COKE POINT AREA GROUNDWATER CORRECTIVE MEASURES STUDY WORK PLAN

TRADEPOINT ATLANTIC
SPARROWS POINT, MARYLAND

Prepared By:

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ARM Project No. 190686M

Revision 0 – October 18, 2019

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1.0 INTRODUCTION

The Coke Point Area (CPA) (the Site) is located in the southwestern portion of the Tradepoint Atlantic (TPA) Property and comprises Parcels B10, B11 and B12, as the entire property has been divided into several separate parcels. The CPA includes the Coke Oven Area or COA (Parcel B10), which has been the subject of ongoing interim measures to address groundwater, and the Coke Point Landfill (Parcel B12), which is a closed landfill that receives semi-annual groundwater monitoring. A Dredged Material Containment Facility (DMCF) is also located in the CPA.

Data gaps with respect to groundwater in the COA have been noted in the findings and recommendations of the Coke Oven Interim Measures 2018 Progress Report, Revision 0, dated February 2019, and the United States Environmental Protection Agency (EPA) letter, dated December 3, 2018, submitted in response to the report Assessment of Current Groundwater to Surface Water Discharges from the Coke Point Area (ARM, 2018). The EPA also provided comments on the existing interim measures in a March 20, 2019 letter presenting comments on the Former COA IM Supplemental Investigation Work Plan.

As a result, the "Former Coke Oven Area Interim Measures Supplemental Investigation Report" (Rev 0 dated August 2, 2019) was completed to improve the understanding of groundwater conditions in the COA, to address the concerns raised by the Maryland Department of the Environment (MDE) and EPA outlined in the comments mentioned above, and to support an evaluation of the most relevant and effective additional corrective actions for the groundwater conditions at the COA. In addition to the supplemental onshore investigation activities, pore water and surface water samples were collected from locations in the areas just offshore of the COA to assess the current risk to offshore aquatic receptors.

Based on the results of the supplemental investigations, it was concluded that the remaining groundwater impacts would not exacerbate the existing offshore impacts and do not present an imminent endangerment to human health or the environment that would necessitate additional interim measures. It was recommended that a Corrective Measures Study (CMS) be initiated to determine an appropriate final remedy for the groundwater impacts at the Site. Since the "coke point" peninsula represents a distinct groundwater unit, it was recommended that the proposed CMS address the CPA as a whole.

2.0 CURRENT CONDITIONS

2.1 SITE SETTING AND USE

The TPA Property is located in Baltimore County, Maryland within the southeastern corner of the Baltimore metropolitan area, and approximately nine miles from downtown. The property encompasses approximately 3,100 acres of land located on a peninsula situated on the Patapsco River near its confluence with the Chesapeake Bay, and physically positioned in the mouth of the heavily industrialized and urbanized Baltimore Harbor / Patapsco River region. **Figure 1** shows the location and boundaries of the Tradepoint Atlantic property.

From the late 1800s until 2012, the property was used for the production and manufacturing of steel. Iron and steel production operations and processes at the TPA Property 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 steelmaking operations at the facility ceased in fall 2012, and the steel mill has been demolished. Current plans for the TPA Property include redevelopment over the next several years. Some portions of the TPA Property have already undergone remediation and/or redevelopment.

The CPA (the Site) is located in the southwestern portion of the TPA Property, and is the location of the former coking operations from the 1940's to the early 1980's. **Figure 2** shows the location and boundaries of the CPA. The Coke Point Landfill occupies approximately 41 acres in the southwest corner of the CPA and received a variety of non-hazardous waste. The DMCF is a 24-acre area located north of the landfill that was constructed to hold material from maintenance dredging operations.

The Parcel is currently zoned Manufacturing Heavy-Industrial Major (MH-IM) and current uses on the Site include recovery of scrap metal, reclamation and processing of slag, and stockpiling and handling of bulk commodity materials. There is currently no groundwater use within the CPA.

