

ISG Sparrows Point LLC

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# Multimedia Consent Decree

## 2007 Annual Report

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Prepared for  
US Environmental Protection Agency  
Maryland Department of the Environment

Prepared by  
ISG Sparrows Point LLC

February 2008

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# 1.0 Introduction

This Annual Report is prepared in accordance with a Multimedia Consent Decree (Decree) that was originally entered into by Bethlehem Steel Corporation (BSC), the U.S. Environmental Protection Agency Region III (EPA) and Maryland Department of the Environment (MDE). The Decree was signed in February 1997, entered by the Court and became effective on October 8, 1997.

International Steel Group (ISG) purchased Bethlehem Steel Corporation including the Sparrows Point Division on May 8, 2003. In 2005, ISG was acquired by Mittal Steel and the Sparrows Point facility in Baltimore County, Maryland is currently operating as ISG Sparrows Point LLC as a part of Mittal Steel USA (the "Facility" as defined by the Consent Decree). The Facility is complying with the requirements outlined by the Decree.

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 2007 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 community relations, spill release reporting and changes to the overall management structure utilized by ISG Sparrows Point to implement the Decree.

## 2.0 Waste Minimization Plan

The following Work Plans or Reports are required by the Consent Decree:

- Sump/Tank Work Plan
- Tin Mill Canal Discharge Report
- Strong Caustic Solution Reuse Work Plan
- Blast Furnace Gas Cleaning Slurry Recycle Work Plan
- Recycling of BOF Fume Sludge Work Plan
- Humphreys Creek Wastewater Treatment Plant Sludge Work Plan
- Dredging of the Tin Mill Canal Work Plan
- Facility Wide Waste Minimization Plan

A summary of the current status of these projects as of the year 2007 is presented in the following sections. To satisfy Decree Section XVIII on pollution prevention expenditures, each section also lists the costs incurred in 2004.

### Sump/Tank Work Plan

#### Description of 2007 Activity:

Repairs and/or replacements of sumps and storage tanks as specified in the Consent Decree and the approved "Sump/Tank Work Plan and Schedule" were completed in 2003.

Repairs completed for sumps and tanks included the following actions:

- Corrosion repair
- Repainting
- Replacement of structural tank supports and brick foundations
- Concrete joint repair within sumps
- Rubber liner repair for sumps and associated piping
- Installation of epoxy liners for trenches containing pickling acid solutions

ISG will periodically inspect and provide maintenance of the sumps and above ground storage tanks identified in the Work Plan as part of the routine operating protocol for the facility. Records of inspections and maintenance activities will be reported in the Facility Wide Waste Minimization Plan updates.

2007 Expenditures: \$25,000

## Tin Mill Canal Discharge Report

A Tin Mill Canal Discharge Report was submitted in July 1998 in accordance with requirements of the Consent Decree. Additional actions to reduce discharges to the Tin Mill Canal have been implemented since 1998 and are summarized as follows:

- Reduction of process wastewater and oily wastewater discharges associated with the shut down and replacement of older cold rolling processing facilities;
- Reduction of process wastewater discharges from the Chrome Recovery Wastewater Treatment Facility associated with the replacement of the use of sulfur dioxide in the wastewater treatment process;
- Reduction of oil discharges from the Hot Strip Mill associated with the lubrication conservation and oil waste minimization program;
- Improved oil recovery efforts from oily wastewater discharges from the Cold Sheet Mill and Tin Mill. The improvements were completed at the on-site oil reprocessing facility and included: modifications to API separators, additional tanks for improved retention time, and use of emulsion breaking chemicals;
- Improved management of waste streams involving mixtures of oils/solids and water. Management processes have been implemented to capture appropriate waste streams prior to entering the canal and removing entrained solids and oils.

## Strong Caustic and Spent Pickle Liquor Solution Reuse Work Plan

This plan has been implemented and caustic/ spent pickle liquor solutions are currently being beneficially reused. Spent pickle liquor (SPL) solutions generated at the facility were either beneficially reused on-site in the wastewater treatment process or shipped off-site for beneficial reuse or disposal at other various facilities.

## Recycle of Blast Furnace Gas Cleaning Slurry Solids

### Description of 2007 Activity:

Full-scale pilot testing and evaluation of technologies have been completed for recycle of blast furnace gas cleaning slurry solids/filter cake. A full-scale pilot hydrocyclone facility was constructed and run successfully during the 2<sup>nd</sup> to 4<sup>th</sup> quarter of 2002. The patented hydrocyclone process was shown to effectively remove zinc producing a suitable iron and carbon rich revert (hydrocyclone underflow) for recycling to the Sinter Plant.

The current status and implementation schedule for this project is as follows:

- Phase 1 Engineering - Evaluate current status of water treatment system. This engineering was completed by end of October 2006;

- Phase 2 Engineering – Develop modifications for the water treatment system including solids management and recycling systems. Completed by end of 4th Qtr 2007.
- Capital Project Appropriation Submittal – Develop and provide cost-benefit basis for corporate approval – 1st quarter 2008
- Implementation/Construction of Project – Anticipated to be complete by 4<sup>th</sup> quarter 2009.

