwestern portion of Parcel B2, and northwestern portion of Parcel B5 (**Figure 2**). There were no significant industrial operations conducted in the portion of Parcel B2. A small slab storage area was located in the northwestern portion of Parcel B2. The portion of Parcel B1 occupied by the Site included a large section of the Primary Rolling Mills Area, while the portion of Parcel B5 was formerly occupied by the Open Hearth Furnace Area (which also extended into the southern portion of Parcel B1). Both areas contained multiple iron and steel industrial work processes including material heating furnaces, soaking pits, descaling operations, storage yards (Mould Yard), and rolling and coiling operations. The Site is currently zoned Tier 3 - Industrial and is currently occupied by Home Depot. All historical buildings have been demolished, and the Site has been cleared of all significant vegetation. There is no groundwater use on-site or within the surrounding Tradepoint Atlantic property. The concrete slabs remained on grade.

More information regarding the historical activities in each area can be found in the agency approved Phase II Investigation Work Plans for Parcel B1 (Revision 3 dated March 3, 2016), Parcel B2 (Revision 1 dated May 17, 2017), and Parcel B5 (Revision 1 dated December 3, 2015).

1.2.2. Historical Environmental Activities

Prior to demolition, the Phase 1 Development Area was almost entirely occupied by steel finishing buildings and associated processing equipment and operations. Several iron and steel work processes were completed within the Sub-Parcel B1-2 Development Area, formerly known as the Primary Rolling Mills Area (primarily in Parcel B1) and part of the Open Hearth Furnace Area (primarily in Parcel B5). The former processes in the Primary Rolling Mills included heating and soaking slabs until a rolling temperature of approximately 2,200 °F was achieved. Heated slabs left the furnace and were descaled with high pressure water to remove iron oxides, then rolled into hot bands of the proper gauge and length. The bands were then water cooled and coiled for sale or further processing. The two reheat furnaces could use a combination of natural gas, No. 6 fuel oil, and/or on-specification used oil. The activities and facilities in the Open Hearth Furnace Area primarily included heating scrap metal and pig iron to burn off carbon and other impurities to produce steel. More information regarding previous steel finishing activities can be found in the Phase II Investigation Report – Area B: Parcel B1 (Revision 1 dated August 7, 2019), Phase II Investigation Report – Area B: Parcel B2 (Revision 2 dated October 12, 2018), and the Phase II Investigation Report – Area B: Parcel B5 (Revision 3 dated July 8, 2019).

A Phase I ESA was completed by Weaver Boos Consultants for the entire Sparrows Point property on May 19, 2014. The Phase I ESA identified particular features across the Tradepoint Atlantic property which presented potential risks to the environment. The results of the Phase I ESA are described in more detail in the Sub-Parcel B1-2 RADWP (Revision 3 dated August 30, 2019).

The Phase I ESA identified the following RECs within the Sub-Parcel B1-2 boundaries:

- Former Electrical Repair Shop (ERS) Oily Wastewater Tank (REC 8A, Finding 199)
- Waste Oil Stabilization/Packing Area (REC 9A, Finding 233)
- Rolling Mills Impoundment (REC 9B, Finding 238)

Relevant SWMUs and AOCs were also identified as located in Figure 3-1 from the DCC Report. The following SWMUs and AOCs were identified within, or in close proximity to, the Sub-Parcel B1-2 boundary:

- PCB-contaminated Oil Spill (AOC C)
- Former Slab Cut-off Spill Area (AOC F)
- Former Diesel Fuel Spill Area (AOC G)
- RCRA Regulated Storage Area (SWMU 193)

1.2.3. Phase II Investigation

A Phase II Investigation was conducted for all of Parcel B1 in accordance with the Phase II Investigation Work Plan – Area B: Parcel B1 (Revision 3) dated March 3, 2016. The results of the Phase II Investigation are presented in the Phase II Investigation Report – Area B: Parcel B1 (Revision 1) dated August 7, 2019. A Phase II Investigation was conducted for all of Parcel B2 in accordance with the Phase II Investigation Work Plan – Area B: Parcel B2 (Revision 1) dated May 17, 2017. The results of the Phase II Investigation are presented in the Phase II Investigation Preliminary Report – Area B: Parcel B2 (Revision 2) dated October 12, 2018. A Phase II Investigation was conducted for all of Parcel B5 in accordance with the Phase II Investigation Work Plan – Area B: Parcel B5 (Revision 1) dated December 3, 2015. The results of the Phase II Investigation are presented in the Phase II Investigation Report – Area B: Parcel B5 (Revision 3) dated July 8, 2019. A Phase II Investigation was conducted for groundwater in all of Area B in accordance with the Phase II Investigation Work Plan – Area B Groundwater Investigation (Revision 3) dated October 6, 2015. The results of the Phase II Investigation are presented in the Phase II Investigation Report – Area B Groundwater Investigation (Revision 0) dated September 30, 2016.

1.3. SITE DEVELOPMENT AND RESPONSE ACTIONS

The Site has been developed for use by warehouse facilities designated as Logistics Centers XI and XII, along with exterior support areas (parking, access drives, etc.). Development activities

generally included grading, asphalt paving for a parking area, expanded detention ponds, construction of two slab on grade warehouse buildings totaling 1,500,000 square feet, stormwater management, lighting, and security improvements. Subsequent Site use would involve indoor workers in the warehouse and associated offices, and truck drivers entering and leaving the Site with goods.

The response and development actions approved for protection of human health and the environment at the Site included proper abandonment of wells and piezometers, delineation, and removal of petroleum-contaminated soil in one area, and environmental capping. The placement of slag aggregate beneath the parking areas requires the entire sub-parcel to be subject to an environmental capping requirement.

2.0 RESPONSE ACTIVITIES

2.1. WELL ABANDONMENT

Five permanent monitoring wells, SW08-PZM003, SW08-PZM053, SW059-MWS, SW067-MWS, SW069-MWS (shown on **Figure 3**), were properly abandoned as indicated in the Logistic Centers Grading Plan in accordance with COMAR 26.04.04.34 through 36, on January 4, 2019, and March 20, 2019, prior to the start of development activities.

In addition, select NAPL delineation piezometers (B5-098C-PZ, B5-098H-PZ, and B5-098I-PZ) were located within the LOD in the vicinity of B5-098-PZ. These NAPL delineation piezometers are shown on **Figure 4** and were properly abandoned on January 4, 2019, in accordance with COMAR 26.04.04.34 through 36. B1-088-PZ and B5-097-PZ were previously located within the LOD, but both locations were observed to have been destroyed (following the completion of the 30-day NAPL gauging measurements) by vehicle traffic or other causes.

There are no remaining wells (or piezometers) in Sub-Parcel B1-2. Abandonment records are provided in **Appendix C**.

2.2. EXCAVATION ACTIVITIES

One NAPL screening piezometer, B5-098-PZ, was installed just west of the Parcel B1-2 boundary and was found to contain approximately 1.8 feet of NAPL during the November 7, 2017, gauging event, prompting extended delineation according to standard procedures (i.e., additional piezometers installed at surrounding locations). Three of the delineation piezometers (B5-098C-PZ, B5-098H-PZ, and B5-098I-PZ) were located within the Site boundary and did not have any recorded NAPL detections. The B5-098-PZ delineation is addressed in the Response Action Work Plan: Delineation Completion Report and Proposed Excavation of NAPL at B5-098-SB (dated February 27, 2019) Work Plan. The proposed NAPL delineation and excavation has been completed and is documented in the Response Action Completion Report for the B5-098 Response Area dated July 12, 2019.

3.0 SITE DEVELOPMENT ACTIVITIES

This section presents a summary of the completed development work as well as materials management and other protocols that were followed during the development of Sub-Parcel B1-2 to adequately mitigate potential risks for future uses of the property. The development area is shown in **Figure 2**. Capped areas are shown on **Figure 5**.

Development activities began on January 7, 2019, with FCL Builders as the General Contractor. Full-time oversight was performed by an Environmental Professional (EP) provided by HCEA during intrusive development activities to ensure compliance with environmental regulations and the development plans, including performing dust monitoring and soil screening services. The Notice of Completion of Remedial Actions letter provided by HCEA (**Appendix D**) states that development activities were completed in general accordance with the Sub-Parcel B1-2 RADWP. Daily Field Reports prepared by the EP are included as an electronic attachment. Select photos from general development activities are included in **Appendix E**.

Site development activities are discussed in the Quarterly Development Status Updates for the first quarter of 2019 through the third quarter of 2020 (**Appendix F**). The following sections provide information not covered in the Quarterly Development Status Updates.

3.1. PRE-CONSTRUCTION MEETING

Prior to any earthwork being conducted on-site, a pre-construction meeting was held to address proper operating procedures for working on-site and handling potentially contaminated material. Records are provided in **Appendix G**.

3.1. EROSION AND SEDIMENT CONTROL INSTALLATION FOR DEVELOPMENT

Installation of erosion and sediment controls was completed in accordance with the requirements of the Baltimore County permit prior to any construction at the Site.

3.2. FILL

The following fill materials were used during the development of Sub-Parcel B1-2:

- 57 Stone from Barrick Quarry, approved by the MDE as clean fill via email on January 28, 2020;
- 57 Stone from Vulcan, approved by the MDE as clean rail line ballast via email on November 18, 2019;
- Clean fill from Back River Wastewater Treatment Plant, approved by the MDE via email on April 21, 2015;
- Clean fill from Haven Street, approved by the MDE via emails on March 17, 2020 and May 26, 2020;

- Topsoil from Port Covington, approved by the MDE via email on September 24, 2019;
- Backfill materials, including CR-6 Stone, 57 Stone, and #10 Stone, from Martin Marietta's Cockeysville (Texas) Quarry, approved by the MDE for general use on the Sparrows Point property via email on May 16, 2018.

Fill approval documentation is provided in **Appendix H**.

3.3. SOIL MANAGEMENT

Processed slag aggregate from elsewhere on the Tradepoint Atlantic property was used as structural fill beneath the building pad foundation and beneath parking areas which were not originally designated as capped areas in the RADWP. The placement of slag aggregate beneath the parking areas requires the entire sub-parcel to be subject to an environmental capping requirement.

During utility excavations, excavated material that did not exhibit evidence of impacts was placed on-site under capped areas. Materials excavated from utility trenches were replaced inside the trenches as backfill. The MDE gave permission to use slag or previously approved soil as trench backfill beneath capped areas in a general email dated March 3, 2017 (**Appendix B**).

During the development of Sub-Parcel B1-2, approximately 300 cubic yards of impacted soil were detected during excavation for utility lines. The soil was segregated and stockpiled on plastic. A sample was submitted to Phase Separation Science, Inc. and analyzed for PCBs, Priority Pollutant (PP) Metals, manganese, Total Petroleum Hydrocarbons (TPH) Diesel Range Organics (DRO), TPH Gasoline Range Organics (GRO), and hexavalent chromium. The MDE approved the soil for reuse under a capped parking area (see **Appendix I**). The soil was placed below a parking area on Sub-Parcel B2-3.

Approximately 35,000 cubic yards of excess soil were generated during the development of Sub-Parcel B1-2. A total of 12 samples were collected for laboratory analysis. The samples were sent to Maryland Spectral Services for analysis for PCBs, manganese, TPH-DRO, and TPH-GRO. The MDE approved all the soil for reuse at industrial parcels, with the exception of the soil from which one sample identified as LS-23 was collected. The majority of the 35,000 cubic yards of material was placed on beneath capped areas on Sub-Parcel B2-3 during mass grading activities. The soil from which the LS-23 sample was collected was transported to Greys Landfill with permission from the MDE following additional analytical testing by Maryland Spectral Services.

Laboratory reports for stockpile soil samples are included in **Appendix I**. MDE email approvals of the results of stockpile sample laboratory testing for all excavated materials tested during the duration of the Sub-Parcel B1-2 development are included in **Appendix I**.

3.4. DUST CONTROL

General construction operations, including removal of existing foundations or utilities, soil excavation and transport, soil grading, trenching for utilities, and cap construction activities were performed at the Site. To limit worker exposure to contaminants borne on dust and windblown particulates, dust control measures were to be implemented, if warranted when the above activities were performed. The action level used for the purpose of determining the need for dust suppression techniques (e.g. watering and/or misting) and/or continuous monitoring during the response and development activities on Site was 3.0 mg/m³.

Dust monitoring was performed with three MetOne E-sampler dust monitors. The dust monitors were placed daily upwind of, downwind of, and inside the active work zone. Dust readings were recorded at each monitor at a rate of once per minute. Daily summaries of 15-minute average dust readings are provided as an electronic attachment. Dust control measures were to be implemented if a sustained level above 3.0 mg/m³ was observed. No exceedances of the 3.0 mg/m³ action level were observed during construction activities. After electronic dust monitoring was terminated, the EP continued to monitor for visible dust. The Contractor utilized a water truck to mitigate dust generation during the development work operations.

3.5. WATER MANAGEMENT

During the development of Sub-Parcel B1-2, all dewatering discharges were pumped to a storm drain leading to the on-site Humphreys Creek Wastewater Treatment Plant (HCWWTP) at the direction of Tradepoint Atlantic personnel.

3.6. SUB-GRADE STRUCTURES

During the development of Sub-Parcel B1-2, numerous sub-grade structures (SGSs) were encountered. The MDE gave permission for backfilling without MDE inspection, provided that the EP observed no evidence of contamination upon the completion of the excavations (as noted in an email from HCEA to the MDE dated June 13, 2019). The email incorrectly identified previously observed environmental impacts at location SGS-213 rather than the correct location at SGS-212. Completion reports for the excavation and backfilling of the subgrade structures as prepared by HCEA are included in **Appendix J**. It should be noted that no reports are included for SGS-204 and SGS-217 because the excavations were subsequently encompassed by the SGS-205 and SGS-218 excavations, respectively. Additional details regarding SGS-212 are discussed in Section 3.8.

3.7. HYDROGEN PLANT

A Supplemental Construction Plan Letter for a Proposed Hydrogen Storage and Re-Fueling area was submitted to the agencies on November 11, 2020. This letter was approved by the MDE on December 4, 2020. A hydrogen storage and distribution system was installed for Logistics Center

XII, as shown on **Figure 6**. The Hydrogen Plant development work was completed between December 22, 2020, and January 18, 2021. Daily Field Reports for the Hydrogen Plant work are included as an electronic attachment. Photographs of the development work and email correspondence are included in **Appendix K**. In the email correspondence, HCEA notified the MDE that the Hydrogen Plant development work would generate approximately 200 cubic yards of excess soil. The actual Hydrogen Plant development work generated approximately 125 cubic yards of excess soil, with no evidence of contamination. Because the excess soil was generated from shallow intrusive work which occurred within the previously placed slag layer, no additional sampling was performed prior to reuse on another parcel (as discussed in the email correspondence in **Appendix K**). The excess soil was transported to Sub-Parcel B4-2 for use beneath parking areas.

3.8. NOTABLE OCCURRENCES

An oily substance was detected in a pit (designated as SGS-212) encountered during excavation. The substance appeared to originate from the debris and equipment located in the pit and did not appear to be seeping or bleeding into the pit. The water from the pit was pumped into a frac tank. The oily substance was no longer present after the debris/equipment was removed from the pit.

HCEA collected two water samples for laboratory analysis for VOCs and PCBs, one from the frac tank, and one from water re-entering the pit. Based on the results, Tradepoint Atlantic personnel permitted pumping the water from the pit into the drain that conveys to the HCWWTP. In addition, Tradepoint Atlantic personnel permitted the frac tank to be discharged to the HCWWTP.

HCEA and Tradepoint Atlantic were in contact with the MDE throughout this event. On April 1, 2019, Barbara Brown with the MDE visited the Site and granted approval to backfill the pit. Additional details are provided in the SGS-212 Completion Report included in **Appendix J**. The aqueous sample laboratory report is included in **Appendix L**, and the MDE approval to backfill the pit is included in **Appendix B**.

During utility installation for the northern building pad, naphthalene impacted materials were detected in the previously placed slag layer. HCEA prepared a report addressed to Tradepoint Atlantic (dated July 26, 2019) to document the delineation, removal, and disposal of the naphthalene-impacted materials, as well as post-confirmation screening. The report is included in **Appendix M**.

3.9. HEALTH AND SAFETY

A site-specific Health and Safety Plan (HASP) was developed by the on-site contractor to present the minimum requirements for worker health and safety protection for the project. All site work was performed under the site-specific HASP. The contractor was responsible for following safety procedures, including schedule limitations, to control contact with potentially contaminated soil

or groundwater. Documentation of contractor compliance with the 80-day allowable duration for intrusive work is provided in **Appendix N**. Details regarding the Screening Level Risk Assessment (SLRA) completed for the sub-parcel and the determination of the allowable duration for intrusive work are presented in the Sub-Parcel B1-2 RADWP.

3.10. PAVING

As stated in the Notice of Completion of Remedial Actions prepared by HCEA (**Appendix D**), the environmental cap installed during the Sub-Parcel B1-2 development meets the required thicknesses specified in the RADWP.

3.11. LANDSCAPED AREAS

As stated in the Notice of Completion of Remedial Actions (**Appendix D**), capping in landscaped areas was installed to meet the specifications established in the Sub-Parcel B1-2 RADWP. VCP approved fill was placed as fill beneath landscaped areas. As discussed above in Section **Error! Reference source not found.** (Fill Materials), the materials used in landscaped areas were approved by the MDE (**Appendix H**).

The selected marker fabric (see **Appendix O**) meets the specifications given in the RADWP.

3.12. POST REMEDIATION REQUIREMENTS

Long-term conditions related to future use of the Site will be described within the No Further Action Letter (NFA) and COC. Post remediation requirements will include compliance with the conditions specified in the NFA, COC, and the deed restrictions recorded for the Site. Deed restrictions as defined by the MDE VCP in the NFA and COC will be recorded by the responsible party within 30 days after receipt of the final NFA.

The entire Site will be subject to a restriction that limits the use of the property to non-residential land use as well as a restriction prohibiting the use of groundwater for any purpose at the Site and a requirement to characterize, containerize, and properly dispose of groundwater in the event of deep excavations encountering groundwater.

Maintenance requirements will include inspection and maintenance of landscape and hardscape capped areas to minimize degradation of the cap and exposure to the underlying soil. Specific inspection protocols and maintenance schedules will be addressed in an Institutional Controls and Operations & Maintenance Plan, specific to Sub-Parcel B1-2, to be submitted under separate cover.

The responsible party will perform cap maintenance inspections, perform maintenance of the cap, and retain cap inspection records. Areas of the cap that have degraded will be repaired in accordance with the Institutional Controls and Operations & Maintenance Plan. The MDE shall

be notified within ten business days of any repairs that are the result of cap failure. The notification will include documentation of the conditions being repaired and the location of the repair.

The MDE will be provided with a written notice at least 30 days prior to any planned excavation activities at the Site that will penetrate through the cap. Written notice of planned excavation activities will include the proposed date(s) for the excavation, location of the excavation, health and safety protocols (as required), clean fill source (as required), and proposed characterization and disposal procedures in accordance with applicable local, state and federal requirements.

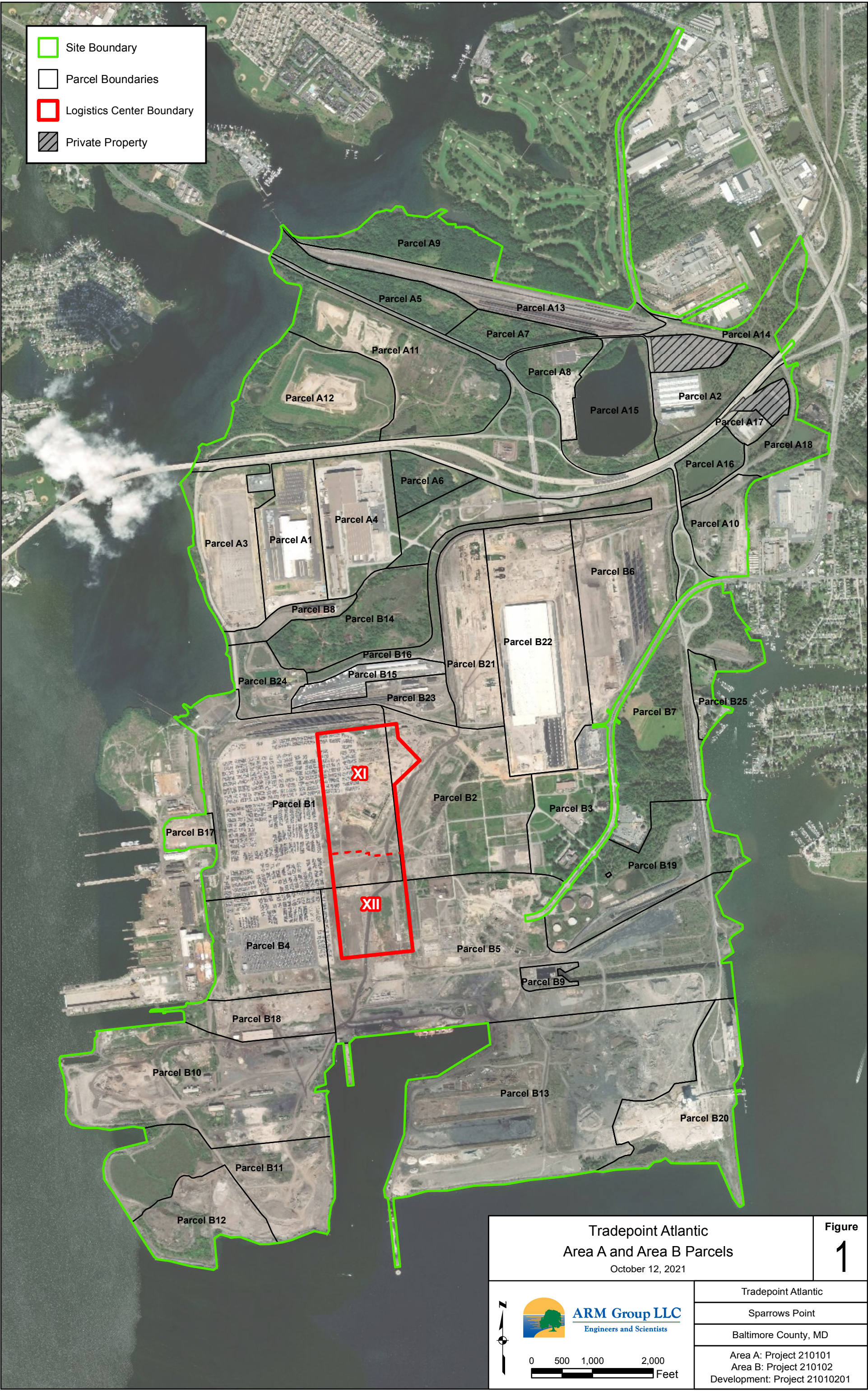
4.0 CONCLUSION

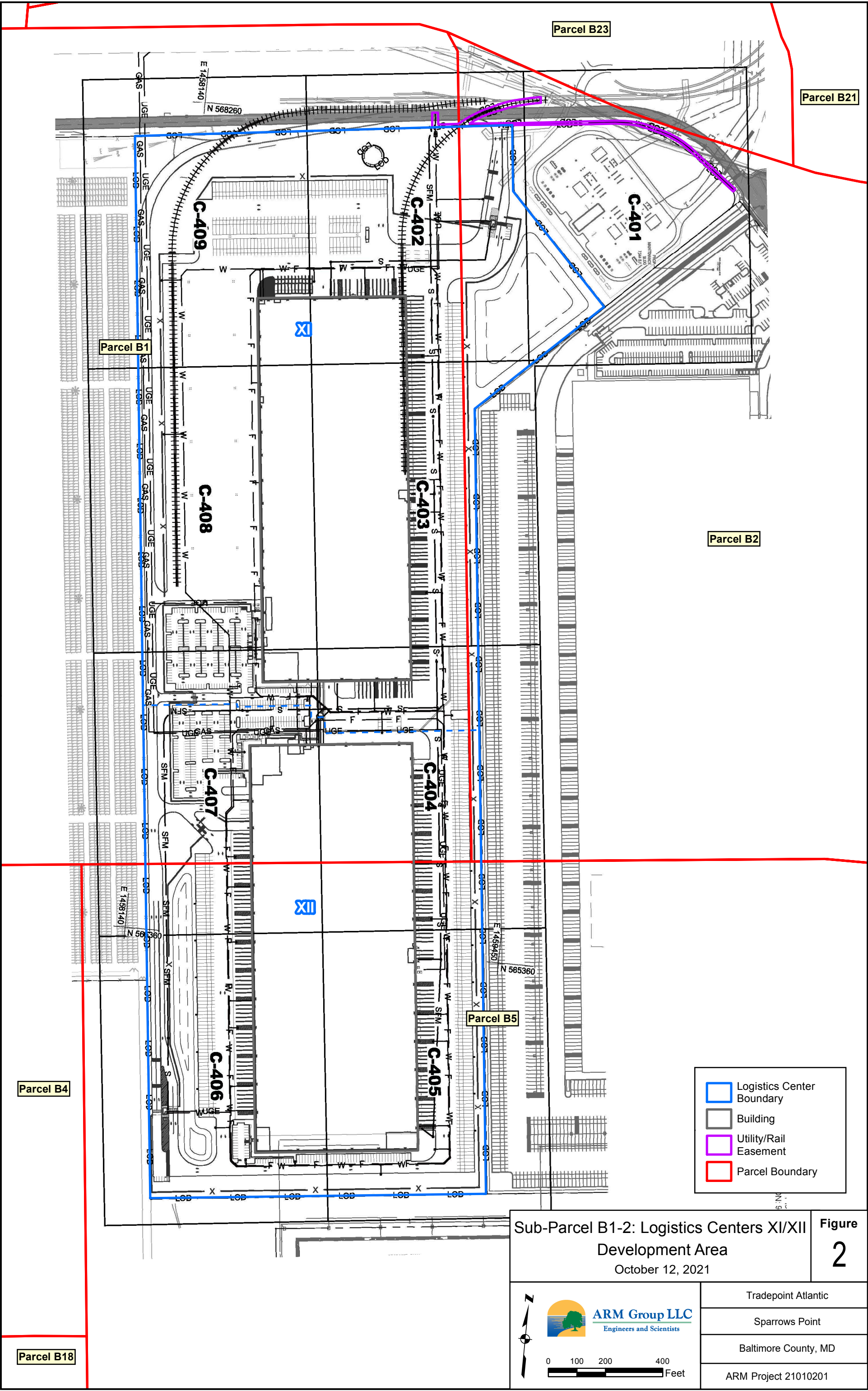
Between January 2019 and August 2020, response and development actions were conducted as part of the redevelopment of the Site identified as Sub-Parcel B1-2. The remedial actions specified in the RADWP included: soil delineation and excavations of contaminated soil; abandonment of temporary groundwater collection points and wells, capping of building and parking areas with paving; capping of landscaped areas and utility corridors within the cap with clean fill; and implementation of institutional controls.

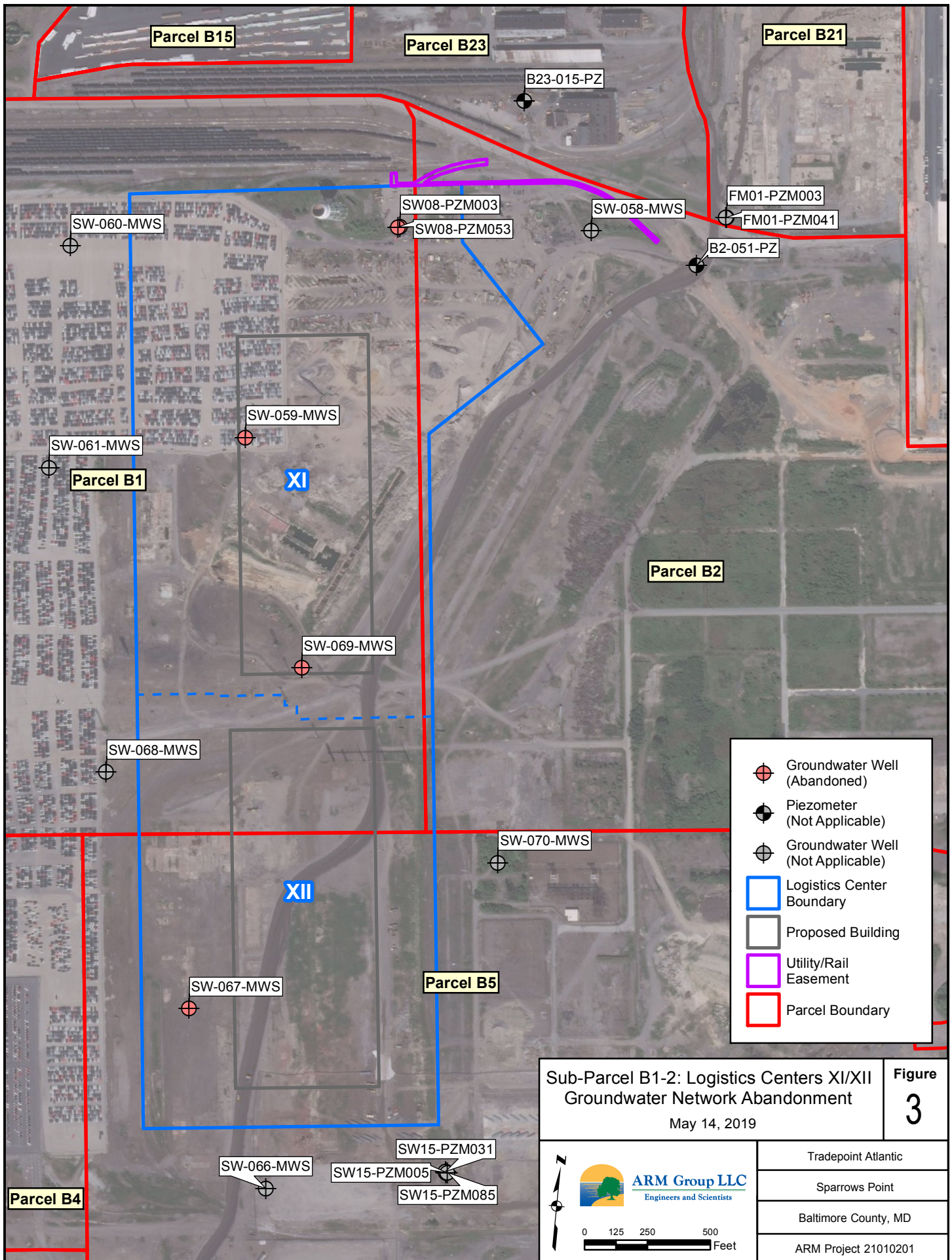
A Notice of Completion of Remedial Actions, prepared by the EP, a Professional Engineer registered in Maryland, is enclosed in **Appendix D** to certify that the response actions have been completed in accordance with the requirements described in the RADWP and the Site is suitable for occupancy and use.

As a result of the information contained herein, it has been demonstrated that the response and development actions have been completed in accordance with the approved RADWP. With construction of the containment remedy (caps) in conjunction with redevelopment of the Site, the applicable requirements for obtaining a NFA Letter and COC for this Site have been fulfilled. Therefore, Tradepoint Atlantic is respectfully requesting issuance of a NFA Letter for the Site at this time. Please find enclosed as **Appendix P** a copy of the surveyed metes and bounds of Sub-Parcel B1-2. It is ARM's understanding that Tradepoint Atlantic will record the NFA Letter and the deed restrictions identified in the RADW within 30 days after receipt of the final NFA Letter. Proof of recordation will be submitted to MDE upon receipt from Baltimore County.

FIGURES

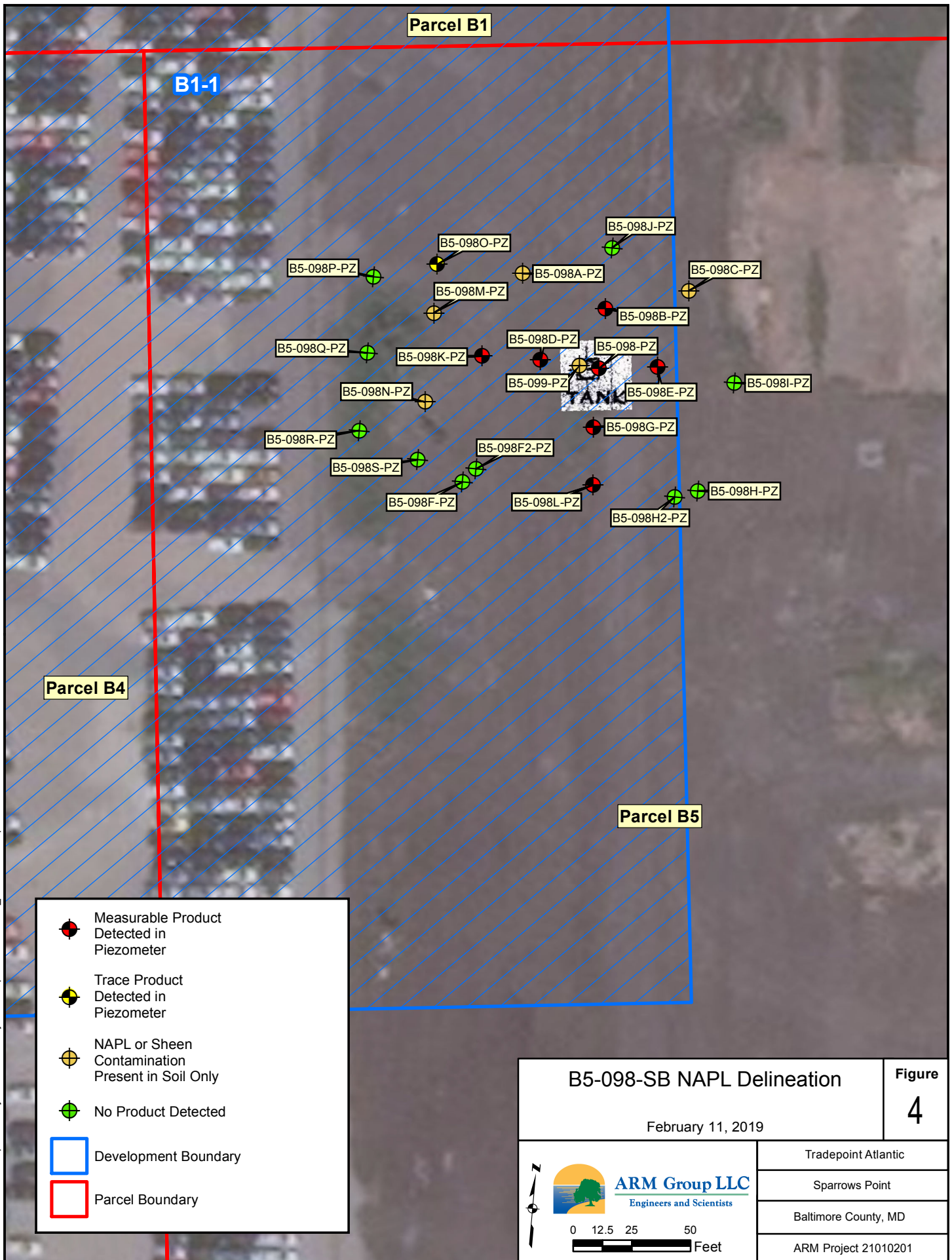






Sub-Parcel B1-2: Logistics Centers XI/XII Groundwater Network Abandonment May 14, 2019		Figure 3
		Tradepoint Atlantic
		Sparrows Point
		Baltimore County, MD
0 125 250 500 Feet		ARM Project 21010201

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APPENDIX A

Reference List

Sub-Parcel B1-2

- Weaver Boos Consultants (2014). *Phase I Environmental Site Assessment: Former RG Steel Facility*. Final Draft. May 19, 2014.
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- ARM Group, Inc. (2015). *Phase II Investigation Work Plan, Area B Groundwater Investigation*. Revision 3. October 6, 2015.
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Reference List

Sub-Parcel B1-2

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- ARM Group LLC (2020). *Area B: Sub-Parcel B1-2 Development Status Update (First Quarter 2020)*. Revision 0. April 27, 2020.
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- ARM Group LLC (2020). *Supplemental Construction Plan: Proposed Hydrogen Storage and Re-fueling Area*. Revision 0. November 11, 2020.

APPENDIX B

From: [James Calenda](#)
To: [Neil Peters](#); [Eric Magdar](#); [Taylor Smith](#)
Subject: FW: Review of Sub-Parcel B1-2 RADWP Revision 3 dated August 2019
Date: Thursday, April 9, 2020 10:21:57 AM

FYI

From: Jennifer Sohns -MDE- <jennifer.sohns@maryland.gov>
Sent: Wednesday, April 8, 2020 9:15 AM
To: James Calenda <jcalenda@enviroanalyticsgroup.com>
Cc: Prince, Ruth <Prince.Ruth@epa.gov>; barbara.brown1@maryland.gov; Oduwole, Moshood <Oduwole.Moshood@epa.gov>; Pete Haid <phaid@tradepointatlantic.com>; Craven, Laura <lcraven@wcgrp.com>
Subject: Re: Review of Sub-Parcel B1-2 RADWP Revision 3 dated August 2019

James,
MDE and EPA have reviewed the Sub-Parcel B1-2 RDWP Comment Response Letter dated March 16, 2020 and the responses are acceptable.
Thank you,

Effective, March 13, 2020, the State of Maryland is requiring Mandatory Telework for all Non-Essential Employees. **During this period the best way to contact me is via email or to leave a voicemail at my direct line and allow me to return your call.**

In addition to a mailed hard copy, please send digital copies of reports via email, if possible.



Jennifer Sohns
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Click here to complete a three question [customer experience survey](#).