2.2 INTERIM MEASURES

A number of interim measures (IMs) have been implemented to address groundwater impacts in the CPA. **Figure 3** shows the locations of the existing interim measures within the CPA. The IMs currently in operation at the COA are located within five distinct smaller areas designated as Cells 1-3, 5, and 6. Below is a list of the cells, the name of the area they cover, and their current IM system(s):

- Cell 1 (former Benzol Processing Area): Air Sparge/Soil Vapor Extraction (AS/SVE) system;
- Cell 2 (former Coal Basin Area): AS/SVE system in the shallow groundwater zone and groundwater pump and treat (GW P&T) system in the intermediate zone;
- Cell 3 (Cove Area): AS/SVE system;
- Cell 5: Dense Non-Aqueous Phase Liquid (DNAPL) Recovery system and Dual Phase Extraction (DPE) system for the shallow zone; and
- Cell 6 (former Benzol Processing Area): Multi-Phase Extraction (MPE) of Light Non-Aqueous Phase Liquid (LNAPL).

Cell 1 is located in the former Coal Basin area. Cell 1 consists of an AS/SVE system that is coupled with a vapor-phase granular activated carbon (VGAC) off-gas treatment unit. The purpose of the AS/SVE system is to remove volatile organic compounds from the subsurface, while the purpose of the VGAC off-gas treatment unit is to capture VOCs that are present within extracted vapors. The findings in the CO IM 2018 Progress Report (ARM, 2019) indicated the AS/SVE system is continuing to remove volatile hydrocarbons from the subsurface in the Cell 1 area and that the concentrations of total VOCs in groundwater at the two monitoring wells located within or downgradient of the Cell 1 boundary exhibit overall downward trends in concentration since the restart of system operation on April 5, 2017. Based on this information, the progress report recommends that the existing system should continue to be operated and monitored in accordance with current practices, although consideration will be given to operating the system on an intermittent basis (i.e., periodic shut downs of optimal length to be determined) during parts of 2019 in an attempt to maximize hydrocarbon removal amounts and efficiencies. Continued use of this system should be evaluated subsequent to 2019 depending on long-term groundwater quality requirements to be defined for the CO in 2019.

Cell 2 is located in the former Benzol Processing area. Cell 2 includes an AS/SVE system for the shallow groundwater zone and a GWPT system for the intermediate groundwater zone in the former Coal Basin Area of the site. The primary focus of the IMs for this area is the presence of elevated concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX) and naphthalene in the intermediate groundwater zone. The findings in the CO IM 2018 Progress Report (ARM, 2019) indicated the existing GWPT system appeared to be effectively removing hydrocarbons from the subsurface and should continue to be operated and monitored in accordance with current practices. The AS/SVE system was not providing effective removal (i.e., less than 0.1 pounds of hydrocarbons removed in 2018) and was shut down in April 2018 as a result.

Cell 3 is located south of the former Benzol Processing area and north of a cove on the western shore of the COA. No specific historical plant operations have been identified in this area. The Cell 3 IM consists of an AS/SVE system for the shallow groundwater zone. The primary focus

of the IM for this area is the presence of elevated concentrations of BTEX and naphthalene in the shallow groundwater zone (between approximately 20 and 27 feet below grade, near the base of the fill materials located above the native underlying clay and silt layers). The findings in the CO IM 2018 Progress Report (ARM, 2019) indicated that the existing AS/SVE system was not effectively removing significant hydrocarbon mass. It was recommended that consideration be given to modifying the system or utilizing alternate approaches. As a result of vertical profiling completed in the supplemental investigation, modifications to address a deeper groundwater zone have been proposed for the AS/SVE system.

Cell 5 is located in the former Coal Tar Storage area, just west of the Turning Basin. Cell 5 includes a DPE system and a DNAPL recovery system for the shallow groundwater zone on the Turning Basin side of the former COA. The primary focus of the IMs for this area is naphthalene in the shallow groundwater zone. The findings in the CO IM 2018 Progress Report (ARM, 2019) indicated that the DPE system was not effectively removing hydrocarbons. It was recommended that consideration be given to modifying the current system. The DNAPL system seemed to be operating effectively and should continue to be operated and monitored in accordance with current practices.

Cell 6 consists of an LNAPL Multi-Phase Extraction (MPE) monitoring and recovery system at the Former Benzol Processing Area, along with some manual bailing and skimming. The extraction system and manual bailing removed an estimated 11,000 pounds of LNAPL during 2018, with a cumulative removal amount of approximately 146,882 pounds since LNAPL recovery was initiated in Cell 6 in July 2010 (the MPE system began operation in October 2016). The findings in the CO IM 2018 Progress Report (ARM, 2019) indicated that while the MPE system is continuing to remove LNAPL from the subsurface with reasonable efficiency, potential upgrades to the system will be evaluated in 2019.