In addition to the hydrocyclone facility, preliminary plant trials showed that the blast furnace filter cake (and possibly the hydrocyclone overflow filter cake) can also be used to condition the molten BOF slag during the steel making operation. The slag conditioning step is done to provide effective slag splashing and coating of the BOF vessel. Limestone and other similar materials are commonly used for this purpose. If successful, the hydrocyclone overflow filter cake remaining after separation of suitable revert material could be recycled using this technique. This process is seen as an added benefit that will be evaluated once the hydrocyclone facility is operational.

2007 Expenditures: \$126,700

## Recycling of BOF Fume Sludge

### Description of 2007 Activity:

Recycling of BOF fume sludge is currently being conducted at Sparrows Point. The use of processed BOF fume sludge referred to as RS was utilized in 2007 in amounts depending on the need of the BOF steelmaking operation. RS is a blend of sludge filter cake and slag; the recipe of the RS is adjusted according to the need for coolant for steelmaking.

Overall, approximately 8900 tons of RS were recycled for the year. The current practice is projected to continue in 2008.

2007 Expenditures: \$45,000

## Recycling of Humphreys Creek Wastewater Treatment Plant Sludge

### Description of 2007 Activity:

Technology review is ongoing to provide an evaluation of various processes to recycle the wastewater treatment plant sludge. An important milestone was achieved in 2004 when the new treatment plant was completed at the Humphreys Creek Wastewater Treatment Plant. Sludge characteristics from this new plant are now being evaluated to determine their potential for recycling.

Humphreys Creek Waste Water Treatment Plant (HCWWTP) sludge has presented a challenge for recycling because of its oil content and its relatively low concentration of iron. A number of projects have been evaluated over the past few years that were developed to find ways of de-oiling or reusing this sludge and similar materials. These projects were not deemed successful as viewed from the perspective of technology, feasibility or cost. The projects have included biological de-oiling, solvent extraction de-oiling and calcination. Additionally, reuse of this material in the sinter plant has been further restricted due to air emission limits on volatile organic compounds.

Current levels of oil and grease in the sludge have been lowered as a result of recent waste minimization efforts to eliminate oil and grease discharges to Tin Mill Canal. It is anticipated that Humphreys Creek sludge materials will be evaluated further to determine if they can be cost-effectively de-oiled and pelletized to provide a feedstock to the sinter plant. This study effort will be continued in 2008 in an effort to realize the cost benefits of the iron value in the sludge as well as to reduce the landfill needs of the facility.

2007 Expenditures: \$0

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

### Description of 2007 Activity:

Maintenance dredging of the Tin Mill Canal was not conducted in 2007

2007 Expenditures: \$0

## **Facility Wide Waste Minimization Plan**

A Facility-wide Waste Minimization Plan (October 2006 Plan Update) was submitted in November 2006 in accordance with requirements of the Decree outlined in Section VI, Paragraph 3.c. The Plan presents ongoing waste minimization activities that are currently conducted by the Sparrows Point facility under the directive of Mittal Steel USA. In addition, the document reviews and assesses waste minimization activities that have been completed or are underway at the facility.

Goals and effectiveness of the Waste Minimization Program at Sparrows Point will continue to be evaluated as part of the requirements of the Consent Decree as well as with the environmental management system implemented at the facility in conjunction with the recent ISO 14001 certification received by the facility.

## 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
- Site Wide Investigation
- Coke Oven Area Interim Measure

### Rod & Wire Mill Sludge Bin Remediation Area

During 2007, ISG Sparrows Point operated the groundwater pump and treat Interim Measure at the former Rod & Wire Mill Sludge Bin Storage Area at Sparrows Point in accordance with the scope and schedule submitted in the July 2000 *Work Plan for Re-Establishment of Interim Measures, Former Sludge Bin Storage Area, Rod & Wire Mill* that was approved by U. S. EPA on November 3, 2000. The interim measure tasks included:

- Maintaining institutional controls at the former *in situ* leaching area,
- Groundwater treatment system monitoring, operation and maintenance,
- Semi-annual groundwater elevation monitoring, and
- Semi-annual sampling and analysis of groundwater.

Specifics of the interim measures tasks completed in 2007 are as follows:

- Institutional controls were maintained at the former sludge bin storage area to minimize and manage activities that could disturb soils at the site. These controls consist of notice sign boundary markers and continuation of an authorization program to conduct work in the area.
- Operation and maintenance of the groundwater recovery wells, transfer pipeline and treatment process equipment located at the existing wastewater treatment facility.
- Evaluation of the groundwater pump and treat system, including documentation of treatment flow, review of semi-annual groundwater elevation data, and review of effectiveness.
- Semi-annual sampling, analysis and evaluation of the groundwater impacted by former operations at the sludge bin storage area.



