

# Multimedia Consent Decree 2016 Annual Report

**Prepared for:**

**U S Environmental Protection Agency  
Maryland Department of the Environment**

**Prepared for:**

**Sparrows Point, LLC  
1430 Sparrows Point Boulevard  
Baltimore, MD 21219**

**February 2016**



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## 1.0 Introduction

The Multimedia Consent Decree (Decree), originally entered into by Bethlehem Steel Corporation (BSC), the U.S. Environmental Protection Agency Region III (EPA) and Maryland Department of the Environment (MDE), defines specific actions required at the Sparrows Point site "Site" located in Baltimore County, Maryland. The Decree became effective on October 8, 1997 (Civil Action JFM-97-558 and JFM-97-559). The Site was purchased by Sparrows Point LLC on September 14<sup>th</sup>, 2012. A stipulated order implementing modifications to the Decree and transferring the Decree to Sparrows Point LLC was executed on July 28, 2014 (Stipulated Order). A subsequent sale of the real property to Sparrows Point Terminal, LLC was completed on September 18, 2014 subject to the provisions of a purchase and sale agreement wherein Sparrows Point LLC remains responsible for the obligations arising under the Consent Decree. Sparrows Point Terminal, LLC is not a party to the Decree.

Environmental actions for the Site are now being implemented pursuant to the following:

- The Stipulated Order for the Decree entered into by Sparrows Point LLC and the respective agencies effective July 28, 2014;
- Administrative Consent Order (ACO) between Sparrows Point Terminal, LLC and the Maryland Department of the Environment (effective September 12, 2014);
- Settlement Agreement and Covenant Not to Sue (SA) between Sparrows Point Terminal, LLC and the United States Environmental Protection Agency (effective November 25, 2014).

The original Decree for the Sparrows Point Site dealt with many issues associated with iron-making, steel-making, coking, byproduct, plating, and finishing operations. As these operations are no longer conducted, and the associated facilities no longer exist, many specific requirements of the Decree are no longer applicable and have been removed in accordance with the stipulated order implementing modifications to the Decree. In addition, the ACO and SA incorporate relevant ongoing aspects of the Decree by reference.

Specific actions outlined in the Decree include requirements for annual reporting of information and activity progress. This report provides information and activity progress for 2015 that was accomplished by Sparrows Point LLC. There are three sections in the Decree that require annual reporting of information;

|               |             |   |
|---------------|-------------|---|
| Section VI    | Paragraph 4 | Waste Minimization Plan,                          |
| Section XII   | Paragraph 5 | Notification and Certification of Documents,      |
| Section XVIII | Paragraph 2 | Civil Penalties and Pollution Prevention Credits. |

Section VI, Paragraph 4, (Waste Minimization Plan), requires a report on the previous year's status of implementing each Work Plan required under Section VI including sampling data related to hazardous waste regulatory determinations.

Section XII, Paragraph 5, Notification and Certification of Documents, requires a progress report on actions completed as required in Sections V (Corrective Measures Work) and VII (Compliance Requirements) of the Decree.

Annual reports of actual pollution prevention expenditures during the previous calendar year for pollution prevention projects described in Section VI are also required by Section XVIII, Paragraph 2, Civil Penalties and Pollution Prevention Credits.

This Annual Report provides information on actions undertaken in 2015 that comply with the requirements of these three paragraphs. Section 2.0 provides the status on the Waste Minimization Plan required in Section VI of the Decree and includes project cost information for the plan as required in Section XVIII. Sections 3.0 and 4.0 provide progress reports as required in Sections V (Corrective Measures) and Section VII (Compliance Requirements) respectively. Section 5.0 presents other supporting information required in Section XII including spill release reporting and changes to the overall management structure utilized by Sparrows Point LLC to implement the Decree.

## **2.0 Waste Minimization Plan**

As outlined in the Modified Order, obligations associated with Section VI (Waste Minimization Plan) are no longer required with the exception of Section VI, Paragraph 1.b.6 related to maintenance dredging of the Tin Mill Canal. Information associated with this obligation is as follows:

### **Maintenance Dredging of the Tin Mill Canal**

#### **Description of 2015 Activity:**

No maintenance dredging activities were conducted in 2015.