On Wed, Mar 18, 2020 at 11:54 AM James Calenda <jcalenda@enviroanalyticsgroup.com> wrote:

Ruth,

The Sub-Parcel B1-2 Response and Development Work Plan has been revised to address your comment listed below. The revised document can be downloaded using the link listed below.

[Sub-Parcel B1-2 Comment Response Letter 03-16-20](#)

If you have any questions or require any additional revisions please let me know.

Thanks

James

From: Prince, Ruth <Prince.Ruth@epa.gov>

Sent: Monday, October 21, 2019 3:57 PM

To: James Calenda <jcalenda@enviroanalyticsgroup.com>; Neil Peters <npeters@armgroup.net>; Pete Haid <phaid@tradepointatlantic.com>

Cc: Jennifer Sohns -MDE- <jennifer.sohns@maryland.gov>; barbara.brown1@maryland.gov; Oduwole, Moshood <Oduwole.Moshood@epa.gov>

Subject: Review of Sub-Parcel B1-2 RADWP Revision 3 dated August 2019

Hi All – I have reviewed the revisions to this RADWP, and there appears to have been a misinterpretation of the 30-day written notice prior to any future soil disturbance IC. EPA and MDE have differing requirements; they are not the same as stated as a revision to Sections 3.3.2, 3.3.3, 5.4, and 5.5. MDE requires the 30-day notification no matter what the circumstances are, i.e., for any soil disturbance. EPA only requires the notification if it impacts the remedy; i.e., if the allowable exposure duration for the construction worker will be exceeded and modified Level D PPE will not be used. Please revise accordingly.

Ruth Prince, PhD Toxicologist
3LD10, RCRA Corrective Action Branch 1
Land, Chemicals and Redevelopment Division
U.S. Environmental Protection Agency Region III
1650 Arch St.
Philadelphia, PA 19103-2029
215-814-3118
prince.ruth@epa.gov

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Keith Progin

From: Barbara Brown -MDE- <barbara.brown1@maryland.gov>
Sent: Friday, March 3, 2017 11:33 AM
To: Gina L. Galimberti
Cc: Barbara Brown (BBrown@mde.state.md.us); Jennifer Sohns -MDE-; Chris Hillis; Gardner, Mike; Fantz, Jeff; Keith Progin; Justin Dunn; browan@fclbuilders.com
Subject: Re: Sparrows - Clarification on backfill material for private utilities trenches on Parcel B22

Hello Gina

You may use the solid waste definition of clean fill for utilities below the cap-including slag, or previously approved soil etc. Utilities installed within the cap proper must be backfilled with VCP industrial use clean fill.

If you have any questions please contact me.

Barbara Brown
MDE Project Coordinator

On Wed, Mar 1, 2017 at 2:06 PM, Gina L. Galimberti <ggalimberti@hcea.com> wrote:

Barbara – Per my inquiry in our conversation a moment ago, can you please clarify the MDE’s definition of clean fill as it relates to the backfilling of the utility trenches within Parcel B22 (not public utilities under roadways)? I guess I am trying to determine if the intent is to have the material meet the MDE’s definition of clean fill as it relates to the Solid Waste Program versus that of the Voluntary Cleanup Program.

Assuming that we don’t see elevated PID readings, staining, free liquids or other indicators of concern during the environmental monitoring, we would prefer to place the material that is excavated from the utility trench directly back into the trench. And/or we would like to use the stockpiled material you approved for re-use under the cap (referencing your email of 2/21/17; 7:44 am). Thirdly, the use of slag for this backfilling is also a possibility.

I would also like to understand if the acceptable backfill material is different for shallow versus deeper utility trenches. For example, the storm drain trench may around 6-8 feet deep versus a water line which may be around 2 feet deep.

I would appreciate your insight tomorrow morning, if possible, as you mentioned that you might be able to discuss with Mark M. at that time.

Thank you !

Gina

Gina Galimberti | Environmental Services Manager

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--

Barbara Brown
MDE-LRP-VCP Section Head
direct 410 537 3212
general 410 537 3493

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Keith Progin

From: Barbara Brown -MDE- <barbara.brown1@maryland.gov>
Sent: Monday, April 1, 2019 1:47 PM
To: Keith Progin
Cc: Jennifer Sohns -MDE- (jennifer.sohns@maryland.gov); phaid@tradepointatlantic.com; Matthew Newman (mnewman@tradepointatlantic.com); Nick Stella
Subject: Re: TPA_Logistics Center XI_SGS-212

Hello All

As discussed in the site visit conducted today, April 1, 2019 the pit number SGS-212, may be pumped out, any oily sediment removed and disposed of properly and then the pit may be backfilled to the level to remove the remaining metal debris and properly abandon any piping/drains etc. The process should be documented for the completion report. Upon removal of the metal the remaining portion of the pit may also be backfilled.

If you have any questions regarding this approval please contact me.

Barbara Brown
MDE Project Coordinator

On Fri, Mar 29, 2019 at 3:29 PM Keith Progin <kprogin@hcea.com> wrote:

The majority of the debris/equipment has been removed from pit SGS-212. Please see the attached photos.

There has been no oily substance entering the pit and the sidewalls generally appear to be free of staining. On photo 5507 there is a mark on the far wall in the background. However, the mark is not staining but rather a wet wall where a hose had been placed to dewater.

In the foreground of photo 5507, a steel pipe with gears is present, as well as a metal box (on the left side of the pit). DXI is planning on removing these features. We are requesting backfilling the pit with approximately 6 feet of material to allow DXI to safely cut and remove the remaining features.

If approval is granted, additional photographs will be provided to the MDE following the removal of these features. The remainder of the pit will not be backfilled until a second approval is granted by the MDE.

Thank you,

Keith Progin | Project Manager, Environmental Division
HILLIS-CARNES ENGINEERING ASSOCIATES

From: Keith Progin

Sent: Tuesday, March 26, 2019 10:45 AM

To: Barbara Brown -MDE- (barbara.brown1@maryland.gov) <barbara.brown1@maryland.gov>; Jennifer Sohns -MDE- (jennifer.sohns@maryland.gov) <jennifer.sohns@maryland.gov>

Cc: 'phaid@tradepointatlantic.com' <phaid@tradepointatlantic.com>; Matthew Newman (mnewman@tradepointatlantic.com) <mnewman@tradepointatlantic.com>; Nick Stella <nstella@hcea.com>

Subject: RE: TPA_Logistics Center XI_SGS-212

I wanted to provide an update for SGS-212. The water from the pit was initially pumped into a frac tank. As the contractor removed debris from the pit, dewatering was necessary and was also pumped into the frac tank. The majority of the debris has been removed from the pit and the oily substance is no longer present in the groundwater entering the pit. It was apparent that the source of the oily substance was from debris and equipment that has now been removed from the pit.

HCEA has collected a water sample from the pit (SGS-212) and from the frac tank (FT-1). The laboratory results are attached.

Once the last bit of remaining debris has been removed, we will submit photographs documenting the conditions of the pit. Backfilling will not occur until approval has been granted by the MDE.

Thanks!

Keith Progin | Project Manager, Environmental Division
HILLIS-CARNES ENGINEERING ASSOCIATES

Cell (443) 250-9467
Phone +1 (410) 880-4788 X1145
Fax +1 (410) 880-4098

From: Keith Progin

Sent: Monday, March 11, 2019 6:26 PM

To: Barbara Brown -MDE- (barbara.brown1@maryland.gov) <barbara.brown1@maryland.gov>; Jennifer Sohns -MDE- (jennifer.sohns@maryland.gov) <jennifer.sohns@maryland.gov>

Cc: 'phaid@tradepointatlantic.com' <phaid@tradepointatlantic.com>; Matthew Newman (mnewman@tradepointatlantic.com) <mnewman@tradepointatlantic.com>; Nick Stella <nstella@hcea.com>

Subject: TPA_Logistics Center XI_SGS-212

An apparent mixture of water and an oily substance was observed at SGS-212 (see attached photograph). I've attached a location map for your reference. Due to the observed conditions, work in this Pit has stopped. The pit is relatively small in size and appears to be shallow. The plan is to pump the liquid into either several drums or into a frac tank. Once the liquid has been removed from the pit, the environmental technician will monitor the conditions by observing and photographing the sides and walls of the pit. Photo documentation will be provided to the MDE once the pit has been pumped.

Thanks!

Keith Progin | Project Manager, Environmental Division

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Barbara Brown
MDE-LRP-VCP Section Head
direct 410 537 3212
general 410 537 3493

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From: [Barbara Brown -MDE-](#)
To: [Craven, Laura](#)
Cc: [Jennifer Sohns -MDE-](#); [Oduwole, Moshood](#); [Prince, Ruth](#); [Pete Haid \(phaid@tradepointatlantic.com\)](#); [Matthew Newman](#); [Taylor Smith](#)
Subject: Re: B1-2 Hydrogen Supplemental Construction Plan
Date: Friday, December 4, 2020 3:08:49 PM

Hello All

The plan is approved. Please notify the Agencies if any contaminated material is encountered during the installation.

Barbara Brown

On Wed, Nov 11, 2020 at 6:36 PM Craven, Laura <lcraven@wcgrp.com> wrote:

All,

Please find attached a Supplemental Construction Plan Letter for a proposed hydrogen storage and re-fueling system on Sub-Parcel B1-2. The permit drawings are included as an electronic attachment and can be downloaded using the link below:

[E-Attachment \(permit drawings\)](#)

Please let me know if you have questions or need additional information.

Thanks,

Laura

Laura Craven

Senior Project Manager

 [Weaver Consultants Group](#)

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Barbara H. Brown

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APPENDIX C

Well/Piezometer Abandonment Form

Well/Piezometer ID: SW08-PZM003

General Project Information:

Client: EAG

Site Location: Sparrows Point, MD

Parcel ID: B1

Abandonment Date: 1/4/2019

Abandonment Contractor: GSI

Abandonment Method (check appropriate):

1. PVC → Pulled ☒ / Split ☐ / Perforated ☐ / Left-In-Place ☐
2. Abandoned → Grout ☒ / Bentonite Chips ☐

Field Equipment: Grout and grout pump, Geoprobe 7822DT

ARM Representative(s): L. Perrin

Well Diameter (inches): 2.00

Depth to Bottom (TOC)	Final Gauging Prior to Abandonment:
Reported (historical/log):	Depth to Water (TOC): 4.71
Measured: 16.40	Depth to NAPL (TOC): No DNAPL/LNAPL

Please note if this abandonment is for a known NAPL delineation/monitoring area or individual NAPL screening piezometer and identify the name of the delineation area (e.g., B6-066 NAPL Area or B5-144 Screening Piezometer): _____

Please Note: If NAPL is identified in a piezometer, the Project Manager should be notified and the piezometer may not be abandoned unless the presence of NAPL is already known and a decision has been made to abandon the NAPL monitoring network.

Additional Comments (if any):



ARM Group LLC
Engineers and Scientists
9175 Guilford Road - Suite 310
Columbia, Maryland 21046
(410) 290-7775 FAX: (410) 290-7775

Well/Piezometer Abandonment Form

Well/Piezometer ID: SW08-PZM053

General Project Information:

Client: EAG

Site Location: Sparrows Point, MD

Parcel ID: B1

Abandonment Date: 3/20/2019

Abandonment Contractor: Allied

Abandonment Method (check appropriate):

1. PVC → Pulled ☒ / Split ☐ / Perforated ☐ / Left-In-Place ☐
2. Abandoned → Grout ☒ / Bentonite Chips ☐

Field Equipment: Heron O/W probe, skidsteer

ARM Representative(s): L. Perrin

Well Diameter (inches): 2.00

Depth to Bottom (TOC)	Final Gauging Prior to Abandonment:
Reported (historical/log):	Depth to Water (TOC): 6.81
Measured: 45.43	Depth to NAPL (TOC): No DNAPL/LNAPL

Please note if this abandonment is for a known NAPL delineation/monitoring area or individual NAPL screening piezometer and identify the name of the delineation area (e.g., B6-066 NAPL Area or B5-144 Screening Piezometer): _____

Please Note: If NAPL is identified in a piezometer, the Project Manager should be notified and the piezometer may not be abandoned unless the presence of NAPL is already known and a decision has been made to abandon the NAPL monitoring network.

Additional Comments (if any):



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Engineers and Scientists
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Well/Piezometer Abandonment Form

Well/Piezometer ID: SW-059-MWS

General Project Information:

Client: EAG

Site Location: Sparrows Point, MD

Parcel ID: B1

Abandonment Date: 1/4/2019

Abandonment Contractor: GSI

Abandonment Method (check appropriate):

1. PVC → Pulled ☐ / Split ☐ / Perforated ☐ / Left-In-Place ☒
2. Abandoned → Grout ☒ / Bentonite Chips ☐

Field Equipment: Grout and grout pump

ARM Representative(s): L. Perrin

Well Diameter (inches): 2.00

Depth to Bottom (TOC)	Final Gauging Prior to Abandonment:
Reported (historical/log):	Depth to Water (TOC): 8.47
Measured: 18.05	Depth to NAPL (TOC): No DNAPL/LNAPL

Please note if this abandonment is for a known NAPL delineation/monitoring area or individual NAPL screening piezometer and identify the name of the delineation area (e.g., B6-066 NAPL Area or B5-144 Screening Piezometer): _____

Please Note: If NAPL is identified in a piezometer, the Project Manager should be notified and the piezometer may not be abandoned unless the presence of NAPL is already known and a decision has been made to abandon the NAPL monitoring network.

Additional Comments (if any): Casing half buried in gravel and bent
Per E. Magdar- grouted through PVC and left casing and
PVC in place



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Well/Piezometer Abandonment Form

Well/Piezometer ID: SW-067-MWS

General Project Information:

Client: EAG

Site Location: Sparrows Point, MD

Parcel ID: B1

Abandonment Date: 3/20/2019

Abandonment Contractor: Allied

Abandonment Method (check appropriate):

1. PVC → Pulled ☒ / Split ☐ / Perforated ☐ / Left-In-Place ☐
2. Abandoned → Grout ☒ / Bentonite Chips ☐

Field Equipment: Heron O/W probe, skid steer

ARM Representative(s): L. Perrin

Well Diameter (inches): 2.00

Depth to Bottom (TOC)	Final Gauging Prior to Abandonment:
Reported (historical/log):	Depth to Water (TOC): 6.80
Measured: 18.03	Depth to NAPL (TOC): No DNAPL/LNAPL

Please note if this abandonment is for a known NAPL delineation/monitoring area or individual NAPL screening piezometer and identify the name of the delineation area (e.g., B6-066 NAPL Area or B5-144 Screening Piezometer): _____

Please Note: If NAPL is identified in a piezometer, the Project Manager should be notified and the piezometer may not be abandoned unless the presence of NAPL is already known and a decision has been made to abandon the NAPL monitoring network.

Additional Comments (if any):



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Well/Piezometer Abandonment Form

Well/Piezometer ID: SW-069-MWS

General Project Information:

Client: EAG

Site Location: Sparrows Point, MD

Parcel ID: B1

Abandonment Date: 3/20/2019

Abandonment Contractor: Allied

Abandonment Method (check appropriate):

1. PVC → Pulled ☒ / Split ☐ / Perforated ☐ / Left-In-Place ☐
2. Abandoned → Grout ☒ / Bentonite Chips ☐

Field Equipment: Heron O/W probe, skid steer

ARM Representative(s): L. Perrin

Well Diameter (inches): 2.00

Depth to Bottom (TOC)	Final Gauging Prior to Abandonment:
Reported (historical/log):	Depth to Water (TOC): 12.51
Measured: 16.62	Depth to NAPL (TOC): No DNAPL/LNAPL

Please note if this abandonment is for a known NAPL delineation/monitoring area or individual NAPL screening piezometer and identify the name of the delineation area (e.g., B6-066 NAPL Area or B5-144 Screening Piezometer): _____

Please Note: If NAPL is identified in a piezometer, the Project Manager should be notified and the piezometer may not be abandoned unless the presence of NAPL is already known and a decision has been made to abandon the NAPL monitoring network.

Additional Comments (if any):



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Well/Piezometer Abandonment Form

Well/Piezometer ID: B1-088-PZ

General Project Information:

Client: EAG

Site Location: Sparrows Point, MD

Parcel ID: B1

Abandonment Date: 3/20/2019

Abandonment Contractor: GSI

Abandonment Method (check appropriate):

1. PVC → Pulled ☐ / Split ☐ / Perforated ☐ / Left-In-Place ☒
2. Abandoned → Grout ☐ / Bentonite Chips ☐

Field Equipment: N/A

ARM Representative(s): L. Perrin

Well Diameter (inches): 1.00

Depth to Bottom (TOC)	Final Gauging Prior to Abandonment:
Reported (historical/log):	Depth to Water (TOC): N/A
Measured: N/A	Depth to NAPL (TOC): N/A

Please note if this abandonment is for a known NAPL delineation/monitoring area or individual NAPL screening piezometer and identify the name of the delineation area (e.g., B6-066 NAPL Area or B5-144 Screening Piezometer): _____

Please Note: If NAPL is identified in a piezometer, the Project Manager should be notified and the piezometer may not be abandoned unless the presence of NAPL is already known and a decision has been made to abandon the NAPL monitoring network.

Additional Comments (if any): Previously destroyed; could not locate opening; did not abandon



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Well/Piezometer Abandonment Form

Well/Piezometer ID: B5-097-PZ

General Project Information:

Client: EAG

Site Location: Sparrows Point, MD

Parcel ID: B5

Abandonment Date: 3/20/2019

Abandonment Contractor: GSI

Abandonment Method (check appropriate):

1. PVC → Pulled ☐ / Split ☐ / Perforated ☐ / Left-In-Place ☒
2. Abandoned → Grout ☐ / Bentonite Chips ☐

Field Equipment: N/A

ARM Representative(s): L. Perrin

Well Diameter (inches): 1.00

Depth to Bottom (TOC)	Final Gauging Prior to Abandonment:
Reported (historical/log):	Depth to Water (TOC): N/A
Measured: N/A	Depth to NAPL (TOC): N/A

Please note if this abandonment is for a known NAPL delineation/monitoring area or individual NAPL screening piezometer and identify the name of the delineation area (e.g., B6-066 NAPL Area or B5-144 Screening Piezometer): _____

Please Note: If NAPL is identified in a piezometer, the Project Manager should be notified and the piezometer may not be abandoned unless the presence of NAPL is already known and a decision has been made to abandon the NAPL monitoring network.

Additional Comments (if any): Previously destroyed; could not locate opening; did not abandon



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Well/Piezometer Abandonment Form

Well/Piezometer ID: B5-098C-PZ

General Project Information:

Client: EAG

Site Location: Sparrows Point, MD

Parcel ID: B1 Subparcel

Abandonment Date: 1/4/2019

Abandonment Contractor: GSI

Abandonment Method (check appropriate):

1. PVC → Pulled ☒ / Split ☐ / Perforated ☐ / Left-In-Place ☐
2. Abandoned → Grout ☐ / Bentonite Chips ☒

Field Equipment: 3/8" bentonite chips

ARM Representative(s): L. Perrin

Well Diameter (inches): 1.00

Depth to Bottom (TOC)	Final Gauging Prior to Abandonment:
Reported (historical/log):	Depth to Water (TOC): 7.05
Measured: 12.83	Depth to NAPL (TOC): No DNAPL/LNAPL

Please note if this abandonment is for a known NAPL delineation/monitoring area or individual NAPL screening piezometer and identify the name of the delineation area (e.g., B6-066 NAPL Area or B5-144 Screening Piezometer): B5-098 NAPL Area

Please Note: If NAPL is identified in a piezometer, the Project Manager should be notified and the piezometer may not be abandoned unless the presence of NAPL is already known and a decision has been made to abandon the NAPL monitoring network.

Additional Comments (if any):



ARM Group LLC
Engineers and Scientists
9175 Guilford Road - Suite 310
Columbia, Maryland 21046
(410) 290-7775 FAX: (410) 290-7775

Well/Piezometer Abandonment Form

Well/Piezometer ID: B5-098H-PZ

General Project Information:

Client: EAG

Site Location: Sparrows Point, MD

Parcel ID: B1-2

Abandonment Date: 1/4/2019

Abandonment Contractor: GSI

Abandonment Method (check appropriate):

1. PVC → Pulled ☒ / Split ☐ / Perforated ☐ / Left-In-Place ☐
2. Abandoned → Grout ☐ / Bentonite Chips ☒

Field Equipment: 3/8" bentonite chips

ARM Representative(s): L. Perrin

Well Diameter (inches): 1.00

Depth to Bottom (TOC)	Final Gauging Prior to Abandonment:
Reported (historical/log):	Depth to Water (TOC): 6.05
Measured: 13.08	Depth to NAPL (TOC): No DNAPL/LNAPL

Please note if this abandonment is for a known NAPL delineation/monitoring area or individual NAPL screening piezometer and identify the name of the delineation area (e.g., B6-066 NAPL Area or B5-144 Screening Piezometer): B5-098 NAPL Area

Please Note: If NAPL is identified in a piezometer, the Project Manager should be notified and the piezometer may not be abandoned unless the presence of NAPL is already known and a decision has been made to abandon the NAPL monitoring network.

Additional Comments (if any): Pulled and chipped per E. Magdar



ARM Group LLC
Engineers and Scientists
9175 Guilford Road - Suite 310
Columbia, Maryland 21046
(410) 290-7775 FAX: (410) 290-7775

Well/Piezometer Abandonment Form

Well/Piezometer ID: B5-098I-PZ

General Project Information:

Client: EAG

Site Location: Sparrows Point, MD

Parcel ID: B1 Subparcel

Abandonment Date: 1/4/2019

Abandonment Contractor: GSI

Abandonment Method (check appropriate):

1. PVC → Pulled ☒ / Split ☐ / Perforated ☐ / Left-In-Place ☐
2. Abandoned → Grout ☐ / Bentonite Chips ☒

Field Equipment: 3/8" bentonite chips

ARM Representative(s): L. Perrin

Well Diameter (inches): 1.00

Depth to Bottom (TOC)	Final Gauging Prior to Abandonment:
Reported (historical/log):	Depth to Water (TOC): 7.70
Measured: 16.70	Depth to NAPL (TOC): No DNAPL/LNAPL

Please note if this abandonment is for a known NAPL delineation/monitoring area or individual NAPL screening piezometer and identify the name of the delineation area (e.g., B6-066 NAPL Area or B5-144 Screening Piezometer): B5-098 NAPL Area

Please Note: If NAPL is identified in a piezometer, the Project Manager should be notified and the piezometer may not be abandoned unless the presence of NAPL is already known and a decision has been made to abandon the NAPL monitoring network.

Additional Comments (if any):



ARM Group LLC
Engineers and Scientists
9175 Guilford Road - Suite 310
Columbia, Maryland 21046
(410) 290-7775 FAX: (410) 290-7775

APPENDIX D

June 8, 2021

Mr. Peter Haid
Tradepoint Atlantic
1600 Sparrows Point Boulevard
Baltimore, Maryland 21219

10975 Guilford Road, Suite A
Annapolis Junction, MD 20701
Phone (410) 880-4788
Fax (410) 880-4098
www.hcea.com

RE: Notice of Completion of Remedial Actions
Area B: Sub-Parcel B1-2
Logistics Centers XI and XII
Sparrows Point, Maryland
HCEA Project Number 19059B

Dear Mr. Haid:

Hillis-Carnes Engineering Associates, Inc. (HCEA) is pleased to provide this Notice of Completion of Remedial Actions (Notice) for Logistics Centers XI and XII at Area B: Sub-Parcel B1-2 in the Sparrows Point area of Baltimore County, Maryland (Site).

In conjunction with HCEA's environmental services at the Site, HCEA was provided with the Response and Development Work Plan (RADWP) for Area B: Sub-Parcel B1-2 (dated December 21, 2018). Based on observations made during HCEA's environmental monitoring at the Site, to the best of our knowledge, understanding, and belief, the environmental cap installed at the Site (e.g., pavement thickness, use of geotextile fabric, VCP-approved clean fill thickness) was installed in general accordance with the RADWP.

This Notice has been prepared for the exclusive use of the Client pursuant to the agreement between the Client and HCEA, and in accordance with generally accepted industry practices. All terms and conditions set forth in the agreement are incorporated herein. No warranty, express or implied, is made herein. Use and reproduction of this Notice by any other person is unauthorized.

HCEA appreciates the opportunity to have been of assistance on this project. If you have any questions regarding this Notice, please feel free to contact us at 410-880-4788.

Sincerely,

HILLIS-CARNES ENGINEERING ASSOCIATES, INC.



Christopher J. Hillis, P.E.
Project Engineer
chillis@hcea.com



Keith M. Progin
Senior Environmental Project Manager
kprogin@hcea.com

Corporate Headquarters - Annapolis Junction, MD

Maryland ♦ Washington, DC ♦ Delaware ♦ Pennsylvania ♦ Virginia ♦ Caribbean

APPENDIX E

Development Photograph Log
Sub-Parcel B1-2
Sparrows Point, Maryland



Photo 1: Utility excavation



Photo 2: Utility excavation

Development Photograph Log
Sub-Parcel B1-2
Sparrows Point, Maryland



Photo 3: Utility excavation

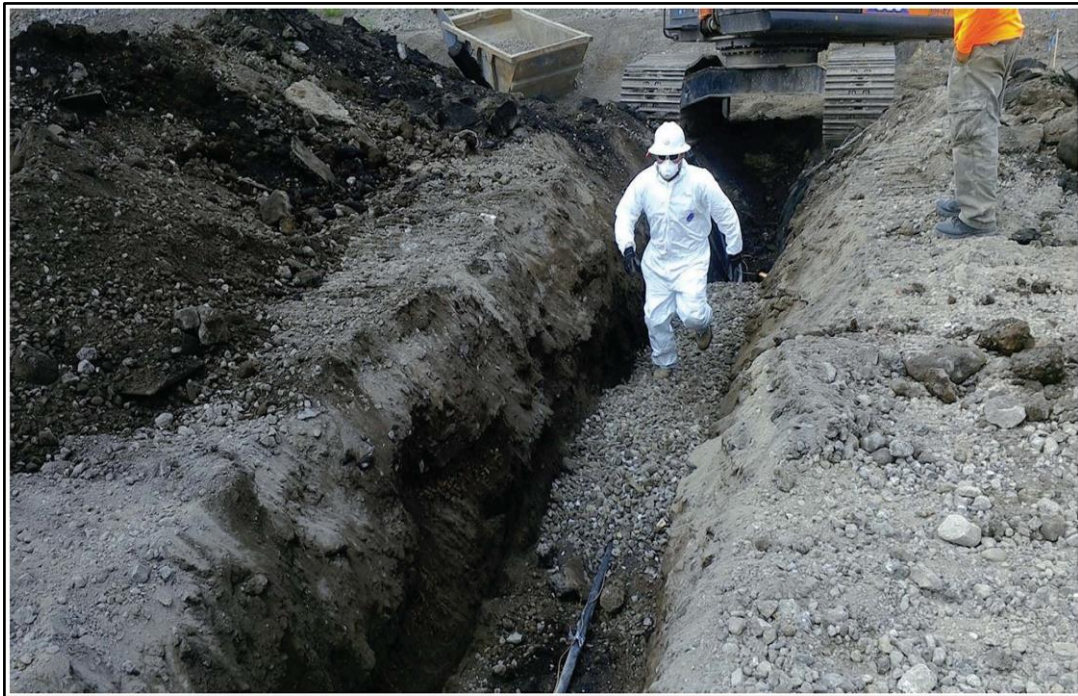


Photo 4: Utility placement

Development Photograph Log
Sub-Parcel B1-2
Sparrows Point, Maryland



Photo 5: Placement of fabric and clean fill in basin



Photo 6: Placement of fabric and clean fill in basin

Development Photograph Log
Sub-Parcel B1-2
Sparrows Point, Maryland



Photo 7: Thickness of clean fill on landscape area



Photo 8: Thickness of clean fill on landscape area

Development Photograph Log
Sub-Parcel B1-2
Sparrows Point, Maryland



Photo 9: Rail line and building exterior



Photo 10: Pavement activities

Development Photograph Log
Sub-Parcel B1-2
Sparrows Point, Maryland

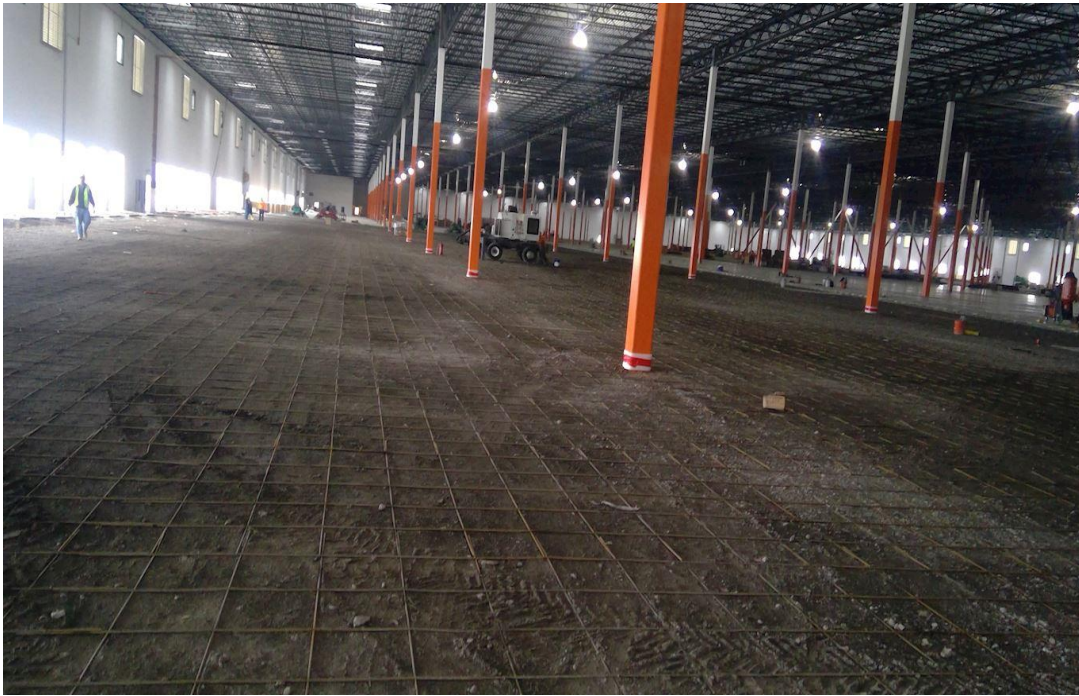


Photo 11: Interior concrete slab

APPENDIX F



ARM Group Inc.

Engineers and Scientists

April 29, 2019

Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

Re: Quarterly Development Status Update
First Quarter 2019
Area B: Sub-Parcel B1-2
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown,

ARM Group Inc. (ARM), on behalf of EnviroAnalytics Group (EAG), has prepared this Quarterly Development Status Update to document ongoing and completed development activities performed on Sub-Parcel B1-2 during the first quarter of 2019. The Sub-Parcel B1-2 Response and Development Work Plan (RADWP), Revision 1, dated February 5, 2019, was approved for implementation by the Maryland Department of the Environment (MDE) via email on February 6, 2019. A final version of this RADWP has not yet been approved pending the resolution of additional comments received from the United States Environmental Protection Agency (USEPA) on March 19, 2019. The overall development of Sub-Parcel B1-2 generally includes grading, placement of subbase, installation of utilities, construction of a warehouse building, paving, landscaping improvements, and installation of stormwater management features.

Environmental Oversight

Full-time oversight was performed by an Environmental Professional (EP) provided by Hillis Carnes Engineering Associates (HCEA) during intrusive development activities. In addition to general oversight to ensure compliance with environmental regulations and the development plans, the EP was responsible for performing dust monitoring and soil screening services during intrusive activities.

Development Progress

Development activities began prior to the first quarter of 2019 with FCL Builders as the General Contractor. To date, grading, cutting and fill, removal of debris from the obstructions and pits

that were encountered as well as the subsequent backfilling of the obstructions and pits, and the installation of the sanitary sewer line have been performed.

Dust Monitoring

Dust monitoring was performed with MetOne E-Sampler dust monitors. Dust control measures would be implemented if a sustained level above 3.0 milligrams per cubic meter (mg/m³) was observed. During the first quarter of 2019, no exceedances of the 3.0 mg/m³ action level were observed. However, it should be noted that dust monitors were not deployed on several days due to equipment malfunctions, due to the recorded outside temperatures being below the monitors operating parameters, or due to precipitation and wet conditions that controlled any dust. When electronic dust monitoring was not possible, visual dust monitoring was performed. No visible dust migration was observed in the first quarter of 2019. When dust generation was anticipated due to site conditions and planned development work, the Contractor utilized a water truck to suppress dust.

Soil Management

Slag brought to the site was placed and graded across the majority of the development area. Utility trenches were backfilled with 57 stone covered with slag. Pit excavations were backfilled with oversize stone covered with slag. The EP screened excavated material with a MultiRAE photoionization detector (PID). No elevated PID readings, odors, or staining were detected in any of the soils inspected. Therefore, no materials segregation, material stockpiling, or offsite removal of soils to Greys Landfill or elsewhere were required. Concrete and other debris removed during pit excavations have been stockpiled in the eastern portion of Parcel B10.

Water Management

No dewatering was required in January 2019. In February and March 2019, dewatering was pumped to a drain on the western portion of the parcel that conveys to the Humphreys Creek Wastewater Treatment Plant (HCWWTP).

Notable Occurrences

An oily substance was detected in a pit (designated as SGS-212) encountered during excavation. The substance appeared to originate from the debris and equipment located in the pit and did not appear to be seeping or bleeding into the pit. The water from the pit was pumped into a frac tank. The oily substance was no longer present after the debris/equipment was removed from the pit.

HCEA collected two water samples for laboratory analysis, one from the frac tank, and one from water re-entering the pit. Based on the results, Tradepoint Atlantic personnel permitted pumping the water from the pit into the drain that conveys to the HCWWTP. In addition, Tradepoint Atlantic personnel permitted the frac tank to be discharged to the HCWWTP.



HCEA and Tradepoint Atlantic were in contact with the MDE throughout this event. On April 1, Barbara Brown with the MDE visited the Site and granted approval to backfill the pit. Approval documentation will be provided in the Sub-Parcel B1-2 Development Completion Report.

If you have questions regarding any information covered in this document, please feel free to contact ARM Group Inc. at (410) 290-7775.

Respectfully Submitted,
ARM Group Inc.



Melissa A. Replogle, E.I.T.
Staff Engineer



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





ARM Group Inc.

Engineers and Scientists

July 30, 2019

Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

Re: Quarterly Development Status Update
Second Quarter 2019
Area B: Sub-Parcel B1-2
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown,

ARM Group Inc. (ARM), on behalf of EnviroAnalytics Group (EAG), has prepared this Quarterly Development Status Update to document ongoing and completed development activities performed on Sub-Parcel B1-2 during the second quarter of 2019. The Sub-Parcel B1-2 Response and Development Work Plan (RADWP), Revision 1, dated February 5, 2019, was approved for implementation by the Maryland Department of the Environment (MDE) via email on February 6, 2019. A final version of this RADWP has not yet been approved pending the resolution of additional comments received from the United States Environmental Protection Agency (USEPA) on March 19, 2019. The overall development of Sub-Parcel B1-2 generally includes grading, placement of subbase, installation of utilities, construction of a warehouse building, paving, landscaping improvements, and installation of stormwater management features.

Piezometer and Well Abandonment

Permanent monitoring wells SW-059-MWS, SW-067-MWS, SW-069-MWS, SW08-PZM003, and SW08-PZM053 were located within the Sub-Parcel B1-2 development boundary. Permanent monitoring well SW08-PZM003 was properly abandoned in accordance with COMAR 26.04.04.34 through 36 on January 4, 2019. Permanent monitoring well SW-059-MWS was grouted in place on January 4, 2019 due to bent casing. Permanent monitoring wells SW-067-MWS, SW-069-MWS, and SW08-PZM053 were properly abandoned in accordance with COMAR 26.04.04.34 through 36 on March 20, 2019.

Three NAPL delineation piezometers (B5-098C-PZ, B5-098H-PZ, and B5-098I-PZ) in the vicinity of the B5-098-PZ Response Area were located within the Sub-Parcel B1-2 development

area. These three piezometers were properly abandoned in accordance with COMAR 26.04.04.34 through 36 on January 4, 2019. Two additional piezometers (B1-088-PZ and B5-097-PZ) were previously located within the Sub-Parcel B1-2 development area, but both locations were observed to have been destroyed (following the completion of the 30-day NAPL gauging measurements) by vehicle traffic or other causes.

There are no remaining piezometers or wells on the sub-parcel. Abandonment records will be provided in the Sub-Parcel B1-2 Development Completion Report.

Environmental Oversight

Full-time oversight was performed by an Environmental Professional (EP) provided by Hillis Carnes Engineering Associates (HCEA) during intrusive development activities. In addition to general oversight to ensure compliance with environmental regulations and the development plans, the EP was responsible for performing dust monitoring and soil screening services during intrusive activities.

Development Progress

Development activities began prior to the second quarter of 2019 with FCL Builders as the General Contractor. Work performed to date has included site grading (cut and fill); removal of debris from the obstructions and pits that were encountered; backfilling of the obstructions and pits; and installation of sanitary sewer line, water line, and storm drain.

Dust Monitoring

Dust monitoring was performed with MetOne E-Sampler dust monitors. Dust control measures would be implemented if a sustained level above 3.0 milligrams per cubic meter (mg/m^3) was observed. During the second quarter of 2019, no exceedances of the $3.0 \text{ mg}/\text{m}^3$ action level were observed. When dust generation was anticipated due to site conditions and planned development work, the Contractor utilized a water truck to suppress dust.