A total of 6,846,277 gallons of water was extracted from the two Former Sludge Bin Storage Area groundwater pumping wells (RW15-PZM020 and RW10-PZM020) during 2007. This compares to 6,297,005 gallons extracted in 2006. The average total pumping rate for 2007 was 18,757 gallons per day (gpd), or 13 gallons per minute (gpm). A total of 355 pounds (lbs) of cadmium and 16,601 lbs of zinc were removed and treated during 2007. This compares to 415 pounds (lbs) of cadmium and 18,143 lbs of zinc removed in 2006. The reduction in removed masses from 2006 to 2007, despite greater groundwater extraction in 2007, is due to decreased zinc and cadmium concentrations in the extracted groundwater.

Groundwater elevation data indicate groundwater drawdown with a radius of influence that captures the contamination plume in the intermediate groundwater zone (approximately 20 to 30 feet below the ground surface) at the established pumping rates of approximately 6.6 and 6.5 gallons per minute (gpm), respectively, for recovery wells RW15-PZM020 and RW10-PZM020. The groundwater elevation data for the shallow zone (groundwater table surface to 15 feet below this surface), combined with the chemistry data (further discussed below) for the shallow zone, also document a water table situation where contamination migration is effectively controlled in this groundwater zone. Groundwater elevation data for the deeper groundwater zone (greater than 50 feet in depth) suggest that heads in this zone may not be influenced by the pump and treat system; however, the chemistry data (further discussed below) indicate that contaminant migration in this zone is effectively controlled.

Groundwater monitoring data collected during 2007 suggests some improvement in groundwater quality as compared to 2006.

**CADMIUM**--For cadmium, comparison of the 2nd quarter 2007 to the 2nd quarter 2006 results reveals that for the 2<sup>nd</sup> quarter of 2007: 12 wells had lower cadmium concentrations, nine wells had higher cadmium concentrations, and one remained unchanged. This excludes the eight wells which were non-detect for cadmium during the 2<sup>nd</sup> quarters of both 2006 and 2007. Comparison of the 4<sup>th</sup> quarter 2007 to the 4<sup>th</sup> quarter 2006 results reveals that for the 4<sup>th</sup> quarter of 2007: 14 wells had lower cadmium concentrations, six wells had higher cadmium concentrations, and three remained unchanged. This excludes the eight wells which were non-detect for cadmium during the 4<sup>th</sup> quarters of both 2006 and 2007. Some of the bigger 4<sup>th</sup> quarter (most recent) cadmium concentration decreases were:

**Shallow Zone (4<sup>th</sup> Quarter):**

RW03-PZM003; from 0.94 ppm down to 0.40 ppm

RW04-PZM003; from 0.72 ppm down to 0.49 ppm

**Intermediate Zone (4<sup>th</sup> Quarter):**

RW01-PZM020; from 0.25 ppm down to 0.12 ppm

RW10-PZM020; from 12 ppm down to 10 ppm

RW16-PZM020; from 3.2 ppm down to 1.2 ppm

RW17-PZM019; from 9.8 ppm down to 6.2 ppm

RW20-PZM020; from 0.02 ppm down to non-detect

TS04-PZM023; from 0.64 ppm down to 0.35 ppm

**ZINC**--For zinc, comparison of the 2nd quarter 2007 to the 2nd quarter 2006 results reveals that for the 2<sup>nd</sup> quarter of 2007: 18 wells had lower zinc concentrations, eight wells had higher zinc concentrations, and six remained unchanged. Comparison of the 4<sup>th</sup> quarter 2007 to the 4<sup>th</sup> quarter 2006 results reveals that for the 4<sup>th</sup> quarter of 2007: 19 wells had lower zinc concentrations, 11 wells had higher zinc concentrations, and three remained unchanged. Some of the bigger 4<sup>th</sup> quarter (most recent) zinc concentration decreases were:

**Shallow Zone (4<sup>th</sup> Quarter):**

RW04-PZM003; from 13 ppm down to 10 ppm

RW05-PZP001; from 1.3 ppm down to 0.64 ppm

**Intermediate Zone (4<sup>th</sup> Quarter):**

RW10-PZM020; from 600 ppm down to 520 ppm

RW14-PZM020; from 380 ppm down to 350 ppm

RW17-PZM019; from 76 ppm down to 46 ppm

RW20-PZM020; from 120 ppm down to 83 ppm

TS04-PZM023; from 27 ppm down to 17 ppm

**Deep Zone (4<sup>th</sup> Quarter):**

RW18-PZM047; from 4.9 ppm down to 2.9 ppm

RW19-PZM050; from 0.22 ppm down to 0.05 ppm

The Proposed Operating Plan for 2008 is to: maintain institutional controls at the former storage area, continue operation, maintenance, and monitoring of the groundwater pump and treat system and complete semi-annual monitoring of groundwater consistent with procedures outlined in the approved July 2000 Work Plan and as modified in this report.

