



November 30, 2012

Mr. Andrew Fan
US EPA Region III, 3WC23
1650 Arch Street
Philadelphia, PA 19103-2029

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

**Re: Consent Decree, Civil Action Nos. JFM-97-558, JFM-97-559
Coke Oven Area Interim Measures Progress Report October 2012**

Dear Mr. Fan and Ms. Brown:

Enclosed with this correspondence is the ***Coke Oven Area Interim Measures Progress Report October 2012*** completed for the Sparrows Point Facility in accordance with the requirements outlined in US EPA's September 2, 2010 approval letter for the Coke Oven Area Interim Measures work associated with the referenced Consent Decree. This report was distributed electronically on November 30th, 2012 in accordance with the outlined reporting requirements; this correspondence provides paper copies for your use.

The report summarizes implementation progress for the approved interim measures (IMs) that have been developed to address identified environmental conditions at the Coke Oven Area through October 31, 2012. Please contact me at (443) 610-6503 should questions arise during your review of the enclosed progress report.

Sincerely,

Russell Becker
Site Manager
Sparrows Point, LLC

Enclosure

COKE OVEN AREA INTERIM MEASURES PROGRESS REPORT

(October 2012)

Prepared for

Sparrows Point, LLC



November 30, 2012



**ENVIRONMENTAL
ENGINEERING & CONTRACTING, INC.**
200 Harry S. Truman Parkway, Suite 300
Annapolis, MD 21401 (401) 263-2234

Coke Oven Area Interim Remedial Measures Progress Report

Introduction

This document is the monthly progress report for October 2012 for the US EPA approved interim measures (IMs) that have been developed to address identified environmental conditions at the Coke Oven Area (COA) Special Study Area at the Sparrows Point LLC facility (formerly owned by RG Steel Sparrows Point LLC) located in Sparrows Point, Maryland. This progress report summarizes IM progress for October 2012.

The following designations are applied in this document to the operating IM "Cells" at the COA:

- Cell 1: Prototype Air Sparge/Soil Vapor Extraction (AS/SVE) System in the Former Benzol Processing Area,
- Cell 3: AS/SVE System in "Cove" Area,
- Cell 4: In-Situ Anaerobic Bio-treatment Area,
- Cell 6: Light Non-Aqueous Phase Liquid (LNAPL) Recovery at the Former Benzol Processing Area.

As of October 2012, Cells 1, 3, 4 and 6 continue to be operational. During the month, Sparrows Point LLC contracted with Environmental Engineering and Contracting (EEC) to provide ongoing support for the operation, maintenance and progress reporting for the COA IM cells. A review of the historical operations and current status of the equipment including repairs and replacement as necessary was completed to maintain operation of the IM cells. Groundwater and soil gas sampling to assess current conditions was performed on November 7-8, 2012. The results of this sampling event including trending graphs from IM startup will be detailed in the November 2012 IM Report.

Coke Oven Area Interim Remedial Measures Progress Report

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

Cell 1 consists of a prototype IM, which includes AS/SVE coupled with vapor destruction via an electric catalytic oxidation (CATOX) unit.

October 2012 Operational Performance

Operational performance of Cell 1 during this reporting period is summarized in **Table 1**. In summary, the CATOX unit operated for 741.6 hours (100.0 %) during this reporting period. 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.

The hydrocarbon removal rate was calculated to be approximately 0.10 pounds per operating hour (estimated monthly total of 74.2 pounds). In total, Cell 1 has destroyed approximately 9,513 pounds of recovered hydrocarbons. **Table 1** also includes a cumulative summary of operational performance since system startup on August 3, 2010. In total, Cell 1 has destroyed approximately 9513 pounds of recovered hydrocarbons.

Hydrocarbon removal calculations were based on previous analytical results and the average daily field-measured influent flow rates. The mass removal calculations assume that the sample collected on September 27, 2012 is representative of hydrocarbon concentrations for the entire month of October. This assumption is based on the fact that the same air sparge wells (AS-1 thru AS-8) and extraction wells (V-1 thru V-6) were online when the system was operational.

Coke Oven Area Interim Remedial Measures Progress Report

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.

October 2012 Operational Performance

Operational performance of Cell 3 during this reporting period is summarized in **Table 2**. In summary, the CATOX unit operated for 744 hours (100 %) during October 2012. 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.