2.3 NATURE AND EXTENT OF CONTAMINATION

The nature and extent of contamination has been delineated within the COA (Parcel B10) and around the Coke Point Landfill in Parcel B12. No current groundwater data are available within Parcel B11. The EPA commented in their October 8, 2019 comments that the DRO/GRO contamination has not been defined, based on new criteria for DRO and GRO in the aquatic environment. However, the historic presence of DRO/GRO in the form of NAPL, in the area offshore of the CPA has been documented in previous offshore investigations.

Within the COA the extent of contamination is defined by plumes of two primary constituents of concern (COCs) – benzene and naphthalene. The sources of these COC plumes are identified zones of NAPLs in Cell 6 and Cell 5. The limits of these NAPL source areas have been defined in the "Pre-Design Investigation Report for the Former Coke Oven Area" (Key, 2015). In its comments, EPA noted that the naphthalene concentration in well COR-MWI is higher than in surrounding wells, and that the source of this naphthalene impact has not been characterized. It

should be noted that this area was offshore until at least 1957. The well is completed at the base of the slag fill and NAPL has been identified in the well, so it is likely that this is NAPL from historical direct discharges that has subsequently been covered by fill.

The lateral extent of the COC plumes in both the shallow and intermediate zones in the COA was defined in the "Coke Oven Area Interim Measure Supplemental Investigation Report" (Revision 0 dated 8/2/2019). In the western portion of the COA, the plume migrates radially to the north, south and west from the Cell 6 NAPL area and extends to the west and south the plumes are limited by the Patapsco River shoreline. To the north, the shallow plume is confined by the concrete seawall, but the intermediate zone plume extends under the Coal Basin to the graving dock dewatering system. In the eastern portion of the COA, the plume originates in the Cell 5 DNAPL area and is limited to the shallow zone. The plume extends east to the shoreline of the industrial Turning Basin and the extent has been defined to the north by unimpacted monitoring wells.

A separate isolated plume of benzene is present in the shallow groundwater in the eastern portion of the Coke Point Landfill area. This plume is centered on well CP08-PZM008 approximately 1,200 feet from the closest shoreline, and is delineated by much less impacted monitoring wells and determined to be limited in areal extent to the vicinity of CP08-PZM008.

Concentrations of benzene and naphthalene in sediment pore water were above the ambient water quality criteria for chronic exposure to aquatic life in sample locations off the western shore in the Cell 2 area, within the cove in the Cell 3 area, and in the Turning Basin east of the Cell 5 area.

Surface water samples confirmed the absence of any significant surface water concentrations of site-related COCs at most offshore locations around the CPA. However, benzene was detected above the ambient water quality criterion for human consumption of aquatic organisms in some samples from the cove area south of Cell 3. The extent of the exceedances was limited to the inland area of the cove, and surface water concentrations were below the ambient water quality criterion within a reasonable mixing zone distance and before the cove opened to the Patapsco River.

3.0 PURPOSE

3.1 OVERALL PURPOSE OF THE CORRECTIVE MEASURES STUDY

This CMS will address groundwater impacts associated with the Coke Point Area (CPA), including the Coke Oven Area and Coke Point Landfill Special Study Areas. Soil impacts will be addressed through separate Phase II investigations and Response and Development Work Plans (RADWPs). Assessment and remediation of historical offshore impacts is being undertaken by the EPA, and is not within the scope of this CMS.

3.2 APPROACH FOR CORRECTIVE MEASURES STUDY

The groundwater concern is volatile and semi-volatile organic compounds in the shallow and intermediate zone groundwater. The approach to addressing groundwater during the CMS is to develop and evaluate alternatives for reducing the levels of COCs in groundwater and mitigating migration of contaminated groundwater across the shoreline/property boundary. As noted, ecological risk associated with existing offshore sediment will not be addressed. The CMS will also evaluate exposure control measures (e.g., institutional and engineering controls). These measures will be evaluated relative to their ability to control exposure in the short-term, while other measures work towards the reduction of contaminant levels and extent over time.