## Site Wide Investigation

Work completed for the Site Wide Investigation during 2007 included the following activities:

### Work Plan to Evaluate the Nature and Extent of Releases to Groundwater from the Special Study Areas

The *Site Wide Investigation, Report of Nature and Extent of Releases to Groundwater from the Special Study Areas (Nature & Extent Report)* was completed and submitted to the Agencies on January 24, 2005. The report included a review of existing site characterization data, an update of the hydrogeologic conceptual model for the facility, and presentation of groundwater analytical results.

Initial comments were received from the US EPA for the Nature and Extent Report on December 15, 2005. Responses to the comments were prepared and submitted in 2006. Subsequent comments from the US EPA were received on February 22, 2007. Additional responses were prepared and submitted on November 14, 2007. The response provided revised and supplemental figures for the Nature and Extent Report.

### Ecological Risk Assessment Program

An ecological risk assessment program for the facility was developed and presented to the agencies on November 21, 2005. A path forward for ecological assessment tasks was agreed to on November 21, 2005. The proposed steps were as follows:

- Gain approval of strategy for evaluating ecological risks at the site from the USEPA and the Maryland Department of the Environment (MDE);
- Participate in a coordinated site visit with the USEPA to facilitate their understanding of the potential ecological issues at the Site;
- Conduct qualitative ecological surveys of on-site and off-site areas. The on-site and off-site surveys may be conducted at different times;
- Develop ERA Work Plan. Components to be factored into the Work Plan include:
  - Tiered approach consisting of completion of the SLERA, followed by the BERA, if necessary. It is assumed that the SLERA will include, in addition to a quantification of on-site screening-level risks, a comparison of groundwater concentrations to ecological surface water benchmarks. The results and conclusions of the SLERA will determine the need for a BERA.
  - Development of on-site Work Plan. Plan will identify areas of overlap between suitable ecological habitat and areas potentially impacted by SWMUs and AOCs, and identification of potential receptors in these areas of overlap;

The strategy document for the ecological risk assessment tasks at Sparrows Point was submitted for approval in February 2006. Comments were received from the US EPA in March 2006 and, where applicable, were incorporated into the development of the On-Site Ecological Work Plan.

The *Ecological Risk Assessment Work Plan for On Site Areas* was developed and submitted for agency review in June 2006. Based on the agreed upon approach for the facility, the *Ecological Risk Assessment Work Plan for On Site Areas* was finalized and submitted to the agencies in January 2007.

Milestones achieved for the Ecological risk Assessment Program in 2007 include:

- Submitted Final On-Site ERA Work Plan to USEPA (report date January 4, 2007)
- Meeting with USEPA and MDE in Baltimore to discuss Status of project overall, including Ecological Risk Assessment (ERA) approach - March 21, 2007
- Provided responses to supplemental EPA comments received on March 9, 2007 (submitted May 21, 2007)
- Site visit with USEPA to gain acceptance of ERA approach - June 12, 2007
- On-site soil sampling to support On-Site ERA - June 25-28, 2007
- On-site soil sampling to support On-Site ERA - July 11-13, 2007
- Vegetation survey to qualitatively assess risks to on-site plant communities - September 27, 2007
- Supplemental sampling of ponds in County Lands 1B parcel to support On-Site ERA - December 12, 2007

Assessment tasks have been completed for the Screening-Level Ecological risk Assessment (SLEERA) for On-Site Areas of the facility. The report is currently under review and is anticipated to be submitted to the agencies in the first quarter of 2008.

## **Coke Oven Area Interim Measure**

Interim measure activities were conducted in the Coke Oven Area in 2007. These activities included:

- A skimmer pump system to recover light non- aqueous phase liquid (LNAPL) from monitoring well CO04-PZM004 was installed in March 2007,
- 2) Existing monitoring wells were investigated for the presence of both light and dense non-aqueous phase liquids (NAPLs)

Details and results of these activities are described below

### LNAPL Skimmer System

A Xitech REM2500ES remote LNAPL skimmer system was installed in CO04-PZM004 on March 15 to recover LNAPL detected in the well. The system consists of:

- a skimmer pump that pumps LNAPL from the well
- a control panel, solar panel, battery, air dryer, and air compressor that operate the skimmer pump
- a weather-proof storage box that houses the control instruments
- 55-gallon drums and containment tray for storing recovered LNAPL
- a high-tank shut off that turns the system off when the LNAPL storage drums are full

Recovery of LNAPL from CO04-PZM began on March 15, 2007. Approximately 30 gallons of oil product has been recovered from the well. The frequency and duration of the skimmer pump cycling has been adjusted to optimize LNAPL recovery based on system operation data. The recovered oil has been characterized to facilitate management and disposal requirements. Results of the characterization analysis have been included in Appendix A in accordance with Section XV of the Consent Order.