The hydrocarbon removal rate was calculated to be approximately 0.01 pounds per operating hour (estimated monthly total of 7.4 pounds). **Table 2** also includes a cumulative summary of operational performance since system startup on June 24, 2011. In total, Cell 3 has destroyed approximately 601 pounds of recovered hydrocarbons.

Hydrocarbon removal calculations were based entirely on the analytical results and the average daily field-measured influent flow rates. The mass removal calculations assume that the sample collected on September 27, 2012 is representative of hydrocarbon concentrations for the entire month of October. This assumption is based on the fact that the same air sparge wells (AS-2 thru AS-12) and extraction wells (V-2 thru V-4) were online when the system was operational.

Coke Oven Area Interim Remedial Measures Progress Report

Cell 4: In-Situ Anaerobic Bio-treatment Area

Cell 4 consists of an in-situ anaerobic bio-treatment system including extraction and mixing of groundwater in an above ground storage tank containing a nutrient amendment solution and reinjection of groundwater. The major design components are described in the Cell 4 final design report (*Coke Oven Area Interim Measures Cell 4 In-Situ Anaerobic Bio-Treatment System Design*), submitted to US EPA on March 31, 2011.

October 2012 Operations

The seventh amendment dosing event occurred in September through October 1, 2012. The next dosing event is scheduled for December 2012. Sampling and analysis of groundwater for monitoring of conditions at Cell 4 was conducted on November 7 and 8th, 2012. Results will be presented in the November 2012 progress report.

Coke Oven Area Interim Remedial Measures Progress Report

Cell 6: LNAPL Extraction at the Former Benzol Processing Area

The Cell 6 LNAPL recovery systems were temporarily shutdown in October to assess the performance of the system, determine the presence and current thickness of LNAPL in the recovery wells and to provide necessary repair and replacement of recovery equipment. Two skimmer recovery systems have been restarted in early November. A third system will be brought online upon delivery of repaired equipment.

Repairs and replacement activities conducted in October included:

- Two skimmer pumps were sent to the manufacturer for repair;
- Operating components including the batteries and nitrogen gas pump systems were assessed and replaced as necessary;

LNAPL recovery from Cell 6 through October 2012 is summarized as follows:

Well	LNAPL Recovery (gal/lbs)
	Total thru October, 2012
BP-MW-05	6,338/46,437
RW-04	990/7,255
BP-MW-08	395/2,891
BP-MW-11	7.8/57
RW-03	19.3/141
RW-01	1.3/10
RW-02	0.8/5.9
TOTAL	7,752/56,797

TABLES

Table 1
Summary of Operation Conditions
Cell 1: Prototype AS/SVE System for Former Benzol Processing Area
Former Coke Oven Area Interim Remedial Measures
Sparrows Point, LLC

Cell 1 October 2012 Estimated Hydrocarbon Recovery

Parameter	Units	Quantity
Total CATOX Operating Time (September 1 - September 30, 2012)	hours	741.6
Overall CATOX Operational Time	%	99.7%
Estimated Total Hydrocarbons Destroyed	pounds	74.2
Estimated Hydrocarbon Removal Rate	pounds/hour	0.1

Cell 1 Cumulative Summary of Estimated Hydrocarbon Recovery

Parameter	Units	Quantity
Total ICE/CATOX Operating Time (August 3, 2010 - September 30, 2012)	hours	15,862
Overall CATOX Operational Time	%	80.7%
Estimated Total Hydrocarbons Destroyed	pounds	9,513
Estimated Hydrocarbon Removal Rate	pounds/hour	0.6

Table 2
Summary of Operation Conditions
Cell 3: AS/SVE System in the "Cove" Area
Former Coke Oven Area Interim Remedial Measures
Sparrows Point, LLC

Cell 3 September 2012 Estimated Hydrocarbon Recovery

Parameter	Units	Quantity
Total CATOX Operating Time (September 1 - September 30, 2012)	hours	744
Overall CATOX Operational Time	%	100
Estimated Total Hydrocarbons Destroyed	pounds	7.4
Estimated Hydrocarbon Removal Rate	pounds/hour	0.01

Cell 3 Cumulative Summary of Estimated Hydrocarbon Recovery

Parameter	Units	Quantity
Total ICE/CATOX Operating Time (August 3, 2010 - September 30, 2012)	hours	10,514
Overall CATOX Operational Time	%	84.4%
Estimated Total Hydrocarbons Destroyed	pounds	601.3
Estimated Hydrocarbon Removal Rate	pounds/hour	0.65