**2015 Expenditures:** \$0

### 3.0 Corrective Measures

Paragraph 5 of Section XII of the Decree requires a description of the work undertaken in Sections V (Corrective Measures) and VII (Compliance Requirements) of the Decree. This section provides a status report for corrective measures projects included in Section V of the Decree as follows:

- Rod & Wire Mill Sludge Bin Remediation Area
- Coke Oven Area Interim Measure
- Site Wide Investigation

#### Rod & Wire Mill Sludge Bin Remediation Area

Tasks were completed for the groundwater pump and treat Interim Measure at the former Rod & Wire Mill Sludge Bin Storage Area at Sparrows Point during 2016. An Interim Measure Work Plan (R&W Mill IM Workplan) was prepared and implemented in 2016 to install an upgraded interim measure designed to remediate elevated dissolved cadmium and zinc metals within groundwater at the former Rod and Wire Mill Area (*Interim Measure Work Plan In-Situ Groundwater Treatment*, Advanced GeoServices Corp, August 2016). Groundwater from a portion of the Rod and Wire Mill Area has been undergoing pump and treat interim measure actions for a significant period of time.

The primary purpose of implementing this new interim remedial measure is to reduce dissolved concentrations of metals in the groundwater and eliminate the potential for future unacceptable discharges to surface water. In addition, this IM will allow for the shutdown and replacement of the ineffective existing groundwater extraction system. However, it is believed that in the immediate time period after the treatment trenches installation, the groundwater extraction system will help to spread the reagents down-gradient due to the higher seepage velocity created by the pumping.

Selection of this remedy was supported by several pre-design investigation programs including:

- *“Interim Remedial Measures Workplan, Pre- Design Investigation Supplement, Parcel A-3”* (Advanced GeoServices, April 1, 2016); and
- *“Pre-Design Investigation, Rod and Wire Mill Area, Characterization Report,”* ARM Group; April 1 (ARM PDI Report);

The field work consisted of several test pit excavations, soil sample analysis, groundwater sample analysis, soil-reagent treatability study, and a groundwater pH adjustment titration study. The observations and results of the treatability study in conjunction with updated findings from the ARM PDI Report were used to modify the conceptual site model (CSM) and support the selection of an appropriate Interim Measure to address the identified dissolved zinc and cadmium in the intermediate zone groundwater at the Site. The goal of the Advanced GeoServices field investigation was to answer the following specific questions:

- *What are the background groundwater conditions (up-gradient of source areas)?*

- *What are the most efficient reagent(s) for neutralizing groundwater?*
- *What is the acidic potential of the source area(s) that is available to continue to contribute acidity (flux) to the groundwater?*
- *What are the most efficient reagent(s) for neutralizing soils and/or stabilizing zinc and cadmium within the soils?*
- *What other metals/constituents are potentially mobilized as a result of pH neutralization?*
- *What are the physical soil properties that need to be addressed as part of a remedy that involves reagent addition to subsurface soils?*

The interim groundwater treatment goals are to increase the pH above 7 to affect a > 90% reduction in dissolved concentrations of cadmium and zinc within the source areas as compared to existing conditions. The existing conditions will be established based on Interim Measure monitoring results and Pre-Design Investigation data collected in the 2 quarters prior to the implementation of the treatment trenches. If monitoring demonstrates a decrease in cadmium and zinc concentrations over two consecutive quarters, EAG will request permission to shut off the RW-10A pumping well.

Ultimately the treatment goal will be to demonstrate that the concentration of groundwater discharges of the primary contaminants (cadmium and zinc) at the shoreline/property boundary are acceptable when compared to the *Maryland Department of the Environment Ambient Water Quality Criteria, Toxic Substances Criteria for Ambient Surface Waters – Inorganic Substances, Aquatic Life Saltwater Chronic Exposure Limits (COMAR 26.08.02.03-2)*.

- Cadmium: 8.8 ug/L
- Zinc: 81 ug/L

It is also anticipated that as part of a final corrective measures process a surface water mixing zone will be established with more specific treatment goals that will be defined at that time and that those goals will be evaluated in the longer term as part of a Monitoring Natural Attenuation remedy.

The planned interim measure will be accomplished by adding alkaline reagents into the intermediate groundwater zone at select high concentration areas. Excavated soils will be replaced with alkaline charges that will react with acidic groundwater to create slightly alkaline conditions within the aquifer and remove the dissolved cadmium and zinc from solution. The alkaline charges will utilize a combination of fast acting TerrabondMG (40% by weight) in conjunction with limestone aggregate (60% by weight). The reagents will be in trenches in a staggered/offset alignment that is perpendicular to the current groundwater flow under pumping conditions and also under non-pumping conditions.