Soil Management

Slag brought to the site was placed and graded across the majority of the development area. Utility trenches were backfilled with 57 stone covered with slag. Pit excavations were backfilled with oversize stone covered with slag. The EP screened excavated material with a MultiRAE photoionization detector (PID). Approximately 300 cubic yards of excavated soil were stockpiled in April 2019 due to elevated PID readings. The stockpiled soil was placed on plastic in the southeastern portion of Sub-Parcel B1-2 and covered with plastic. One composite sample was collected from the stockpiled soil and analyzed for PP Metals, PCBs, diesel range organics, gasoline range organics, and hexavalent chromium. Following receipt of the laboratory results, the MDE approved the soil for reuse under a capped parking area. Additional documentation will be provided in the Development Completion Report.



No elevated PID readings, odors, or staining were detected in any of the soils inspected in May or June 2019. Therefore, no materials segregation, material stockpiling, or offsite removal of soils to Greys Landfill or elsewhere were required in May or June 2019. Excavated soil that did not exhibit evidence of contamination has been used as site backfill. Concrete and other debris removed during pit excavations have been stockpiled in the eastern portion of Parcel B10.

Water Management

During the second quarter of 2019, dewatering was pumped to a drain on the western portion of the parcel that conveys to the Humphreys Creek Wastewater Treatment Plant (HCWWTP).

If you have questions regarding any information covered in this document, please feel free to contact ARM Group Inc. at (410) 290-7775.

Respectfully Submitted,
ARM Group Inc.



Melissa A. Replogle, E.I.T.
Project Engineer



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





ARM Group Inc.

Engineers and Scientists

October 30, 2019

Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

Re: Quarterly Development Status Update
Third Quarter 2019
Area B: Sub-Parcel B1-2
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown,

ARM Group Inc. (ARM), on behalf of EnviroAnalytics Group (EAG), has prepared this Quarterly Development Status Update to document ongoing and completed development activities performed on Sub-Parcel B1-2 during the third quarter of 2019. The Sub-Parcel B1-2 Response and Development Work Plan (RADWP), Revision 1, dated February 5, 2019, was approved for implementation by the Maryland Department of the Environment (MDE) via email on February 6, 2019. The Maryland Department of the Environment (MDE) provided approval of Revision 2 via email on June 18, 2019. A comment response letter was submitted to accompany a revised version of the RADWP (Revision 3) on August 30, 2019 to address comments received from the United States Environmental Protection Agency (USEPA) via email on August 21, 2019 regarding the previous version of the RADWP (Revision 2 dated June 4, 2019). In their transmittal, the USEPA indicated that the RADWP is acceptable with the exception of select items identified in their comments. The overall development of Sub-Parcel B1-2 generally includes grading, placement of subbase, installation of utilities, construction of a warehouse building, paving, landscaping improvements, and installation of stormwater management features. Development work completed on Sub-Parcel B2-1 prior to July 1, 2019 is discussed in the previously submitted Quarterly Development Status Updates (October 31, 2018, January 30, 2019, April 29, 2019, and July 30, 2019).

Piezometer and Well Abandonment

Permanent monitoring wells SW-059-MWS, SW-067-MWS, SW-069-MWS, SW08-PZM003, and SW08-PZM053 were located within the Sub-Parcel B1-2 development boundary. Permanent monitoring well SW08-PZM003 was properly abandoned in accordance with COMAR 26.04.04.34 through 36 on January 4, 2019. Permanent monitoring well SW-059-

MWS was grouted in place on January 4, 2019 due to bent casing. Permanent monitoring wells SW-067-MWS, SW-069-MWS, and SW08-PZM053 were properly abandoned in accordance with COMAR 26.04.04.34 through 36 on March 20, 2019.

Three NAPL delineation piezometers (B5-098C-PZ, B5-098H-PZ, and B5-098I-PZ) in the vicinity of the B5-098-PZ Response Area were located within the Sub-Parcel B1-2 development area. These three piezometers were properly abandoned in accordance with COMAR 26.04.04.34 through 36 on January 4, 2019. Two additional piezometers (B1-088-PZ and B5-097-PZ) were previously located within the Sub-Parcel B1-2 development area, but both locations were observed to have been destroyed (following the completion of the 30-day NAPL gauging measurements) by vehicle traffic or other causes.

There are no remaining piezometers or wells on the sub-parcel. Abandonment records will be provided in the Sub-Parcel B1-2 Development Completion Report.

Environmental Oversight

Full-time oversight was performed by an Environmental Professional (EP) provided by Hillis Carnes Engineering Associates (HCEA) during intrusive development activities. In addition to general oversight to ensure compliance with environmental regulations and the development plans, the EP was responsible for performing dust monitoring and soil screening services during intrusive activities.

Development Progress

Development activities began prior to the third quarter of 2019 with FCL Builders as the General Contractor. Work performed to date has included site grading (cut and fill); removal of debris from the obstructions and pits that were encountered; backfilling of the obstructions and pits; excavation for and installation of sanitary sewer line, water line, and storm drain; building construction, and placement of clean fill.

Dust Monitoring

Dust monitoring was performed with MetOne E-Sampler dust monitors. Dust control measures would be implemented if a sustained level above 3.0 milligrams per cubic meter (mg/m^3) was observed. During the third quarter of 2019, no exceedances of the 3.0 mg/m^3 action level were observed. When dust generation was anticipated due to site conditions and planned development work, the Contractor utilized a water truck to suppress dust.



Soil Management

Slag brought to the site was placed and graded across the majority of the development area. The EP screened excavated material with a MultiRAE photoionization detector (PID). No elevated PID readings, odors, or staining were detected in any of the soils inspected during the third quarter of 2019. Therefore, no materials segregation, material stockpiling, or offsite removal of soils to Greys Landfill or elsewhere were required. Excavated soil that did not exhibit evidence of contamination has been used as site backfill. Documentation for all clean fill placed during the third quarter of 2019 will be provided in the Sub-Parcel B1-2 Development Completion Report.

Water Management

During the third quarter of 2019, dewatering was pumped to a drain on the western portion of the parcel that conveys to the Humphreys Creek Wastewater Treatment Plant (HCWWTP).

If you have questions regarding any information covered in this document, please feel free to contact ARM Group Inc. at (410) 290-7775.

Respectfully Submitted,
ARM Group Inc.



Melissa A. Replogle, E.I.T.
Project Engineer



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





ARM Group LLC

Engineers and Scientists

January 27, 2020

Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

Re: Quarterly Development Status Update
Fourth Quarter 2019
Area B: Sub-Parcel B1-2
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown,

On behalf of EnviroAnalytics Group, LLC (EAG), ARM Group LLC (ARM) has prepared this Quarterly Development Status Update to document ongoing and completed development activities performed on Sub-Parcel B1-2 during the fourth quarter of 2019. The Sub-Parcel B1-2 Response and Development Work Plan (RADWP), Revision 1, dated February 5, 2019, was approved for implementation by the Maryland Department of the Environment (MDE) via email on February 6, 2019. The Maryland Department of the Environment (MDE) provided approval of Revision 2 via email on June 18, 2019. A comment response letter was submitted to accompany a revised version of the RADWP (Revision 3) on August 30, 2019 to address comments received from the United States Environmental Protection Agency (USEPA) via email on August 21, 2019 regarding the previous version of the RADWP (Revision 2 dated June 4, 2019). In their transmittal, the USEPA indicated that the RADWP is acceptable with the exception of select items identified in their comments. The overall development of Sub-Parcel B1-2 generally includes grading, placement of subbase, installation of utilities, construction of warehouse buildings, paving, landscaping improvements, and installation of stormwater management features. Development work completed on Sub-Parcel B2-1 prior to October 1, 2019 is discussed in the previously submitted Quarterly Development Status Updates (October 31, 2018, January 30, 2019, April 29, 2019, July 30, 2019, and October 30, 2019).

Piezometer and Well Abandonment

Permanent monitoring wells SW-059-MWS, SW-067-MWS, SW-069-MWS, SW08-PZM003, and SW08-PZM053 were located within the Sub-Parcel B1-2 development boundary. Permanent monitoring well SW08-PZM003 was properly abandoned in accordance with COMAR

26.04.04.34 through 36 on January 4, 2019. Permanent monitoring well SW-059-MWS was grouted in place on January 4, 2019 due to bent casing. Permanent monitoring wells SW-067-MWS, SW-069-MWS, and SW08-PZM053 were properly abandoned in accordance with COMAR 26.04.04.34 through 36 on March 20, 2019.

Three NAPL delineation piezometers (B5-098C-PZ, B5-098H-PZ, and B5-098I-PZ) in the vicinity of the B5-098-PZ Response Area were located within the Sub-Parcel B1-2 development area. These three piezometers were properly abandoned in accordance with COMAR 26.04.04.34 through 36 on January 4, 2019. Two additional piezometers (B1-088-PZ and B5-097-PZ) were previously located within the Sub-Parcel B1-2 development area, but both locations were observed to have been destroyed (following the completion of the 30-day NAPL gauging measurements) by vehicle traffic or other causes.

There are no remaining piezometers or wells on the sub-parcel. Abandonment records will be provided in the Sub-Parcel B1-2 Development Completion Report.

Environmental Oversight

Full-time oversight was performed by an Environmental Professional (EP) provided by Hillis Carnes Engineering Associates (HCEA) during intrusive development activities. In addition to general oversight to ensure compliance with environmental regulations and the development plans, the EP was responsible for performing dust monitoring and soil screening services during intrusive activities.

Development Progress

Development activities began prior to the fourth quarter of 2019 with FCL Builders as the General Contractor. Work performed to date has included site grading (cut and fill); removal of debris from the obstructions and pits that were encountered; backfilling of the obstructions and pits; excavation for and installation of sanitary sewer line, water line, storm drain, and conduit; building construction; placement of clean fill; and paving.

Dust Monitoring

No electronic dust monitoring was performed during the fourth quarter of 2019 because construction activities across the site were limited, and the amount of soil spoils generated was limited. Instead, visual dust monitoring was performed, and no visible dust migration was observed in the fourth quarter of 2019. When dust generation was anticipated due to site conditions and planned development work, the Contractor utilized a water truck to suppress dust.



Soil Management

Slag brought to the site was placed and graded across the majority of the development area. The EP screened excavated material with a MultiRAE photoionization detector (PID). No elevated PID readings, odors, or staining were detected in any of the soils inspected during the fourth quarter of 2019. Therefore, no materials segregation, material stockpiling, or offsite removal of soils were required. Excavated soil that did not exhibit evidence of contamination has been used as site backfill. Documentation for all clean fill placed during the fourth quarter of 2019 will be provided in the Sub-Parcel B1-2 Development Completion Report.

Water Management

No dewatering was performed in the fourth quarter of 2019.

If you have questions regarding any information covered in this document, please feel free to contact ARM Group LLC at (410) 290-7775.

Respectfully Submitted,
ARM Group LLC



Melissa A. Replogle, E.I.T.
Project Engineer



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





ARM Group LLC

Engineers and Scientists

April 27, 2020

Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

Re: Quarterly Development Status Update
First Quarter 2020
Area B: Sub-Parcel B1-2
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown,

On behalf of EnviroAnalytics Group, LLC (EAG), ARM Group LLC (ARM) has prepared this Quarterly Development Status Update to document ongoing and completed development activities performed on Sub-Parcel B1-2 during the first quarter of 2020. The Sub-Parcel B1-2 Response and Development Work Plan (RADWP), Revision 1, dated February 5, 2019, was approved for implementation by the Maryland Department of the Environment (MDE) via email on February 6, 2019. The Maryland Department of the Environment (MDE) provided approval of Revision 2 via email on June 18, 2019. A comment response letter was submitted to accompany a revised version of the RADWP (Revision 3) on August 30, 2019 to address comments received from the United States Environmental Protection Agency (USEPA) via email on August 21, 2019 regarding the previous version of the RADWP (Revision 2 dated June 4, 2019). In their transmittal, the USEPA indicated that the RADWP is acceptable with the exception of select items identified in their comments. The overall development of Sub-Parcel B1-2 generally includes grading, placement of subbase, installation of utilities, construction of warehouse buildings, paving, landscaping improvements, and installation of stormwater management features. Development work completed on Sub-Parcel B2-1 prior to January 1, 2020 is discussed in the previously submitted Quarterly Development Status Updates (October 31, 2018, January 30, 2019, April 29, 2019, July 30, 2019, October 30, 2019, January 27, 2020).

Piezometer and Well Abandonment

No wells were installed or abandoned in the first quarter of 2020.

Permanent monitoring wells SW-059-MWS, SW-067-MWS, SW-069-MWS, SW08-PZM003, and SW08-PZM053 were located within the Sub-Parcel B1-2 development boundary. Permanent monitoring well SW08-PZM003 was properly abandoned in accordance with COMAR 26.04.04.34 through 36 on January 4, 2019. Permanent monitoring well SW-059-MWS was grouted in place on January 4, 2019 due to bent casing. Permanent monitoring wells SW-067-MWS, SW-069-MWS, and SW08-PZM053 were properly abandoned in accordance with COMAR 26.04.04.34 through 36 on March 20, 2019.

Three NAPL delineation piezometers (B5-098C-PZ, B5-098H-PZ, and B5-098I-PZ) in the vicinity of the B5-098-PZ Response Area were located within the Sub-Parcel B1-2 development area. These three piezometers were properly abandoned in accordance with COMAR 26.04.04.34 through 36 on January 4, 2019. Two additional piezometers (B1-088-PZ and B5-097-PZ) were previously located within the Sub-Parcel B1-2 development area, but both locations were observed to have been destroyed (following the completion of the 30-day NAPL gauging measurements) by vehicle traffic or other causes.

There are no remaining piezometers or wells on the sub-parcel. Abandonment records will be provided in the Sub-Parcel B1-2 Development Completion Report.

Environmental Oversight

Full-time oversight was performed by an Environmental Professional (EP) provided by Hillis Carnes Engineering Associates (HCEA) during intrusive development activities. In addition to general oversight to ensure compliance with environmental regulations and the development plans, the EP was responsible for performing dust monitoring and soil screening services during intrusive activities.

Development Progress

Development activities began prior to the first quarter of 2020 with FCL Builders as the General Contractor. Work performed to date has included site grading (cut and fill); removal of debris from the obstructions and pits that were encountered; backfilling of the obstructions and pits; excavation for and installation of sanitary sewer line, water line, storm drain, conduit, gate posts, bollards, and conduit for a basin pump; building construction; placement of marker fabric and clean fill; and paving.

Work in the first quarter of 2020 consisted of excavation and placement of sanitary line, storm drain, and conduit; excavation for gate posts, bollards, and conduit for a basin pump; marker fabric placement; and soil and debris removal for basin conversion.

Dust Monitoring

No electronic dust monitoring was performed during the first quarter of 2020 because the amount of soil spoils generated was limited. Instead, visual dust monitoring was performed, and no



visible dust migration was observed in the first quarter of 2020. When dust generation was anticipated due to site conditions and planned development work, the Contractor utilized a water truck to suppress dust.

Soil Management

The EP screened excavated material with a MultiRAE photoionization detector (PID). No elevated PID readings, odors, or staining were detected in any of the soils inspected during the first quarter of 2020. Therefore, no materials segregation, material stockpiling, or offsite removal of soils were required. Excavated soil that did not exhibit evidence of contamination has been used as site backfill. Documentation for all clean fill placed on the sub-parcel will be provided in the Sub-Parcel B1-2 Development Completion Report.

Water Management

No dewatering was performed in the first quarter of 2020.

If you have questions regarding any information covered in this document, please feel free to contact ARM Group LLC at (410) 290-7775.

Respectfully Submitted,
ARM Group LLC



Melissa A. Replogle, E.I.T.
Project Engineer



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





ARM Group LLC

Engineers and Scientists

July 31, 2020

Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

Re: Quarterly Development Status Update
Second Quarter 2020
Area B: Sub-Parcel B1-2
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown,

On behalf of EnviroAnalytics Group, LLC (EAG), ARM Group LLC (ARM) has prepared this Quarterly Development Status Update to document ongoing and completed development activities performed on Sub-Parcel B1-2 during the second quarter of 2020. The Sub-Parcel B1-2 Response and Development Work Plan (RADWP), Revision 1, dated February 5, 2019, was approved for implementation by the Maryland Department of the Environment (MDE) via email on February 6, 2019. The Maryland Department of the Environment (MDE) provided approval of Revision 2 via email on June 18, 2019. A comment response letter was submitted to accompany a revised version of the RADWP (Revision 3) on August 30, 2019 to address comments received from the United States Environmental Protection Agency (USEPA) via email on August 21, 2019 regarding the previous version of the RADWP (Revision 2 dated June 4, 2019). In their transmittal, the USEPA indicated that the RADWP is acceptable with the exception of select items identified in their comments.

The overall development of Sub-Parcel B1-2 generally includes grading, placement of subbase, installation of utilities, construction of warehouse buildings, paving, landscaping improvements, and installation of stormwater management features. Development work completed on Sub-Parcel B2-1 prior to April 1, 2020 is discussed in the previously submitted Quarterly Development Status Updates (October 31, 2018, January 30, 2019, April 29, 2019, July 30, 2019, October 30, 2019, January 27, 2020, and April 27, 2020).

Piezometer and Well Abandonment

No wells were installed or abandoned in the second quarter of 2020.

Permanent monitoring wells SW-059-MWS, SW-067-MWS, SW-069-MWS, SW08-PZM003, and SW08-PZM053 were located within the Sub-Parcel B1-2 development boundary. Permanent monitoring well SW08-PZM003 was properly abandoned in accordance with COMAR 26.04.04.34 through 36 on January 4, 2019. Permanent monitoring well SW-059-MWS was grouted in place on January 4, 2019 due to bent casing. Permanent monitoring wells SW-067-MWS, SW-069-MWS, and SW08-PZM053 were properly abandoned in accordance with COMAR 26.04.04.34 through 36 on March 20, 2019.

Three NAPL delineation piezometers (B5-098C-PZ, B5-098H-PZ, and B5-098I-PZ) in the vicinity of the B5-098-PZ Response Area were located within the Sub-Parcel B1-2 development area. These three piezometers were properly abandoned in accordance with COMAR 26.04.04.34 through 36 on January 4, 2019. Two additional piezometers (B1-088-PZ and B5-097-PZ) were previously located within the Sub-Parcel B1-2 development area, but both locations were observed to have been destroyed (following the completion of the 30-day NAPL gauging measurements) by vehicle traffic or other causes.

There are no remaining piezometers or wells on the sub-parcel. Abandonment records will be provided in the Sub-Parcel B1-2 Development Completion Report.

Environmental Oversight

Full-time oversight was performed by an Environmental Professional (EP) provided by Hillis Carnes Engineering Associates (HCEA) during intrusive development activities. In addition to general oversight to ensure compliance with environmental regulations and the development plans, the EP was responsible for performing dust monitoring and soil screening services during intrusive activities. No development work was performed in April 2020.

Development Progress

Development activities began prior to the second quarter of 2020 with FCL Builders as the General Contractor. Work performed to date has included site grading (cut and fill); removal of debris from the obstructions and pits that were encountered; backfilling of the obstructions and pits; excavation for and installation of sanitary sewer line, water line, storm drain, conduit, gate posts, bollards, and conduit for a basin pump; building construction; placement of marker fabric and clean fill; paving; and basin conversion.

Work in May and June 2020 consisted of soil and debris removal, liner installation, and clean fill placement for basin conversion.

Dust Monitoring

No electronic dust monitoring was performed during May and June 2020 because the amount of soil spoils generated was limited. Instead, visual dust monitoring was performed, and no visible



dust migration was observed in May and June 2020. When dust generation was anticipated due to site conditions and planned development work, the General Contractor utilized a water truck to suppress dust. No development work was performed in April 2020.

Soil Management

The EP screened excavated material with a MultiRAE photoionization detector (PID). No elevated PID readings, odors, or staining were detected in any of the soils inspected during May and June 2020. Therefore, no materials segregation, material stockpiling, or offsite removal of soils were required. Excavated soil that did not exhibit evidence of contamination was reworked and replaced inside the basin. No excess soil was generated during the second quarter of 2020 during basin work. Documentation for all clean fill placed on the sub-parcel will be provided in the Sub-Parcel B1-2 Development Completion Report.

Water Management

During May and June 2020, all dewatering discharges associated with the development of Sub-Parcel B1-2 were pumped to a drain that conveyed to the Humphreys Creek Wastewater Treatment Plant (HCWWTP).

Notable Occurrences

None

If you have questions regarding any information covered in this document, please feel free to contact ARM Group LLC at (410) 290-7775.

Respectfully Submitted,
ARM Group LLC



Melissa Replogle Hritz, E.I.T.
Project Engineer



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





ARM Group LLC

Engineers and Scientists

October 28, 2020

Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

Re: Quarterly Development Status Update
Third Quarter 2020
Area B: Sub-Parcel B1-2
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown,

On behalf of Tradepoint Atlantic, ARM Group LLC (ARM) has prepared this Quarterly Development Status Update to document ongoing and completed development activities performed on Sub-Parcel B1-2 during the third quarter of 2020. The Sub-Parcel B1-2 Response and Development Work Plan (RADWP), Revision 1, dated February 5, 2019, was approved for implementation by the Maryland Department of the Environment (MDE) via email on February 6, 2019. The Maryland Department of the Environment (MDE) provided approval of Revision 2 via email on June 18, 2019. A comment response letter was submitted to accompany a revised version of the RADWP (Revision 3) on August 30, 2019 to address comments received from the United States Environmental Protection Agency (USEPA) via email on August 21, 2019 regarding the previous version of the RADWP (Revision 2 dated June 4, 2019). In their transmittal, the USEPA indicated that the RADWP is acceptable with the exception of select items identified in their comments.

The overall development of Sub-Parcel B1-2 generally includes grading, placement of subbase, installation of utilities, construction of warehouse buildings, paving, landscaping improvements, and installation of stormwater management features. Development work completed on Sub-Parcel B1-2 prior to July 1, 2020 is discussed in the previously submitted Quarterly Development Status Updates (October 31, 2018, January 30, 2019, April 29, 2019, July 30, 2019, October 30, 2019, January 27, 2020, April 27, 2020, and January 31, 2020).

Piezometer and Well Abandonment

No wells were installed or abandoned in the third quarter of 2020.

Permanent monitoring wells SW-059-MWS, SW-067-MWS, SW-069-MWS, SW08-PZM003, and SW08-PZM053 were located within the Sub-Parcel B1-2 development boundary. Permanent monitoring well SW08-PZM003 was properly abandoned in accordance with COMAR 26.04.04.34 through 36 on January 4, 2019. Permanent monitoring well SW-059-MWS was grouted in place on January 4, 2019 due to bent casing. Permanent monitoring wells SW-067-MWS, SW-069-MWS, and SW08-PZM053 were properly abandoned in accordance with COMAR 26.04.04.34 through 36 on March 20, 2019.

Three NAPL delineation piezometers (B5-098C-PZ, B5-098H-PZ, and B5-098I-PZ) in the vicinity of the B5-098-PZ Response Area were located within the Sub-Parcel B1-2 development area. These three piezometers were properly abandoned in accordance with COMAR 26.04.04.34 through 36 on January 4, 2019. Two additional piezometers (B1-088-PZ and B5-097-PZ) were previously located within the Sub-Parcel B1-2 development area, but both locations were observed to have been destroyed (following the completion of the 30-day NAPL gauging measurements) by vehicle traffic or other causes.

There are no remaining piezometers or wells on the sub-parcel. Abandonment records will be provided in the Sub-Parcel B1-2 Development Completion Report.

Environmental Oversight

Full-time oversight was performed by an Environmental Professional (EP) provided by Hillis Carnes Engineering Associates (HCEA) during intrusive development activities. In addition to general oversight to ensure compliance with environmental regulations and the development plans, the EP was responsible for performing dust monitoring and soil screening services during intrusive activities.

Development Progress

Development activities began prior to the third quarter of 2020 with FCL Builders as the General Contractor. Work performed to date has included site grading (cut and fill); removal of debris from the obstructions and pits that were encountered; backfilling of the obstructions and pits; excavation for and installation of sanitary sewer line, water line, storm drain, conduit, gate posts, bollards, and conduit for a basin pump; building construction; placement of marker fabric and clean fill; paving; and basin conversion.

Work in the third quarter of 2020 consisted of liner installation, and placement of clean fill and topsoil for basin conversion.

Dust Monitoring

No electronic dust monitoring was performed during the third quarter of 2020 because no excavations were performed. Instead, visual dust monitoring was performed, and no visible dust



migration was observed. When dust generation was anticipated due to site conditions and planned development work, the General Contractor utilized a water truck to suppress dust.

Soil Management

During the third quarter of 2020, no excavations were completed, and no soil screening was performed. Therefore, no materials segregation, material stockpiling, or offsite removal of soils were required. No excess soil was generated during the third quarter of 2020 during basin work. Documentation for all clean fill placed on the sub-parcel will be provided in the Sub-Parcel B1-2 Development Completion Report.

Water Management

During the third quarter of 2020, all dewatering discharges associated with the development of Sub-Parcel B1-2 were pumped through filter bags to a drain that conveyed to the Tin Mill Canal, which leads to the Humphreys Creek Wastewater Treatment Plant (HCWWTP).

Notable Occurrences

None

If you have questions regarding any information covered in this document, please feel free to contact ARM Group LLC at (410) 290-7775.

Respectfully Submitted,
ARM Group LLC



Melissa Replogle Hritz, E.I.T.
Project Engineer



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



APPENDIX G

Memo

To: Mr. Peter Haid – Tradepoint Atlantic
From: Mr. Keith Progin
Date: February 19, 2019
Re: Sub-Parcel B1-2 - Pre-Construction Meeting

On February 19, 2019, a pre-construction meeting for Sub-Parcel B1-2 was held at FCL's field trailer. In attendance were:

- Mr. Peter Haid – Tradepoint Atlantic
- Mr. Matthew Newman – Tradepoint Atlantic
- Mr. Keith Progin – Hillis-Carnes Engineering Associates
- Mr. Jeff Bonfoey – FCL
- Mr. Kurt Kongsten – FCL
- Mr. Frank Szazy Jr. – FCL
- Mr. Jim Sjoberg – FCL
- Mr. Alec Pena-Rios – FCL
- Mr. Tim Johnson - FCL

During this meeting, the Environmental Professional roles that will be performed by Hillis-Carnes during the applicable portions of the development project were discussed.

APPENDIX H

From: Brandon Bonanno
Sent: Wednesday, December 13, 2017 8:18 AM
To: Teague, Wesley <wteague@indexc.com>
Cc: Scott Lang <slang@mcmdemo.com>
Subject: A3 Clean Fill - VCP Soil Approval - Back River Soil

Wesley – Below is the approval from MDE on the soil that will be used on the A-3 project. The e-mail chain below was to TPA as the same soil was used at Clean Fill for the Under Armor project.

Please let me know if you need any additional information. Feel free to have your geotech call me as well but if it is Hillis-Carnes then they should be familiar with this material as they were the geotechs for the UA project.

Thank you,

Brandon J. Bonanno

Vice President, Operations
MCM Management Corporation
bbonanno@mcmdemo.com
Cell Phone: 410-292-6356

From: Brandon Bonanno
Sent: Friday, April 07, 2017 9:03 AM
To: Justin Dunn (jdunn@tradepointdevelopment.com)
Subject: FW: VCP Soil Approval - Back River Soil

Justin – Below is the e-mail approval from Barbara Brown/MDE on the Back River Soil. This is all that was provided from MDE as approval.

Barbara is aware of the soil and its use on-site and on the FedEx project.

When this question came up, I called Barbara and asked for her to resend her approval which is what was sent in her March 15th e-mail below.

Thank you,

Brandon J. Bonanno

Vice President of Operations
MCM Management Corporation
bbonanno@mcmdemo.com
410-292-6356

From: Brandon Bonanno
Sent: Wednesday, March 15, 2017 8:47 AM
To: Justin Dunn (jdunn@tradepointdevelopment.com)
Subject: VCP Soil Approval - Back River Soil

See original approval from MDE below on the Back River Soil. The area that she mentions in her e-mail was excavated and kept on-site at Back River and never was brought to Sparrows Point.

The key in the e-mail approval is the following statement:

Sparrows Point may use the remaining in-situ soil within the area defined on the attached map at their discretion.

This allows use of the material anywhere at Sparrows Point for whatever use you need.

Thank you,

Brandon J. Bonanno

Vice President of Operations
MCM Management Corporation
bbonanno@mcmdemo.com
410-292-6356

From: Barbara Brown -MDE- [<mailto:barbara.brown1@maryland.gov>]
Sent: Wednesday, March 15, 2017 8:41 AM
To: Brandon Bonanno
Subject: Fwd: Sampling Report

----- Forwarded message -----

From: **Barbara Brown -MDE-** <barbara.brown1@maryland.gov>
Date: Wed, Aug 26, 2015 at 5:05 PM
Subject: Fwd: Sampling Report
To: Brandon Bonanno <bbonanno@mcmdemo.com>

----- Forwarded message -----

From: **Barbara Brown -MDE-** <barbara.brown1@maryland.gov>
Date: Tue, Apr 21, 2015 at 9:58 AM
Subject: Re: Sampling Report
To: "McMillan, Stephen" <smcmillan@walshgroup.com>, Mike Robertson <MRobertson@aec-env.com>, Brandon Bonanno <bbonanno@mcmdemo.com>, "Bhatia, Kapil" <kbhatia@walshgroup.com>

Hello All

As noted previously the soil sample from B-46 14-16' exceeds the allowable level of Arsenic for industrial use. Therefore, soil around B-46 will not be allowed to be transported to Sparrows Point. An investigation should be performed to define the area of elevated Arsenic that must be disposed of properly.

Sparrows Point may use the remaining in-situ soil within the area defined on the attached map at their discretion. This approval is only for Sparrows Point. Transport of soil from the defined area to any other location other than a permitted disposal facility will require separate approvals.

If soil that exhibits odors or staining is encountered during the removal operations it is not approved and should be segregated and properly staged for further testing.

If you have any questions regarding this approval please contact me.

Barbara Brown
MDE Project Coordinator

APPENDIX I

Analytical Report for
Hillis Carnes Engineering Associates
Certificate of Analysis No.: 19042613

Project Manager: Keith Progin
Project Name : Logistics Center XI
Project Location: Sparrows Point, MD
Project ID : 19059B



May 3, 2019
Phase Separation Science, Inc.
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.



May 3, 2019

Keith Progin
Hillis Carnes Engineering Associates
10975 Guilford Road, Ste. A
Annapolis Junction, MD 20701

Reference: PSS Work Order(s) No: **19042613**
Project Name: Logistics Center XI
Project Location: Sparrows Point, MD
Project ID.: 19059B

Dear Keith Progin :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **19042613**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on May 31, 2019, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal

Laboratory Manager



Sample Summary

Client Name: Hillis Carnes Engineering Associates

Project Name: Logistics Center XI

Work Order Number(s): 19042613

Project ID: 19059B

The following samples were received under chain of custody by Phase Separation Science (PSS) on 04/26/2019 at 04:45 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
19042613-001	S-1	SOIL	04/26/19 10:00
19042613-002	S-1-A	SOIL	04/26/19 10:00
19042613-003	S-1-B	SOIL	04/26/19 10:00

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- Fail The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
- J The target analyte was positively identified below the reporting limit but greater than the MDL.
- MDL This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
- ND Not Detected at or above the reporting limit.
- RL PSS Reporting Limit.
- U Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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BALTIMORE, MD 21228
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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 19042613

Hillis Carnes Engineering Associates, Annapolis Junction, MD

May 3, 2019

Project Name: Logistics Center XI

Project Location: Sparrows Point, MD

Project ID: 19059B

Sample ID: S-1 **Date/Time Sampled: 04/26/2019 10:00** **PSS Sample ID: 19042613-001**

Matrix: SOIL **Date/Time Received: 04/26/2019 16:45** **% Solids SM2540G-11: 92**

PP Metals plus Manganese

Analytical Method: SW-846 6020 A

Preparation Method: 3050B

Qualifier(s): See Batch 163771 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.4		1	04/28/19	04/29/19 17:52	1051
Arsenic	15	mg/kg	0.49		1	04/28/19	04/29/19 17:52	1051
Beryllium	ND	mg/kg	2.4		1	04/28/19	04/29/19 17:52	1051
Cadmium	ND	mg/kg	2.4		1	04/28/19	04/29/19 17:52	1051
Chromium	410	mg/kg	2.4		1	04/28/19	04/29/19 17:52	1051
Copper	300	mg/kg	2.4		1	04/28/19	04/29/19 17:52	1051
Lead	480	mg/kg	2.4		1	04/28/19	04/29/19 17:52	1051
Manganese	7,100	mg/kg	49		20	04/28/19	04/30/19 13:33	1051
Mercury	0.24	mg/kg	0.098		1	04/28/19	04/29/19 17:52	1051
Nickel	130	mg/kg	2.4		1	04/28/19	04/29/19 17:52	1051
Selenium	ND	mg/kg	2.4		1	04/28/19	04/29/19 17:52	1051
Silver	ND	mg/kg	2.4		1	04/28/19	04/29/19 17:52	1051
Thallium	ND	mg/kg	2.0		1	04/28/19	04/29/19 17:52	1051
Zinc	350	mg/kg	9.8		1	04/28/19	04/29/19 17:52	1051

Polychlorinated Biphenyls

Analytical Method: SW-846 8082 A

Preparation Method: SW3550C

Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.054		1	04/30/19	05/01/19 15:26	1029
PCB-1221	ND	mg/kg	0.054		1	04/30/19	05/01/19 15:26	1029
PCB-1232	ND	mg/kg	0.054		1	04/30/19	05/01/19 15:26	1029
PCB-1242	0.11	mg/kg	0.054		1	04/30/19	05/01/19 15:26	1029
PCB-1248	ND	mg/kg	0.054		1	04/30/19	05/01/19 15:26	1029
PCB-1254	ND	mg/kg	0.054		1	04/30/19	05/01/19 15:26	1029
PCB-1260	ND	mg/kg	0.054		1	04/30/19	05/01/19 15:26	1029

Surrogate(s)	Recovery		Limits					
Tetrachloro-m-xylene	62	%	42-142		1	04/30/19	05/01/19 15:26	1029
Decachlorobiphenyl	57	%	61-150	*	1	04/30/19	05/01/19 15:26	1029

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 19042613

Hillis Carnes Engineering Associates, Annapolis Junction, MD

May 3, 2019

Project Name: Logistics Center XI

Project Location: Sparrows Point, MD

Project ID: 19059B

Sample ID: S-1-A	Date/Time Sampled: 04/26/2019 10:00	PSS Sample ID: 19042613-002
Matrix: SOIL	Date/Time Received: 04/26/2019 16:45	% Solids SM2540G-11: 94
Total Petroleum Hydrocarbons - DRO	Analytical Method: SW-846 8015 C	Preparation Method: SW3550C

DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	2,700	mg/kg	89	DF	5	05/01/19	05/03/19 12:42	1059
Surrogate(s)	Recovery							
o-Terphenyl	101	%	37-120		5	05/01/19	05/03/19 12:42	1059

Total Petroleum Hydrocarbons-GRO	Analytical Method: SW-846 8015C	Preparation Method: 5030
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	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/kg	100		1	05/02/19	05/02/19 17:34	1045
Surrogate(s)	Recovery							
a,a,a-Trifluorotoluene	75	%	56-114		1	05/02/19	05/02/19 17:34	1045

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 19042613

Hillis Carnes Engineering Associates, Annapolis Junction, MD

May 3, 2019

Project Name: Logistics Center XI

Project Location: Sparrows Point, MD

Project ID: 19059B

Sample ID: S-1-B	Date/Time Sampled: 04/26/2019 10:00	PSS Sample ID: 19042613-003
Matrix: SOIL	Date/Time Received: 04/26/2019 16:45	% Solids SM2540G-11: 87
Total Petroleum Hydrocarbons - DRO	Analytical Method: SW-846 8015 C	Preparation Method: SW3550C

DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	450	mg/kg	19	DF	5	05/01/19	05/03/19 11:27	1059
Surrogate(s)	Recovery							
o-Terphenyl	101	%	37-120		5	05/01/19	05/03/19 11:27	1059

Total Petroleum Hydrocarbons-GRO	Analytical Method: SW-846 8015C	Preparation Method: 5030
----------------------------------	---------------------------------	--------------------------

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/kg	110		1	05/02/19	05/02/19 18:05	1045
Surrogate(s)	Recovery							
a,a,a-Trifluorotoluene	97	%	56-114		1	05/02/19	05/02/19 18:05	1045



Case Narrative Summary

Client Name: Hillis Carnes Engineering Associates

Project Name: Logistics Center XI

Work Order Number(s): 19042613

Project ID: 19059B

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for drinking water and non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

Analytical:

Total Metals

Batch: 163771

Matrix spike/matrix spike duplicate (MS/MSD) and/or Relative Percent Difference (RPD) exceedances identified; see MS summary form.