### NAPL Investigation

Existing monitoring wells in the Coke Oven Area were investigated for possible NAPL on March 14 and 15, 2007. The "10% of Solubility Rule" was used for inferring the presence of separate phase contaminants within the wells and to identify wells requiring investigation for NAPL. Ten of the wells exhibit dissolved phase concentrations that exceed 10 percent of the reported solubility for benzene or naphthalene and were included for investigation. Four wells were also investigated based on their proximity to one of the other ten wells. Table 1 in Appendix A lists the wells investigated, dissolved phase concentrations relevant to the investigation criteria and observations made during the investigation.

The NAPL investigation was conducting using the following procedures:

1. A Mini Rae 2020 photoionization detector (PID) was used to measure volatile organic compound concentrations in the well headspace after the water tight seal was removed from each monitoring well.
2. After collecting a PID measurement, a Heron interface probe was used to measure the depth to water, the depth to LNAPL (if present), and the total depth of the well.
3. A disposable bailer was then used to collect a sample from the top of the water table to confirm whether LNAPL was present.

4. Disposable tubing was inserted to the bottom of each well and connected to a Geotech II peristaltic pump. Liquid from the bottom of the well was then pumped into a container at ground level and examined for the presence of dense non-aqueous phase liquid (DNAPL). A disposable bailer was also used to check for or sample DNAPL in some of the shallow wells.

Observations made during the NAPL investigation include the following:

1. The presence of LNAPL previously reported in CO04-PZM004 was confirmed. The measured thickness of the NAPL was 1.53 feet on March 14 and 1.84 feet on March 15, 2007.
2. A black, viscous DNAPL was observed on the interface probe after measuring the depth to bottom at CO13-PZM008. The thickness of the DNAPL measured on the probe was approximately 13 inches.
3. No LNAPL or DNAPL was observed in any of the other Coke Oven Area wells investigated.

## 4.0 Compliance Requirements

Paragraph 5 of Section XII of the Consent Decree requires a description of the work undertaken in Sections V (Corrective Measures) and VII (Compliance Requirements) of the Decree. Projects included in Section VII are as follows:

- Visible Emissions from BOF Shop Roof Monitor
- Kish Reduction
- Coke Point and Greys Landfill Operation

### Visible Emissions from BOF Shop Roof Monitor

Monitoring for the compliance requirements for visible emissions from the Basic Oxygen Furnace (BOF) Shop roof monitor during 2007 was conducted in accordance with the requirements outlined in the Maryland State Implementation Plan (SIP) that was promulgated by the State of Maryland on 10/2/2000 and approved by the US EPA on 11/6/2001 as provided for in Section VII Paragraph A.4. and Section XVII 1.c. of the Consent Decree. With approval of the SIP by the US EPA, compliance requirements for visible emissions from the BOF Shop roof monitor are now implemented by requirements of the SIP and not the Consent Decree.

### Kish Reduction

Kish reduction requirements outlined in the Consent Decree and subsequent tasks associated with approved kish reduction work plans have been completed. Ongoing components of kish reduction activities at the facility are the maintenance of control structures and equipment for kish emissions from BOF slag skimmer ladle dumping and Blast Furnace dust catcher operations.

#### BOF Slag Skimmer Ladle Dumping

In August of 2003, the Skimmer Slag Ladle Dumping process was relocated to the No.2 Soaking Pit Building located northeast of the Caster. This structure provides cover that controls and significantly reduces fugitive kish emissions from the dumping of slag ladles from the slag skimming operation. Originally this process was to be moved under cover in the No 4 Open Hearth Building but was relocated because the open hearth was slated for demolition .

The project development included building alterations to provide direct access for the ladle bowl mobile equipment carriers. and additional wall sheeting, lighting, fire protection, internal grading and ramps for dumping. Additional improvements to the No. 2 Soaking Pit Building were completed in 2004 including the installation of a fabricated wall sheet to close in the east side of the building and further minimize fugitive emissions from the building.

Ongoing maintenance of the No 2 Soaking Pit Building was completed in 2007 and included roof repairs of the structure. In addition, operational procedures were improved for the bowl dumping process, including;

- Written procedures were developed for the contractors performing slag skimmer ladle dumping activities in the No 2 soaking Pit including the use of operational standards for dumping area depth and locations within the building;
- Facility personnel performed routine inspections of the building, dumping areas and dumping procedures completed by the contractors;
- Test programs were conducted with spray mist devices to control emissions during slag skimmer ladle dumping. The spray mist devices did not improve emission control within the building structure;

#### Blast Furnace Dust Catcher

A wet dust suppression system has been established for the blast furnace dust catcher discharges. This system operates to reduce fugitive dust from the dust catcher operation in accordance with requests from the Maryland Department of the Environment to control these discharges.