The location of the primary treatment trenches was selected based on the ARM Group PDI Report. The treatment trenches are initially intended to be approximately 35 feet deep and 3 feet wide. Actual dimensions may be modified as field conditions and field equipment dictate to facilitate installation of the reagent materials. An excavator will be used to install the treatment trenches. The primary zinc trench

will be 500 feet long, the primary cadmium trench will be 530 feet long and the four shorter trenches will each be 80 - 160 feet long. The trench installations will not produce a continuous "wall". The trench installations will be performed in lengths of 50-100 feet. The lengths of excavation that make up a trench will be offset in two staggered rows approximately 10 - 15 feet apart (edge to edge). Each section will be excavated and the lower 20 feet (15 to 35 foot depth interval) will be backfilled with the final reagent mix.

A Construction Completion Report (CCR) will be submitted to the US EPA and Maryland Department of the Environment approximately 45 days after the completion of the installation work. The CCR will provide the following information:

- Summary of overall work performed;
- As-built vertical and horizontal alignments of the treatment walls;
- Summary of reagents volumes/tonnage used;
- Locations of new wells and associated well construction logs;
- Summary of soil spoils managed and final disposal;
- Summary of water managed and final disposal; and
- Description of Significant Problems Encountered and Resolutions.

A groundwater monitoring report will be provided approximately 6 months after the installation of the treatment trenches and new wells. The treatment trenches and associated reactive material have been installed as of the end of 2016; work is underway to re-activate the pumping system to support the in-situ spread of reactive agents downgradient.

### **Coke Oven Area Interim Measures**

Interim measures (IMs) have been developed to address identified environmental conditions at the Coke Oven Area (COA) Special Study Area in accordance with the United States Environmental Protection Agency's (US EPA)'s September 2, 2010 letter. The following designations identify the operating IM "Cells" at the COA:

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

As of the end of 2016, Cells 1, 2, 3, 5 and 6 remediation systems are operational.



**Cell 1: Prototype AS/SVE System in the Former Benzol Processing Area**

Cell 1 consists of an AS/SVE system installed to remove volatile hydrocarbons that is coupled with vapor destruction via an electric catalytic oxidation (CATOX) unit. During the 1<sup>st</sup> quarter of 2016, air sparge piping and area layout at Cell 1 underwent reconstruction to install an upgraded system. Construction was completed beginning of March 2016. Once operations resumed, the air sparge system's performance was assessed to determine its most effective production settings. The sparge and vapor extraction operated continuously throughout the month of March during the 1<sup>st</sup> quarter 2016. During the 2<sup>nd</sup> quarter 2016, based on vapor recovery data, the decision was made to return to operating on a pulsing schedule; where the system is in recovery or on mode for one day and then turned off to let the area rebound for two or three days. This practice was first implemented during the first quarter 2013 to improve recovery of hydrocarbons from the subsurface. Operations were in conformance with the manufacturer's specifications at all times that soil gases were collected in accordance with the May 20, 2011 modified permit-to-construct conditions as reflected in the Permit to Operate issued to Sparrows Point LLC on December 8, 2014.

**Cell 2: Air Sparge/Soil Vapor Extraction (AS/SVE) System in the Shallow Groundwater Zone, Groundwater Pump and Treat (GW P&T) System in the Intermediate Groundwater Zone, Former Coal**

Cell 2 consists of an AS/SVE system coupled with vapor destruction via an electric catalytic oxidation (CATOX) unit for volatile hydrocarbon groundwater treatment in the shallow zone and a pump and treat system for recovery of groundwater and volatile hydrocarbon treatment from the intermediate zone. The system design plans were approved by US EPA in correspondence received on September 10, 2013 and began full scale operation in October 2014.

**AS/SVE System**

The delivery and recovery systems for the shallow AS/SVE system include the use of air sparge points and a horizontal vapor extraction trench. Eight (8) air sparge points along a 500 feet long stretch were installed near the shore line of Cell 2. Details of the air sparge zone and recovery trench include the following:

**GW P&T System**

The pump and treat groundwater system includes a low-profile air stripper that then utilizes an oxidizer to destroy all VOC vapors generated prior to exhausting to the atmosphere. The design groundwater flow is for a maximum of 40 gallons per minute (gpm). The oxidizer is sized to handle up to a 600 cubic feet per minute air flow. The recovery and re-injection systems include the use of six groundwater recovery wells and six groundwater injection wells. The six recovery wells are installed along a 500 feet long stretch near the shore line of Cell 2.