The concentration of the following analyte(s) in the reference sample was greater than four times the matrix spike concentration :manganese, nickel

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

SW-846 5030



Analytical Data Package Information Summary

Work Order(s): 19042613

Report Prepared For: Hillis Carnes Engineering Associates, Annapo

Project Name: Logistics Center XI

Project Manager: Keith Progin

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SM2540G	S-1	Initial	19042613-001	1061	S	163760	163760	04/26/2019	04/29/2019 15:08	04/29/2019 15:08
	S-1-A	Initial	19042613-002	1061	S	163760	163760	04/26/2019	04/29/2019 15:08	04/29/2019 15:08
	S-1-B	Initial	19042613-003	1061	S	163760	163760	04/26/2019	04/29/2019 15:08	04/29/2019 15:08
	163760-1-BLK	BLK	163760-1-BLK	1061	S	163760	163760	-----	04/29/2019 15:08	04/29/2019 15:08
	H7-G-CON-1 D	MD	19042904-001 D	1061	S	163760	163760	04/26/2019	04/29/2019 15:08	04/29/2019 15:08
	H7-G-CON-11 D	MD	19042904-011 D	1061	S	163760	163760	04/26/2019	04/29/2019 15:08	04/29/2019 15:08
	12344-Sidewall-DSW-P49/50-30'-04/26 D	MD	19042910-002 D	1061	S	163760	163760	04/26/2019	04/29/2019 15:08	04/29/2019 15:08
	Sample #10 D	MD	19042913-010 D	1061	S	163760	163760	04/27/2019	04/29/2019 17:05	04/29/2019 17:05
SW-846 6020 A	S-1	Initial	19042613-001	1051	S	76545	163771	04/26/2019	04/28/2019 14:50	04/29/2019 17:52
	76545-1-BKS	BKS	76545-1-BKS	1051	S	76545	163771	-----	04/28/2019 14:50	04/29/2019 17:46
	76545-1-BLK	BLK	76545-1-BLK	1051	S	76545	163771	-----	04/28/2019 14:50	04/29/2019 17:40
	S-1 S	MS	19042613-001 S	1051	S	76545	163771	04/26/2019	04/28/2019 14:50	04/29/2019 17:57
	S-1 S	Reanalysis	19042613-001 S	1051	S	76545	163771	04/26/2019	04/28/2019 14:50	04/29/2019 17:57
	S-1 SD	MSD	19042613-001 SD	1051	S	76545	163771	04/26/2019	04/28/2019 14:50	04/29/2019 18:03
	S-1 SD	Reanalysis	19042613-001 SD	1051	S	76545	163771	04/26/2019	04/28/2019 14:50	04/29/2019 18:03
	S-1	Reanalysis	19042613-001	1051	S	76545	163811	04/26/2019	04/28/2019 14:50	04/30/2019 13:33
SW-846 8015 C	12344-Sidewall-DSW-35'-P48/49-04/29 S	MS	19043008-002 S	1059	S	76581	163915	04/29/2019	05/01/2019 08:13	05/02/2019 16:19
	12344-Sidewall-DSW-35'-P48/49-04/29 SD	MSD	19043008-002 SD	1059	S	76581	163915	04/29/2019	05/01/2019 08:13	05/02/2019 16:44
	76581-1-BKS	BKS	76581-1-BKS	1059	S	76581	163916	-----	05/01/2019 08:13	05/02/2019 16:19
	76581-1-BLK	BLK	76581-1-BLK	1059	S	76581	163916	-----	05/01/2019 08:13	05/02/2019 15:54
	76581-1-BSD	BSD	76581-1-BSD	1059	S	76581	163916	-----	05/01/2019 08:13	05/02/2019 16:44
	S-1-A	Initial	19042613-002	1059	S	76581	163938	04/26/2019	05/01/2019 08:13	05/03/2019 12:42
	S-1-B	Initial	19042613-003	1059	S	76581	163938	04/26/2019	05/01/2019 08:13	05/03/2019 11:27
SW-846 8015C	S-1-A	Initial	19042613-002	1045	S	76615	163902	04/26/2019	05/02/2019 10:58	05/02/2019 17:34
	S-1-B	Initial	19042613-003	1045	S	76615	163902	04/26/2019	05/02/2019 10:58	05/02/2019 18:05
	76615-2-BKS	BKS	76615-2-BKS	1045	S	76615	163902	-----	05/02/2019 10:58	05/02/2019 11:28



Analytical Data Package Information Summary

Work Order(s): 19042613

Report Prepared For: Hillis Carnes Engineering Associates, Annapo

Project Name: Logistics Center XI

Project Manager: Keith Progin

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8015C	76615-2-BLK	BLK	76615-2-BLK	1045	S	76615	163902	-----	05/02/2019 10:58	05/02/2019 13:30
	76615-2-BSD	BSD	76615-2-BSD	1045	S	76615	163902	-----	05/02/2019 10:58	05/02/2019 11:58
	419-LP-01 S	MS	19042609-001 S	1045	S	76615	163902	04/24/2019	05/02/2019 10:58	05/02/2019 12:29
	419-LP-01 SD	MSD	19042609-001 SD	1045	S	76615	163902	04/24/2019	05/02/2019 10:58	05/02/2019 13:00
SW-846 8082 A	76561-1-BKS	BKS	76561-1-BKS	1029	S	76561	163840	-----	04/30/2019 08:08	04/30/2019 13:13
	76561-1-BLK	BLK	76561-1-BLK	1029	S	76561	163840	-----	04/30/2019 08:08	04/30/2019 12:16
	76561-1-BSD	BSD	76561-1-BSD	1029	S	76561	163840	-----	04/30/2019 08:08	04/30/2019 13:42
	Sample #2 S	MS	19042913-002 S	1029	S	76561	163840	04/27/2019	04/30/2019 08:08	04/30/2019 14:09
	Sample #2 SD	MSD	19042913-002 SD	1029	S	76561	163840	04/27/2019	04/30/2019 08:08	04/30/2019 14:38
	S-1	Initial	19042613-001	1029	S	76561	163883	04/26/2019	04/30/2019 08:08	05/01/2019 15:26

PHASE SEPARATION SCIENCE, INC.

QC Summary 19042613

Hillis Carnes Engineering Associates
Logistics Center XI

Analytical Method: SW-846 6020 A

Seq Number: 163771

MB Sample Id: 76545-1-BLK

Matrix: Solid

LCS Sample Id: 76545-1-BKS

Prep Method: SW3050B

Date Prep: 04/28/19

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<1.963	15.71	16.57	105	80-120	mg/kg	
Arsenic	<0.3926	15.71	15.95	102	80-120	mg/kg	
Beryllium	<1.963	15.71	15.09	96	80-120	mg/kg	
Cadmium	<1.963	15.71	15.96	102	80-120	mg/kg	
Chromium	<1.963	15.71	16.11	103	80-120	mg/kg	
Copper	<1.963	15.71	15.78	100	80-120	mg/kg	
Lead	<1.963	15.71	16.57	105	80-120	mg/kg	
Manganese	<1.963	15.71	16.24	103	80-120	mg/kg	
Mercury	<0.07853	0.3926	0.3718	95	80-120	mg/kg	
Nickel	<1.963	15.71	16.39	104	80-120	mg/kg	
Selenium	<1.963	15.71	15.38	98	80-120	mg/kg	
Silver	<1.963	15.71	15.86	101	80-120	mg/kg	
Thallium	<1.571	15.71	15.95	102	80-120	mg/kg	
Zinc	<7.853	78.53	79.43	101	80-120	mg/kg	

Analytical Method: SW-846 6020 A

Seq Number: 163771

Parent Sample Id: 19042613-001

Matrix: Soil

MS Sample Id: 19042613-001 S

Prep Method: SW3050B

Date Prep: 04/28/19

MSD Sample Id: 19042613-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Antimony	<2.045	16.36	10.35	63	11.55	66	75-125	11	30	mg/kg	X
Arsenic	14.86	16.36	29.17	87	31.81	96	75-125	9	30	mg/kg	
Beryllium	<2.045	16.36	12.54	77	14.47	82	75-125	14	30	mg/kg	
Cadmium	<2.045	16.36	16.65	102	17.88	102	75-125	7	30	mg/kg	
Chromium	406.6	16.36	465.1	358	365.5	0	75-125	24	30	mg/kg	X
Copper	295.8	16.36	211.9	0	211.1	0	75-125	0	30	mg/kg	X
Lead	477.2	16.36	494.5	106	646.2	960	75-125	27	30	mg/kg	X
Manganese	6609	16.36	8430	11131	6887	1579	75-125	20	30	mg/kg	X
Mercury	0.2360	0.4090	0.6193	94	0.6256	89	75-125	1	30	mg/kg	
Nickel	129.6	16.36	128.7	0	140.9	64	75-125	9	30	mg/kg	X
Selenium	<2.045	16.36	12.34	75	12.68	72	75-125	3	30	mg/kg	X
Silver	<2.045	16.36	15.92	97	17.14	97	75-125	7	30	mg/kg	
Thallium	<1.636	16.36	15.50	95	17.26	98	75-125	11	20	mg/kg	
Zinc	352.7	81.81	379.5	33	359.8	8	75-125	5	30	mg/kg	X

PHASE SEPARATION SCIENCE, INC.

QC Summary 19042613

Hillis Carnes Engineering Associates
Logistics Center XI

Analytical Method: SW-846 8082 A

Seq Number: 163840

MB Sample Id: 76561-1-BLK

Matrix: Solid

LCS Sample Id: 76561-1-BKS

Prep Method: SW3550C

Date Prep: 04/30/19

LCSD Sample Id: 76561-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
PCB-1016	<0.04936	0.4936	0.4176	85	0.4339	86	60-110	4	25	mg/kg	
PCB-1260	<0.04936	0.4936	0.4080	83	0.4228	84	60-98	4	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Decachlorobiphenyl	83		92		94		61-150	%
Tetrachloro-m-xylene	73		84		87		42-142	%

Analytical Method: SW-846 8015 C

Seq Number: 163916

MB Sample Id: 76581-1-BLK

Matrix: Solid

LCS Sample Id: 76581-1-BKS

Prep Method: SW3550C

Date Prep: 05/01/19

LCSD Sample Id: 76581-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
TPH-DRO (Diesel Range Organics)	<3.315	33.15	30.03	91	30.51	92	60-108	2	22	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
o-Terphenyl	83		93		95		37-120	%

Analytical Method: SW-846 8015C

Seq Number: 163902

MB Sample Id: 76615-2-BLK

Matrix: Solid

LCS Sample Id: 76615-2-BKS

Prep Method: SW5030

Date Prep: 05/02/19

LCSD Sample Id: 76615-2-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
TPH-GRO (Gasoline Range Organic)	<99.60	5000	4955	99	4942	99	65-139	0	25	ug/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
a,a,a-Trifluorotoluene	99		110		110		56-114	%

F = RPD exceeded the laboratory control limits

X = Recovery of MS, MSD or both outside of QC Criteria

H= Recovery of BS,BSD or both exceeded the laboratory control limits

L = Recovery of BS,BSD or both below the laboratory control limits

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com

email: info@phaseonline.com

[illegible]

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED



Phase Separation Science, Inc

Sample Receipt Checklist

Work Order # 19042613 **Received By** Thomas Wingate
Client Name Hillis Carnes Engineering Associates **Date Received** 04/26/2019 04:45:00 PM
Project Name Logistics Center XI **Delivered By** Client
Project Number 19059B **Tracking No** Not Applicable
Disposal Date 05/31/2019 **Logged In By** Thomas Wingate
Shipping Container(s)
No. of Coolers 1

Custody Seal(s) Intact? N/A Ice Present
Seal(s) Signed / Dated? N/A Temp (deg C) .4
Temp Blank Present No

Documentation

COC agrees with sample labels? Yes Sampler Name Nick Stella
Chain of Custody Yes MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes Custody Seal(s) Intact? Not Applicable
Intact? Yes Seal(s) Signed / Dated Not Applicable
Labeled and Labels Legible? Yes

Total No. of Samples Received 3

Total No. of Containers Received 6

Preservation

Total Metals (pH<2) N/A
Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
Orthophosphorus, filtered within 15 minutes of collection N/A
Cyanides (pH>12) N/A
Sulfide (pH>9) N/A
TOC, DOC (field filtered), COD, Phenols (pH<2) N/A
TOX, TKN, NH3, Total Phos (pH<2) N/A
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) N/A
Do VOA vials have zero headspace? N/A
624 VOC (Rcvd at least one unpreserved VOA vial) N/A
524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By:

Thomas Wingate

Date: 04/26/2019

PM Review and Approval:

Amber Confer

Date: 04/29/2019

Analytical Report for
Hillis Carnes Engineering Associates
Certificate of Analysis No.: 19050707

Project Manager: Keith Progin
Project Name : Logistics Center XI
Project Location: Sparrows Point, MD
Project ID : 19059B



May 10, 2019
Phase Separation Science, Inc.
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
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PHASE SEPARATION SCIENCE, INC.



May 10, 2019

Keith Progin
Hillis Carnes Engineering Associates
10975 Guilford Road, Ste. A
Annapolis Junction, MD 20701

Reference: PSS Work Order(s) No: **19050707**
Project Name: Logistics Center XI
Project Location: Sparrows Point, MD
Project ID.: 19059B

Dear Keith Progin :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **19050707**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on May 31, 2019, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal

Laboratory Manager



Sample Summary

Client Name: Hillis Carnes Engineering Associates

Project Name: Logistics Center XI

Work Order Number(s): 19050707

Project ID: 19059B

The following samples were received under chain of custody by Phase Separation Science (PSS) on 04/26/2019 at 04:45 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
19050707-001	S-1	SOIL	04/26/19 10:00

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- Fail The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
- J The target analyte was positively identified below the reporting limit but greater than the MDL.
- MDL This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
- ND Not Detected at or above the reporting limit.
- RL PSS Reporting Limit.
- U Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

OFFICES:
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BALTIMORE, MD 21228
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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 19050707

Hillis Carnes Engineering Associates, Annapolis Junction, MD
May 10, 2019

Project Name: Logistics Center XI
Project Location: Sparrows Point, MD
Project ID: 19059B

Sample ID: S-1 **Date/Time Sampled: 04/26/2019 10:00** **PSS Sample ID: 19050707-001**

Matrix: SOIL **Date/Time Received: 04/26/2019 16:45** **% Solids SM2540G-11: 92**

Chromium, Hexavalent

Analytical Method: SW-846 7196 A

Preparation Method: SW3060A

Qualifier(s): See Batch 164142 on Case Narrative.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.1		1	05/08/19	05/09/19 13:58	1061



Case Narrative Summary

Client Name: Hillis Carnes Engineering Associates

Project Name: Logistics Center XI

Work Order Number(s): 19050707

Project ID: 19059B

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for drinking water and non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

General Comments:

Per client, analyze S-1 for hexavalent chromium.

Analytical:

Chromium, Hexavalent

Batch: 164142

Matrix spike recoveries fell outside acceptance limits but results for the quality control samples were within limits. As such the data may be valid for use. Additional characterization determinations to indicate the sample's reducing/oxidizing nature may be useful in the interpretation of the spike data (see section 8.5 of EPA 3060A).

Laboratory control sample duplicate (LCSD) and Relative Percent Difference (RPD) exceedances identified; see LCS summary form.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.



Analytical Data Package Information Summary

Work Order(s): 19050707

Report Prepared For: Hillis Carnes Engineering Associates, Annapo

Project Name: Logistics Center XI

Project Manager: Keith Progin

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 7196 A	S-1	Initial	19050707-001	1061	S	76716	164142	04/26/2019	05/08/2019 10:50	05/09/2019 13:58
	76716-1-BKS	BKS	76716-1-BKS	1061	S	76716	164142	-----	05/08/2019 10:50	05/09/2019 13:51
	76716-1-BLK	BLK	76716-1-BLK	1061	S	76716	164142	-----	05/08/2019 10:50	05/09/2019 13:49
	76716-1-BSD	BSD	76716-1-BSD	1061	S	76716	164142	-----	05/08/2019 10:50	05/09/2019 13:53
	S-1 D	MD	19050707-001 D	1061	S	76716	164142	04/26/2019	05/08/2019 10:50	05/09/2019 14:01
	S-1 S	MS	19050707-001 S	1061	S	76716	164142	04/26/2019	05/08/2019 10:50	05/09/2019 14:04

PHASE SEPARATION SCIENCE, INC.

QC Summary 19050707

Hillis Carnes Engineering Associates
Logistics Center XI

Analytical Method: SW-846 7196 A

Seq Number: 164142

MB Sample Id: 76716-1-BLK

Matrix: Solid

LCS Sample Id: 76716-1-BKS

Prep Method: SW3060A

Date Prep: 05/08/19

LCSD Sample Id: 76716-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Chromium, Hexavalent	<1.010	5.048	5.028	100	6.332	126	80-120	23	20	mg/kg	HF

Analytical Method: SW-846 7196 A

Seq Number: 164142

Parent Sample Id: 19050707-001

Matrix: Soil

MD Sample Id: 19050707-001 D

Prep Method: SW3060A

Date Prep: 05/08/19

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Chromium, Hexavalent	<1.094	<1.094	0	20	mg/kg	U

Analytical Method: SW-846 7196 A

Seq Number: 164142

Parent Sample Id: 19050707-001

Matrix: Soil

MS Sample Id: 19050707-001 S

Prep Method: SW3060A

Date Prep: 05/08/19

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Flag
Chromium, Hexavalent	<1.088	5.438	<1.088	0	75-125	mg/kg	X

F = RPD exceeded the laboratory control limits

X = Recovery of MS, MSD or both outside of QC Criteria

H= Recovery of BS,BSD or both exceeded the laboratory control limits

L = Recovery of BS,BSD or both below the laboratory control limits

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com

email: info@phaseonline.com

19050707

[illegible]



Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	19050707	Received By	Thomas Wingate
Client Name	Hillis Carnes Engineering Associates	Date Received	04/26/2019 04:45:00 PM
Project Name	Logistics Center XI	Delivered By	Client
Project Number	19059B	Tracking No	Not Applicable
Disposal Date	05/31/2019	Logged In By	Thomas Wingate
Shipping Container(s)			
No. of Coolers	1	Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	.4
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No
Documentation			
COC agrees with sample labels?	Yes	Sampler Name	Nick Stella
Chain of Custody	Yes	MD DW Cert. No.	N/A
Sample Container			
Appropriate for Specified Analysis?	Yes	Custody Seal(s) Intact?	Not Applicable
Intact?	Yes	Seal(s) Signed / Dated	Not Applicable
Labeled and Labels Legible?	Yes		
Total No. of Samples Received 1		Total No. of Containers Received 1	
Preservation			
Total Metals	(pH<2)	N/A	
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A	
Orthophosphorus, filtered within 15 minutes of collection		N/A	
Cyanides	(pH>12)	N/A	
Sulfide	(pH>9)	N/A	
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A	
TOX, TKN, NH3, Total Phos	(pH<2)	N/A	
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	N/A	
Do VOA vials have zero headspace?		N/A	
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A	
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A	

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By:

Thomas Wingate

Date: 04/26/2019

PM Review and Approval:

Lynn Jackson

Date: 05/07/2019

Keith Progin

From: Jennifer Sohns -MDE- <jennifer.sohns@maryland.gov>
Sent: Tuesday, May 14, 2019 1:04 PM
To: Keith Progin
Cc: Barbara Brown -MDE-
Subject: Re: TPA_Sampling Plan_Area B - Sub-Parcel B1-2

Hey Keith,

This is approved for use under a VCP cap. MDE would prefer this soil be used under a capped parking area and not a building or landscaped area.

Let me know if you have any questions.

Jennifer Sohns

On Tue, May 14, 2019 at 11:41 AM Keith Progin <kprogin@hcea.com> wrote:

Please see the attached laboratory results for the composite sample collected from approximately 300 yards of soil at Logistics Centers XI and XII (Home Depot). See email below.

Due to the concentration of total chromium in the sample, the lab also analyzed for hexavalent chromium (see attached).

We are requesting using this soil as fill beneath the cap on industrial parcels. Please advise.

Thanks!

Keith Progin | Project Manager, Environmental Division
HILLIS-CARNES ENGINEERING ASSOCIATES

Cell (443) 250-9467
Phone +1 (410) 880-4788 X1145
Fax +1 (410) 880-4098

From: Keith Progin
Sent: Friday, April 26, 2019 8:30 AM
To: Barbara Brown -MDE- <barbara.brown1@maryland.gov>
Cc: Jennifer Sohns -MDE- (<jennifer.sohns@maryland.gov> <jennifer.sohns@maryland.gov>
Subject: Re: TPA_Sampling Plan_Area B - Sub-Parcel B1-2

Understood. Thank you

Sent from my iPhone

On Apr 26, 2019, at 8:06 AM, Barbara Brown -MDE- <barbara.brown1@maryland.gov> wrote:

Hi Keith

Since you are intending to use under cap-sampling plan is ok if metals list also includes manganese as well..

On Thu, Apr 25, 2019 at 5:05 PM Keith Progin <kprogin@hcea.com> wrote:

Please see the attached sampling plan for approximately 300 yards of soil that was segregated and stockpiled due to odors and elevated PID readings. The soils were encountered during excavation for conduit and sanitary sewer at Logistics Centers XI and XII (Home Depot).

Thanks!

Keith Progin | Project Manager, Environmental Division

HILLIS-CARNES ENGINEERING ASSOCIATES

Corporate Headquarters
10975 Guilford Road, Suite A
Annapolis Junction, MD 20701
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Phone +1 (410) 880-4788 X1145
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Email kprogin@hcea.com

Website www.hcea.com



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--

Barbara Brown

MDE-LRP-VCP Section Head

direct 410 537 3212

general 410 537 3493

[Click here](#) to complete a three question customer experience survey.

--

Jennifer Sohns, Project Manager
Land and Materials Administration
Maryland Department of Environment - VCP
410-537-4472

[Click here](#) to complete a three question customer experience survey.

09 March 2020

Keith Progin
Hillis-Carnes Engineering Associates
10975 Guilford Rd
Annapolis Junction, MD 20701
RE: Logistic Stockpiles

Enclosed are the results of analyses for samples received by the laboratory on 03/02/20 16:18.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

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

Sincerely,



Will Brewington
President

Analytical Results

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LS-13		0030220-01	Soil	03/02/20 14:00	03/02/20 16:18
LS-13-A		0030220-02	Soil	03/02/20 14:00	03/02/20 16:18
LS-13-B		0030220-03	Soil	03/02/20 14:00	03/02/20 16:18
LS-14		0030220-04	Soil	03/02/20 14:00	03/02/20 16:18
LS-14-A		0030220-05	Soil	03/02/20 14:00	03/02/20 16:18
LS-14-B		0030220-06	Soil	03/02/20 14:00	03/02/20 16:18
LS-15		0030220-07	Soil	03/02/20 14:00	03/02/20 16:18
LS-15-A		0030220-08	Soil	03/02/20 14:00	03/02/20 16:18
LS-15-B		0030220-09	Soil	03/02/20 14:00	03/02/20 16:18
LS-16		0030220-10	Soil	03/02/20 14:00	03/02/20 16:18
LS-16-A		0030220-11	Soil	03/02/20 14:00	03/02/20 16:18
LS-16-B		0030220-12	Soil	03/02/20 14:00	03/02/20 16:18
LS-17		0030220-13	Soil	03/02/20 14:15	03/02/20 16:18
LS-17-A		0030220-14	Soil	03/02/20 14:15	03/02/20 16:18
LS-17-B		0030220-15	Soil	03/02/20 14:15	03/02/20 16:18
LS-18		0030220-16	Soil	03/02/20 14:15	03/02/20 16:18
LS-18-A		0030220-17	Soil	03/02/20 14:15	03/02/20 16:18
LS-18-B		0030220-18	Soil	03/02/20 14:15	03/02/20 16:18
LS-19		0030220-19	Soil	03/02/20 14:30	03/02/20 16:18
LS-19-A		0030220-20	Soil	03/02/20 14:30	03/02/20 16:18
LS-19-B		0030220-21	Soil	03/02/20 14:30	03/02/20 16:18
LS-20		0030220-22	Soil	03/02/20 14:30	03/02/20 16:18
LS-20-A		0030220-23	Soil	03/02/20 14:30	03/02/20 16:18
LS-20-B		0030220-24	Soil	03/02/20 14:30	03/02/20 16:18
LS-21		0030220-25	Soil	03/02/20 14:45	03/02/20 16:18
LS-21-A		0030220-26	Soil	03/02/20 14:45	03/02/20 16:18

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LS-21-B		0030220-27	Soil	03/02/20 14:45	03/02/20 16:18
LS-22		0030220-28	Soil	03/02/20 14:45	03/02/20 16:18
LS-22-A		0030220-29	Soil	03/02/20 14:45	03/02/20 16:18
LS-22-B		0030220-30	Soil	03/02/20 14:45	03/02/20 16:18
LS-23		0030220-31	Soil	03/02/20 15:00	03/02/20 16:18
LS-23-A		0030220-32	Soil	03/02/20 15:00	03/02/20 16:18
LS-23-B		0030220-33	Soil	03/02/20 15:00	03/02/20 16:18
LS-24		0030220-34	Soil	03/02/20 15:15	03/02/20 16:18
LS-24-A		0030220-35	Soil	03/02/20 15:15	03/02/20 16:18
LS-24-B		0030220-36	Soil	03/02/20 15:15	03/02/20 16:18



Will Brewington, President

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Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

Analytical Results

LS-13

0030220-01 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	88		%			1	03/04/20	03/05/20 09:59	MH
POLYCHLORINATED BIPHENYLS BY EPA 8082A (GC/ECD) Prepared by 3540-GC(Soxhlet) CIPestPCB									
Aroclor-1016	ND		ug/kg dry	94.3	94.3	1	03/05/20	03/06/20 23:56	SJA
Aroclor-1221	ND		ug/kg dry	193	193	1	03/05/20	03/06/20 23:56	SJA
Aroclor-1232	ND		ug/kg dry	94.3	94.3	1	03/05/20	03/06/20 23:56	SJA
Aroclor-1242	ND		ug/kg dry	94.3	94.3	1	03/05/20	03/06/20 23:56	SJA
Aroclor-1248	ND		ug/kg dry	94.3	94.3	1	03/05/20	03/06/20 23:56	SJA
Aroclor-1254	ND		ug/kg dry	94.3	94.3	1	03/05/20	03/06/20 23:56	SJA
Aroclor-1260	ND		ug/kg dry	94.3	94.3	1	03/05/20	03/06/20 23:56	SJA
Aroclor-1262	ND		ug/kg dry	94.3	94.3	1	03/05/20	03/06/20 23:56	SJA
Aroclor-1268	ND		ug/kg dry	94.3	94.3	1	03/05/20	03/06/20 23:56	SJA
Surrogate: Tetrachloro-m-xylene		40-150		92 %	03/05/20		03/06/20 23:56		
Surrogate: Decachlorobiphenyl		40-150		91 %	03/05/20		03/06/20 23:56		
TOTAL METALS ANALYSIS BY EPA 3050B/6020A Prepared by 3050B-Metals Digestion									
Manganese	1660		mg/kg dry	14.2	14.2	50	03/04/20	03/05/20 12:54	KD

Will Brewington, President

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Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-13-A

0030220-02 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC									
Gasoline-Range Organics	ND		mg/kg dry	0.12	0.12	1	03/06/20	03/06/20 03:06	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)									
Diesel-Range Organics	217		mg/kg dry	18.6	18.6	1	03/05/20	03/06/20 14:12	SJA
Surrogate: o-Terphenyl			70-130	104 %	03/05/20		03/06/20 14:12		
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	86		%			1	03/04/20	03/05/20 09:59	MH



Will Brewington, President

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Analytical Results

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

LS-13-B

0030220-03 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.12	0.12	1	03/06/20	03/06/20 03:37	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	38.6		mg/kg dry	9.4	9.4	1	03/05/20	03/06/20 14:39	SJA
Surrogate: o-Terphenyl			70-130	99 %	03/05/20		03/06/20 14:39		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	85		%			1	03/04/20	03/05/20 09:59	MH



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

Analytical Results

LS-14

0030220-04 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	86		%			1	03/04/20	03/05/20 09:59	MH
POLYCHLORINATED BIPHENYLS BY EPA 8082A (GC/ECD) Prepared by 3540-GC(Soxhlet) CIPestPCB									
Aroclor-1016	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 00:23	SJA
Aroclor-1221	ND		ug/kg dry	198	198	1	03/05/20	03/07/20 00:23	SJA
Aroclor-1232	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 00:23	SJA
Aroclor-1242	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 00:23	SJA
Aroclor-1248	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 00:23	SJA
Aroclor-1254	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 00:23	SJA
Aroclor-1260	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 00:23	SJA
Aroclor-1262	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 00:23	SJA
Aroclor-1268	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 00:23	SJA
Surrogate: Tetrachloro-m-xylene		40-150		83 %	03/05/20		03/07/20 00:23		
Surrogate: Decachlorobiphenyl		40-150		94 %	03/05/20		03/07/20 00:23		
TOTAL METALS ANALYSIS BY EPA 3050B/6020A Prepared by 3050B-Metals Digestion									
Manganese	2680		mg/kg dry	14.5	14.5	50	03/04/20	03/05/20 12:56	KD

Will Brewington, President

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Analytical Results

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

LS-14-A

0030220-05 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.11	0.11	1	03/06/20	03/06/20 04:08	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	61.1		mg/kg dry	9.2	9.2	1	03/05/20	03/06/20 15:06	SJA
Surrogate: o-Terphenyl			70-130	119 %	03/05/20		03/06/20 15:06		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	87		%			1	03/04/20	03/05/20 09:59	MH



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-14-B

0030220-06 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.11	0.11	1	03/06/20	03/06/20 04:39	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	93.7		mg/kg dry	9.2	9.2	1	03/05/20	03/06/20 15:33	SJA
Surrogate: o-Terphenyl			70-130	113 %	03/05/20		03/06/20 15:33		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	87		%			1	03/04/20	03/05/20 09:59	MH



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

LS-15

0030220-07 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	83		%			1	03/04/20	03/05/20 09:59	MH
POLYCHLORINATED BIPHENYLS BY EPA 8082A (GC/ECD) Prepared by 3540-GC(Soxhlet) CIPestPCB									
Aroclor-1016	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 00:50	SJA
Aroclor-1221	ND		ug/kg dry	205	205	1	03/05/20	03/07/20 00:50	SJA
Aroclor-1232	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 00:50	SJA
Aroclor-1242	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 00:50	SJA
Aroclor-1248	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 00:50	SJA
Aroclor-1254	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 00:50	SJA
Aroclor-1260	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 00:50	SJA
Aroclor-1262	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 00:50	SJA
Aroclor-1268	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 00:50	SJA
Surrogate: Tetrachloro-m-xylene		40-150		87 %	03/05/20		03/07/20 00:50		
Surrogate: Decachlorobiphenyl		40-150		85 %	03/05/20		03/07/20 00:50		
TOTAL METALS ANALYSIS BY EPA 3050B/6020A Prepared by 3050B-Metals Digestion									
Manganese	1100		mg/kg dry	15.1	15.1	50	03/04/20	03/05/20 12:59	KD

Will Brewington, President

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Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-15-A

0030220-08 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.11	0.11	1	03/06/20	03/06/20 05:11	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	64.1		mg/kg dry	8.9	8.9	1	03/05/20	03/06/20 16:00	SJA
Surrogate: o-Terphenyl			70-130	114 %	03/05/20		03/06/20 16:00		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	90		%			1	03/04/20	03/05/20 09:59	MH



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Analytical Results

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

LS-15-B

0030220-09 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.12	0.12	1	03/06/20	03/06/20 05:42	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	114		mg/kg dry	9.6	9.6	1	03/05/20	03/06/20 17:19	SJA
Surrogate: o-Terphenyl			70-130	98 %	03/05/20		03/06/20 17:19		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	83		%			1	03/04/20	03/05/20 09:59	MH



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Analytical Results

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

LS-16

0030220-10 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	82		%			1	03/04/20	03/05/20 09:59	MH
POLYCHLORINATED BIPHENYLS BY EPA 8082A (GC/ECD) Prepared by 3540-GC(Soxhlet) CIPestPCB									
Aroclor-1016	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 01:17	SJA
Aroclor-1221	ND		ug/kg dry	207	207	1	03/05/20	03/07/20 01:17	SJA
Aroclor-1232	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 01:17	SJA
Aroclor-1242	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 01:17	SJA
Aroclor-1248	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 01:17	SJA
Aroclor-1254	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 01:17	SJA
Aroclor-1260	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 01:17	SJA
Aroclor-1262	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 01:17	SJA
Aroclor-1268	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 01:17	SJA
Surrogate: Tetrachloro-m-xylene		40-150		85 %	03/05/20		03/07/20 01:17		
Surrogate: Decachlorobiphenyl		40-150		88 %	03/05/20		03/07/20 01:17		
TOTAL METALS ANALYSIS BY EPA 3050B/6020A Prepared by 3050B-Metals Digestion									
Manganese	1840		mg/kg dry	15.2	15.2	50	03/04/20	03/05/20 13:08	KD

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Analytical Results

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Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-16-A

0030220-11 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.12	0.12	1	03/06/20	03/06/20 06:13	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	76.0		mg/kg dry	9.4	9.4	1	03/05/20	03/06/20 17:46	SJA
Surrogate: o-Terphenyl			70-130	106 %	03/05/20		03/06/20 17:46		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	85		%			1	03/04/20	03/05/20 09:59	MH



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Analytical Results

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Baltimore MD 21227
410-247-7600
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Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-16-B

0030220-12 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.12	0.12	1	03/06/20	03/06/20 06:44	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	173		mg/kg dry	9.4	9.4	1	03/05/20	03/06/20 18:13	SJA
Surrogate: o-Terphenyl			70-130	102 %	03/05/20		03/06/20 18:13		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	85		%			1	03/04/20	03/05/20 09:59	MH



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Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

Analytical Results

LS-17

0030220-13 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	84		%			1	03/04/20	03/05/20 09:59	MH
POLYCHLORINATED BIPHENYLS BY EPA 8082A (GC/ECD) Prepared by 3540-GC(Soxhlet) CIPestPCB									
Aroclor-1016	ND		ug/kg dry	98.8	98.8	1	03/05/20	03/07/20 01:45	SJA
Aroclor-1221	ND		ug/kg dry	202	202	1	03/05/20	03/07/20 01:45	SJA
Aroclor-1232	ND		ug/kg dry	98.8	98.8	1	03/05/20	03/07/20 01:45	SJA
Aroclor-1242	ND		ug/kg dry	98.8	98.8	1	03/05/20	03/07/20 01:45	SJA
Aroclor-1248	ND		ug/kg dry	98.8	98.8	1	03/05/20	03/07/20 01:45	SJA
Aroclor-1254	ND		ug/kg dry	98.8	98.8	1	03/05/20	03/07/20 01:45	SJA
Aroclor-1260	ND		ug/kg dry	98.8	98.8	1	03/05/20	03/07/20 01:45	SJA
Aroclor-1262	ND		ug/kg dry	98.8	98.8	1	03/05/20	03/07/20 01:45	SJA
Aroclor-1268	ND		ug/kg dry	98.8	98.8	1	03/05/20	03/07/20 01:45	SJA
Surrogate: Tetrachloro-m-xylene		40-150		94 %	03/05/20		03/07/20 01:45		
Surrogate: Decachlorobiphenyl		40-150		100 %	03/05/20		03/07/20 01:45		
TOTAL METALS ANALYSIS BY EPA 3050B/6020A Prepared by 3050B-Metals Digestion									
Manganese	1740		mg/kg dry	14.9	14.9	50	03/04/20	03/05/20 13:11	KD

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Analytical Results

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Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-17-A

0030220-14 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.12	0.12	1	03/06/20	03/06/20 07:16	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	130		mg/kg dry	9.6	9.6	1	03/05/20	03/06/20 18:40	SJA
Surrogate: o-Terphenyl			70-130	109 %	03/05/20		03/06/20 18:40		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	83		%			1	03/04/20	03/05/20 09:59	MH



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Analytical Results

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Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-17-B

0030220-15 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.11	0.11	1	03/06/20	03/06/20 07:47	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	85.9		mg/kg dry	9.2	9.2	1	03/05/20	03/06/20 19:07	SJA
Surrogate: o-Terphenyl			70-130	111 %	03/05/20		03/06/20 19:07		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	87		%			1	03/04/20	03/05/20 09:59	MH



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Analytical Results

1500 Caton Center Dr Suite G
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Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-18

0030220-16 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	83		%			1	03/04/20	03/05/20 09:59	MH
POLYCHLORINATED BIPHENYLS BY EPA 8082A (GC/ECD) Prepared by 3540-GC(Soxhlet) CIPestPCB									
Aroclor-1016	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 02:12	SJA
Aroclor-1221	ND		ug/kg dry	205	205	1	03/05/20	03/07/20 02:12	SJA
Aroclor-1232	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 02:12	SJA
Aroclor-1242	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 02:12	SJA
Aroclor-1248	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 02:12	SJA
Aroclor-1254	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 02:12	SJA
Aroclor-1260	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 02:12	SJA
Aroclor-1262	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 02:12	SJA
Aroclor-1268	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 02:12	SJA
Surrogate: Tetrachloro-m-xylene		40-150		80 %	03/05/20		03/07/20 02:12		
Surrogate: Decachlorobiphenyl		40-150		71 %	03/05/20		03/07/20 02:12		
TOTAL METALS ANALYSIS BY EPA 3050B/6020A Prepared by 3050B-Metals Digestion									
Manganese	3320		mg/kg dry	15.1	15.1	50	03/04/20	03/05/20 13:13	KD

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Analytical Results

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Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-18-A

0030220-17 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.11	0.11	1	03/06/20	03/06/20 08:18	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	67.5		mg/kg dry	9.2	9.2	1	03/05/20	03/06/20 19:34	SJA
Surrogate: o-Terphenyl			70-130	108 %	03/05/20		03/06/20 19:34		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	87		%			1	03/04/20	03/05/20 09:59	MH



Will Brewington, President

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Analytical Results

1500 Caton Center Dr Suite G
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Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-18-B

0030220-18 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.12	0.12	1	03/06/20	03/06/20 08:49	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	150		mg/kg dry	18.6	18.6	2	03/05/20	03/06/20 20:01	SJA
Surrogate: o-Terphenyl			70-130	108 %	03/05/20		03/06/20 20:01		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	86		%			1	03/04/20	03/05/20 09:59	MH