### **Coke Point and Greys Landfill Operation**

The Consent Decree required the preparation of a landfill operations plan and an engineering plan for Greys Landfill and Coke Point Landfill (Landfill Compliance Plan). The Landfill Compliance Plan was submitted on July 15, 1998. The Consent Decree also required the submittal of a plan and timetable for future uses and closure of the landfills. This document was prepared and submitted by BSC on April 8, 1999.

Activities conducted in 2007 for the landfills were as follows:

#### Greys Landfill

The approved landfill compliance improvements at Greys Landfill initiated in 2005 were completed in 2007. Field activities began subsequent to notice on June 30, 2005 with erosion and sediment and stormwater control and landfill stabilization activities began on January 3, 2006.. A summary of activities completed for Greys Landfill is as follows:

##### Items Completed:

- Sediment/stormwater storage basin and outlet controls
- Final stormwater controls and stormwater swales
- Cement Deep Soil Mixing Stabilization Program
- Clearing and Grubbing
- 3-ft diversion swale excavated and riprap lined
- Landfill counter berms and slope regrading
- Final cap system to elevation 85
- Final seeding and slope stabilization measures



As-built engineering requirements and associated submittals will be completed in 2008 for the completed construction project. Also to be finalized will be a groundwater monitoring compliance program for the landfill facility.

Several drums containing semi-solid materials were encountered during the excavation of a stormwater management swale at the landfill. The agencies were notified of the discovery and consulted to ensure adequate procedures were followed for removal. The drums were removed without incident and disposed of off-site at a regulated disposal facility. Results of the characterization analysis of the drummed materials have been included in Appendix A in accordance with Section XV of the Consent Order

#### Coke Point Landfill

An engineering analysis of the Coke Point Landfill area was completed in 2004. The analysis included a geotechnical report summarizing the results of a specific subsurface investigation and slope stability evaluation of the landfill site. Grading recommendations and a Concept Plan for future uses of the landfill were also completed. The engineering analysis was submitted to MDE on January 3, 2005 for review and comment.

Comments and recommendations on the engineering analysis and conceptual design of the Coke Point Landfill were received from MDE on September 26, 2005. The recommendations were incorporated into the conceptual design and development of the landfill during 2006. An engineering services contractor was selected to provide detailed design and development of the landfill in 2007. It is planned in 2008 to proceed with the development and detailed design of a sediment and erosion control plan for the landfill to be submitted to the Baltimore County Soil Conservation district for approval. Submittal of the plan is anticipated to occur in the 2<sup>nd</sup> qtr of 2008.

## 5.0 Decree Management Reporting

### Community Relations

There were several community relation activities during the year, but none more noteworthy than the commitment made by Sparrows Point to support the Multimedia Consent Decree environmental projects . Representative activities were as follows:

- Participation in the Dundalk Renaissance Corp., with Sparrows Point representative;
- Community plant tours of construction activities of Greys landfill and presentation of progress at Greys at local community meeting (Turners Station)
- Participation at North Point Peninsula Community Council meetings with general status report of Consent Decree activities
- Presentations to Baltimore County business and environmental representatives
- Community leaders meeting with Maryland Port Authority and Baltimore County officials on dredge material site selection process with respect to potential use of Sparrows Point;

### Project Management

Project management at the Sparrows Point facility for the Consent Decree includes Mr. Robert Abate, project coordinator for the Consent Decree, and on-site personnel from Washington Group International retained to provide management support of the Consent Decree. URS Corporation has been selected as a subcontractor to support activities associated with Section V of the Consent Decree. Notification of the change in contractor and supporting documentation was provided in accordance with Section X on November 13, 2003.

### Release Reporting

Appendix B contains spill reports for the facility that were reported in 2007. These reports document the status of mitigation of the releases, and the government oversight agency, contact name and telephone number.

**APPENDIX A      RESULTS OF SAMPLING/MONITORING**



October 15, 2007

Tina Marie Smith  
Microbac Laboratories, Inc.  
2101 Van Deman Street  
Baltimore, MD 21224-6697

Work Order No.: ME0710268

RE: 0710108-001A

Dear Tina Marie Smith:

Microbac Laboratories, Inc. received 1 sample on 10/5/2007 9:50:00 AM for the analyses presented in the following report.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please feel free to contact us.

Sincerely,  
Microbac Laboratories, Inc.

A handwritten signature in black ink, appearing to read "Deborah Griffiths", written over a horizontal line.

Deborah Griffiths  
Senior Project Manager

Enclosures



**WORK ORDER SAMPLE SUMMARY**

**Date:** *Monday, October 15, 2007*

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**CLIENT:** Microbac Laboratories, Inc.  
**Project:** 0710108-001A  
**Lab Order:** ME0710268

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<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Tag Number</b>	<b>Collection Date</b>	<b>Date Received</b>
ME0710268-01A	0710108-001A	Greys Landfill grab	10/3/2007 11:30:00 AM	10/5/2007



**CASE NARRATIVE**

Date: *Monday, October 15, 2007*

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**Client:** Microbac Laboratories, Inc.  
**Project:** 0710108-001A  
**Lab Order:** ME0710268

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The Method Blank associated with this sample failed to meet the acceptance criteria for Silver. This is considered insignificant, as the bias was high yet the sample concentration was non-detectable.