4.0 CORRECTIVE MEASURES OBJECTIVES

4.1 CORRECTIVE ACTION OBJECTIVES (CAOS)

EPA expects final remedies to return usable groundwater to its maximum beneficial use, where practicable, within a timeframe that is reasonable. Where returning contaminated groundwater to its maximum beneficial use is not technically practicable, EPA generally expects facilities to prevent or minimize the further migration of a plume, prevent exposure to the contaminated groundwater, and evaluate further risk reduction. Technical impracticability (TI) for contaminated groundwater refers to a situation where achieving groundwater cleanup levels associated with final cleanup standards is not practicable from an engineering perspective. The term "engineering perspective" refers to factors such as feasibility, reliability, scale or magnitude of a project, and safety.

CAOs for the CPA are defined as follows:

(1) control further releases of COPCs to the groundwater to the extent practicable,

(2) control human exposure to the hazardous constituents remaining in the groundwater, and

(3) ensure that groundwater containing elevated concentrations of COPCs will not adversely impact ecological receptors nor adjacent surface water quality.

4.2 TARGET MEDIA CLEANUP LEVELS

Target Media Cleanup Levels and points of compliance will be developed during the CMS. The CMS will propose media cleanup levels appropriate for the proposed CAOs and prepare figures to identify the locations and extents of exceedances of the proposed media cleanup levels. Potentially applicable standards and relevant criteria, and preliminary target levels and points of compliance are discussed below.

EPA prepared a groundwater use determination memorandum dated April 13, 2018. EPA concluded that drinking water use of groundwater in the shallow and intermediate aquifers at Sparrows Point can be excluded from consideration when developing groundwater cleanup levels. The memorandum indicated that maximum beneficial use is industrial, commercial or dewatering and that groundwater cleanup levels should be developed based on State surface water quality discharge standards. The memorandum also indicated that more stringent groundwater cleanup levels may be appropriate in specific areas of the Sparrows Point Site, based on other potential exposures or pathways not associated with groundwater use (e.g., vapor intrusion or direct contact during construction excavation).

There is currently no direct exposure to groundwater for human receptors. Onsite industrial workers may be exposed to vapors through vapor intrusion to indoor air, and construction workers may have short-term exposure to shallow groundwater during intrusive work. Offsite ecological receptors may have long-term exposure to pore water impacted by groundwater migration.

Therefore, with respect to potential human exposure, groundwater cleanup levels will be derived for any constituents that might present an unacceptable risk due to vapor intrusion or to direct contact during construction excavation. The point of compliance for these cleanup levels would be Site-wide.

With respect to potential industrial use and discharge of groundwater to surface water, groundwater cleanup levels will be developed based on State surface water quality discharge standards. These levels would apply Site-wide. The CMS will evaluate a surface water mixing zone in deriving these cleanup levels.

To protect ecological receptors, groundwater cleanup levels based on State surface water quality discharge standards will be derived with a point of compliance at the shoreline/property boundary. Where State surface water quality criteria do not exist, cleanup levels will be based on national recommended water quality criteria for chronic aquatic life exposure, if available, for individual constituents. If final chronic values are not available, then cleanup levels will be based on secondary chronic values for narcosis effects as listed in "Developing Sediment Remediation Goals at Superfund Sites Based on Pore Water for the Protection of Benthic Organisms from Direct Toxicity to Non-ionic Organic Contaminants" (EPA, 2017). The CMS will evaluate an attenuation factor for groundwater to shallow pore water to account for interaction of surface water and pore water as well as degradation in the bioactive benthic zone.

The CMS report will include figures presenting the distribution of contaminant concentrations exceeding these target media cleanup levels.

5.0 CORRECTIVE MEASURES TECHNOLOGIES

This section of the CMS Work Plan presents a description of the technologies planned for evaluation in the CMS. The technologies presented include those technologies considered applicable in addressing Facility contaminants, are likely to perform reliably and, will achieve the CAOs presented in Section 4.0 of this CMS Work Plan.

The potential groundwater remediation technologies to be evaluated include:

Institutional and Engineering Controls
- Restrictions on Groundwater Use
- Restrictions on Site Use
- Fencing/Warning Signs/Access Restrictions

Removal Technologies
- Excavation
- Product Recovery (Skimmers, EFR)
- Groundwater Recovery (pump and treat)

Containment Technologies
- Hydraulic Containment
- Vertical Barrier Walls (sheet piling, soil-bentonite, etc.)
- Sub-slab Vapor Barrier and/or Venting

Treatment Technologies
- Air Sparge/Soil Vapor Extraction
- In-Situ Chemical Oxidation (reagent injection, deep soil mixing)
- In-Situ Biological Treatment (sulfate reduction)
- In-Situ Thermal Treatment (STAR)
- Ex-Situ Treatment (CAMU)
- Permeable Reactive Barriers

Disposal Technologies
- Off-Site Disposal/Landfilling
- On-Site Disposal (CAMU)
- Permitted Discharge

A screening of these technologies will be presented in a summary table describing each technology screened and the results of the screening to indicate which technologies are considered to be potentially applicable based on applicability to the target COCs and the implementability of the technology under the site conditions.