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Analytical Results

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

LS-19

0030220-19 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	82		%			1	03/04/20	03/05/20 09:59	MH
POLYCHLORINATED BIPHENYLS BY EPA 8082A (GC/ECD) Prepared by 3540-GC(Soxhlet) CIPestPCB									
Aroclor-1016	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 02:39	SJA
Aroclor-1221	ND		ug/kg dry	207	207	1	03/05/20	03/07/20 02:39	SJA
Aroclor-1232	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 02:39	SJA
Aroclor-1242	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 02:39	SJA
Aroclor-1248	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 02:39	SJA
Aroclor-1254	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 02:39	SJA
Aroclor-1260	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 02:39	SJA
Aroclor-1262	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 02:39	SJA
Aroclor-1268	ND		ug/kg dry	101	101	1	03/05/20	03/07/20 02:39	SJA
Surrogate: Tetrachloro-m-xylene		40-150		92 %	03/05/20		03/07/20 02:39		
Surrogate: Decachlorobiphenyl		40-150		103 %	03/05/20		03/07/20 02:39		
TOTAL METALS ANALYSIS BY EPA 3050B/6020A Prepared by 3050B-Metals Digestion									
Manganese	7340		mg/kg dry	15.2	15.2	50	03/04/20	03/05/20 13:16	KD

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Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-19-A

0030220-20 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.12	0.12	1	03/06/20	03/06/20 09:20	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	81.2		mg/kg dry	9.9	9.9	1	03/05/20	03/06/20 20:28	SJA
Surrogate: o-Terphenyl			70-130	116 %	03/05/20		03/06/20 20:28		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	81		%			1	03/04/20	03/05/20 09:59	MH



Will Brewington, President

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Analytical Results

1500 Caton Center Dr Suite G
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410-247-7600
www.mdspectral.com

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-19-B

0030220-21 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.13	0.13	1	03/06/20	03/06/20 09:52	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	65.4		mg/kg dry	10.1	10.1	1	03/05/20	03/06/20 20:55	SJA
Surrogate: o-Terphenyl			70-130	107 %	03/05/20		03/06/20 20:55		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	79		%			1	03/04/20	03/05/20 09:59	MH



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Analytical Results

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

LS-20

0030220-22 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	85		%			1	03/04/20	03/05/20 09:59	MH
POLYCHLORINATED BIPHENYLS BY EPA 8082A (GC/ECD) Prepared by 3540-GC(Soxhlet) CIPestPCB									
Aroclor-1016	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:06	SJA
Aroclor-1221	ND		ug/kg dry	200	200	1	03/05/20	03/07/20 03:06	SJA
Aroclor-1232	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:06	SJA
Aroclor-1242	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:06	SJA
Aroclor-1248	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:06	SJA
Aroclor-1254	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:06	SJA
Aroclor-1260	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:06	SJA
Aroclor-1262	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:06	SJA
Aroclor-1268	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:06	SJA
Surrogate: Tetrachloro-m-xylene		40-150		95 %	03/05/20		03/07/20 03:06		
Surrogate: Decachlorobiphenyl		40-150		105 %	03/05/20		03/07/20 03:06		
TOTAL METALS ANALYSIS BY EPA 3050B/6020A Prepared by 3050B-Metals Digestion									
Manganese	2870		mg/kg dry	14.7	14.7	50	03/04/20	03/05/20 13:19	KD



Will Brewington, President

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Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-20-A

0030220-23 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.11	0.11	1	03/06/20	03/06/20 13:40	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	65.9		mg/kg dry	9.2	9.2	1	03/05/20	03/06/20 21:22	SJA
Surrogate: o-Terphenyl			70-130	117 %	03/05/20		03/06/20 21:22		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	87		%			1	03/04/20	03/05/20 09:59	MH



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Analytical Results

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Baltimore MD 21227
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www.mdspectral.com

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-20-B

0030220-24 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.12	0.12	1	03/06/20	03/06/20 14:11	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	50.1		mg/kg dry	9.3	9.3	1	03/05/20	03/06/20 22:16	SJA
Surrogate: o-Terphenyl			70-130	109 %	03/05/20		03/06/20 22:16		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	86		%			1	03/04/20	03/05/20 09:59	MH



Will Brewington, President

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Analytical Results

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

LS-21

0030220-25 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	85		%			1	03/04/20	03/05/20 09:59	MH
POLYCHLORINATED BIPHENYLS BY EPA 8082A (GC/ECD) Prepared by 3540-GC(Soxhlet) CIPestPCB									
Aroclor-1016	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:33	SJA
Aroclor-1221	ND		ug/kg dry	200	200	1	03/05/20	03/07/20 03:33	SJA
Aroclor-1232	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:33	SJA
Aroclor-1242	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:33	SJA
Aroclor-1248	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:33	SJA
Aroclor-1254	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:33	SJA
Aroclor-1260	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:33	SJA
Aroclor-1262	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:33	SJA
Aroclor-1268	ND		ug/kg dry	97.6	97.6	1	03/05/20	03/07/20 03:33	SJA
Surrogate: Tetrachloro-m-xylene		40-150		85 %	03/05/20		03/07/20 03:33		
Surrogate: Decachlorobiphenyl		40-150		88 %	03/05/20		03/07/20 03:33		
TOTAL METALS ANALYSIS BY EPA 3050B/6020A Prepared by 3050B-Metals Digestion									
Manganese	3530		mg/kg dry	14.7	14.7	50	03/04/20	03/05/20 13:21	KD

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Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
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Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-21-A

0030220-26 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.11	0.11	1	03/06/20	03/06/20 14:42	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	76.6		mg/kg dry	9.1	9.1	1	03/05/20	03/06/20 22:43	SJA
Surrogate: o-Terphenyl			70-130	92 %	03/05/20		03/06/20 22:43		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	88		%			1	03/04/20	03/05/20 09:59	MH



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Analytical Results

1500 Caton Center Dr Suite G
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Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-21-B

0030220-27 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.13	0.13	1	03/06/20	03/06/20 15:13	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	50.1		mg/kg dry	10.0	10.0	1	03/05/20	03/06/20 23:10	SJA
Surrogate: o-Terphenyl			70-130	108 %	03/05/20		03/06/20 23:10		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	80		%			1	03/04/20	03/05/20 09:59	MH



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Analytical Results

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

LS-22

0030220-28 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	83		%			1	03/04/20	03/05/20 09:59	MH
POLYCHLORINATED BIPHENYLS BY EPA 8082A (GC/ECD) Prepared by 3540-GC(Soxhlet) CIPestPCB									
Aroclor-1016	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 04:00	SJA
Aroclor-1221	ND		ug/kg dry	205	205	1	03/05/20	03/07/20 04:00	SJA
Aroclor-1232	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 04:00	SJA
Aroclor-1242	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 04:00	SJA
Aroclor-1248	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 04:00	SJA
Aroclor-1254	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 04:00	SJA
Aroclor-1260	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 04:00	SJA
Aroclor-1262	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 04:00	SJA
Aroclor-1268	ND		ug/kg dry	100	100	1	03/05/20	03/07/20 04:00	SJA
Surrogate: Tetrachloro-m-xylene		40-150		91 %	03/05/20		03/07/20 04:00		
Surrogate: Decachlorobiphenyl		40-150		94 %	03/05/20		03/07/20 04:00		
TOTAL METALS ANALYSIS BY EPA 3050B/6020A Prepared by 3050B-Metals Digestion									
Manganese	6420		mg/kg dry	15.1	15.1	50	03/04/20	03/05/20 13:24	KD

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Analytical Results

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Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-22-A

0030220-29 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.12	0.12	1	03/06/20	03/06/20 15:45	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	65.1		mg/kg dry	9.6	9.6	1	03/05/20	03/06/20 23:37	SJA
Surrogate: o-Terphenyl			70-130	104 %	03/05/20		03/06/20 23:37		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	83		%			1	03/04/20	03/05/20 09:59	MH



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Analytical Results

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

LS-22-B

0030220-30 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.12	0.12	1	03/06/20	03/06/20 16:16	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	116		mg/kg dry	9.8	9.8	1	03/05/20	03/07/20 00:04	SJA
Surrogate: o-Terphenyl			70-130	110 %	03/05/20		03/07/20 00:04		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	82		%			1	03/04/20	03/05/20 09:59	MH



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Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

Analytical Results

LS-23

0030220-31 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	86		%			1	03/04/20	03/05/20 09:59	MH
POLYCHLORINATED BIPHENYLS BY EPA 8082A (GC/ECD) Prepared by 3540-GC(Soxhlet) CIPestPCB									
Aroclor-1016	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:27	SJA
Aroclor-1221	ND		ug/kg dry	198	198	1	03/05/20	03/07/20 04:27	SJA
Aroclor-1232	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:27	SJA
Aroclor-1242	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:27	SJA
Aroclor-1248	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:27	SJA
Aroclor-1254	99.8		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:27	SJA
Aroclor-1260	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:27	SJA
Aroclor-1262	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:27	SJA
Aroclor-1268	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:27	SJA
Surrogate: Tetrachloro-m-xylene		40-150		86 %	03/05/20		03/07/20 04:27		
Surrogate: Decachlorobiphenyl		40-150		91 %	03/05/20		03/07/20 04:27		
TOTAL METALS ANALYSIS BY EPA 3050B/6020A Prepared by 3050B-Metals Digestion									
Manganese	3260		mg/kg dry	14.5	14.5	50	03/04/20	03/05/20 13:27	KD

Will Brewington, President

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Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-23-A

0030220-32 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.11	0.11	1	03/06/20	03/06/20 16:47	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	9620		mg/kg dry	920	920	20	03/05/20	03/07/20 01:52	SJA
Surrogate: o-Terphenyl			70-130	%	03/05/20		03/07/20 01:52		S-01
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	87		%			1	03/04/20	03/05/20 09:59	MH



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Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-23-B

0030220-33 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.12	0.12	1	03/06/20	03/06/20 17:18	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	735		mg/kg dry	93.0	93.0	2	03/05/20	03/07/20 02:19	SJA
Surrogate: o-Terphenyl			70-130	98 %	03/05/20		03/07/20 02:19		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	86		%			1	03/04/20	03/05/20 09:59	MH



Will Brewington, President

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Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-24

0030220-34 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	86		%			1	03/04/20	03/05/20 09:59	MH
POLYCHLORINATED BIPHENYLS BY EPA 8082A (GC/ECD) Prepared by 3540-GC(Soxhlet) CIPestPCB									
Aroclor-1016	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:54	SJA
Aroclor-1221	ND		ug/kg dry	198	198	1	03/05/20	03/07/20 04:54	SJA
Aroclor-1232	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:54	SJA
Aroclor-1242	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:54	SJA
Aroclor-1248	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:54	SJA
Aroclor-1254	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:54	SJA
Aroclor-1260	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:54	SJA
Aroclor-1262	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:54	SJA
Aroclor-1268	ND		ug/kg dry	96.5	96.5	1	03/05/20	03/07/20 04:54	SJA
Surrogate: Tetrachloro-m-xylene		40-150		82 %	03/05/20		03/07/20 04:54		
Surrogate: Decachlorobiphenyl		40-150		84 %	03/05/20		03/07/20 04:54		
TOTAL METALS ANALYSIS BY EPA 3050B/6020A Prepared by 3050B-Metals Digestion									
Manganese	2270		mg/kg dry	14.5	14.5	50	03/04/20	03/05/20 13:29	KD

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Analytical Results

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Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-24-A

0030220-35 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC									
Gasoline-Range Organics	ND		mg/kg dry	0.12	0.12	1	03/06/20	03/06/20 17:50	GM
DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)									
Diesel-Range Organics	223		mg/kg dry	9.4	9.4	1	03/05/20	03/07/20 02:46	SJA
Surrogate: o-Terphenyl			70-130	107 %	03/05/20		03/07/20 02:46		
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	85		%			1	03/04/20	03/05/20 09:59	MH



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Analytical Results

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Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

LS-24-B

0030220-36 (Soil)
Sample Date: 03/02/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
<u>GASOLINE RANGE ORGANICS BY EPA 5030/8015C Prepared by 5030-GC</u>									
Gasoline-Range Organics	ND		mg/kg dry	0.12	0.12	1	03/06/20	03/06/20 18:21	GM
<u>DIESEL RANGE ORGANICS BY EPA 3540/8015C Prepared by 3540-GC(Soxhlet)</u>									
Diesel-Range Organics	60.6		mg/kg dry	9.4	9.4	1	03/05/20	03/07/20 03:13	SJA
Surrogate: o-Terphenyl			70-130	118 %	03/05/20		03/07/20 03:13		
<u>PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids</u>									
Percent Solids	85		%			1	03/04/20	03/05/20 09:59	MH



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: Logistic Stockpiles

Project Number: 18719A
Project Manager: Keith Progin

Reported:
03/09/20 14:09

Maryland Spectral Services does not maintain certification for the following analytical parameters:

Maryland Spectral Services

Matrix , Method , Analyte _____

Soil | 6020S-Mn | Manganese



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: Logistic Stockpiles

Project Number: 18719A

Project Manager: Keith Progin

Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
S-01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate (CLP E-flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
%-Solids	Percent Solids is a supportive test and as such does not require accreditation



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Company Name:		Project Manager:		Analysis Requested		CHAIN-OF-CUSTODY RECORD	
HCEA		KEITH PROGIN				Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 reporting@mdspectral.com	
Project Name:		Project ID:				Matrix Codes: NW (non-potable water), DW (drinking water)	
LOG. STOCKPILES		18719A					
Sampler(s):		P.O. Number:					
BEN NELSON NICK STELLA							
Field Sample ID	Date	Time	DW	Water	Soil	Other	No. of Containers
LS-13	3/2/20	2:06PM					1
LS-13-A							1
LS-13-B							1
LS-14							1
LS-14-A							1
LS-14-B							1
LS-15							1
LS-15-A							1
LS-15-B							1
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time	
(Printed)		3/2/20		(Printed)			
BEN NELSON							
Relinquished by: (Signature)		Date/Time		Received by Lab: (Signature)		Lab Use:	
(Printed)		3/2/20		Rachael Hornum		Temp: 7.1°C	
		16:18				☐ Received on ice ☐ Received same day	
Delivery Method:		Special Instructions/QC Requirements & Comments:					
☐ Courier ☐ Client ☐ UPS ☐ FedEx ☐ USPS Other:		Turn Around Time: ☐ Normal (7 day) ☒ 5 day ☐ 4 day ☐ 3 day ☐ Rush (2 day) ☐ Next Day ☐ Other: _____ Date: _____ Sample Disposal: ☐ Return to Client ☐ Disposal by lab ☐ Archive for _____ days					

Company Name:		Project Manager:		Analysis Requested										CHAIN-OF-CUSTODY RECORD		
HCEA		KEITH PROGIN												Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 reporting@mdspectral.com		
Project Name:		Project ID:												Matrix Codes: NW (non-potable water), DW (drinking water)		
LOG-STACK PILES		18719A														
Sampler(s):		P.O. Number:														
BEN NELSON NICK STELLA																
Field Sample ID	Date	Time	DW	Water	Soil	Other	No. of Containers	PCBs	MANGANESE	TPH-DRO	TPH-CRO	Preservative	Field Notes	MSS Lab ID		
LS-16	2/2/20	2:00 PM					1	X		X				0030220-10		
LS-16-A		2:00 PM					1			X				-11		
LS-16-B		2:00 PM					1			X				-12		
LS-17		2:15 PM					1	X						-13		
LS-17-A							1			X				-14		
LS-17-B							1			X				-15		
LS-18							1	X						-16		
LS-18-A							1			X				-17		
LS-18-B							1			X				-18		
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time		Relinquished by: (Signature)		Date/Time		Received by: (Signature)				
		3/2/20														
(Printed)				(Printed)				(Printed)				(Printed)				
BEN NELSON				Received by Lab: (Signature)												
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time		Turn Around Time:		Lab Use:		Temp: 7.1 °C				
		3/2/20				16:18		☐ Normal (7 day) ☒ 5 day ☐ 4 day ☐ 3 day ☐ Rush (2 day) ☐ Next Day ☐ Other: _____ ☐ Specific Due Date: _____		☐ Received on ice ☐ Received same day						
(Printed)				(Printed)												
Special Instructions/OC Requirements & Comments:																
Delivery Method:																
☐ Courier ☐ Client ☐ UPS ☐ FedEx ☐ USPS ☐ Other: _____																
Sample Disposal:																
☐ Return to Client ☐ Disposal by lab ☐ Archive for _____ days																

Company Name:		Project Manager:		Analysis Requested										CHAIN-OF-CUSTODY RECORD		
HCEA		KEITH PROGIN												Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 reporting@mdspectral.com		
Project Name:		Project ID:												Matrix Codes: NW (non-potable water), DW (drinking water)		
LOG. STOCKPILES		NEW 18719A														
Sampler(s):		P.O. Number:														
BEN NELSON																
NICK STELLA																
Field Sample ID	Date	Time	DW	Water	Soil	Other	No. of Containers	PCBs	MANGANESE	TPH-DRO	TPH-GRO	Preservative	Field Notes	MSS Lab ID		
LS-19	3/2/20	2:30P					1	X		X				0030220-19		
LS-19-A							1			X				-20		
LS-19-B							1			X				-21		
LS-20							1	X						-22		
LS-20-A							1			X				-23		
LS-20-B							1			X				-24		
LS-21		2:45PM					1	X						-25		
LS-21-A							1			X				-26		
LS-21-B							1			X				-27		
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Relinquished by: (Signature)		Date/Time		Received by: (Signature)						
(Printed)		3/2/20		(Printed)		(Printed)				(Printed)						
BEN NELSON				Received by Lab: (Signature)												
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Relinquished by: (Signature)		Turn Around Time:		Lab Use:						
(Printed)		3/2/20		(Printed)		(Printed)		☐ Normal (7 day) ☒ 5 day ☐ 4 day ☐ 3 day ☐ Rush (2 day) ☐ Next Day ☐ Other: _____ Date: _____		Temp: 7.1°C ☐ Received on ice ☐ Received same day						
16:18				Rachel Horner												
Delivery Method:		Special Instructions/QC Requirements & Comments:														
☐ Courier ☐ Client ☐ UPS ☐ FedEx ☐ USPS Other: _____																

Company Name: HCEA				Project Manager: KEITH PROGIN				CHAIN-OF-CUSTODY RECORD							
Project Name: LOG. STACKPILES				Project ID: 18719A				Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 reporting@mdspectral.com							
Sampler(s): BEN NELSON NICK STELLA				P.O. Number:				Matrix Codes: NW (non-potable water), DW (drinking water)							
Field Sample ID	Date	Time	DW	Water	Soil	Other	No. of Containers	Analysis Requested							
LS-22	3/2/20	2:45PM					1	PCBs	MANGLANES	TPH-D20	TPH-CRO		Preservative	Field Notes	MSS Lab ID
LS-22-A		2:45PM					1			X	X				0030720-28
LS-22-B		2:45PM					1			X	X				-29
LS-23		3:00PM					1			X					-30
LS-23-A		3:00PM					1			X	X				-31
LS-23-B		3:00PM					1			X	X				-32
LS-24		3:15PM					1			X					-33
LS-24-A		3:15PM					1			X	X				-34
LS-24-B		3:15PM					1			X	X				-35
															-36
Relinquished by: BEN NELSON			Date/Time: 3/2/20		Received by: (Signature)		Relinquished by: (Signature)		Date/Time		Received by: (Signature)				
(Printed)					(Printed)		(Printed)				(Printed)				
Relinquished by: BEN NELSON			Date/Time: 3/2/20		Received by: (Signature)		Relinquished by: (Signature)		Turn Around Time:		Lab Use:				
(Printed)					(Printed)		(Printed)		☐ Normal (7 day) ☒ 5 day ☐ 4 day		Temp: 7.1°C ☐ Received on Ice ☐ Received same day				
Delivery Method:			Special Instructions/QC Requirements & Comments:		Sample Disposal:										
☐ Courier ☐ Client ☐ PS ☐ FedEx ☐ SPS ☐ Other:			☐ Rush (2 day) ☐ Next Day ☐ Other: _____ ☐ Specific Due Date: _____		☐ 3 day ☐ Rush (2 day) ☐ Next Day ☐ Other: _____ ☐ Specific Due Date: _____										

Keith Progin

From: Barbara Brown -MDE- <barbara.brown1@maryland.gov>
Sent: Tuesday, March 17, 2020 9:55 AM
To: Keith Progin
Cc: Jennifer Sohns -MDE- (jennifer.sohns@maryland.gov)
Subject: Re: TPA_Stockpile Sampling Results - Logistics XI

CAUTION: External Email.

Hi Keith

The Log XI stockpile is acceptable to use at industrial parcels except for the area around LS-23. The LS-23 material may be used as landfill cover.

If you have any questions please contact me.

Barbara Brown

On Tue, Mar 10, 2020 at 10:05 AM Keith Progin <kprogin@hcea.com> wrote:

Please see the attached laboratory results for the 12 samples collected from the Logistic XI non-impacted stockpile as described in the email below. TPA is requesting using this material as part of the mass-grading on industrial parcels.

Thanks!

Keith Progin | Senior Environmental Project Manager
HILLIS-CARNES ENGINEERING ASSOCIATES

Cell (443) 250-9467
Phone +1 (410) 880-4788
Fax +1 (410) 880-4098

From: Keith Progin
Sent: Friday, March 6, 2020 11:49 AM
To: Barbara Brown -MDE- (barbara.brown1@maryland.gov) <barbara.brown1@maryland.gov>
Cc: Jennifer Sohns -MDE- (jennifer.sohns@maryland.gov) <jennifer.sohns@maryland.gov>
Subject: TPA_Stockpile Sampling Results

Barbara,

Please see the attached laboratory results for the 12 samples collected from the Logistic X non-impacted stockpile as described in the email below. TPA is requesting using this material as part of the mass-grading on industrial parcels.

Thanks!

Keith Progin | Senior Environmental Project Manager
HILLIS-CARNES ENGINEERING ASSOCIATES

Cell (443) 250-9467
Phone +1 (410) 880-4788
Fax +1 (410) 880-4098

From: Keith Progin
Sent: Thursday, March 5, 2020 9:35 AM
To: Barbara Brown -MDE- (barbara.brown1@maryland.gov) <barbara.brown1@maryland.gov>
Cc: Jennifer Sohns -MDE- (jennifer.sohns@maryland.gov) <jennifer.sohns@maryland.gov>
Subject: TPA_Stockpile Sampling

Barbara,

Per our conversation on Tuesday, several stockpiles are located on B-2 (east of the F&D building). All of the material was screened for odors, staining, and elevated PID readings during the excavation process. With the exception of one stockpile (discussed below), there was no evidence of environmental impact detected during the screening. TPA is proposing using this material during the mass grading for industrial parcels. The stockpiles sizes and origins are as follows:

Non-Impacted Stockpiles – Laboratory Analyzed for TPH-DRO, TPH-GRO, PCBs, and Manganese

Southern Sewer Line – approximately 10,000 yards (4 samples)

Transmission Towers – approximately 1,895 yards (1 sample)

Fitzell Substation – approximately 7,500 yards (4 samples)

B2-2 Utility Extension – approximately 3,000 yards (2 samples)

Logistics XI (Home Depot) – approximately 35,000 yards (12 samples)

Logistics X (F&D) - approximately 35,000 yards (12 samples)

Impacted Stockpile – Laboratory Analyzed for TPH-DRO, TPH-GRO, PCBs, PP Metals, Manganese, VOCs, Oil & Grease

Logistic X (F&D) – approximately 100 yards (1 sample)

I'm expecting laboratory results for about half of this material today. I will provide the results when they come in.

Thanks!

Keith Progin | Senior Environmental Project Manager

HILLIS-CARNES ENGINEERING ASSOCIATES

Corporate Headquarters
10975 Guilford Road, Suite A
Annapolis Junction, MD 20701
Cell (443) 250-9467
Phone +1 (410) 880-4788
Fax +1 (410) 880-4098
Email kprogin@hcea.com

Website www.hcea.com

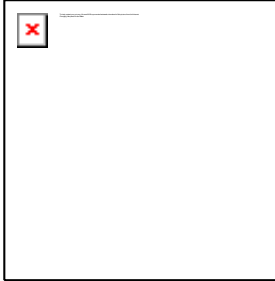
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--



Barbara H. Brown

Voluntary Cleanup Program Section Head
Land and Materials Administration
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, Maryland 21230

Barbara.brown1@maryland.gov

410-537-3493 (O)

410-537-3212 (Direct)

[Website](#) | [Facebook](#) | [Twitter](#)

Click here to complete a three question [customer experience survey](#).

[Click here](#) to complete a three question customer experience survey.

14 August 2020

Keith Progin
Hillis-Carnes Engineering Associates
10975 Guilford Rd
Annapolis Junction, MD 20701
RE: Logistics X

Enclosed are the results of analyses for samples received by the laboratory on 08/07/20 16:11.

Please visit our website at www.mdspectral.com for a complete listing of our accreditations.

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

Sincerely,



Will Brewington
President

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
MD DW LabID 153

Project: Logistics X

Project Number: 18719A
Project Manager: Keith Progin

Reported:
08/14/20 12:10

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LS-23 WC		0080718-01	Soil	08/07/20 12:30	08/07/20 16:11



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Project: Logistics X

Project Number: 18719A
Project Manager: Keith Progin

Reported:
08/14/20 12:10

LS-23 WC

0080718-01 (Soil)
Sample Date: 08/07/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
PERCENT SOLIDS BY ASTM D2216-05 Prepared by Percent Solids									
Percent Solids	85		%			1	08/10/20	08/11/20 09:30	MH
TCLP Volatile Organics by EPA 1311/8260B (GC/MS) Prepared by 5030-GCMS (TCLP)									
Benzene	ND		ug/L	25.0	25.0	5	08/13/20	08/13/20 17:35	GM
2-Butanone (MEK)	ND		ug/L	50.0	50.0	5	08/13/20	08/13/20 17:35	GM
Carbon tetrachloride	ND		ug/L	25.0	25.0	5	08/13/20	08/13/20 17:35	GM
Chlorobenzene	ND		ug/L	25.0	25.0	5	08/13/20	08/13/20 17:35	GM
Chloroform	ND		ug/L	25.0	25.0	5	08/13/20	08/13/20 17:35	GM
1,4-Dichlorobenzene	ND		ug/L	25.0	25.0	5	08/13/20	08/13/20 17:35	GM
1,2-Dichloroethane	ND		ug/L	25.0	25.0	5	08/13/20	08/13/20 17:35	GM
1,1-Dichloroethene	ND		ug/L	25.0	25.0	5	08/13/20	08/13/20 17:35	GM
Tetrachloroethene	ND		ug/L	25.0	25.0	5	08/13/20	08/13/20 17:35	GM
Trichloroethene	ND		ug/L	25.0	25.0	5	08/13/20	08/13/20 17:35	GM
Vinyl chloride	ND		ug/L	25.0	25.0	5	08/13/20	08/13/20 17:35	GM
Surrogate: 1,2-Dichloroethane-d4		70-130		107 %	08/13/20		08/13/20 17:35		
Surrogate: Toluene-d8		75-125		96 %	08/13/20		08/13/20 17:35		
Surrogate: 4-Bromofluorobenzene		75-125		91 %	08/13/20		08/13/20 17:35		
TCLP Semivolatile Organics by EPA 1311/8270D (GC/MS) Prepared by 3510-GCMS(Sep Funnel) (TCLP)									
1,4-Dichlorobenzene	ND		ug/L	12.5	5.00	1	08/10/20	08/11/20 16:12	WB
2,4-Dinitrotoluene	ND		ug/L	12.5	5.00	1	08/10/20	08/11/20 16:12	WB
Hexachlorobenzene	ND		ug/L	12.5	5.00	1	08/10/20	08/11/20 16:12	WB
Hexachlorobutadiene	ND		ug/L	12.5	5.00	1	08/10/20	08/11/20 16:12	WB
Hexachloroethane	ND		ug/L	12.5	5.00	1	08/10/20	08/11/20 16:12	WB
3&4-Methylphenol	ND		ug/L	12.5	5.00	1	08/10/20	08/11/20 16:12	WB
2-Methylphenol	ND		ug/L	12.5	5.00	1	08/10/20	08/11/20 16:12	WB
Nitrobenzene	ND		ug/L	12.5	5.00	1	08/10/20	08/11/20 16:12	WB
Pentachlorophenol	ND		ug/L	100	50.0	1	08/10/20	08/11/20 16:12	WB
Pyridine	ND		ug/L	12.5	12.5	1	08/10/20	08/11/20 16:12	WB
2,4,5-Trichlorophenol	ND		ug/L	12.5	5.00	1	08/10/20	08/11/20 16:12	WB
2,4,6-Trichlorophenol	ND		ug/L	12.5	5.00	1	08/10/20	08/11/20 16:12	WB
Surrogate: 2-Fluorophenol		23-121		71 %	08/10/20		08/11/20 16:12		
Surrogate: Phenol-d5		24-113		59 %	08/10/20		08/11/20 16:12		
Surrogate: Nitrobenzene-d5		23-120		79 %	08/10/20		08/11/20 16:12		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Will Brewington, President

Project: Logistics X

Project Number: 18719A
Project Manager: Keith Progin

Reported:
08/14/20 12:10

LS-23 WC

0080718-01 (Soil)
Sample Date: 08/07/20

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
TCLP Semivolatile Organics by EPA 1311/8270D (GC/MS) Prepared by 3510-GCMS(Sep Funnel) (TCLP) (continued)									
Surrogate: 2,4,6-Tribromophenol			19-122	93 %	08/10/20		08/11/20 16:12		
Surrogate: 2-Fluorobiphenyl			30-115	88 %	08/10/20		08/11/20 16:12		
Surrogate: Terphenyl-d14			18-137	92 %	08/10/20		08/11/20 16:12		
TCLP RCRA8 Metals by EPA 1311/3010A/6020B (ICP-MS) Prepared by 3010A-Metals Digestion(TCLP)									
Arsenic	ND		mg/L	0.500	0.500	1	08/11/20	08/11/20 18:11	KD
Barium	ND		mg/L	0.500	0.500	1	08/11/20	08/11/20 18:11	KD
Cadmium	ND		mg/L	0.500	0.500	1	08/11/20	08/11/20 18:11	KD
Chromium	ND		mg/L	0.500	0.500	1	08/11/20	08/11/20 18:11	KD
Lead	ND		mg/L	0.500	0.500	1	08/11/20	08/11/20 18:11	KD
Mercury	ND		mg/L	0.0100	0.0100	1	08/11/20	08/11/20 18:11	KD
Selenium	ND		mg/L	0.500	0.500	1	08/11/20	08/11/20 18:11	KD
Silver	ND		mg/L	0.500	0.500	1	08/11/20	08/11/20 18:11	KD
SPLP Chlorinated Pesticides by EPA 1312/8081 (GC/ECD) Prepared by 3510-GC(Sep Funnel) (TCLP)									
Aroclor-1016	ND		ug/L	6.3	6.3	1	08/12/20	08/14/20 01:40	SJA
Aroclor-1221	ND		ug/L	12.5	12.5	1	08/12/20	08/14/20 01:40	SJA
Aroclor-1232	ND		ug/L	6.3	6.3	1	08/12/20	08/14/20 01:40	SJA
Aroclor-1242	ND		ug/L	6.3	6.3	1	08/12/20	08/14/20 01:40	SJA
Aroclor-1248	ND		ug/L	6.3	6.3	1	08/12/20	08/14/20 01:40	SJA
Aroclor-1254	ND		ug/L	6.3	6.3	1	08/12/20	08/14/20 01:40	SJA
Aroclor-1260	ND		ug/L	6.3	6.3	1	08/12/20	08/14/20 01:40	SJA
Aroclor-1262	ND		ug/L	6.3	6.3	1	08/12/20	08/14/20 01:40	SJA
Aroclor-1268	ND		ug/L	6.3	6.3	1	08/12/20	08/14/20 01:40	SJA
Surrogate: Tetrachloro-m-xylene			50-150	92 %	08/12/20		08/14/20 01:40		
Surrogate: Decachlorobiphenyl			50-150	104 %	08/12/20		08/14/20 01:40		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Will Brewington, President

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
MD DW LabID 153

Project: Logistics X

Project Number: 18719A
Project Manager: Keith Progin

Reported:
08/14/20 12:10

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
%-Solids	Percent Solids is a supportive test and as such does not require accreditation



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

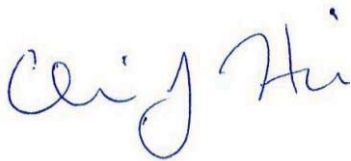
APPENDIX J

**Completion Report
for
Sub Grade Structure Backfill**

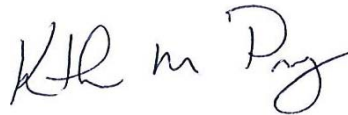
SGS-200

Dewatering of pit (identified by HCEA as SGS-200) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. All pipes and conduits exposed in the walls of the pit were identified (see attached photos) and bulk-headed or removed as necessary. Photographs, as well as an aerial photograph showing the location of SGS-200, are attached to this document.

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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-217

SGS-201

SGS-207

SGS-202

SGS-208

SGS-214

SGS-205

SGS-215

SGS-204

SGS-219

SGS-220

SGS-203

SGS-223



Photograph 1
West side



Photograph 2
East side



Photograph 3
North side



Photograph 4
North and East sides



Photograph 5
South and West sides



Photograph 6
South and West sides plus Base



Photograph 7
West and North sides

**Completion Report
for
Sub Grade Structure Backfill**

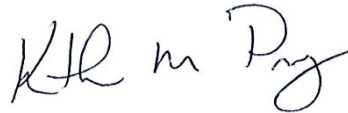
SGS-201

Dewatering of pit (identified by HCEA as SGS-201) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. All pipes and conduits exposed in the walls of the pit were identified (see attached photos) and bulk-headed or removed as necessary. Photographs, as well as an aerial photograph showing the location of SGS-201, are attached to this document.

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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-201

SGS-207

SGS-202

SGS-208

SGS-214

SGS-205

SGS-215

SGS-219

SGS-220

SGS-203

SGS-223



Photograph 1
North side



Photograph 2
South side



Photograph 3
West & North sides

**Completion Report
for
Sub Grade Structure Backfill**

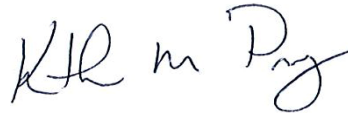
SGS-202

Dewatering of pit (identified by HCEA as SGS-202) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. All pipes and conduits exposed in the walls of the pit were identified (see attached photos) and bulk-headed or removed as necessary. Photographs, as well as an aerial photograph showing the location of SGS-202, are attached to this document.

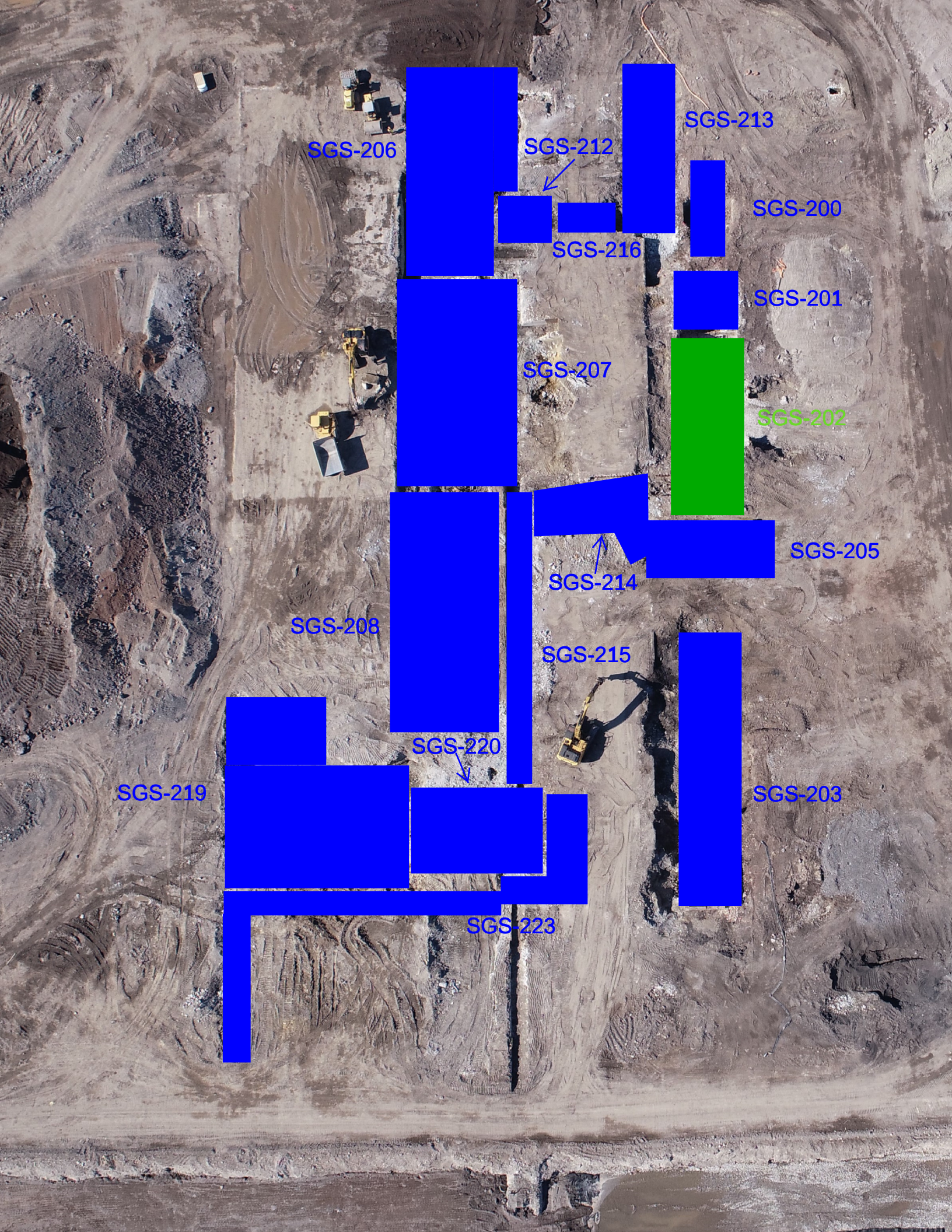
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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-201

SGS-207

SGS-202

SGS-208

SGS-214

SGS-205

SGS-215

SGS-219

SGS-220

SGS-203

SGS-223



Photograph 1
North side



Photograph 2
South side



Photograph 3
South, West, & North sides



Photograph 4
North, East, & South sides

**Completion Report
for
Sub Grade Structure Backfill**

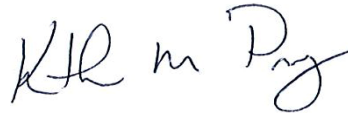
SGS-203

Dewatering of pit (identified by HCEA as SGS-203) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. All pipes and conduits exposed in the walls of the pit were identified (see attached photos) and bulk-headed or removed as necessary. Photographs, as well as an aerial photograph showing the location of SGS-203, are attached to this document.