**ANALYTICAL RESULTS**

**Date:** Monday, October 15, 2007

Client: Microbac Laboratories, Inc.  
Client Project: 0710108-001A  
Client Sample ID: 0710108-001A  
Sample Description: Greys Landfill grab  
Sample Matrix: Solid

Work Order / ID: ME0710268-01A  
Collection Date: 10/03/07 11:30  
Date Received: 10/05/07 09:50

**Analyses ST Result RL Qual Units DF Analyzed**

**TCLP MERCURY** Method: SW1311/7470A Prep Date/Time: 10/08/07 09:00 Analyst: AVC  
Mercury A ND 0.0010 mg/L 1 10/08/07 13:46

**TOTAL METALS** Method: SW6010B Prep Date/Time: 10/06/07 11:45 Analyst: AVC

Arsenic	A	ND	0.24		mg/Kg	1	10/08/07 10:15
Barium	A	0.026	0.048	J	mg/Kg	1	10/08/07 10:15
Cadmium	A	ND	0.048		mg/Kg	1	10/08/07 10:15
Chromium	A	0.036	0.072	Jb	mg/Kg	1	10/08/07 10:15
Lead	A	ND	0.18		mg/Kg	1	10/08/07 10:15
Selenium	A	ND	0.72		mg/Kg	1	10/08/07 10:15
Silver	A	ND	0.24		mg/Kg	1	10/08/07 10:15

**TCLP METALS** Method: SW1311/6010B Prep Date/Time: 10/08/07 08:50 Analyst: AVC

Arsenic	A	ND	0.010		mg/L	1	10/08/07 16:34
Barium	A	0.022	0.50	Jb	mg/L	1	10/08/07 16:34
Cadmium	A	0.0039	0.0020		mg/L	1	10/08/07 16:34
Chromium	A	0.0011	0.0030	J	mg/L	1	10/08/07 16:34
Lead	A	0.018	0.020	Jb	mg/L	1	10/08/07 16:34
Selenium	A	ND	0.030		mg/L	1	10/08/07 16:34
Silver	A	ND	0.010		mg/L	1	10/08/07 16:34

**TOTAL METALS** Method: SW7471A Prep Date/Time: 10/06/07 13:15 Analyst: AVC  
Mercury A 0.0015 0.021 J mg/Kg 1 10/08/07 13:07

**TCLP SEMI-VOLATILE ORGANICS** Method: SW1311/8270C Prep Date/Time: 10/10/07 22:38 Analyst: BEM

1,4-Dichlorobenzene	A	ND	0.050		mg/L	1	10/11/07 00:16
2,4,5-Trichlorophenol	A	ND	0.050		mg/L	1	10/11/07 00:16
2,4,6-Trichlorophenol	A	ND	0.050		mg/L	1	10/11/07 00:16
2,4-Dinitrotoluene	A	ND	0.050		mg/L	1	10/11/07 00:16
2-Methylphenol	A	1.3	0.20		mg/L	4	10/11/07 19:36
3/4-Methylphenol	A	0.30	0.050		mg/L	1	10/11/07 00:16
Hexachlorobenzene	A	ND	0.050		mg/L	1	10/11/07 00:16
Hexachlorobutadiene	A	ND	0.050		mg/L	1	10/11/07 00:16
Hexachloroethane	A	ND	0.050		mg/L	1	10/11/07 00:16
Nitrobenzene	A	ND	0.050		mg/L	1	10/11/07 00:16
Pentachlorophenol	A	ND	0.25		mg/L	1	10/11/07 00:16
Pyridine	A	ND	0.050		mg/L	1	10/11/07 00:16
Total Cresol	A	1.3	0.050		mg/L	1	10/11/07 00:16
Surr: Nitrobenzene-d5	S	44.4	10-121		%REC	1	10/11/07 00:16
Surr: 2-Fluorobiphenyl	S	53.4	5.58-109		%REC	1	10/11/07 00:16
Surr: Terphenyl-d14	S	74.8	10-130		%REC	1	10/11/07 00:16
Surr: Phenol-d5	S	44.7	10-100		%REC	1	10/11/07 00:16
Surr: 2-Fluorophenol	S	44.6	10-84.7		%REC	1	10/11/07 00:16

# ANALYTICAL RESULTS

Date: Monday, October 15, 2007

Client: Microbac Laboratories, Inc.  
 Client Project: 0710108-001A  
 Client Sample ID: 0710108-001A  
 Sample Description: Greys Landfill grab  
 Sample Matrix: Solid

Work Order / ID: ME0710268-01A  
 Collection Date: 10/03/07 11:30  
 Date Received: 10/05/07 09:50