- 6 – 4-inch diameter GW RWs @ approximately 83 ft spacing, C-C
  - Installed to 40-45 ft bgs (intermediate sand zone)
  - Bottom 15 ft of each RW screened with 20-slot screen
  - An electric pump in each RW, resting approximately 7-10 ft above the bottom of the well

- Recovered GW Treatment
  - Enters low profile air stripper
  - Off-gas sent to Electric Oxidizer for destruction
  - Treated groundwater pumped to six-6-inch diameter re-injection wells screened from 5 to 15 feet in depth for recirculation in shallow GW zone

Operations were in conformance with the manufacturer's specifications at all times that stripped hydrocarbons were discharged through the CaTOX unit to the atmosphere in accordance with the March 24, 2014 permit-to-construct conditions as reflected in the Permit to Operate issued to Sparrows Point LLC on December 8, 2014. In addition, treated groundwater discharges were in compliance with discharge permit conditions outlined in Discharge Permit 11-DP-3746 issued to Sparrows Point LLC on May 6, 2013. These pumping rates appear to effectively capture the most impacted groundwater beneath Cell 2. The pump and treat system is removing significant amounts of volatile hydrocarbons from groundwater within the intermediate water bearing zone at the current pumping rates, and it is controlling groundwater flow and associated migration within the intermediate water bearing zone.

### **Cell 3: AS/SVE System in the "Cove" Area**

Cell 3 consists of an AS/SVE system coupled with vapor destruction via an electric CATOX unit. The major design components are described in the Cell 3 final design report (*Coke Oven Area Interim Measures Cell 3 "Cove" Area Air Sparge/Soil Vapor Extraction System Design*), submitted to US EPA on March 1, 2011.

The system at Cell 3 continues to operate on a pulsing schedule; where the system is in recovery or on mode for one day and then turned off to let the area rebound for two or three days. This practice was implemented to improve recovery of hydrocarbons from the subsurface. Operations continue to be in conformance with the manufacturer's specifications at all times that soil gases were collected in accordance with the May 20, 2011 modified permit-to-construct conditions.

Groundwater for this area was monitored and assessed to determine a possible trend of decreasing VOC concentrations within the cell 3 remediation zone.

### **Cell 5: Dual Phase Extraction (DPE) System for the Shallow Zone, "Turning Basin" side of Former Coke Oven Area**

Cell 5 consists of a dual phase (vapor and water) system (DPE) with a low-profile air stripper followed by vapor phase granular activated carbon (VGAC) for removal and treatment of vapor and dissolved volatile hydrocarbons in the shallow groundwater zone. The system design plans were approved by US EPA in correspondence received on September 10, 2013 and began full scale operation in October 2014.

**Figure 10** shows the system layout of Cell 5 and locations of the major design components including the dual phase recovery points, treatment system, groundwater injection wells and groundwater monitoring well locations.

The recovery and re-injection systems include the use of dual phase (soil vapor and groundwater) recovery wells and six groundwater re-injection wells. Twelve (12) recovery wells were installed along

an approximate 500 feet long stretch downgradient of the most recent 10,000 ug/L is contour line for naphthalene (between the naphthalene source area and the eastern shore line along the Turning Basin).

- 12 – 1.5-inch diameter DPE RWs @ approximately 42 ft spacing, C-C
  - Installed to 15-17 ft bgs (to bottom of shallow slag)
  - Bottom 2 ft of each RW screened with 20-slot screen
  - Vapor recovery perforations located between 10-12 ft bgs
  
- Recovered GW and vapor Treatment
  - Enters MS knockout tank to separate air and water phases
  - Water sent to low profile air stripper
  - Off-gas sent to VGAC for capture
  - Treated groundwater pumped to six-6-inch diameter re-injection wells screened from 5 to 15 feet in depth for recirculation in shallow GW zone

Operations were in conformance with the manufacturer's specifications at all times that stripped hydrocarbons were discharged to the atmosphere in accordance with the March 24, 2014 permit-to-construct conditions as reflected in the Permit to Operate issued to Sparrows Point LLC on December 8, 2014. The DPE system is removing volatile hydrocarbons from groundwater within the shallow water bearing zone at the current recovery rates. The system has shown continual improvement in performance since the first few quarters of operation, mostly attributed to the recent addition of the liquid carbon treatment tanks during the 2<sup>nd</sup> quarter of 2015.