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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-201

SGS-207

SGS-202

SGS-205

SGS-208

SGS-214

SGS-215

SGS-220

SGS-219

SGS-203

SGS-223



Photograph 1
South, West, & North sides



Photograph 2
North & East sides



**Photograph 3
South & West sides**

**Completion Report
for
Sub Grade Structure Backfill**

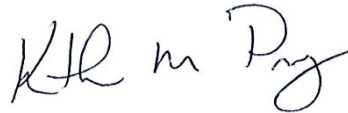
SGS-205

Dewatering of pit (identified by HCEA as SGS-205) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. All pipes and conduits exposed in the walls of the pit were identified (see attached photos) and bulk-headed or removed as necessary. Photographs, as well as an aerial photograph showing the location of SGS-205, are attached to this document.

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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-201

SGS-207

SGS-202

SGS-208

SGS-214

SGS-205

SGS-215

SGS-220

SGS-219

SGS-203

SGS-223



Photograph 1
East & South sides



Photograph 2
West & North sides

**Completion Report
for
Sub Grade Structure Backfill**

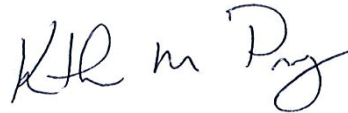
SGS-206

Dewatering of pit (identified by HCEA as SGS-206) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. All pipes and conduits exposed in the walls of the pit were identified (see attached photos) and bulk-headed or removed as necessary. Photographs, as well as an aerial photograph showing the location of SGS-206, are attached to this document.

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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-201

SGS-207

SGS-202

SGS-208

SGS-214

SGS-205

SGS-215

SGS-219

SGS-220

SGS-203

SGS-223



Photograph 1
South side



Photograph 2
North & East sides



**Photograph 3
South & West sides**

**Completion Report
for
Sub Grade Structure Backfill**

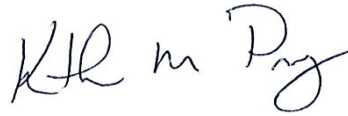
SGS-207

Dewatering of pit (identified by HCEA as SGS-207) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. There were no pipes or conduits observed by HCEA EP to be present in the exposed walls of the pit. Photographs, as well as an aerial photograph showing the location of SGS-207, are attached to this document.

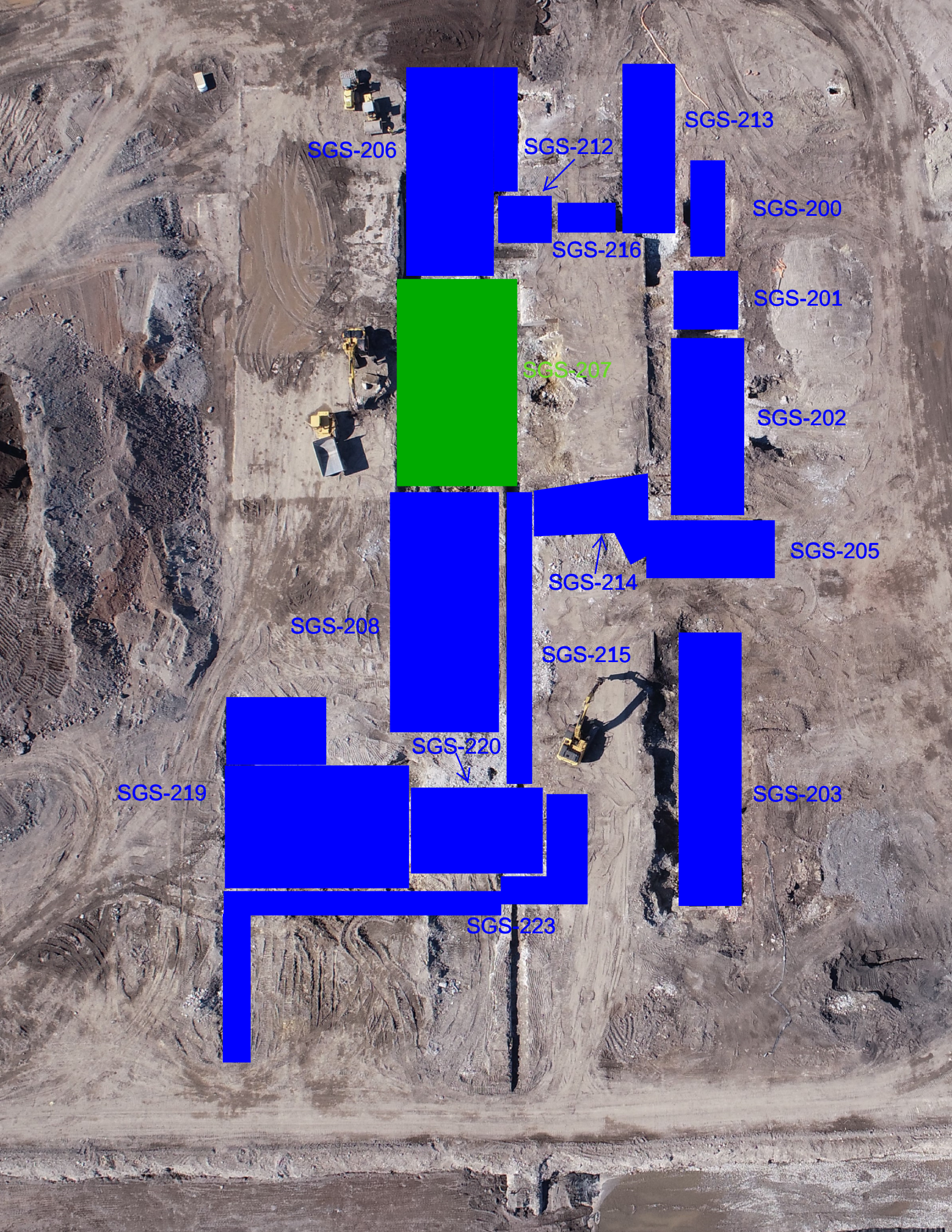
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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-201

SGS-207

SGS-202

SGS-205

SGS-214

SGS-208

SGS-215

SGS-220

SGS-219

SGS-203

SGS-223



Photograph 1
North & East sides



Photograph 2
South & West sides

**Completion Report
for
Sub Grade Structure Backfill**

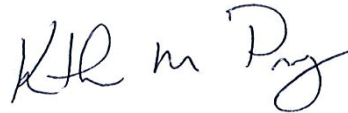
SGS-208

Dewatering of pit (identified by HCEA as SGS-208) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. All pipes and conduits exposed in the walls of the pit were identified (see attached photos) and bulk-headed or removed as necessary. Photographs, as well as an aerial photograph showing the location of SGS-208, are attached to this document.

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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-201

SGS-207

SGS-202

SGS-205

SGS-214

SGS-208

SGS-215

SGS-203

SGS-220

SGS-219

SGS-223



Photograph 1
North side



Photograph 2
West & North sides

**Completion Report
for
Sub Grade Structure Backfill**

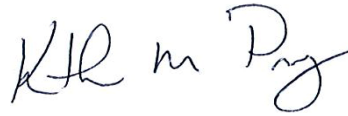
SGS-209

Dewatering of pit (identified by HCEA as SGS-209) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. There were no pipes or conduits observed by HCEA EP to be present in the exposed walls of the pit. Photographs, as well as an aerial photograph showing the location of SGS-209, are attached to this document.

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**Logistics Center XI – Home Depot
SGS-209 (Soaking Pit)**



**Photograph 1
West & North sides**



**Photograph 2
West side**

**Logistics Center XI – Home Depot
SGS-209 (Soaking Pit)**



**Photograph 3
East & South sides**



**Photograph 4
North & West sides**



**Photograph 3
East & South sides**

**Completion Report
for
Sub Grade Structure Backfill**

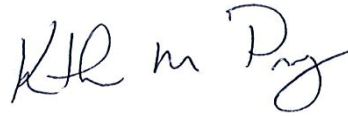
SGS-210

Dewatering of pit (identified by HCEA as SGS-210) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. There were no pipes or conduits observed by HCEA EP to be present in the exposed walls of the pit. Photographs, as well as an aerial photograph showing the location of SGS-210, are attached to this document.

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SGS-224

SGS-222

SGS-210

SGS-211



**Photograph 1
East, South, & West sides**



**Photograph 2
South & West sides**

**Completion Report
for
Sub Grade Structure Backfill**

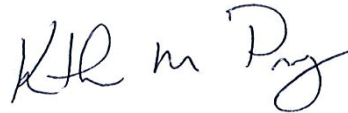
SGS-211

Dewatering of pit (identified by HCEA as SGS-211) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. All pipes and conduits exposed in the walls of the pit were identified (see attached photos) and bulk-headed or removed as necessary. Photographs, as well as an aerial photograph showing the location of SGS-211, are attached to this document.

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SGS-224

SGS-222

SGS-210

SGS-211



**Photograph 1
East & South sides**



**Photograph 2
East & South Sides (West side in foreground)**



**Photograph 3
East & South sides (West side in foreground)**



**Photograph 4
Middle & East side**



**Photograph 5
North & East sides**



**Photograph 6
South & West sides**



**Photograph 7
West & North sides**

**Completion Report
for
Sub Grade Structure Backfill**

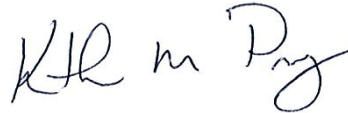
SGS-212

Dewatering of pit (identified by HCEA as SGS-212) was observed by HCEA Environmental Professional to contain an apparent presence of a sheen and a small quantity of LPH. Water was first discharged to an on-site FRAC tank. HCEA EP sampled water from the tank as well as the pit on 03/22/19. After reviewing the results, MDE approved the discharge of water to the treatment facility via the Tin Mill canal. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. Barbara Brown of the MDE conducted a site visit to observe the conditions of the pit and approved the backfill of SGS-212 under the continued observation of HCEA EP. All pipes and conduits exposed in the walls of the pit were identified (see attached photos) and bulk-headed or removed as necessary. Photographs, as well as an aerial photograph showing the location of SGS-212, are attached to this document.

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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-201

SGS-207

SGS-202

SGS-205

SGS-214

SGS-208

SGS-215

SGS-220

SGS-219

SGS-203

SGS-223



Photograph 1
West side



Photograph 2
West, North, & East sides



**Photograph 3
North & East sides**



**Photograph 4
West & North sides**



Photograph 5
West side



Photograph 6
East side

**Completion Report
for
Sub Grade Structure Backfill**

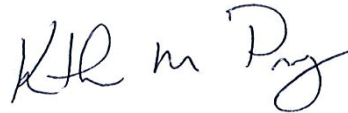
SGS-213

Dewatering of pit (identified by HCEA as SGS-213) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. All pipes and conduits exposed in the walls of the pit were identified (see attached photos) and bulk-headed or removed as necessary. Photographs, as well as an aerial photograph showing the location of SGS-213, are attached to this document.

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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-201

SGS-207

SGS-202

SGS-205

SGS-208

SGS-214

SGS-215

SGS-220

SGS-219

SGS-203

SGS-223



**Photograph 1
East & South sides**



**Photograph 2
West & North sides**



**Photograph 3
North, East, & South sides**

**Completion Report
for
Sub Grade Structure Backfill**

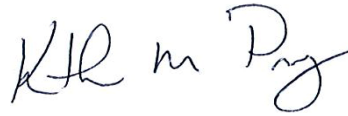
SGS-214

Dewatering of pit (identified by HCEA as SGS-214) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. There were no pipes or conduits observed by HCEA EP to be present in the exposed walls of the pit. Photographs, as well as an aerial photograph showing the location of SGS-214, are attached to this document.

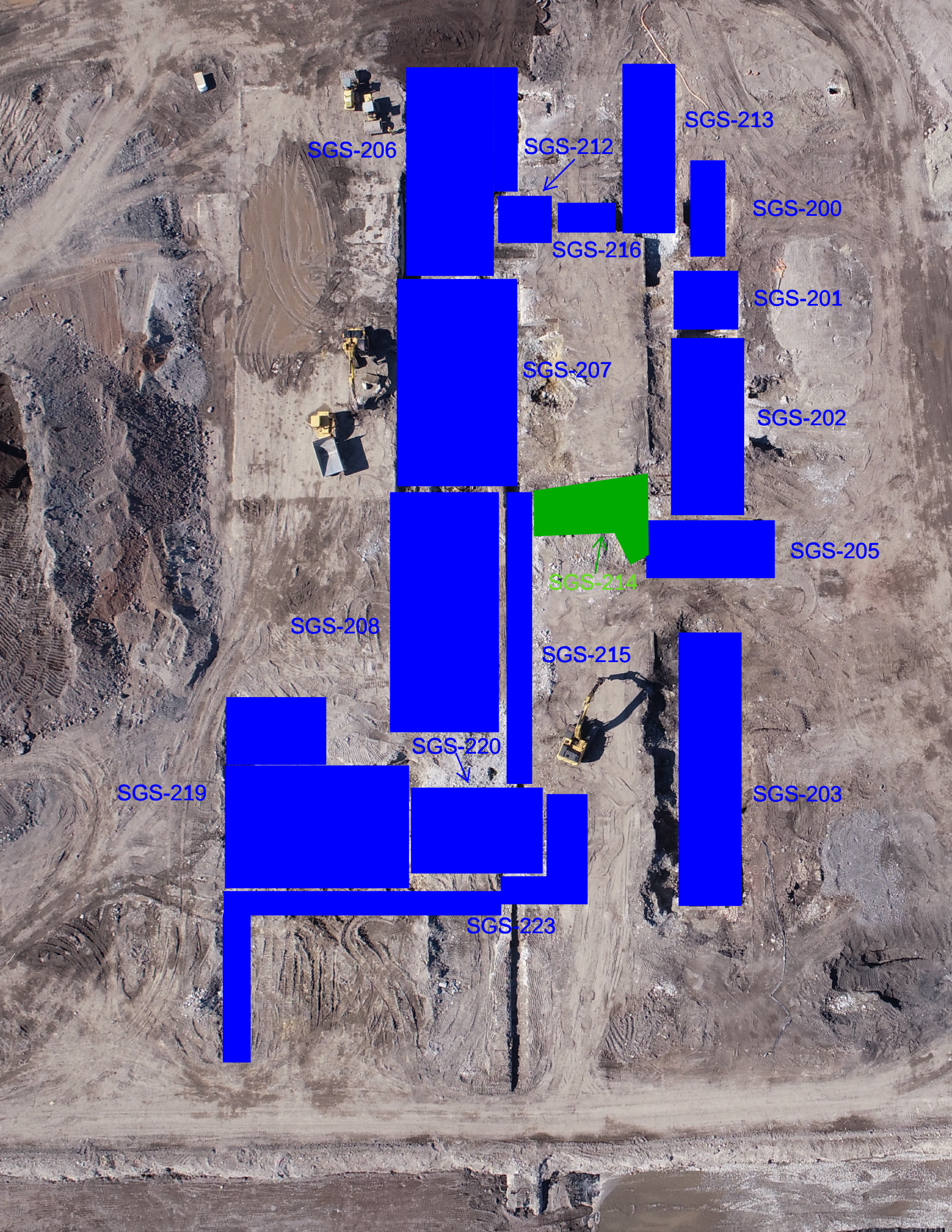
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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-201

SGS-207

SGS-202

SGS-208

SGS-205

SGS-214

SGS-215

SGS-220

SGS-219

SGS-203

SGS-223



**Photograph 1
East & South sides**



**Photograph 2
North & East sides**



Photograph 3
West & North sides



Photograph 4
West side



**Photograph 5
West, North, & East sides**

**Completion Report
for
Sub Grade Structure Backfill**

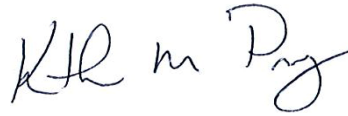
SGS-215

Dewatering of pit (identified by HCEA as SGS-215) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. There were no pipes or conduits observed by HCEA EP to be present in the exposed walls of the pit. Photographs, as well as an aerial photograph showing the location of SGS-215, are attached to this document.

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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-201

SGS-207

SGS-202

SGS-205

SGS-214

SGS-208

SGS-215

SGS-220

SGS-219

SGS-203

SGS-223



**Photograph 1
North, East, & South sides**

**Completion Report
for
Sub Grade Structure Backfill**

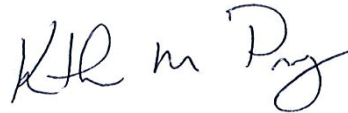
SGS-216

Dewatering of pit (identified by HCEA as SGS-216) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. All pipes and conduits exposed in the walls of the pit were identified (see attached photos) and bulk-headed or removed as necessary. Photographs, as well as an aerial photograph showing the location of SGS-216, are attached to this document.

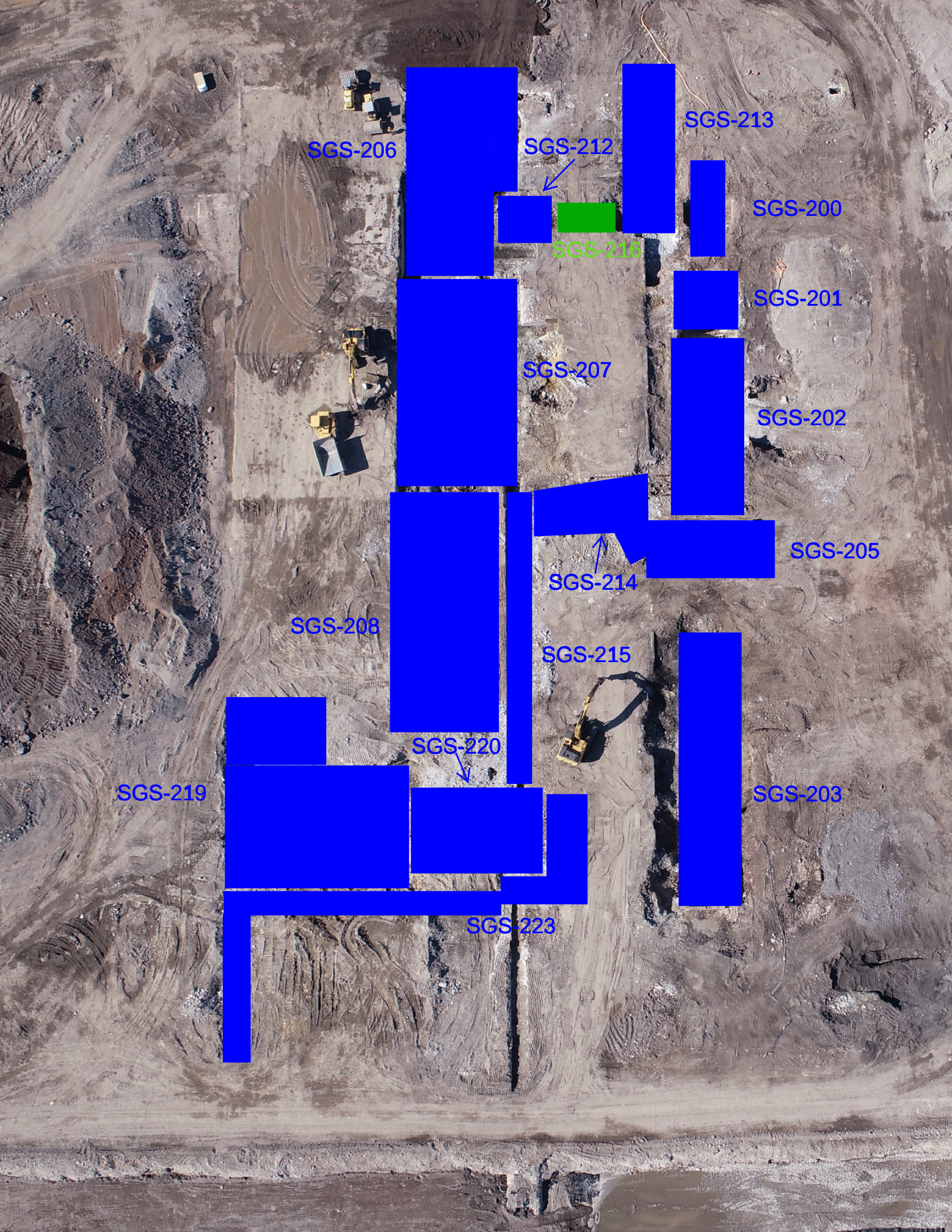
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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-201

SGS-207

SGS-202

SGS-205

SGS-214

SGS-208

SGS-215

SGS-219

SGS-220

SGS-203

SGS-223



Photograph 1
North & East sides



Photograph 2
West, North, & East sides



Photograph 3
North & East sides



Photograph 4
West & North sides



Photograph 5
West side



Photograph 6
East side

**Completion Report
for
Sub Grade Structure Backfill**

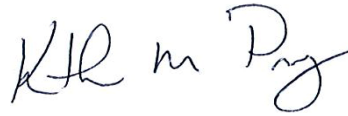
SGS-218

Dewatering of pit (identified by HCEA as SGS-218) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. There were no pipes or conduits observed by HCEA EP to be present in the exposed walls of the pit. Photographs, as well as an aerial photograph showing the location of SGS-218, are attached to this document.

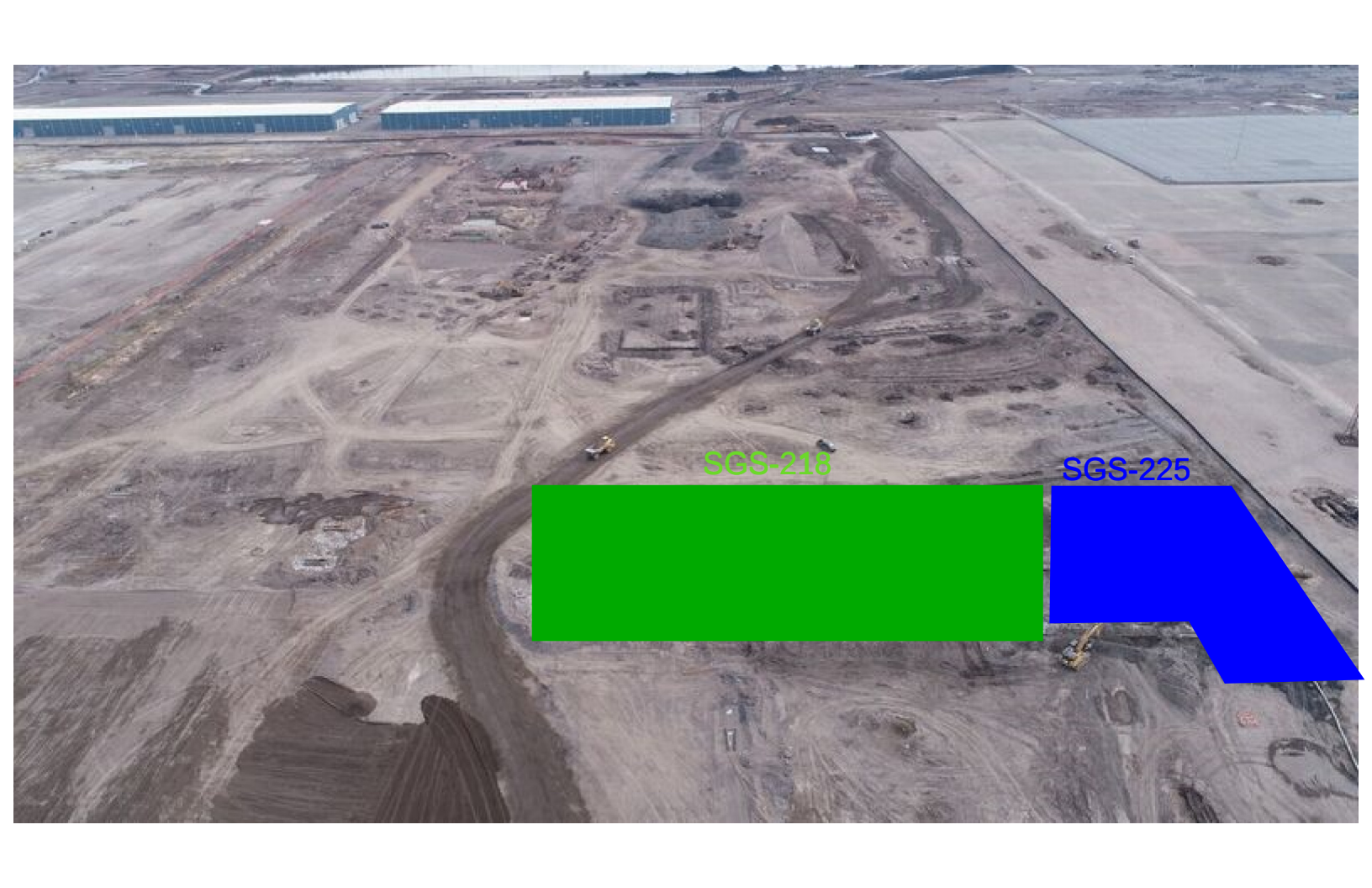
Authorization to Backfill Granted By:



Christopher J. Hillis, P.E.
CMT Division Manager
chillis@hcea.com



Keith M. Progin
Senior Environmental Project Manager
kprogin@hcea.com



SGS-218

SGS-225



**Photograph 1
South & West sides**



**Photograph 2
North & East sides**



**Photograph 3
North & East sides**



**Photograph 4
West side**

**Completion Report
for
Sub Grade Structure Backfill**

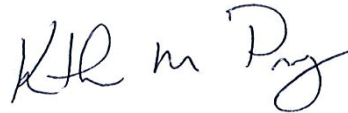
SGS-219

Dewatering of pit (identified by HCEA as SGS-219) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. All pipes and conduits exposed in the walls of the pit were identified (see attached photos) and bulk-headed or removed as necessary. Photographs, as well as an aerial photograph showing the location of SGS-219, are attached to this document.

Authorization to Backfill Granted By:



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Keith M. Progin
Senior Environmental Project Manager
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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-201

SGS-207

SGS-202

SGS-208

SGS-214

SGS-205

SGS-215

SGS-220

SGS-213

SGS-203

SGS-223



Photograph 1
West & North sides



Photograph 2
North & East sides



Photograph 3
East & South sides



Photograph 4
West side

**Completion Report
for
Sub Grade Structure Backfill**

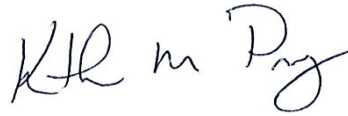
SGS-220

Dewatering of pit (identified by HCEA as SGS-220) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. There were no pipes or conduits observed by HCEA EP to be present in the exposed walls of the pit. Photographs, as well as an aerial photograph showing the location of SGS-220, are attached to this document.

Authorization to Backfill Granted By:



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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-201

SGS-207

SGS-202

SGS-208

SGS-214

SGS-205

SGS-215

SGS-219

SGS-220

SGS-203

SGS-223



**Photograph 1
North & East sides**



**Photograph 2
West side**



**Photograph 3
East & South sides**

**Completion Report
for
Sub Grade Structure Backfill**

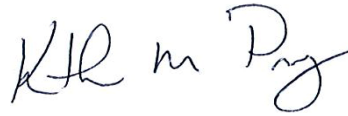
SGS-221

Dewatering of pit (identified by HCEA as SGS-221) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. There were no pipes or conduits observed by HCEA EP to be present in the exposed walls of the pit. Photographs, as well as an aerial photograph showing the location of SGS-221, are attached to this document.

Authorization to Backfill Granted By:



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chillis@hcea.com



Keith M. Progin
Senior Environmental Project Manager
kprogin@hcea.com

SGS-222



SGS-210

SGS-211

SGS-221





**Photograph 1
South & West sides**



**Photograph 2
South & West sides**



**Photograph 3
East side & Middle**



**Photograph 4
West side**



**Photograph 5
North & East sides**

**Completion Report
for
Sub Grade Structure Backfill**

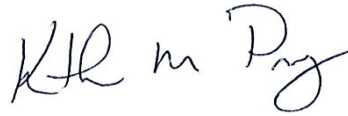
SGS-222

Dewatering of pit (identified by HCEA as SGS-222) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. All pipes and conduits exposed in the walls of the pit were identified and bulk-headed or removed as necessary. Photographs, as well as an aerial photograph showing the location of SGS-222, are attached to this document.

Authorization to Backfill Granted By:



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SGS-222



SGS-210

SGS-211

SGS-221





Photograph 1
West & North sides



Photograph 2
Inside of East chute



**Photograph 3
South side**

**Completion Report
for
Sub Grade Structure Backfill**

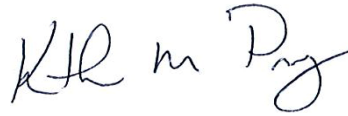
SGS-223

Dewatering of pit (identified by HCEA as SGS-223) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. There were no pipes or conduits observed by HCEA EP to be present in the exposed walls of the pit. Photographs, as well as an aerial photograph showing the location of SGS-223, are attached to this document.

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SGS-206

SGS-212

SGS-213

SGS-200

SGS-216

SGS-201

SGS-207

SGS-202

SGS-205

SGS-208

SGS-214

SGS-215

SGS-220

SGS-219

SGS-203

SGS-223



Photograph 1
South arm – North, East, & South sides



Photograph 2
South arm – South, West, & North sides



**Photograph 3
North arm – North, East, & South sides**



**Photograph 4
Middle – East & West sides**



Photograph 5
North arm – West & North sides



Photograph 6
East side

**Completion Report
for
Sub Grade Structure Backfill**

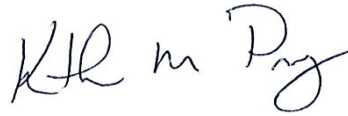
SGS-224

Dewatering of pit (identified by HCEA as SGS-224) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. All pipes and conduits exposed in the walls of the pit were identified and bulk-headed or removed as necessary. Photographs, as well as an aerial photograph showing the location of SGS-224, are attached to this document.

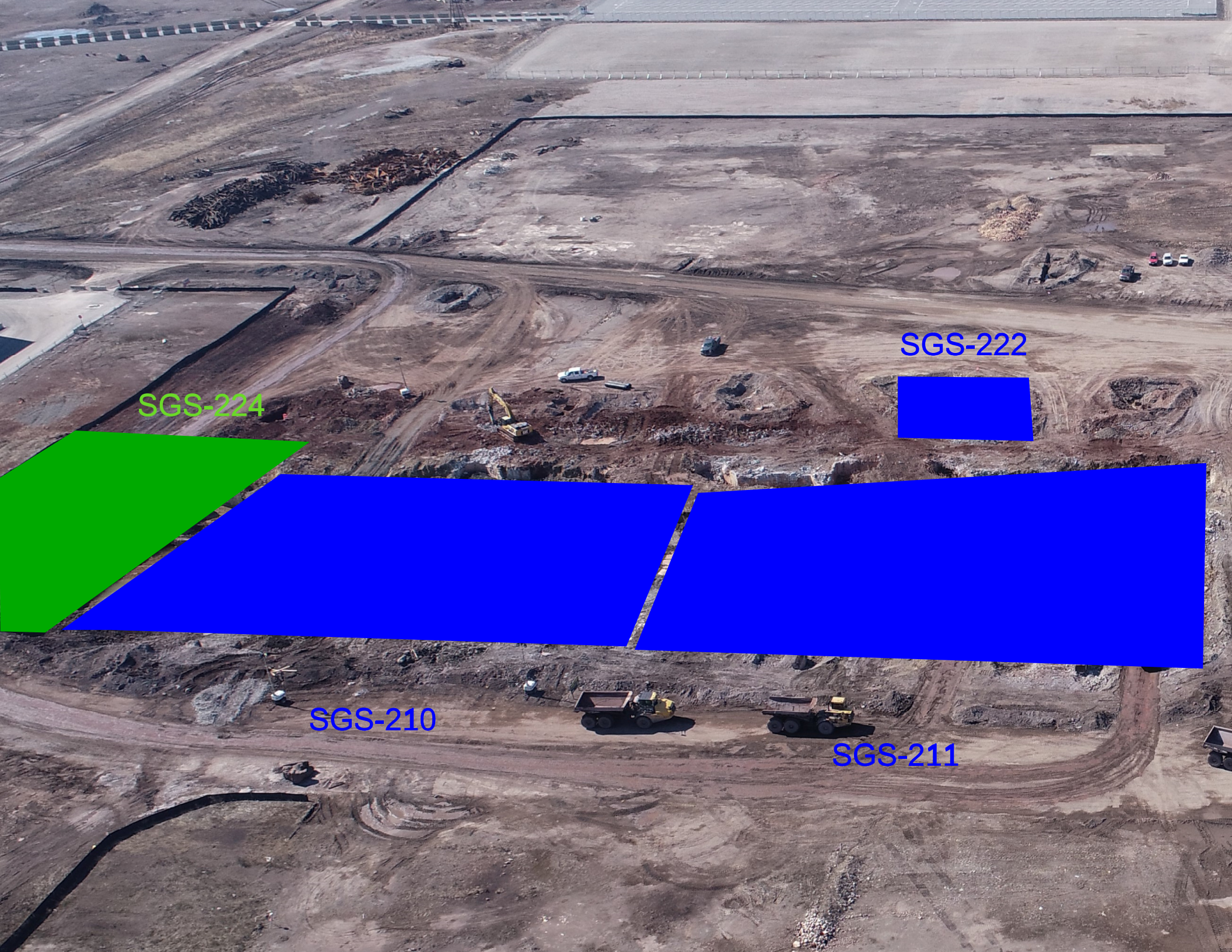
Authorization to Backfill Granted By:



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Keith M. Progin
Senior Environmental Project Manager
kprogin@hcea.com



SGS-224

SGS-222

SGS-210

SGS-211



**Photograph 1
East & South sides**



**Photograph 2
Middle & West side**



Photograph 3
East side & Middle



Photograph 4
West side & Middle



Photograph 5
North side & Middle



Photograph 6
South & West sides

**Completion Report
for
Sub Grade Structure Backfill**

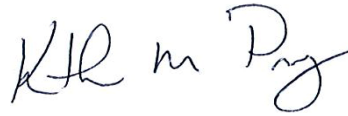
SGS-225

Dewatering of pit (identified by HCEA as SGS-225) was observed by HCEA Environmental Professional to contain no apparent presence of sheens or LPH. Water was discharged to an on-site storm drain and conveyed to the Waste Water Treatment Facility via the Tin Mill Canal per the approval from the certified operator. Substrate was observed to be sufficiently cleared and approved for backfill by the Geotechnical Engineer of Record. HCEA EP observed no apparent evidence of environmental impact on the walls or base of excavated pit. There were no pipes or conduits observed by HCEA EP to be present in the exposed walls of the pit. Photographs, as well as an aerial photograph showing the location of SGS-225, are attached to this document.

Authorization to Backfill Granted By:



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SGS-218

SGS-225



Photograph 1
West & North sides



Photograph 2
East & South sides



**Photograph 3
Northeast corner**

APPENDIX K

Hydrogen Plant Photographs
Sub-Parcel B1-2
Sparrows Point, Maryland



Keith Progin

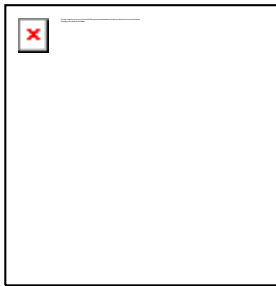
From: Jennifer Sohns -MDE- <jennifer.sohns@maryland.gov>
Sent: Tuesday, December 15, 2020 10:24 AM
To: Keith Progin
Cc: Barbara Brown -MDE- (barbara.brown1@maryland.gov); Matthew Newman
Subject: Re: Area B: Sub-Parcel B1-2

CAUTION: External Email.

Okay, thanks for the update.

Because of the COVID-19 virus and the need for safety precautions, many state employees are working remotely, including myself. During this period the best way to contact me is via email or to leave a voicemail at my direct line and allow me to return your call.

In addition to a mailed hard copy, please send digital copies of reports via email, if possible.



Jennifer Sohns
Project Manager
Land Management Administration
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, Maryland 21230
jennifer.sohns@maryland.gov
410-537-4472 (O)
[Website](#) | [Facebook](#) | [Twitter](#)

Click here to complete a three question [customer experience survey](#).

On Tue, Dec 15, 2020 at 9:54 AM Keith Progin <kprogin@hcea.com> wrote:

Work for the Proposed Hydrogen Storage and Re-fueling at Sub-Parcel B1-2 is about to commence. The work will be performed in accordance to the Supplemental Construction Plan Letter dated November 11, 2020.