6.0 IDENTIFICATION AND EVALUATION OF ALTERNATIVES

This section of the CMS Work Plan presents a general description of the approach for identifying and evaluating potential corrective measure alternatives. Per applicable guidance, this section of the CMS will present a description of each alternative and a brief screening of the identified corrective measure alternatives against the RCRA threshold criteria.

6.1 IDENTIFICATION OF CORRECTIVE MEASURE ALTERNATIVES

Those technologies determined to be potentially applicable will be developed into Corrective Action Alternatives. Identified technologies may be used alone or in combination to form the overall corrective measure alternatives. The CMS may identify a current interim measure as, or as part of, a final corrective measure alternative.

The CMS will describe the components of each corrective measure alternative including an engineering description of each corrective measure alternative, a conceptual level design that will form the basis for the estimate of potential cost for that alternative, how the alternative may be expected to perform and, expectations regarding the time-frame for remediation.

These alternatives will be screened against RCRA's threshold criteria which are:

1. protection of human health and the environment;
2. attainment of media cleanup objectives; and
3. controlling the sources.

6.2 ADDITIONAL DATA COLLECTION

The absence of current groundwater data in Parcel B11 has been identified as a data gap. Installation and sampling of additional wells is proposed to address this data gap. In addition, there is a large gap between wells on the western shoreline between the Cell 2 area and the Cell 3 area. Additional wells are proposed to investigate this area. The proposed additional well locations are provided in **Figure 4**.

The available groundwater data for the Coke Point Landfill wells were not collected and analyzed under the "Quality Assurance Project Plan" (QAPP) – Revision 3 dated April 5, 2016. Therefore, an additional round of ground water samples will be collected and analyzed following the QAPP procedures, including data validation.

The EPA commented that the effect of pumping at the graving dock has not been adequately characterized. An intermediate well is needed between the Cell 2 pumping well and the graving dock to better assess the influence of the graving dock. An intermediate well will be installed south of the graving dock on the former shipyard property.

Intermediate well COR-MWI had the highest concentration of naphthalene in the western portion of the CPA. The concentration in this well is significantly higher than the levels observed in the surrounding wells, so while the extent of this naphthalene impact has been defined, the source of the naphthalene identified in COR-MWI has not been characterized. An additional intermediate well is proposed to the south to better characterize the source of naphthalene.

The proposed new wells will be sampled for BTEX by Method 8260, naphthalene by Method 8270 (sim), and DRO/GRO by Method 8015 in accordance with the QAPP.

No pilot or bench scale studies are currently anticipated. If an in-situ treatment technology is identified for detailed evaluation, bench-scale treatability testing may be performed to assess the efficacy and dosing of potential reagents.

6.3 Evaluation of Corrective Measure Alternative(s)

This section will present a detailed evaluation of those alternatives determined to meet the threshold criteria. Pursuant to applicable CMS guidance, the evaluation will address each of the following evaluation/balancing criteria: long-term effectiveness; implementability; short-term effectiveness; toxicity, mobility and volume reduction; community acceptance; state acceptance; and cost.

6.3.1 Long-Term Effectiveness

This criterion refers to the expected effectiveness, reliability and risk of failure of the alternatives, including the effectiveness under analogous site conditions, the potential impact resulting from a failure of the alternative, and the projected useful life of the alternative.

6.3.2 Reduction in Toxicity, Mobility, or Volume of Wastes

This criterion generally refers to how much the corrective measures alternatives will reduce the waste toxicity, mobility and/or volume, primarily through treatment.

6.3.3 Short-Term Effectiveness

This criterion generally refers to potential short-term risks to on-site workers and the community in association with implementation of the corrective measure alternatives, such as might be associated with the excavation, handling, treatment, containment, and transportation of contaminated materials.

6.3.4 Implementability

This criterion refers to the relative ease of alternative implementation (construction), including duration, administrative and technical feasibility, and availability of the required services and materials.