#### **Cell 5: DNAPL Extraction**

DNAPL product removal began to be extracted from the Cell 5 area in the latter part of the 4<sup>th</sup> quarter 2015. DNAPL was extracted from several newly constructed extraction wells that have constructed DNAPL sumps below the screened interval. Compressed air DNAPL skimmer pumps were installed within two specific extraction wells that had shown to produce the greatest amounts of DNAPL: CO123-PZM and CO125-PZM. A 55-gallon drum has been placed next to CO125-PZM and a 500-gallon holding tank was placed at CO123-PZM. Product that is removed from the wells is pumped into the holding containers and taken offsite every 90 days.

Skimmer pumps for DNAPL recovery were shutoff throughout the 2<sup>nd</sup> half of 2016. The DNAPL had been emptied from the wells. The wells were being allowed a period of inactivity for the product to restore back into the well screens. **Table 12** summarizes 1) DNAPL occurrence and recovery observed in monitoring wells for this Cell during the reporting period, 2) the start date of extraction from recovery wells and 3) cumulative DNAPL recovered since the beginning of the interim measure.

The DNAPL was recovered from the following wells:

| Well         | DNAPL Recovery (gal/lbs)  |
|--------------|---------------------------|
|              | Total thru 2016 (gal/lbs) |
| CO123-PZMxxx | 198/1900                  |
| CO125-PZMxxx | 100/960                   |
| <b>Total</b> | <b>298/2860</b>           |

#### Cell 6: LNAPL Extraction at the Former Benzol Processing Area

An upgraded Cell 6 LNAPL recovery system was constructed during 2016. The former skimmer pump setup was taken out of service, disassembled, consolidated and stored for later use. A total of fifty-three extraction wells will be used as part of the new extraction system; forty-two are newly installed and 11 are existing.

The Cell 6 LNAPL Multi-Phase Extraction (MPE) monitoring and recovery system was constructed and put into operation October 2016. The MPE separates the 3 phases as such: LNAPL is skimmed and contained in a 5,000 gal product holding tank, vapor is destroyed via an electrically operated catox and water is reinjected via the reinjection wells. The layout consists of 53 extraction wells, each individually plumbed with the ability to connect directly to one of the 43 vacuum lines extending from the back of the system container. 1,100 gallons of product was recovered into a 5,000 gal capacity tank during the 4<sup>th</sup> quarter. The following table summarizes the amount of product 1) LNAPL recovered prior to the MPE being put into place 2) LNAPL recovered by the MPE system during the 4<sup>th</sup> quarter 2016 and 3) total LNAPL recovered.

LNAPL was recovered by the following:

| CELL 6 LNAPL Extraction Wells  | Total LNAPL Recovery Period |          | LNAPL Recovered During Fourth Quarter 2016 |              | Cumulative Total LNAPL Recovered |                |
|--------------------------------|-----------------------------|----------|--|--------------|----------------------------------|----------------|
|                                | Begin                       | End      | (gal)                                      | (lbs) (a)    | (gal)                            | (lbs) (a)      |
| Former Recovery Methods (b)(c) | 23-Jul-10                   | 1-Aug-16 | na   | na           | 15,797                           | 115,761        |
| Cell 6 MPE system              | 1-Oct-16                    | On-going | 1100                                       | 8,061        | 1,100                            | 8,061          |
| <b>Total Recovery:</b>         |                             |          | <b>1,100</b>                               | <b>8,061</b> | <b>16,897</b>                    | <b>123,822</b> |

## Site Wide Investigation

Environmental responses, including Consent Decree obligations for Site Wide Investigation, for the Site are being implemented pursuant to the following:

- Multimedia Consent Decree between Bethlehem Steel Corporation, the United States Environmental Protection Agency, and the Maryland Department of the Environment (effective October 8, 1997); this Consent Decree has been modified in accordance with a stipulated order entered into by Sparrows Point LLC and the respective agencies effective July 28, 2014
- Administrative Consent Order (ACO) between Sparrows Point Terminal, LLC and the Maryland Department of the Environment (effective September 12, 2014);
- Settlement Agreement and Covenant Not to Sue (SA) between Sparrows Point Terminal, LLC and the United States Environmental Protection Agency (effective November 25, 2014).