The majority of the soils excavated during this project will consist of slag that was previously placed during the initial redevelopment of B1-2. Almost all of the soils will be placed back into the excavation as fill, provided that the soils are structurally suitable and show no signs of environmental impact (i.e., odors, staining, elevated PID readings). TPA is anticipating approximately 200 yards of excess soils that can not be placed back into the excavations.

TPA intends to reuse this slag on future redevelopment projects at TPA. It should be noted that the approximate 200 yards of excess soil will only include slag that was previously processed and will not include "native" soil that were in place prior to the initial redevelopment. Any "native" soils encountered in limited quantity will be placed back into the

excavations as fill. All quantities and final placement of the material removed from the parcel will be tracked and recorded.

Thanks!

Keith Progin | Senior Environmental Project Manager

HILLIS-CARNES ENGINEERING ASSOCIATES

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Annapolis Junction, MD 20701
Cell (443) 250-9467
Phone +1 (410) 880-4788
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Email kprogin@hcea.com

Website www.hcea.com

LinkedIn 

MD * DC * DE * PA * VA * Caribbean



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[Click here](#) to complete a three question customer experience survey.

APPENDIX L

Analytical Report for
Hillis Carnes Engineering Associates
Certificate of Analysis No.: 19032218

Project Manager: Keith Progin
Project Name : Logistic Center x 1
Project Location: Sparrows Point, MD
Project ID : 19059B



March 25, 2019
Phase Separation Science, Inc.
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.



March 25, 2019

Keith Progin
Hillis Carnes Engineering Associates
10975 Guilford Road, Ste. A
Annapolis Junction, MD 20701

Reference: PSS Work Order(s) No: **19032218**
Project Name: Logistic Center x 1
Project Location: Sparrows Point, MD
Project ID.: 19059B

Dear Keith Progin :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **19032218**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on April 26, 2019, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal

Laboratory Manager



Sample Summary

Client Name: Hillis Carnes Engineering Associates

Project Name: Logistic Center x 1

Work Order Number(s): 19032218

Project ID: 19059B

The following samples were received under chain of custody by Phase Separation Science (PSS) on 03/22/2019 at 02:30 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
19032218-001	SGS - 212	WATER	03/22/19 11:15
19032218-002	FT - 1	WATER	03/22/19 10:45

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- Fail The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
- J The target analyte was positively identified below the reporting limit but greater than the MDL.
- MDL This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
- ND Not Detected at or above the reporting limit.
- RL PSS Reporting Limit.
- U Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 19032218

Hillis Carnes Engineering Associates, Annapolis Junction, MD

March 25, 2019

Project Name: Logistic Center x 1

Project Location: Sparrows Point, MD

Project ID: 19059B

Sample ID: SGS - 212

Date/Time Sampled: 03/22/2019 11:15

PSS Sample ID: 19032218-001

Matrix: WATER

Date/Time Received: 03/22/2019 14:30

Polychlorinated Biphenyls

Analytical Method: SW-846 8082 A

Preparation Method: 3510C

Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	ug/L	0.50		1	03/22/19	03/25/19 10:18	1029
PCB-1221	ND	ug/L	0.50		1	03/22/19	03/25/19 10:18	1029
PCB-1232	ND	ug/L	0.50		1	03/22/19	03/25/19 10:18	1029
PCB-1242	ND	ug/L	0.50		1	03/22/19	03/25/19 10:18	1029
PCB-1248	ND	ug/L	0.50		1	03/22/19	03/25/19 10:18	1029
PCB-1254	ND	ug/L	0.50		1	03/22/19	03/25/19 10:18	1029
PCB-1260	ND	ug/L	0.50		1	03/22/19	03/25/19 10:18	1029

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 19032218

Hillis Carnes Engineering Associates, Annapolis Junction, MD

March 25, 2019

Project Name: Logistic Center x 1

Project Location: Sparrows Point, MD

Project ID: 19059B

Sample ID: SGS - 212	Date/Time Sampled: 03/22/2019 11:15	PSS Sample ID: 19032218-001
Matrix: WATER	Date/Time Received: 03/22/2019 14:30	

TCL Volatile Organic Compounds

Analytical Method: SW-846 8260 B

Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	03/23/19	03/23/19 11:47	1011
Benzene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Bromochloromethane	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Bromodichloromethane	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Bromoform	ND	ug/L	5.0		1	03/23/19	03/23/19 11:47	1011
Bromomethane	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
2-Butanone (MEK)	ND	ug/L	10		1	03/23/19	03/23/19 11:47	1011
Carbon Disulfide	ND	ug/L	10		1	03/23/19	03/23/19 11:47	1011
Carbon tetrachloride	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Chlorobenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Chloroethane	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Chloroform	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Chloromethane	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Cyclohexane	ND	ug/L	10		1	03/23/19	03/23/19 11:47	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0		1	03/23/19	03/23/19 11:47	1011
Dibromochloromethane	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Ethylbenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 19032218

Hillis Carnes Engineering Associates, Annapolis Junction, MD

March 25, 2019

Project Name: Logistic Center x 1

Project Location: Sparrows Point, MD

Project ID: 19059B

Sample ID: SGS - 212	Date/Time Sampled: 03/22/2019 11:15	PSS Sample ID: 19032218-001
Matrix: WATER	Date/Time Received: 03/22/2019 14:30	

TCL Volatile Organic Compounds

Analytical Method: SW-846 8260 B

Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone (MBK)	ND	ug/L	5.0		1	03/23/19	03/23/19 11:47	1011
Isopropylbenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Methyl Acetate	ND	ug/L	10		1	03/23/19	03/23/19 11:47	1011
Methylcyclohexane	ND	ug/L	10		1	03/23/19	03/23/19 11:47	1011
Methylene chloride	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	03/23/19	03/23/19 11:47	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Naphthalene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Styrene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Tetrachloroethene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Toluene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Trichloroethene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	03/23/19	03/23/19 11:47	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
Vinyl chloride	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011
m&p-Xylene	ND	ug/L	2.0		1	03/23/19	03/23/19 11:47	1011
o-Xylene	ND	ug/L	1.0		1	03/23/19	03/23/19 11:47	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 19032218

Hillis Carnes Engineering Associates, Annapolis Junction, MD

March 25, 2019

Project Name: Logistic Center x 1

Project Location: Sparrows Point, MD

Project ID: 19059B

Sample ID: FT - 1

Date/Time Sampled: 03/22/2019 10:45

PSS Sample ID: 19032218-002

Matrix: WATER

Date/Time Received: 03/22/2019 14:30

Polychlorinated Biphenyls

Analytical Method: SW-846 8082 A

Preparation Method: 3510C

Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	ug/L	0.50		1	03/22/19	03/25/19 10:46	1029
PCB-1221	ND	ug/L	0.50		1	03/22/19	03/25/19 10:46	1029
PCB-1232	ND	ug/L	0.50		1	03/22/19	03/25/19 10:46	1029
PCB-1242	ND	ug/L	0.50		1	03/22/19	03/25/19 10:46	1029
PCB-1248	ND	ug/L	0.50		1	03/22/19	03/25/19 10:46	1029
PCB-1254	ND	ug/L	0.50		1	03/22/19	03/25/19 10:46	1029
PCB-1260	ND	ug/L	0.50		1	03/22/19	03/25/19 10:46	1029

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 19032218

Hillis Carnes Engineering Associates, Annapolis Junction, MD

March 25, 2019

Project Name: Logistic Center x 1

Project Location: Sparrows Point, MD

Project ID: 19059B

Sample ID: FT - 1	Date/Time Sampled: 03/22/2019 10:45	PSS Sample ID: 19032218-002
Matrix: WATER	Date/Time Received: 03/22/2019 14:30	

TCL Volatile Organic Compounds

Analytical Method: SW-846 8260 B

Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	16	ug/L	10		1	03/23/19	03/23/19 12:16	1011
Benzene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Bromochloromethane	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Bromodichloromethane	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Bromoform	ND	ug/L	5.0		1	03/23/19	03/23/19 12:16	1011
Bromomethane	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
2-Butanone (MEK)	ND	ug/L	10		1	03/23/19	03/23/19 12:16	1011
Carbon Disulfide	ND	ug/L	10		1	03/23/19	03/23/19 12:16	1011
Carbon tetrachloride	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Chlorobenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Chloroethane	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Chloroform	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Chloromethane	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Cyclohexane	ND	ug/L	10		1	03/23/19	03/23/19 12:16	1011
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0		1	03/23/19	03/23/19 12:16	1011
Dibromochloromethane	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
1,2-Dibromoethane	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Ethylbenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 19032218

Hillis Carnes Engineering Associates, Annapolis Junction, MD

March 25, 2019

Project Name: Logistic Center x 1

Project Location: Sparrows Point, MD

Project ID: 19059B

Sample ID: FT - 1	Date/Time Sampled: 03/22/2019 10:45	PSS Sample ID: 19032218-002
Matrix: WATER	Date/Time Received: 03/22/2019 14:30	

TCL Volatile Organic Compounds

Analytical Method: SW-846 8260 B

Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone (MBK)	ND	ug/L	5.0		1	03/23/19	03/23/19 12:16	1011
Isopropylbenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Methyl Acetate	ND	ug/L	10		1	03/23/19	03/23/19 12:16	1011
Methylcyclohexane	ND	ug/L	10		1	03/23/19	03/23/19 12:16	1011
Methylene chloride	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	03/23/19	03/23/19 12:16	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Naphthalene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Styrene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Tetrachloroethene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Toluene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Trichloroethene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	03/23/19	03/23/19 12:16	1011
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
Vinyl chloride	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011
m&p-Xylene	ND	ug/L	2.0		1	03/23/19	03/23/19 12:16	1011
o-Xylene	ND	ug/L	1.0		1	03/23/19	03/23/19 12:16	1011



Case Narrative Summary

Client Name: Hillis Carnes Engineering Associates

Project Name: Logistic Center x 1

Work Order Number(s): 19032218

Project ID: 19059B

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for drinking water and non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

Analytical:

TCL Volatile Organic Compounds

Batch: 162682

Matrix spike/matrix spike duplicate (MS/MSD) exceedances identified; see MS summary form.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.



Analytical Data Package Information Summary

Work Order(s): 19032218

Report Prepared For: Hillis Carnes Engineering Associates, Annapo

Project Name: Logistic Center x 1

Project Manager: Keith Progin

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8082 A	SGS - 212	Initial	19032218-001	1029	W	75996	162703	03/22/2019	03/22/2019 15:26	03/25/2019 10:18
	FT - 1	Initial	19032218-002	1029	W	75996	162703	03/22/2019	03/22/2019 15:26	03/25/2019 10:46
	75996-1-BKS	BKS	75996-1-BKS	1029	W	75996	162703	-----	03/22/2019 15:26	03/25/2019 09:21
	75996-1-BLK	BLK	75996-1-BLK	1029	W	75996	162703	-----	03/22/2019 15:26	03/25/2019 08:53
	75996-1-BSD	BSD	75996-1-BSD	1029	W	75996	162703	-----	03/22/2019 15:26	03/25/2019 09:49
SW-846 8260 B	SGS - 212	Initial	19032218-001	1011	W	76013	162682	03/22/2019	03/23/2019 08:21	03/23/2019 11:47
	FT - 1	Initial	19032218-002	1011	W	76013	162682	03/22/2019	03/23/2019 08:21	03/23/2019 12:16
	76013-1-BKS	BKS	76013-1-BKS	1011	W	76013	162682	-----	03/23/2019 08:21	03/23/2019 09:25
	76013-1-BLK	BLK	76013-1-BLK	1011	W	76013	162682	-----	03/23/2019 08:21	03/23/2019 11:20
	SGS - 212 S	MS	19032218-001 S	1011	W	76013	162682	03/22/2019	03/23/2019 08:21	03/23/2019 13:46
	SGS - 212 SD	MSD	19032218-001 SD	1011	W	76013	162682	03/22/2019	03/23/2019 08:21	03/23/2019 14:12

PHASE SEPARATION SCIENCE, INC.

QC Summary 19032218

Hillis Carnes Engineering Associates
Logistic Center x 1

Analytical Method: SW-846 8082 A

Seq Number: 162703

PSS Sample ID: 19032218-001

Prep Method: SW3510C

Date Prep: 03/22/2019

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	125		39-154	%	03/25/19 10:18
Tetrachloro-m-xylene	99		35-131	%	03/25/19 10:18

Analytical Method: SW-846 8260 B

Seq Number: 162682

PSS Sample ID: 19032218-001

Prep Method: SW5030B

Date Prep: 03/23/2019

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	97		87-109	%	03/23/19 11:47
Dibromofluoromethane	97		93-111	%	03/23/19 11:47
Toluene-D8	98		91-109	%	03/23/19 11:47

Analytical Method: SW-846 8082 A

Seq Number: 162703

PSS Sample ID: 19032218-002

Prep Method: SW3510C

Date Prep: 03/22/2019

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	123		39-154	%	03/25/19 10:46
Tetrachloro-m-xylene	99		35-131	%	03/25/19 10:46

Analytical Method: SW-846 8260 B

Seq Number: 162682

PSS Sample ID: 19032218-002

Prep Method: SW5030B

Date Prep: 03/23/2019

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	103		87-109	%	03/23/19 12:16
Dibromofluoromethane	98		93-111	%	03/23/19 12:16
Toluene-D8	102		91-109	%	03/23/19 12:16

F = RPD exceeded the laboratory control limits

X = Recovery of MS, MSD or both outside of QC Criteria

H= Recovery of BS,BSD or both exceeded the laboratory control limits

L = Recovery of BS,BSD or both below the laboratory control limits

PHASE SEPARATION SCIENCE, INC.

QC Summary 19032218

Hillis Carnes Engineering Associates
Logistic Center x 1

Analytical Method: SW-846 8082 A

Seq Number: 162703

MB Sample Id: 75996-1-BLK

Matrix: Water

LCS Sample Id: 75996-1-BKS

Prep Method: SW3510C

Date Prep: 03/22/19

LCSD Sample Id: 75996-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
PCB-1016	<0.5000	5.000	4.016	80	4.020	80	56-124	0	20	ug/L	
PCB-1260	<0.5000	5.000	4.000	80	4.054	81	61-103	1	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Decachlorobiphenyl	95		97		101		39-154	%
Tetrachloro-m-xylene	83		88		90		35-131	%

PHASE SEPARATION SCIENCE, INC.

QC Summary 19032218

Hillis Carnes Engineering Associates
Logistic Center x 1

Analytical Method: SW-846 8260 B

Seq Number: 162682

MB Sample Id: 76013-1-BLK

Matrix: Water

LCS Sample Id: 76013-1-BKS

Prep Method: SW5030B

Date Prep: 03/23/19

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Acetone	<10.00	50.00	45.24	90	55-120	ug/L	
Benzene	<1.000	50.00	53.29	107	87-123	ug/L	
Bromochloromethane	<1.000	50.00	51.45	103	74-136	ug/L	
Bromodichloromethane	<1.000	50.00	57.00	114	83-125	ug/L	
Bromoform	<5.000	50.00	50.81	102	72-129	ug/L	
Bromomethane	<1.000	50.00	39.83	80	45-167	ug/L	
2-Butanone (MEK)	<10.00	50.00	46.94	94	45-136	ug/L	
Carbon Disulfide	<10.00	50.00	52.53	105	87-123	ug/L	
Carbon tetrachloride	<1.000	50.00	53.67	107	79-133	ug/L	
Chlorobenzene	<1.000	50.00	53.71	107	87-127	ug/L	
Chloroethane	<1.000	50.00	50.39	101	81-122	ug/L	
Chloroform	<1.000	50.00	52.56	105	76-129	ug/L	
Chloromethane	<1.000	50.00	46.67	93	59-121	ug/L	
Cyclohexane	<10.00	50.00	57.05	114	83-122	ug/L	
1,2-Dibromo-3-chloropropane	<5.000	50.00	58.45	117	63-140	ug/L	
Dibromochloromethane	<1.000	50.00	57.95	116	73-139	ug/L	
1,2-Dibromoethane	<1.000	50.00	54.85	110	80-127	ug/L	
1,2-Dichlorobenzene	<1.000	50.00	55.41	111	82-129	ug/L	
1,3-Dichlorobenzene	<1.000	50.00	52.98	106	88-127	ug/L	
Dichlorodifluoromethane	<1.000	50.00	47.34	95	70-131	ug/L	
1,4-Dichlorobenzene	<1.000	50.00	55.97	112	84-129	ug/L	
1,1-Dichloroethane	<1.000	50.00	50.34	101	85-120	ug/L	
1,2-Dichloroethane	<1.000	50.00	53.39	107	86-125	ug/L	
cis-1,2-Dichloroethene	<1.000	50.00	51.16	102	86-126	ug/L	
1,1-Dichloroethene	<1.000	50.00	49.38	99	85-123	ug/L	
1,2-Dichloropropane	<1.000	50.00	59.01	118	83-120	ug/L	
cis-1,3-Dichloropropene	<1.000	50.00	45.13	90	81-125	ug/L	
trans-1,3-Dichloropropene	<1.000	50.00	46.06	92	79-121	ug/L	
trans-1,2-Dichloroethene	<1.000	50.00	51.84	104	87-120	ug/L	
Ethylbenzene	<1.000	50.00	55.46	111	82-128	ug/L	
2-Hexanone (MBK)	<5.000	50.00	51.74	103	56-116	ug/L	
Isopropylbenzene	<1.000	50.00	54.95	110	81-128	ug/L	
Methyl Acetate	<10.00	50.00	49.53	99	68-129	ug/L	
Methylcyclohexane	<10.00	50.00	52.79	106	84-127	ug/L	
Methylene chloride	<1.000	50.00	47.95	96	85-119	ug/L	
4-Methyl-2-Pentanone (MIBK)	<5.000	50.00	51.99	104	57-116	ug/L	
Methyl-t-Butyl Ether	<1.000	50.00	48.75	98	61-130	ug/L	
Naphthalene	<1.000	50.00	55.35	111	74-114	ug/L	
Styrene	<1.000	50.00	57.38	115	76-130	ug/L	
1,1,2,2-Tetrachloroethane	<1.000	50.00	51.81	104	79-131	ug/L	
Tetrachloroethene	<1.000	50.00	51.18	102	85-131	ug/L	
Toluene	<1.000	50.00	47.96	96	82-127	ug/L	
1,2,3-Trichlorobenzene	<1.000	50.00	54.49	109	79-123	ug/L	
1,2,4-Trichlorobenzene	<1.000	50.00	54.99	110	78-123	ug/L	
1,1,1-Trichloroethane	<1.000	50.00	53.57	107	87-125	ug/L	
Trichloroethene	<1.000	50.00	55.56	111	87-124	ug/L	
1,1,2-Trichloroethane	<1.000	50.00	50.43	101	84-127	ug/L	
Trichlorofluoromethane	<5.000	50.00	55.20	110	85-130	ug/L	
1,1,2-Trichlorotrifluoroethane	<1.000	50.00	52.98	106	81-132	ug/L	
Vinyl chloride	<1.000	50.00	59.57	119	66-133	ug/L	
m&p-Xylene	<2.000	100	117.2	117	78-126	ug/L	

PHASE SEPARATION SCIENCE, INC.

QC Summary 19032218

Hillis Carnes Engineering Associates
Logistic Center x 1

Analytical Method: SW-846 8260 B

Seq Number: 162682

MB Sample Id: 76013-1-BLK

Matrix: Water

LCS Sample Id: 76013-1-BKS

Prep Method: SW5030B

Date Prep: 03/23/19

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
o-Xylene	<1.000	50.00	57.24	114	75-130	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units
4-Bromofluorobenzene	105		99		87-109	%
Dibromofluoromethane	97		100		93-111	%
Toluene-D8	93		94		91-109	%

PHASE SEPARATION SCIENCE, INC.

QC Summary 19032218

Hillis Carnes Engineering Associates

Logistic Center x 1

Analytical Method: SW-846 8260 B

Seq Number: 162682

Parent Sample Id: 19032218-001

Matrix: Water

MS Sample Id: 19032218-001 S

Prep Method: SW5030B

Date Prep: 03/23/19

MSD Sample Id: 19032218-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Acetone	<10.00	50.00	27.42	55	29.42	59	50-156	7	25	ug/L	
Benzene	<1.000	50.00	52.90	106	52.40	105	77-143	1	25	ug/L	
Bromochloromethane	<1.000	50.00	49.20	98	49.71	99	83-133	1	25	ug/L	
Bromodichloromethane	<1.000	50.00	50.76	102	53.70	107	75-142	6	25	ug/L	
Bromoform	<5.000	50.00	45.62	91	47.76	96	74-131	5	25	ug/L	
Bromomethane	<1.000	50.00	36.43	73	37.18	74	48-166	2	25	ug/L	
2-Butanone (MEK)	<10.00	50.00	32.41	65	37.43	75	68-127	14	25	ug/L	X
Carbon Disulfide	<10.00	50.00	51.27	103	51.53	103	73-148	1	25	ug/L	
Carbon tetrachloride	<1.000	50.00	51.14	102	51.57	103	76-144	1	25	ug/L	
Chlorobenzene	<1.000	50.00	51.76	104	51.12	102	73-150	1	25	ug/L	
Chloroethane	<1.000	50.00	50.57	101	51.26	103	72-142	1	25	ug/L	
Chloroform	<1.000	50.00	51.12	102	51.25	103	81-134	0	25	ug/L	
Chloromethane	<1.000	50.00	45.92	92	46.61	93	46-143	1	25	ug/L	
Cyclohexane	<10.00	50.00	55.02	110	52.95	106	75-138	4	25	ug/L	
1,2-Dibromo-3-chloropropane	<5.000	50.00	55.07	110	58.48	117	73-135	6	25	ug/L	
Dibromochloromethane	<1.000	50.00	59.98	120	53.51	107	81-137	11	25	ug/L	
1,2-Dibromoethane	<1.000	50.00	54.42	109	53.03	106	68-149	3	25	ug/L	
1,2-Dichlorobenzene	<1.000	50.00	49.47	99	51.21	102	66-146	3	25	ug/L	
1,3-Dichlorobenzene	<1.000	50.00	50.40	101	49.31	99	61-154	2	25	ug/L	
Dichlorodifluoromethane	<1.000	50.00	47.13	94	49.65	99	60-148	5	25	ug/L	
1,4-Dichlorobenzene	<1.000	50.00	52.69	105	49.95	100	64-150	5	25	ug/L	
1,1-Dichloroethane	<1.000	50.00	49.54	99	51.92	104	76-139	5	25	ug/L	
1,2-Dichloroethane	<1.000	50.00	51.28	103	51.91	104	81-139	1	25	ug/L	
cis-1,2-Dichloroethene	<1.000	50.00	50.69	101	50.99	102	80-142	1	25	ug/L	
1,1-Dichloroethene	<1.000	50.00	48.24	96	47.51	95	74-142	2	25	ug/L	
1,2-Dichloropropane	<1.000	50.00	55.73	111	55.03	110	73-138	1	25	ug/L	
cis-1,3-Dichloropropene	<1.000	50.00	48.92	98	50.12	100	64-149	2	25	ug/L	
trans-1,3-Dichloropropene	<1.000	50.00	47.25	95	49.53	99	67-135	5	25	ug/L	
trans-1,2-Dichloroethene	<1.000	50.00	48.39	97	50.20	100	75-142	4	25	ug/L	
Ethylbenzene	<1.000	50.00	53.77	108	54.16	108	68-151	1	25	ug/L	
2-Hexanone (MBK)	<5.000	50.00	46.02	92	44.91	90	43-147	2	25	ug/L	
Isopropylbenzene	<1.000	50.00	48.34	97	47.57	95	67-148	2	25	ug/L	
Methyl Acetate	<10.00	50.00	48.71	97	50.34	101	69-133	3	25	ug/L	
Methylcyclohexane	<10.00	50.00	54.44	109	51.38	103	62-152	6	25	ug/L	
Methylene chloride	<1.000	50.00	46.97	94	46.79	94	73-141	0	25	ug/L	
4-Methyl-2-Pentanone (MIBK)	<5.000	50.00	56.83	114	60.12	120	61-125	6	25	ug/L	
Methyl-t-Butyl Ether	<1.000	50.00	44.46	89	47.67	95	45-143	7	25	ug/L	
Naphthalene	<1.000	50.00	55.16	110	56.93	114	40-145	3	25	ug/L	
Styrene	<1.000	50.00	47.78	96	47.52	95	72-135	1	25	ug/L	
1,1,2,2-Tetrachloroethane	<1.000	50.00	46.40	93	49.24	98	70-150	6	25	ug/L	
Tetrachloroethene	<1.000	50.00	57.46	115	47.65	95	55-166	19	25	ug/L	
Toluene	<1.000	50.00	52.99	106	54.11	108	68-152	2	25	ug/L	
1,2,3-Trichlorobenzene	<1.000	50.00	52.12	104	53.56	107	21-172	3	25	ug/L	
1,2,4-Trichlorobenzene	<1.000	50.00	48.54	97	48.23	96	16-172	1	25	ug/L	
1,1,1-Trichloroethane	<1.000	50.00	49.83	100	50.58	101	80-143	1	25	ug/L	
Trichloroethene	<1.000	50.00	54.94	110	53.48	107	73-148	3	25	ug/L	
1,1,2-Trichloroethane	<1.000	50.00	54.06	108	55.09	110	68-154	2	25	ug/L	
Trichlorofluoromethane	<5.000	50.00	53.69	107	55.03	110	80-145	2	25	ug/L	
1,1,2-Trichlorotrifluoroethane	<1.000	50.00	52.52	105	52.75	106	73-147	0	25	ug/L	
Vinyl chloride	<1.000	50.00	54.35	109	43.25	87	79-128	23	25	ug/L	
m&p-Xylene	<2.000	100	108	108	108.8	109	70-138	1	25	ug/L	

PHASE SEPARATION SCIENCE, INC.

QC Summary 19032218

Hillis Carnes Engineering Associates
Logistic Center x 1

Analytical Method: SW-846 8260 B

Seq Number: 162682

Parent Sample Id: 19032218-001

Matrix: Water

MS Sample Id: 19032218-001 S

Prep Method: SW5030B

Date Prep: 03/23/19

MSD Sample Id: 19032218-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
o-Xylene	<1.000	50.00	53.67	107	54.24	108	71-139	1	25	ug/L	

Surrogate

	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
4-Bromofluorobenzene	98		97		87-109	%
Dibromofluoromethane	99		102		93-111	%
Toluene-D8	105		106		91-109	%

F = RPD exceeded the laboratory control limits

X = Recovery of MS, MSD or both outside of QC Criteria

H= Recovery of BS,BSD or both exceeded the laboratory control limits

L = Recovery of BS,BSD or both below the laboratory control limits

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED



Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	19032218	Received By	Barb Weber
Client Name	Hillis Carnes Engineering Associates	Date Received	03/22/2019 02:30:00 PM
Project Name	Logistic Center x 1	Delivered By	Trans Time Express
Project Number	19059B	Tracking No	Not Applicable
Disposal Date	04/26/2019	Logged In By	Barb Weber
Shipping Container(s)			
No. of Coolers	1	Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	3.6
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No
Documentation			
COC agrees with sample labels?	Yes	Sampler Name	<u>Not Provided</u>
Chain of Custody	Yes		<u>N/A</u>
Sample Container			
Appropriate for Specified Analysis?	Yes	Custody Seal(s) Intact?	Not Applicable
Intact?	Yes	Seal(s) Signed / Dated	Not Applicable
Labeled and Labels Legible?	Yes		

Total No. of Samples Received 2

Total No. of Containers Received 8

Preservation

Total Metals	(pH<2)	N/A
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By:

Barb Weber

Barb Weber

Date: 03/22/2019

PM Review and Approval:

Amber Confer

Amber Confer

Date: 03/22/2019

APPENDIX M

HILLIS-CARNES

ENGINEERING ASSOCIATES

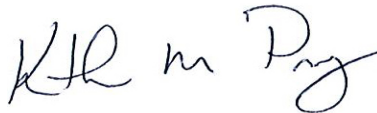
**Tiger Slag Removal Project
Logistics Center XI
Baltimore, Maryland**

Submitted To:

Mr. Pete Haid
Tradepoint Atlantic
1600 Sparrows Point Boulevard
Baltimore, Maryland 21219

Prepared By:

Hillis-Carnes Engineering Associates, Inc.
10975 Guilford Road, Suite A
Annapolis Junction, Maryland 20701



Keith M. Progin
Senior Environmental Project Manager
kprogin@hcea.com

July 26, 2019

1.0 Executive Summary

Naphthalene impacted slag was identified within the footprint of the Tiger building. The top 6 inches of slag placed on the building pad was found to be exhibiting naphthalene odor. Hillis-Carnes Engineering Associates (HCEA) was engaged to delineate the naphthalene impacted slag, oversee the excavation and removal of the slag, and assess remaining conditions.

Slag removal work was conducted from July 22, 2019 to July 26, 2019. The naphthalene impacted slag was transported to the Sparrows Point on-site landfill (Grey's Landfill), placed in an excavation, and covered. HCEA monitored the ambient air breathing zone with a photoionization detector (PID) around the excavation work zone throughout the project; all PID readings in the breathing zone were zero. The OSHA standard for naphthalene in air is 10 parts per million (ppm) over an 8-hour work period.

The remaining material in the work zone was assessed on July 26, 2019 after the excavation was completed. All readings were below threshold and the area may begin backfilling upon MDE approval.

2.0 Background

Slag was imported, placed, and compacted on the Tiger building pad during redevelopment of the site and in preparation of the Tiger building construction. Odors were detected during utility excavation within the building pad. Due to the presence of odors a work stoppage was initiated in the area.

3.0 Slag Delineation

On July 19, 2019, HCEA performed test pits in the area where the odor was detected to delineate the extent of impacted slag. The slag was field screened using a PID (MiniRAE 3000). Prior to start of work, the PID was calibrated in accordance with manufacturer recommendations. The extent of the impacted area was delineated as shown in the enclosed "Tiger Slag Delineation" figure.

4.0 Slag Remediation and Monitoring

4.1 Slag Removal

From July 22, 2019 through July 26, 2019, DXI Construction (DXI) excavated material from the delineated area. The excavated impacted slag was placed into trucks and transported to the on-site landfill (Grey's Landfill) for disposal. Following removal of impacted slag, HCEA screened the bottom of the excavation for residual impact using a PID. Based on the screening results, additional slag exhibiting elevated PID readings were over-excavated and removed for disposal. At the conclusion of removal activities, remaining slag screened by HCEA exhibited PID readings less than 3.0 ppm as displayed on the enclosed "Post-Remediation PID Readings" figure.

4.2 Breathing Zone Monitoring

During the remediation activities described in Section 4.1, HCEA monitored the breathing zone around the perimeter of the work area using a PID. The Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) for naphthalene in air is 10 ppm over an 8-hour work period (29 Code of Federal Regulations [CFR] 1910.1000). The PID readings in the breathing zone around the perimeter of the work area were zero during excavation activities.

Corporate Headquarters – Annapolis Junction, MD

Maryland ♦ Washington, DC ♦ Delaware ♦ Pennsylvania ♦ Virginia ♦ Caribbean

4.3 Building Pad Survey

HCEA performed test pits throughout the remaining portions of the building pad to determine if impacted slag may have been placed in additional areas. The results of the test pits are included on the "Building Pad Survey" figure enclosed. HCEA also utilized a PID to monitor the background ambient air conditions. The PID readings were zero at each location throughout the building. Based on the building pad survey, there was no evidence of naphthalene impacted soils (e.g., odors or elevated PID readings) outside of the previously delineated area.

4.4 Landfill Activities

Impacted slag was transported to and disposed of at the on-site landfill (Grey's Landfill). A total of approximately 150 truckloads of material were transported to the landfill for proper disposal. The material was placed into an open excavation and immediately covered with interim cover material. Upon completion of removal and transport activities, the material was covered with two-feet of clean cover material.

During landfill activities, HCEA utilized a PID to monitor the air around the perimeter of the landfill. The readings in the ambient air around the perimeter of the landfill were below 1 ppm, which is well below the OSHA PEL for naphthalene (29 CFR 1910.1000).

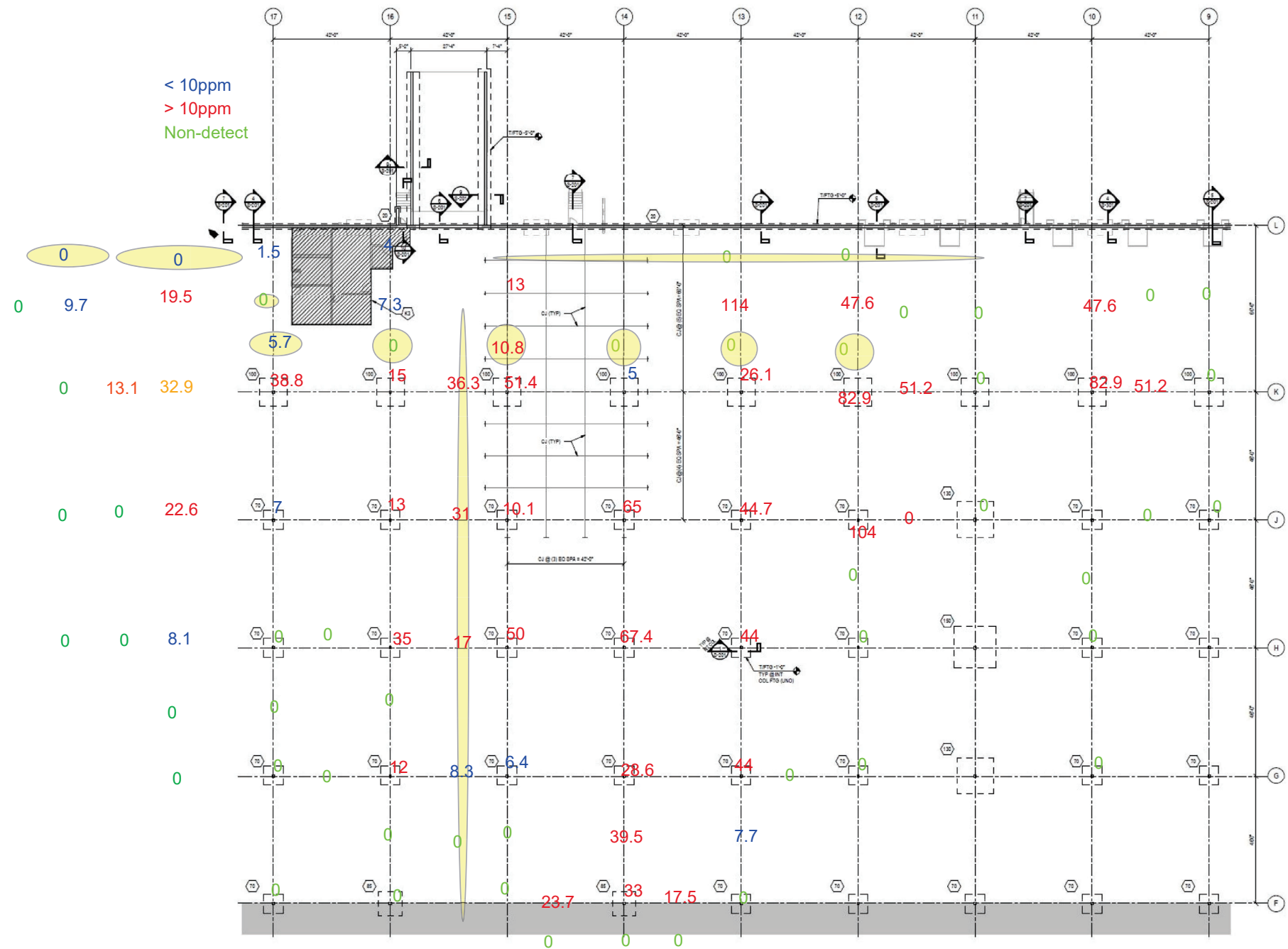
5.0 Summary

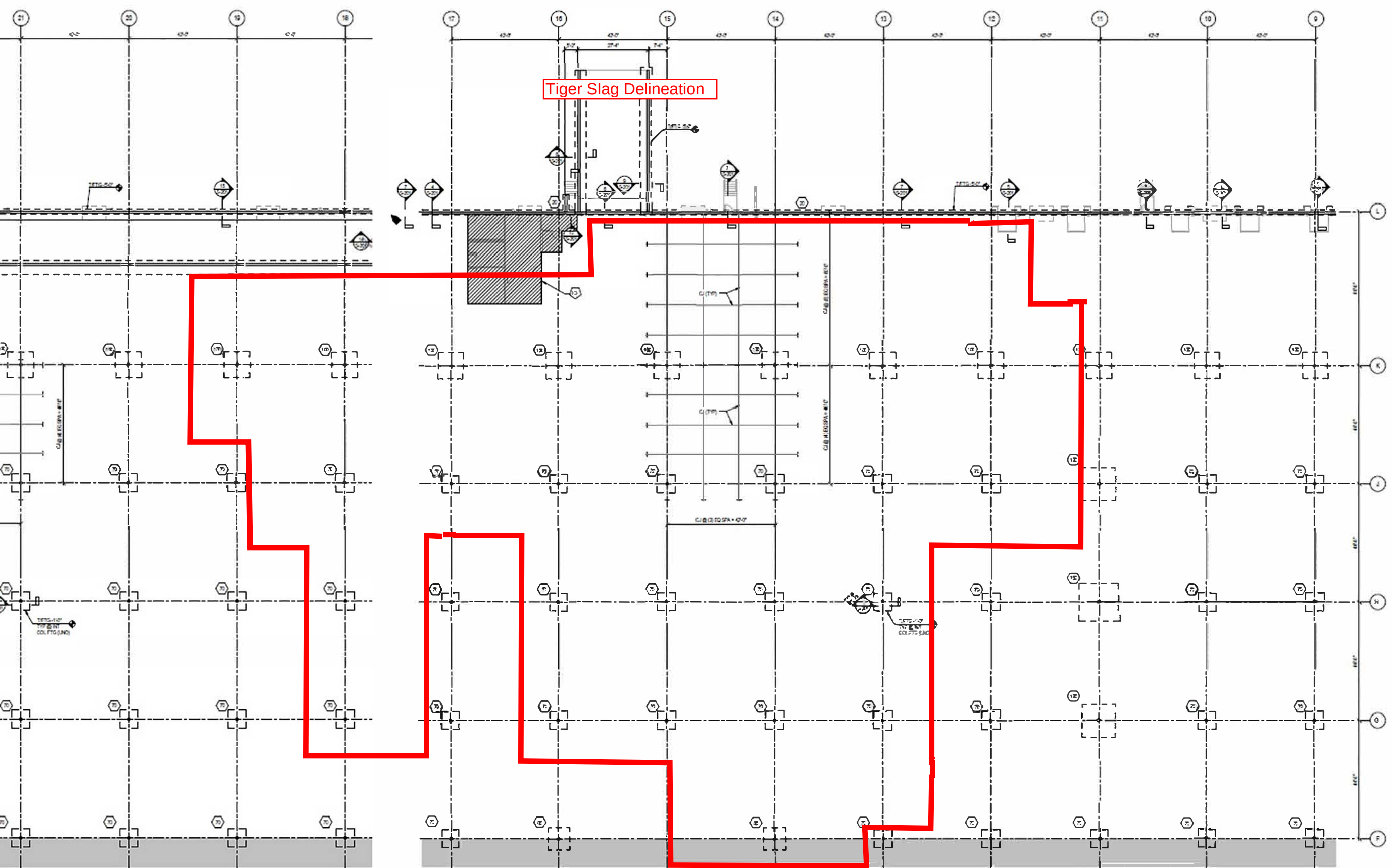
Upon observation of an odor within the Tiger building, HCEA was engaged to delineate naphthalene impacted slag, oversee the excavation and removal of slag, and assess remaining conditions. HCEA delineated the slag material using a calibrated PID (MiniRAE 3000) on July 19, 2019.