6.3.5 Community Acceptance

This criterion refers to the known or anticipated community acceptance associated with the corrective measure alternatives. This criterion will be further evaluated through the 30-day public comment period that will be provided following remedy selection and issuance of a Statement of Basis by the EPA.

6.3.6 State Acceptance

This criterion refers to how the corrective measure alternatives will comply with applicable State regulations (e.g., permit requirements).

6.3.7 Cost

This criterion addresses the anticipated short- and long-term costs associated with implementation of the corrective measure alternatives.

7.0 REPORT OUTLINE

The outline for the report is expected to be generally as follows:

1.0 INTRODUCTION
2.0 DESCRIPTION OF CURRENT SITUATION
- 2.1 Summary of Previous Investigations
- 2.2 Source Areas
- 2.3 Nature and Extent of Groundwater Impacts
- 2.4 Interim Measures

3.0 CORRECTIVE ACTION OBJECTIVES
- 3.1 Corrective Action Goals
- 3.2 Media Cleanup Levels and Point(s) of Compliance

4.0 IDENTIFICATION AND DEVELOPMENT OF THE CORRECTIVE MEASURES ALTERNATIVES
- 4.1 Screening of Corrective Measures Technologies
- 4.2 Identification of the Corrective Measures Alternatives
- 4.3 Detailed Description of Each Alternative
  - 4.3.1 Protection of Human Health and the Environment
  - 4.3.2 Attainment of Media Cleanup Objectives
  - 4.3.3 Control of Sources of Releases
- 4.4 Initial Screening of Alternatives

5.0 EVALUATION OF CORRECTIVE MEASURES ALTERNATIVES
- 5.1 Detailed Evaluation of Alternative 1
  - 5.1.1 Long-Term Effectiveness
  - 5.1.2 Reduction in Toxicity, Mobility, or Volume of Wastes
  - 5.1.3 Short-Term Effectiveness
  - 5.1.4 Implementability
  - 5.1.5 Community Acceptance
  - 5.1.6 State Acceptance
  - 5.1.7 Cost
- 5.2 Alternative 2
- 5.3 Alternative 3, …

6.0 COMPARATIVE ANALYSIS AND PREFERRED ALTERNATIVE
- 6.1 Comparison of Alternatives
- 6.2 Recommended Alternative
- 6.3 Preliminary Implementation Schedule

8.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

8.1 PROJECT PERSONNEL

The Work Plan will be implemented by ARM Group Inc. (ARM) under a contract with EnviroAnalytics Group (EAG).