Regulatory obligations for investigation, remediation, pathway exclusion, and closure of applicable areas of the Site are addressed within the ACO and EPA Agreement. As described within the ACO, Phase II investigations will be conducted and Work Plans will be developed for Site. Regulatory obligations and closure will be conducted in accordance with the terms of the Regulatory Agreements, which include obtaining a Certificate of Completion under MDE's Voluntary Cleanup Program and an EPA Certificate of Completeness after the BSC Consent Decree Areas proceed through RCRA's Statement of Basis process upon which a Final Decision and Response to Documents is rendered.

Certain portions of the Site have been defined as Area A and have been designated for investigation, remediation, and/or development on a priority basis as defined in the ACO. To delineate Area A in accordance with the ACO, Sparrows Point Terminal, LLC (now Tradepoint Atlantic) submitted a VCP application for Area A on September 10, 2014.

Work plans to investigate the site were initiated in 2016 and submitted for approval in accordance with the requirements and schedule outlined in the ACO and SA. Phase II work plans and Response and Development Plans were submitted in 2016 for the following parcels and areas, please refer to the attached figure for parcel area definition:

- Parcel B-1 Phase II Investigation Work Plan
- Parcel B-4 Phase II Investigation Work Plan
- Revised QAPP to EPA and MDE
- Parcel B-13 Phase II Investigation Work Plan
- B-19 Phase II Investigation Work Plan
- RWM PDI IM Supplemental Data Collection Work Plan
- Revised Work Plan for Parcel A-10 Phase II Investigation along with comment response document

- Parcel B-6 Phase II Investigation Work Plan
- Revised Phase II Investigation Work Plan for Parcel B-6 with revised boundary
- Phase II Investigation Work Plan for Parcel B-22
- Finishing Mill Groundwater Investigation Work Plan
- Response and Development Work Plan for Parcel B-4-1
- Revised Phase II Investigation Work Plan for Parcel A-11 along with comment response document
- Revised Phase II Investigation Work Plan for Parcel B-22 along with comment response document
- Phase II Investigation Report for Parcel A-2
- Supplemental sampling work plan for TMC
- Phase II Investigation Report for Parcel A-3
- PDI Report for Parcel A-3
- Phase II Investigation Work Plan for Parcel B-15
- Response and Development Work Plan for Parcel A-3
- Submitted revised TMC Supplemental Sampling Work Plan
- Response and Development Work Plan for Parcel B-22
- Revised Phase II Investigation Work Plan for Parcel B-15
- Phase II Investigation Work Plan for Parcel B-18
- PCB Delineation Work Plan for Parcel B-4-1
- Area B GW Investigation Report
- Response and Development Work Plan for Parcel B-15
- Phase II Investigation Report for Parcel A-4
- Response and Development Work Plan for Parcel A-4
- Phase II Investigation Report for Parcel B-15
- Revised Phase II Investigation Report for Parcel A-2 along with comment response document
- Dioxin and Furan Investigation Work Plan for Parcel B-5
- Road and Utility Work Plan for Parcel B-22

- Phase II Investigation Work Plan for Parcel B-2
- Phase II Investigation Work Plan for Parcel B-3
- Phase II Investigation Work Plan for Parcel B-17
- Cadmium delineation plan for Parcel A-4
- Development Work Plan for Parcel A-4 focused on truck dock installation
- NAPL delineation Work Plan for Parcel B-18
- Finishing Mill Groundwater Investigation Report
- Road and Utility Investigation Report for Parcel B-22
- Completion report for PCB and DRO/GRO removal within Parcel B-22

## 4.0 Compliance Requirements

As outlined in the Modified Order, obligations associated with Section VII (Compliance Requirements) are no longer required with the exception of Section VII.C. related to compliance requirements for the operation of Coke Point and Greys Landfill. Information associated with this obligation is as follows:

### Coke Point and Greys Landfill Operation

Activities conducted in 2016 for the landfills were as follows:

#### Coke Point Landfill

The Coke Point Landfill is currently not being utilized for the management of non-hazardous waste materials. Waste materials have not been received at this landfill since the change in ownership from RG Steel Sparrows Point LLC to Sparrows Point LLC in 2012. The plan for Coke Point Landfill is to continue to use the facility for slag storage and tenant scrap metal recycling and iron bearing material recovery operations.