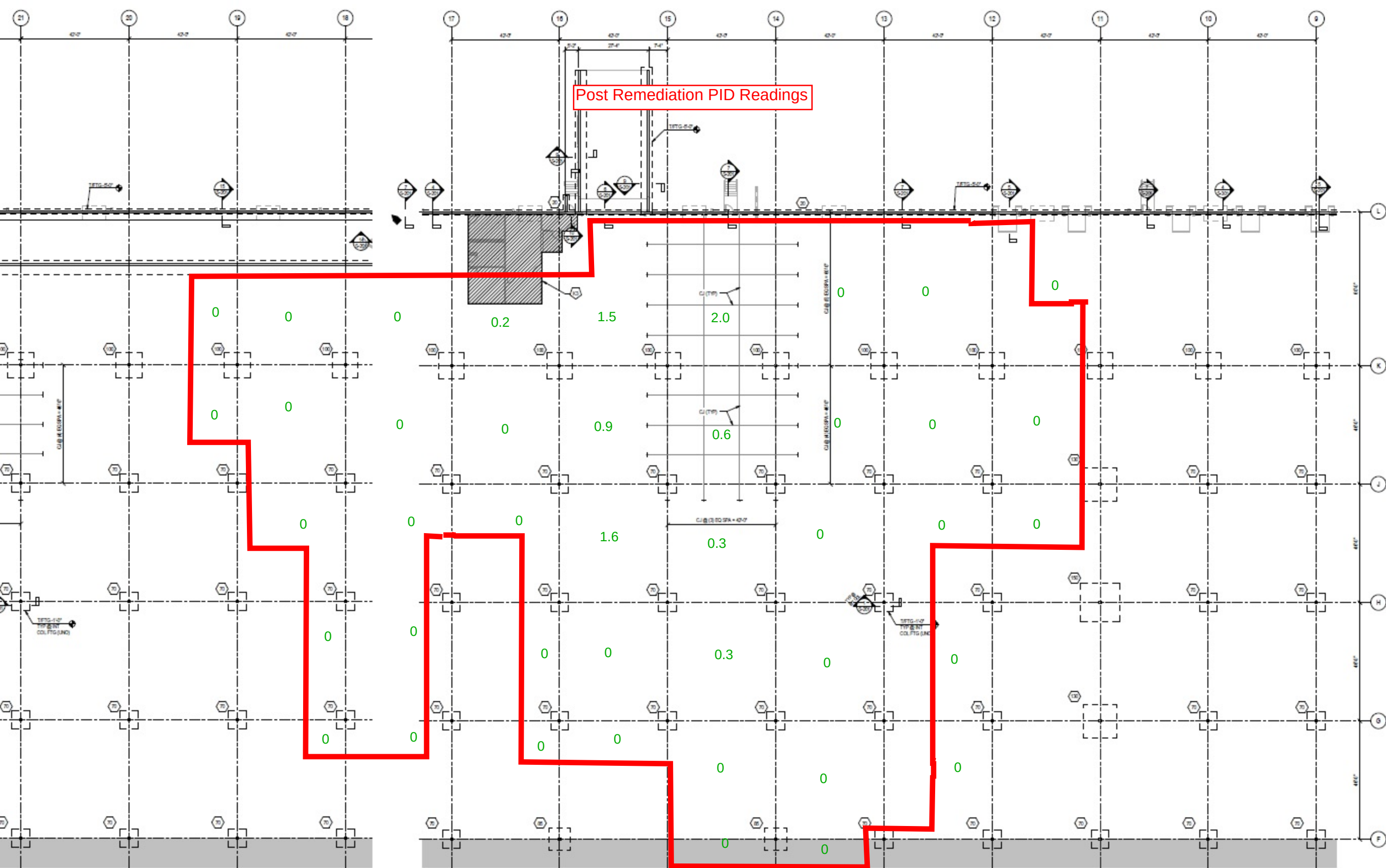
From July 22, 2019 through July 26, 2019, Hillis-Carnes oversaw the excavation of naphthalene impacted slag from the delineated area. Throughout the removal of the slag material HCEA monitored the breathing zone around the perimeter of the work area using a PID. The OSHA standard for naphthalene in air is 10 parts per million (ppm) over an 8-hour work period. Readings in the breathing zone around the perimeter of the work area were zero throughout removal activities.

The removal of the slag material was completed on July 26, 2019. The area may begin to be backfilled upon receipt of MDE approval.

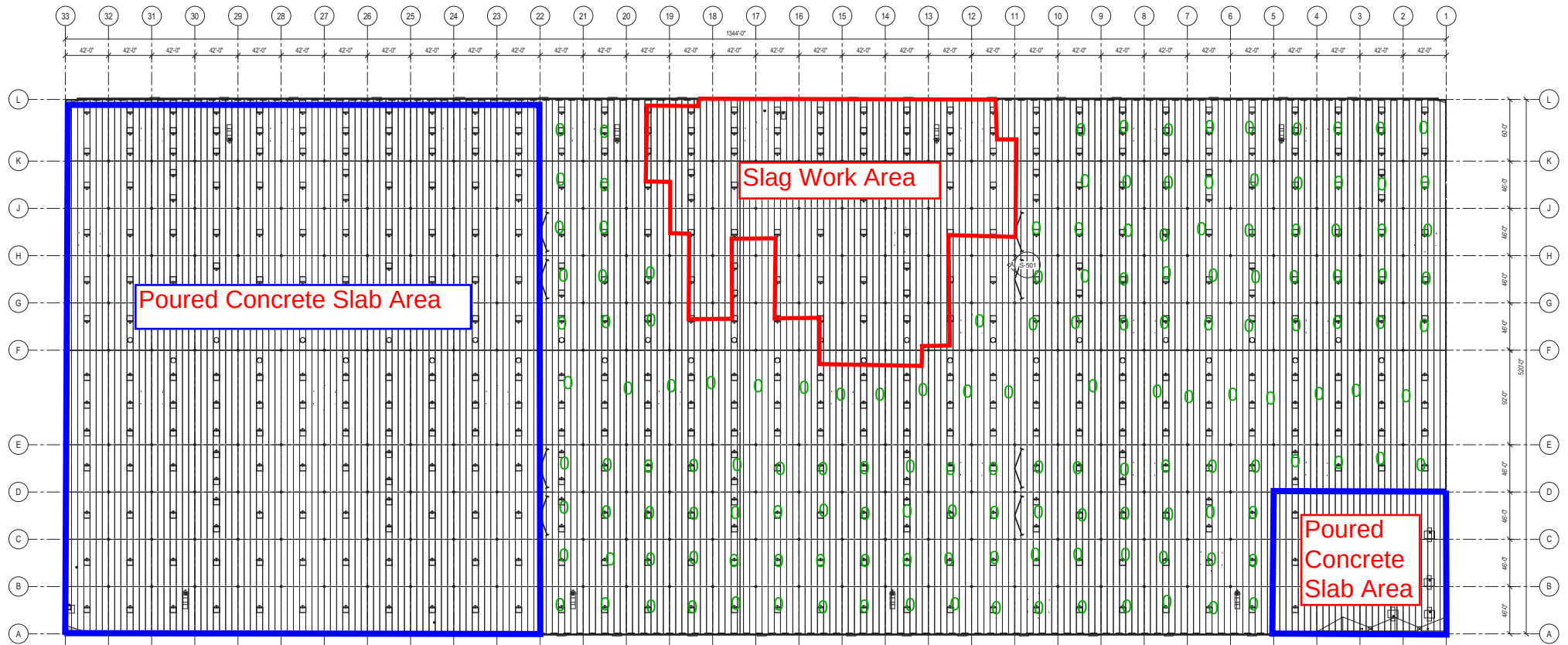
Initial PID Readings







TIGER BUILDING PAD - PID SURVEY



*Numbers in Green Represent Screened Soil Locations and Corresponding PID Readings (all zero)

*Background Ambient Conditions Were Also Zero at Each Location

From: [Pete Haid](#)
To: [Barbara Brown -MDE-](#); [Matthew Newman](#); [Jennifer Sohns -MDE-](#); [Keith Progin](#)
Subject: RE: North Building Odor
Date: Sunday, July 21, 2019 7:38:32 PM
Attachments: [image001.png](#)

Thanks Barbara.

Hillis will have two Environmental Professionals (EP's) in the building and one on top of the landfill to monitor ambient air space.

We are restricting all other contractors from working in the building while the removal is taking place.

The velocity of the transport vehicles will be kept low to minimize any potential odor generation from vehicle draft.

I have been excused from jury duty – I should be on site early tomorrow morning.

Thanks.

Pete

From: Barbara Brown -MDE- [mailto:barbara.brown1@maryland.gov]
Sent: Sunday, July 21, 2019 5:30 PM
To: Pete Haid <phaid@tradepointatlantic.com>; Matthew Newman <mnewman@tradepointatlantic.com>; Jennifer Sohns -MDE- <jennifer.sohns@maryland.gov>; Keith Progin <kprogin@hcea.com>
Subject: Re: North Building Odor

Hello All

I would be cautious for the first loads and be very aware of the wind direction and have some "fresh noses" monitoring the area around the landfill for any odors that could have the potential to leave the property. If odors are detected off-site the removal should cease and measures such as interim cover or use of posi-shell should be implemented. The excavated material should also be monitored and if extremely elevated PIDs or very strong odors are encountered-greater than detected previously in the "Tiger" building and more similar to the A-11 or B-13 slag piles this material should not be moved to Greys until an odor control method is approved.

I will contact Matt Monday morning and arrange a visit to observe the removal.

Barbara Brown

On Fri, Jul 19, 2019 at 2:07 PM Pete Haid <phaid@tradepointatlantic.com> wrote:

Barbara:

Quick update:

- We have pulled three samples of the material for SVOC analysis; should have results early next week.
- Hillis-Carnes will begin the screening of the remainder of the building pad on Monday, to date there has been no indications that there are other areas affected. Once the building check is complete I will coordinate with Hillis for spot checks outside the building.
- The transfer of the material will begin Monday; this is a two day project.
- The material will be placed directly into an excavation on the landfill and will be covered with 2 feet of clean soil at the end of the day.
- The origin of the material (location, dates, etc.) is being investigated.

Please note that I will be out for jury duty on Monday, but expect to be back in the office Tuesday. I will keep you informed of our progress.

Thanks.

Pete

From: Pete Haid
Sent: Thursday, July 18, 2019 8:25 AM
To: Barbara Brown -MDE- <barbara.brown1@maryland.gov>
Subject: RE: North Building Odor

Will do. Thanks.

From: Barbara Brown -MDE- <barbara.brown1@maryland.gov>
Sent: Thursday, July 18, 2019 8:21 AM
To: Pete Haid <phaid@tradepointatlantic.com>
Cc: Jennifer Sohns -MDE- <jennifer.sohns@maryland.gov>
Subject: Re: North Building Odor

Hi Pete

Please collect a few samples of the odor bearing slag and analyze for SVOCs.

Barbara Brown

On Thu, Jul 18, 2019 at 8:17 AM Pete Haid <phaid@tradepointatlantic.com> wrote:

Barbara:

Good morning.

As discussed yesterday, we have identified a naphthalene odor within a section of the "Tiger" building (north Home Depot building). Please refer to the attached "North Building Plan." The odor originates from the top 6" of the foundation pad; the odor is released when the top 6" of surficial material is excavated or disturbed. The top 6" is a tightly compacted layer of slag. An electrician was trenching through the area and noted

the odor. We stopped work and had Hillis-Carnes investigate. Attached please find the “Tiger Sketch” that shows the PID readings that resulted when the surficial 6” of material was disturbed. Undisturbed the material generates little to no odor. The electrician would like to complete his work in this area; however, we have closed the area off from additional work until the surface material has been addressed.

There is roughly 700 yd³ of surficial material. TPA does not want contractors working through this material. TPA proposes to remove the 6” layer of slag and transport it to Greys Landfill. The material will be buried and capped with at least 2’ of cover. The material below the top 6” has no odor and registers 0 ppm on the PID.

Additionally, TPA will pursue the following:

- Where did the material come from?
- When was it delivered? Was it after May 8, 2019?
- Check with the Geotech – was there any odors observed during placement and compaction?

Thank you for your continued guidance.

Pete

Peter Haid
Senior Director of Environmental
TRADEPOINT ATLANTIC
1600 Sparrows Point Boulevard
Baltimore, Maryland 21219
T 443.649.5055 C 732.841.7935
[*phaid@tradeportatlantic.com*](mailto:phaid@tradeportatlantic.com)



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Barbara Brown
MDE-LRP-VCP Section Head
direct 410 537 3212
general 410 537 3493

[Click here](#) to complete a three question customer experience survey.

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Barbara Brown
MDE-LRP-VCP Section Head
direct 410 537 3212
general 410 537 3493

[Click here](#) to complete a three question customer experience survey.

APPENDIX N

Modified Level D Contractor Certification

Ground Intrusive Work

In accordance with the *Response and Development Work Plan (RDWP) for Area B: Sub-Parcel B1-2, Revision 3* dated August 30, 2019, Section 3.3.2, *Sub-Parcel B1-2 SLRA Results and Risk Characterization*, a site-specific ground intrusive work exposure duration of 80 days was established. In lieu of tracking exposure days for each employee, the RDWP allows for the employment of Modified Level D personal protective equipment (PPE) or equivalent elevated PPE as required by Site conditions. Modified Level D is defined below. For this project the contractor adopted Modified Level D PPE upon commencement of work (Day 1).

Project Statement:

Prior to the start of the project FCL and their subcontractors adopted Modified Level D as the baseline PPE for all personnel involved in ground intrusive work. Modified Level D was used from Day 1 of the project by all personnel involved in ground intrusive work.

Statement Certification:

Company: FCL Builders

Name: Blake Rowan

Title: Senior Project Manager

Signature: 

Date: 4/28/20

Modified Level D PPE

Modified Level D PPE will include, at a minimum, overalls such as polyethylene-coated Tyvek or clean washable cloth overalls, latex (or similar) disposable gloves (when working in wet/chemical surroundings) or work gloves, steel-toe/steel-shank high ankle work boots with taped chemical-protective over-boots (as necessary), dust mask, hard hat, safety glasses with side shields, and hearing protection (as necessary). If chemical-protective over-boots create increased slip/trip/fall hazardous, then standard leather or rubber work boots could be used, but visible soils from the sides and bottoms of the boots must be removed upon exiting the Exclusion Zone.

Modified Level D Contractor Certification

Ground Intrusive Work

In accordance with the *Response and Development Work Plan (RDWP) for Area B: Sub-Parcel B1-2, Revision 3* dated August 30, 2019, Section 3.3.2, *Sub-Parcel B1-2 SLRA Results and Risk Characterization*, a site-specific ground intrusive work exposure duration of 80 days was established. In lieu of tracking exposure days for each employee, the RDWP allows for the employment of Modified Level D personal protective equipment (PPE) or equivalent elevated PPE as required by Site conditions. Modified Level D is defined below. For this project the contractor adopted Modified Level D PPE upon commencement of work (Day 1).

Project Statement:

Prior to the start of the project ~~FCL~~ FCL - SJ and their subcontractors adopted Modified Level D as the baseline PPE for all personnel involved in ground intrusive work. Modified Level D was used from Day 1 of the project by all personnel involved in ground intrusive work.

Statement Certification:

Company: CCS INC

Name: Steve JAMES

Title: President

Signature: 

Date: 4-28-2020

Modified Level D PPE

Modified Level D PPE will include, at a minimum, overalls such as polyethylene-coated Tyvek or clean washable cloth overalls, latex (or similar) disposable gloves (when working in wet/chemical surroundings) or work gloves, steel-toe/steel-shank high ankle work boots with taped chemical-protective over-boots (as necessary), dust mask, hard hat, safety glasses with side shields, and hearing protection (as necessary). If chemical-protective over-boots create increased slip/trip/fall hazardous, then standard leather or rubber work boots could be used, but visible soils from the sides and bottoms of the boots must be removed upon exiting the Exclusion Zone.

Modified Level D Contractor Certification

Ground Intrusive Work

In accordance with the *Response and Development Work Plan (RDWP) for Area B: Sub-Parcel B1-2, Revision 3* dated August 30, 2019, Section 3.3.2, *Sub-Parcel B1-2 SLRA Results and Risk Characterization*, a site-specific ground intrusive work exposure duration of 80 days was established. In lieu of tracking exposure days for each employee, the RDWP allows for the employment of Modified Level D personal protective equipment (PPE) or equivalent elevated PPE as required by Site conditions. Modified Level D is defined below. For this project the contractor adopted Modified Level D PPE upon commencement of work (Day 1).

Project Statement:

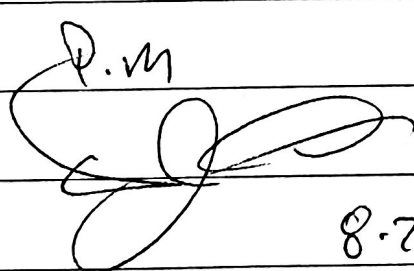
Prior to the start of the project FCL and their subcontractors adopted Modified Level D as the baseline PPE for all personnel involved in ground intrusive work. Modified Level D was used from Day 1 of the project by all personnel involved in ground intrusive work.

Statement Certification:

Company: DXI Construction

Name: D. J. Coe

Title: P.M.

Signature: 

Date: 8-25-20

Modified Level D PPE

Modified Level D PPE will include, at a minimum, overalls such as polyethylene-coated Tyvek or clean washable cloth overalls, latex (or similar) disposable gloves (when working in wet/chemical surroundings) or work gloves, steel-toe/steel-shank high ankle work boots with taped chemical-protective over-boots (as necessary), dust mask, hard hat, safety glasses with side shields, and hearing protection (as necessary). If chemical-protective over-boots create increased slip/trip/fall hazardous, then standard leather or rubber work boots could be used, but visible soils from the sides and bottoms of the boots must be removed upon exiting the Exclusion Zone.

Modified Level D Contractor Certification

Ground Intrusive Work

In accordance with the *Response and Development Work Plan (RDWP) for Area B: Sub-Parcel B1-2, Revision 3* dated August 30, 2019, Section 3.3.2, *Sub-Parcel B1-2 SLRA Results and Risk Characterization*, a site-specific ground intrusive work exposure duration of 80 days was established. In lieu of tracking exposure days for each employee, the RDWP allows for the employment of Modified Level D personal protective equipment (PPE) or equivalent elevated PPE as required by Site conditions. Modified Level D is defined below. For this project the contractor adopted Modified Level D PPE upon commencement of work (Day 1).

Project Statement:

Prior to the start of the project FLC and their subcontractors adopted Modified Level D as the baseline PPE for all personnel involved in ground intrusive work. Modified Level D was used from Day 1 of the project by all personnel involved in ground intrusive work.

Statement Certification:

Company: FIDELITY MECHANICAL SERVICES

Name: JAY STEPHAN

Title: CORPORATE SAFETY MANAGER

Signature: *Jay Stephan*

Date: 4/28/2020

Modified Level D PPE

Modified Level D PPE will include, at a minimum, overalls such as polyethylene-coated Tyvek or clean washable cloth overalls, latex (or similar) disposable gloves (when working in wet/chemical surroundings) or work gloves, steel-toe/steel-shank high ankle work boots with taped chemical-protective over-boots (as necessary), dust mask, hard hat, safety glasses with side shields, and hearing protection (as necessary). If chemical-protective over-boots create increased slip/trip/fall hazardous, then standard leather or rubber work boots could be used, but visible soils from the sides and bottoms of the boots must be removed upon exiting the Exclusion Zone.

Modified Level D Contractor Certification

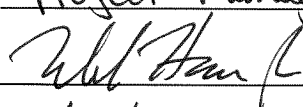
Ground Intrusive Work

In accordance with the *Response and Development Work Plan (RDWP) for Area B: Sub-Parcel B1-2, Revision 3* dated August 30, 2019, Section 3.3.2, *Sub-Parcel B1-2 SLRA Results and Risk Characterization*, a site-specific ground intrusive work exposure duration of 80 days was established. In lieu of tracking exposure days for each employee, the RDWP allows for the employment of Modified Level D personal protective equipment (PPE) or equivalent elevated PPE as required by Site conditions. Modified Level D is defined below. For this project the contractor adopted Modified Level D PPE upon commencement of work (Day 1).

Project Statement:

Prior to the start of the project ^{FCL}~~FCL~~ and their subcontractors adopted Modified Level D as the baseline PPE for all personnel involved in ground intrusive work. Modified Level D was used from Day 1 of the project by all personnel involved in ground intrusive work.

Statement Certification:

Company: Glenn Construction, Inc.
Name: Michael Harris Jr
Title: Project Manager
Signature: 
Date: 6/15/20

Modified Level D PPE

Modified Level D PPE will include, at a minimum, overalls such as polyethylene-coated Tyvek or clean washable cloth overalls, latex (or similar) disposable gloves (when working in wet/chemical surroundings) or work gloves, steel-toe/steel-shank high ankle work boots with taped chemical-protective over-boots (as necessary), dust mask, hard hat, safety glasses with side shields, and hearing protection (as necessary). If chemical-protective over-boots create increased slip/trip/fall hazardous, then standard leather or rubber work boots could be used, but visible soils from the sides and bottoms of the boots must be removed upon exiting the Exclusion Zone.

APPENDIX O

N080N

TECHNICAL DATA SHEET

NONWOVEN GEOTEXTILE

N080N is a polypropylene, needle punched nonwoven geotextile for use in drainage and separation applications. It has been stabilized to resist degradation due to ultraviolet exposure and is resistant to commonly encountered mildew, insects and soil chemicals, and is non-biodegradable.

SPECIFICATIONS:

The N080N polypropylene nonwoven fabric will utilize the following characteristics:

PROPERTY	TEST METHOD	MIN. AVG. ROLL VALUE
Grab Tensile Strength ¹	ASTM D4632	205 lbs
Grab Tensile Elongation	ASTM D4632	50%
CBR Puncture	ASTM D6241	525 lbs
Trapezoid Tear Strength	ASTM D4533	80 lbs
UV Resistance @ 500 hrs	ASTMD4355	70%
Apparent Opening Size (AOS)	ASTM D4751	80 US Sieve
Permittivity (sec ⁻¹)	ASTM D4491	1.4 (sec ⁻¹)
Flow Rate	ASTM D4491	90 gpm/ft ²

Values quoted above are the result of multiple tests conducted at an independent testing facility. N080N meets or exceeds values listed.

¹Values apply to both machine and cross-machine directions

PACKAGING:

Roll Width	12.5 ft.	15 ft.
Roll Length	360 ft.	300 ft.
Roll Area	500 yd ²	500 yd ²

Disclaimer: ACF Environmental assumes no liability for the completeness or accuracy of this information or the ultimate use of this information. This document should not be construed as engineering advice. Always consult the project engineer for project specific requirements. The end user assumes sole responsibility for the use of this information and product.



"ACF Environmental is certified and successfully complies with AASHTO's NTPEP Geotextiles Technical Committee Work Plan"

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APPENDIX P

MORRIS & RITCHIE ASSOCIATES, INC.ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS,
AND LANDSCAPE ARCHITECTS

December 3, 2018

60.817 Acre Land Unit 15, TradePoint Atlantic Land Condominium, Located South of Tinmill Road,
Fifteenth Election District, Baltimore County, Maryland

BEGINNING for the same at a pin & cap now set at the easterly common corner of Land Units 15 and 16 and in the westerly outline of Land Unit 17 as shown on the plats entitled "Condominium Plat, Land Units 12 Through 17, TradePoint Atlantic Land Condominium" and to be recorded among the Land Records of Baltimore County, Maryland, said point of beginning having Maryland Coordinate System coordinates of North 566166.37 feet and East 1459307.46 feet, thence leaving the said Land Unit 17 and binding on the division lines between the said Land Units 15 and 16 and running for new lines of division through the land conveyed by and described in a Special Warranty Deed from Sparrows Point LLC to Sparrows Point Terminal, LLC, dated September 18, 2014 and recorded among the said Land Records in Book 35478, Folio 379, as now surveyed, with bearings referred to the Maryland Coordinate System (NAD'83/91) and the datum of the said deed, seven courses, viz:

1. South 83° 23' 01" West 540.18 feet,
2. North 06° 53' 18" West 56.06 feet,
3. South 83° 23' 01" West 46.73 feet,
4. North 06° 36' 59" West 42.00 feet,
5. South 83° 23' 01" West 258.05 feet,
6. North 06° 19' 40" West 10.00 feet, and
7. South 83° 40' 20" West 329.28 feet to a pin & cap now set at the westerly common corner of the aforesaid Land Units 15 and 16 and to intersect the easterly outline of Land Unit 14, thence binding on the division line between the said Land Units 14 and 15,
8. North 06° 19' 40" West 1991.30 feet to a mag. nail now set at the northerly common corner of the aforesaid Land Units 14 and 15, thence leaving the said Land Unit 14 and running for a new line of division through the land described in the aforesaid deed,
9. North 82° 48' 01" East 1320.41 feet to a railroad spike now set at the northwest corner of Land Unit 11 as shown on the plats entitled "Condominium Plat, Land Unit 11, TradePoint Atlantic Land Condominium" and recorded among the aforesaid Land Records in Condominium Plat Book JLE 31, Folios 824 through 827, thence binding on the division lines between the said Land Units 15 and 11, two courses, viz:

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Abingdon, MD ♦ Baltimore, MD ♦ Laurel, MD ♦ Towson, MD ♦ Georgetown, DE ♦ New Castle, DE ♦ Leesburg, VA ♦ Raleigh, NC
(410) 515-9000 (410) 935-5050 (410) 792-9792 (410) 821-1690 (302) 855-5734 (302) 326-2200 (703) 994-4047 (984) 200-2103

60.817 Acre Land Unit 15

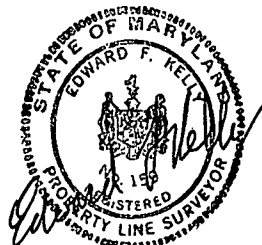
December 3, 2018

Page 2 of 2

10. South 06° 25' 38" East 231.67 feet to a railroad spike now set, and
11. South 43° 42' 26" East 514.82 feet to a pin and cap now set and to intersect the northwesterly outline of Land Unit 17, thence binding on the division lines between the said Land Units 15 and 17, two courses, viz:
12. South 46° 17' 34" West 576.62 feet to a pin & cap now set, and
13. South 06° 19' 40" East 1124.38 feet to the place of beginning.

CONTAINING 60.817 acres of land, more or less.

BEING part of the land conveyed by and described in a Special Warranty Deed from Sparrows Point LLC to Sparrows Point Terminal, LLC, dated September 18, 2014 and recorded among the Land Records of Baltimore County, Maryland in Book 35478, Folio 379; BEING ALSO all of Land Unit 15 as shown on the plats entitled "CONDOMINIUM PLAT, LAND UNITS 12 THROUGH 17, TRADEPOINT ATLANTIC LAND CONDOMINIUM" and to be recorded among the said Land Records.



(Current License Expires 5/2/20)

G:\18939\SURVEY\Descriptions\Land Unit 15.doc

MORRIS & RITCHIE ASSOCIATES, INC.ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS,
AND LANDSCAPE ARCHITECTS

June 5, 2020

45.189 Acre Land Unit 16, TradePoint Atlantic Land Condominium, Located South of Tinmill Road,
Fifteenth Election District, Baltimore County, Maryland

BEGINNING for the same at a pin & cap now set at the southerly common corner of Land Units 16 and 17 as shown on the plats entitled "Condominium Plat, Land Units 12 Through 17, TradePoint Atlantic Land Condominium" and recorded among the Land Records of Baltimore County, Maryland in Plat Book 31, Folios 846 through 851, said point of beginning having Maryland Coordinate System coordinates of North 564552.36 feet and East 1459486.44 feet, thence leaving the said Land Unit 17 and running for a new line of division through the land conveyed by and described in a Special Warranty Deed from Sparrows Point LLC to Sparrows Point Terminal, LLC, dated September 18, 2014 and recorded among the said Land Records in Book 35478, Folio 379, as now surveyed, with bearings referred to the Maryland Coordinate System (NAD'83/91) and the datum of the said deed,

1. South 83° 40' 20" West 1175.00 feet to a mag. nail now set at the southwest corner of the aforesaid Land Unit 16, thence binding in part on the westerly outline of the said Land Unit 16 and in part on the division line between the said Land Unit 16 and Land Unit 14 as shown on the said plats, and continuing to run for new lines of division through the land described in the aforesaid deed
2. North 06° 19' 40" West, passing over a pin & cap now set at the southeast corner of the aforesaid Land Unit 14 at a distance of 764.01 feet, 1727.71 feet to a pin & cap now set at the westerly common corner of Land Units 15 and 16, thence leaving the said Land Unit 14 and binding on the division lines between the said Land Units 15 and 16, and continuing to run for new lines of division through the land described in the aforesaid deed, seven courses, viz:
3. North 83° 40' 20" East 329.28 feet,
4. South 06° 19' 40" East 10.00 feet,
5. North 83° 23' 01" East 258.05 feet,
6. South 06° 36' 59" East 42.00 feet,
7. North 83° 23' 01" East 46.73 feet,
8. South 06° 53' 18" East 56.06 feet, and
9. North 83° 23' 01" East 540.18 feet to a pin & cap now set at the easterly common corner of the aforesaid Land Units 15 and 16 and in the westerly outline of the aforesaid Land Unit 17, thence leaving the said Land Unit 15 and binding on the division line between the said Land Units 16 and 17, and continuing to run for new lines of division through the land described in the aforesaid deed,

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A2

45.189 Acre Land Unit 16

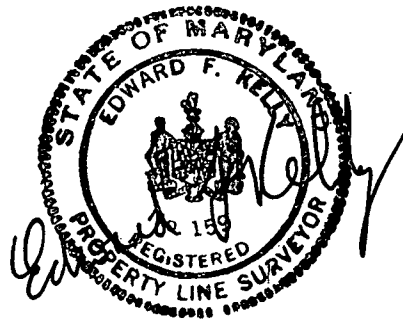
June 5, 2020

Page 2 of 2

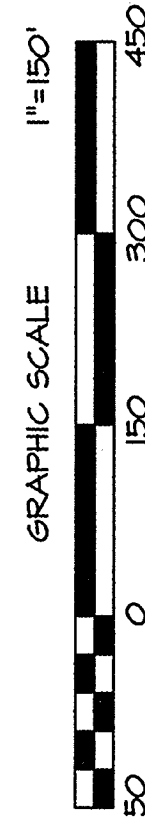
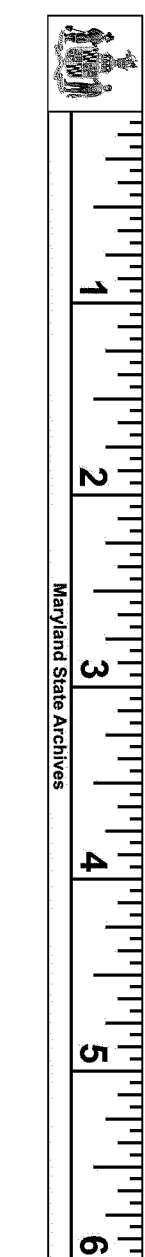
10. South 06° 19' 40" East 1623.90 feet to the place of beginning.

CONTAINING 45.189 acres of land, more or less.

BEING part of the land conveyed by and described in a Special Warranty Deed from Sparrows Point LLC to Sparrows Point Terminal, LLC, dated September 18, 2014 and recorded among the Land Records of Baltimore County, Maryland in Book 35478, Folio 379; BEING ALSO all of Land Unit 16 as shown on the plats entitled "CONDOMINIUM PLAT, LAND UNITS 12 THROUGH 17, TRADEPOINT ATLANTIC LAND CONDOMINIUM" and recorded among the said Land Records in Plat Book 31, Folios 846 through 851.



(Current License Expires 5/2/22)



LAND OF
TRADEPOINT ATLANTIC, LLC
(FORMERLY SPARROWS
POINT TERMINAL, LLC)
35478/374

ADDITIONAL
PROPERTY

PIN & CAP SET
N 564075.64
E 1460778.50

LAND UNIT 17
93.631 AC.

EXISTING LAND UNIT II
JLE 31-824 THROUGH 31-827

PIN & CAP SET
N 567682.32
E 1454600.36

LAND OF
TRADEPOINT ATLANTIC, LLC
(FORMERLY SPARROWS
POINT TERMINAL, LLC)
35478/374

RR SPIKE SET
N 568284.70
E 1454218.70

S 06°25'36" E
231.67'

RR SPIKE SET
N 568034.48
E 1454244.64

PIN & CAP SET
N 567682.32
E 1454600.36

N 46°17'34" E 1177.20'

S 45°42'26" E 314.82'

PIN & CAP SET
N 567283.90
E 1454183.54

S 06°19'40" E 1124.38'

PIN & CAP SET
N 566166.37
E 1454307.46

N 06°19'40" W 2748.28'

S 06°19'40" E 1623.90'

PIN & CAP SET
N 564552.36
E 1454486.44

S 83°40'20" N 1244.88'

LAND UNIT 10
TRADEPOINT ATLANTIC
LAND CONDOMINIUM
JLE 31-783 THROUGH 31-788

LAND UNIT 9
TRADEPOINT ATLANTIC
LAND CONDOMINIUM
JLE 31-783 THROUGH 31-788

S 83°40'20" N 1175.00'

LAND OF
TRADEPOINT ATLANTIC, LLC
(FORMERLY SPARROWS
POINT TERMINAL, LLC)
35478/374

LAND UNIT 16
45.189 AC.

N 06°53'18" W 56.06'
S 83°23'01" W 46.73'
N 06°36'54" W 42.00'
S 06°53'18" E 56.06'
N 83°23'01" E 46.73'
S 06°36'54" E 42.00'

N 06°19'40" W 10.00'
S 83°23'01" E 259.05'
N 83°23'01" E 259.05'
S 83°40'20" W 324.28'
N 83°40'20" E 524.12'

S 06°19'40" E 10.00'

N 06°19'40" W 1491.30'

S 06°19'40" E 2155.00'

PIN & CAP SET
N 566140.04
E 1458128.18

N 06°19'40" W 1727.71'

ADDITIONAL
PROPERTY

MAG. NAIL SET
N 564422.26
E 1458318.60

SHEET 6 OF 6

LAND UNIT 14
115.015 AC.
(SEE SHEET 5)

Filed for record
JLE LIBER 31 FOLIO 851

Date
DEC 11 2018

Test: *Jillie L. Enns*
Clerk

LAND OF
TRADEPOINT ATLANTIC, LLC
(FORMERLY SPARROWS
POINT TERMINAL, LLC)
35478/374

LR - Plat Fee -
Subdivision Map -
300.00
TRADEPOINT ATLANTIC
LAND CONDO
Ref: 31 - 851
Total: 300.00
12/11/2018 11:09 68.88
#11381865 C4580 -
Baltimore
County/003 01.13 -
Register 15



MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS & LANDSCAPE ARCHITECTS
3445-A Box Hill Corporate Center Drive
Arlington, Maryland 21004
Phone: 410-515-9000
Fax: 410-515-9002



CONDOMINIUM PLAT
LAND UNITS 12 THROUGH 17
TRADEPOINT ATLANTIC
LAND CONDOMINIUM
FIFTEENTH ELECTION DISTRICT - SEVENTH COUNCILMANIC DISTRICT
BALTIMORE COUNTY, MARYLAND

SCALE: 1"=150' DATE: 12/3/18 DRAWN BY: EFK REVIEWED BY: EFK JOB NO.: 18434x03