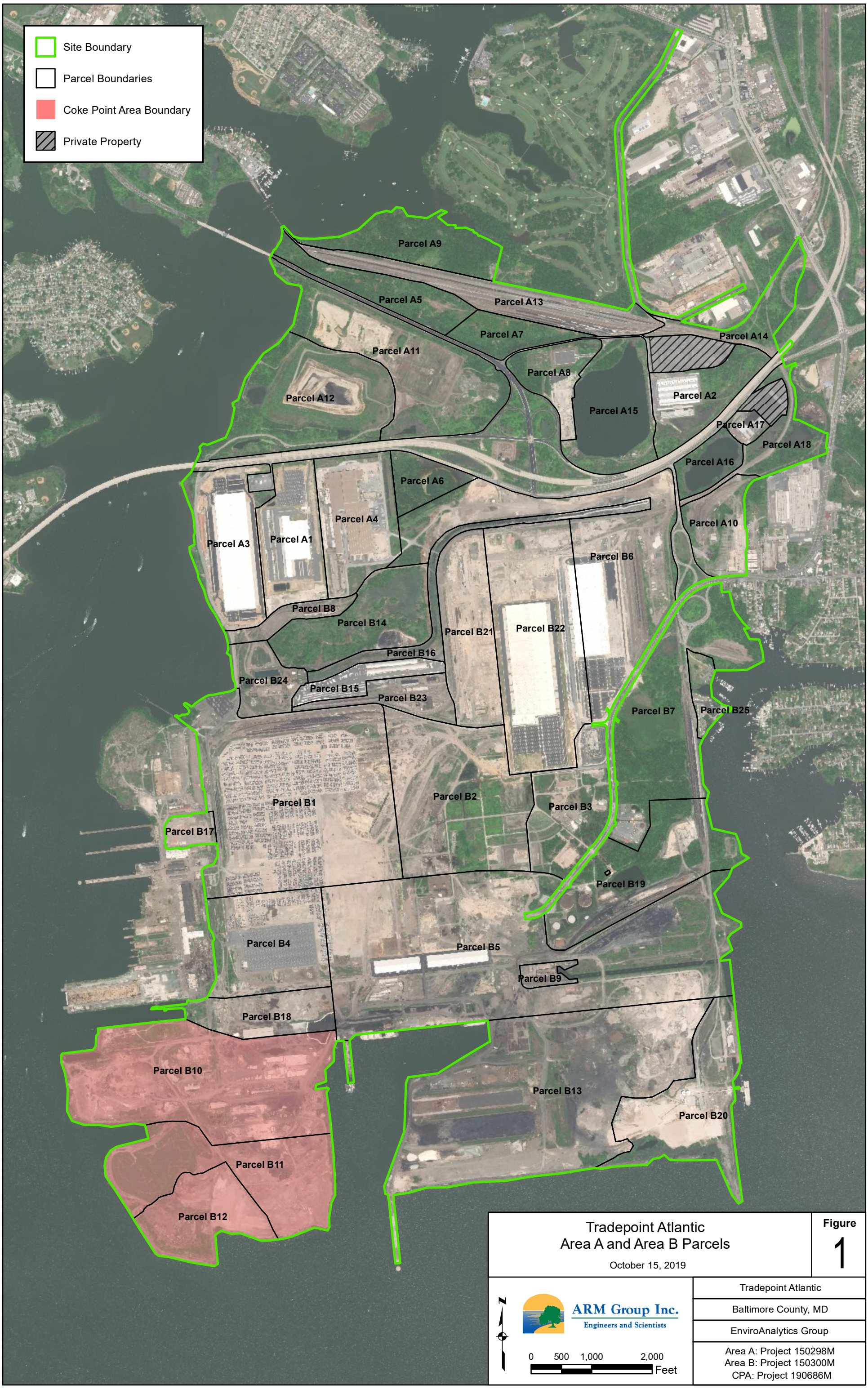
The EAG Project Manager is Mr. James Calenda. Mr. Calenda will be responsible for ensuring the availability of resources for the project and will be the primary point of contact with the regulatory agencies.

The ARM Project Manager, Mr. Neil Peters, P.E., is responsible for ensuring that all activities are conducted in accordance with this Work Plan and the contract requirements. Mr. Peters is a registered Professional Engineer in the State of Maryland and has served as Project Manager on numerous remediation projects. As Project Manager, Mr. Peters will be responsible for technical direction of ARM's team of engineers and geologists, directing daily project activities, tracking project schedule, and providing quality assurance. Mr. Peters will provide technical coordination with the MDE, EPA and EAG.

8.2 PROJECT SCHEDULE

The additional data collection is anticipated to require approximately 12 weeks after agency approval. The anticipated schedule for completion of the CMS report is 8 weeks following the receipt of the data from the additional data collection. If, after screening of technologies, it is determined that bench-scale or pilot-scale testing is necessary, additional time may be required and a proposed schedule will be submitted.

FIGURES


Site Boundary
Parcel Boundaries
Coke Point Area Boundary
Private Property
Parcel A9
Parcel A5
Parcel A13
Parcel A7
Parcel A14
Parcel A11
Parcel A8
Parcel A12
Parcel A15
Parcel A2
Parcel A17
Parcel A18
Parcel A16
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Parcel A1
Parcel B6
Parcel B8
Parcel B14
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Parcel B17
Parcel B19
Parcel B4
Parcel B5
Parcel B9
Parcel B18
Parcel B10
Parcel B13
Parcel B20
Parcel B11
Parcel B12
Tradepoint Atlantic
Area A and Area B Parcels
October 15, 2019
Figure
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Engineers and Scientists
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Feet
Tradepoint Atlantic
Baltimore County, MD
EnviroAnalytics Group
Area A: Project 150298M
Area B: Project 150300M
CPA: Project 190686M

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1 inch = 650 feet

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Feet

Coke Point Area
Parcel Boundaries
Aerial Imagery

Figure 2

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1 inch = 650 feet

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Feet

Coke Point Area
Interim Measures Cells
Aerial Imagery

Figure 3

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1 inch = 550 feet

0 275 550
Feet

Coke Point Peninsula
Existing and Proposed Well Locations

Figure 4