#### Control of Landfill Access and Activities

Access control berms and a gate access structure are installed at Coke Point Landfill to mark the boundaries of the landfill and to prevent unauthorized access. Access control berms were upgraded in 2013 and placed around the perimeter of the landfill and are of sufficient height and grade to prevent vehicular access. The access control structures are being maintained as part of the current compliance actions for the landfill.

Specific measures are being conducted to prevent unauthorized waste disposal at the landfill and include the following:

- Coke Point Landfill is located within the Sparrows Point site which currently has access control restricted to owners of the facility, demolition and scrap management operations and tenant operations. Access control includes security personnel at three operating gates to the facility and routine perimeter security patrols and inspections. Entities that have access to the site have been informed of the status of Coke Point Landfill and the restriction on future waste placement.

#### Groundwater Monitoring Program

Groundwater monitoring was conducted at Coke Point Landfill in 2016 in accordance with a request received from the Maryland Department of the Environment on December 3, 2012. Semi-annual sampling events were completed in the 2<sup>nd</sup> and 4<sup>th</sup> quarters of 2016. A semi-annual groundwater monitoring report providing data analysis and results consistent with normal practices of the Department for landfill groundwater compliance monitoring programs will be submitted in 2017.



The reports include summaries of the following data collection activities:

- water level measurements in monitoring wells;
- sampling of monitoring wells; and
- laboratory analysis of monitoring well samples.

### **Greys Landfill**

The landfill continues to operate in accordance with the approved landfill operations and engineering plan. The current systems are being maintained at the landfill; maintenance activities completed in 2016 included the following:

- Vegetation and tree growth has been removed as necessary within swales, the sediment basin and other control features at the landfill;
- Replacement of gravel erosion control lining with the swale structures;
- Existing silt fences have been replaced and additional silt fence has been installed at the clean soil stockpile area;
- The soil stockpile area has been graded and seeded;
- As-built plans for the sediment control basin have been reviewed to document that adequacy of the current performance of the sediment control basin.

### **Groundwater Monitoring Program**

Groundwater monitoring was conducted at Greys Landfill in 2016 in accordance with a request received from the Maryland Department of the Environment on December 3, 2012. Semi-annual sampling events were completed in the 2<sup>nd</sup> and 4<sup>th</sup> quarters of 2015. A semi-annual groundwater monitoring report providing data analysis and results consistent with normal practices of the Department for landfill groundwater compliance monitoring programs will be submitted in 2017.

The reports include summaries of the following data collection activities:

- water level measurements in monitoring wells;
- sampling of monitoring wells; and
- laboratory analysis of monitoring well samples.

## 5.0 Decree Management Reporting

### Project Management

The US EPA and MDE were informed of the ownership change of the facility from Sparrows Point LLC to TradePoint Atlantic (formerly Sparrows Point Terminal, LLC) on September 18, 2014. As noted previously, ongoing obligations of the Consent Decree remained with Sparrows Point LLC as part of the purchase and sale contract between Sparrows Point LLC and TradePoint Atlantic.

Notification to the U. S. Environmental Protection Agency and the Maryland Department of the Environment is hereby provided that the Project Coordinator responsible for the referenced Consent Decree is:

Mr. Russell Becker,  
Sparrows Point, LLC  
1650 Des Peres Road, Suite 306  
St. Louis, MO 63131  
Phone: (314) 686-5611

e-mail: [rbecker@enviroanalyticsgroup.com](mailto:rbecker@enviroanalyticsgroup.com)

Communications between or among the parties, and documents, reports, approvals and other correspondence concerning the activities performed pursuant to the terms and conditions of the Consent Decree shall be directed to Mr. Becker. Copies of all documents to be submitted to Sparrows Point, LLC shall be sent to the Project Coordinator.

### Release Reporting

Non-aqueous phase liquid was identified in groundwater wells installed a part of the Phase II Investigations for parcels A-3, B-8, B-18, B-6 and A-8. The presence of this liquid was reported to the agencies in 2016 and monitoring programs are underway. There were no other releases, including spills or other events that occurred at the Facility in 2014 that were required to be reported to the Agencies.