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
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**TCLP SEMI-VOLATILE ORGANICS** Method: **SW1311/8270C** Prep Date/Time: **10/10/07 22:38** Analyst: **BEM**  

Surr: 2,4,6-Tribromophenol	S	68.9	10-120		%REC	1	10/11/07 00:16
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**SEMIVOLATILE ORGANICS** Method: **SW8270C** Prep Date/Time: **10/08/07 08:41** Analyst: **BEM**

4-Bromophenyl phenyl ether	A	ND	200000		µg/Kg	20	10/11/07 04:20
Bis(2-ethylhexyl)phthalate	A	ND	200000		µg/Kg	20	10/11/07 04:20
Acenaphthene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Acenaphthylene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Acetophenone	A	ND	200000		µg/Kg	20	10/11/07 04:20
Aniline	A	ND	200000		µg/Kg	20	10/11/07 04:20
Anthracene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Benzidine	A	ND	960000		µg/Kg	20	10/11/07 04:20
Benzo[a]anthracene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Benzo[a]pyrene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Benzo[b]fluoranthene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Benzo[g,h,i]perylene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Benzo[k]fluoranthene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Benzoic acid	A	ND	960000		µg/Kg	20	10/11/07 04:20
Benzyl alcohol	A	ND	400000		µg/Kg	20	10/11/07 04:20
Bis(2-chloroethoxy)methane	A	ND	200000		µg/Kg	20	10/11/07 04:20
Bis(2-chloroethyl)ether	A	ND	200000		µg/Kg	20	10/11/07 04:20
Bis(2-chloroisopropyl)ether	A	ND	200000		µg/Kg	20	10/11/07 04:20
Butyl benzyl phthalate	A	ND	200000		µg/Kg	20	10/11/07 04:20
Carbazole	A	ND	200000		µg/Kg	20	10/11/07 04:20
4-Chloro-3-methylphenol	A	ND	400000		µg/Kg	20	10/11/07 04:20
4-Chloroaniline	A	ND	400000		µg/Kg	20	10/11/07 04:20
2-Chloronaphthalene	A	ND	200000		µg/Kg	20	10/11/07 04:20
2-Chlorophenol	A	ND	200000		µg/Kg	20	10/11/07 04:20
4-Chlorophenyl phenyl ether	A	ND	200000		µg/Kg	20	10/11/07 04:20
Chrysene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Dibenz[a,h]anthracene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Dibenzofuran	A	ND	200000		µg/Kg	20	10/11/07 04:20
1,2-Dichlorobenzene	A	ND	200000		µg/Kg	20	10/11/07 04:20
1,3-Dichlorobenzene	A	ND	200000		µg/Kg	20	10/11/07 04:20
1,4-Dichlorobenzene	A	ND	200000		µg/Kg	20	10/11/07 04:20
3,3'-Dichlorobenzidine	A	ND	960000		µg/Kg	20	10/11/07 04:20
2,4-Dichlorophenol	A	ND	200000		µg/Kg	20	10/11/07 04:20
2,6-Dichlorophenol	A	ND	200000		µg/Kg	20	10/11/07 04:20
Diethyl phthalate	A	ND	200000		µg/Kg	20	10/11/07 04:20
Dimethyl phthalate	A	ND	200000		µg/Kg	20	10/11/07 04:20
2,4-Dimethylphenol	A	21000	200000	J	µg/Kg	20	10/11/07 04:20
Di-n-butyl phthalate	A	ND	200000		µg/Kg	20	10/11/07 04:20





**ANALYTICAL RESULTS**

Date: *Monday, October 15, 2007*

Client: Microbac Laboratories, Inc.  
 Client Project: 0710108-001A  
 Client Sample ID: 0710108-001A  
 Sample Description: Greys Landfill grab  
 Sample Matrix: Solid

Work Order / ID: ME0710268-01A  
 Collection Date: 10/03/07 11:30  
 Date Received: 10/05/07 09:50

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
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**SEMIVOLATILE ORGANICS** Method: **SW8270C** Prep Date/Time: **10/08/07 08:41** Analyst: **BEM**

Di-n-octyl phthalate	A	ND	200000		µg/Kg	20	10/11/07 04:20
4,6-Dinitro-2-methylphenol	A	ND	960000		µg/Kg	20	10/11/07 04:20
2,4-Dinitrophenol	A	ND	960000		µg/Kg	20	10/11/07 04:20
2,4-Dinitrotoluene	A	ND	200000		µg/Kg	20	10/11/07 04:20
2,6-Dinitrotoluene	A	ND	200000		µg/Kg	20	10/11/07 04:20
1,2-Diphenyl-hydrazine	A	ND	200000		µg/Kg	20	10/11/07 04:20
Fluoranthene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Fluorene	A	24000	200000	J	µg/Kg	20	10/11/07 04:20
Hexachlorobenzene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Hexachlorobutadiene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Hexachlorocyclopentadiene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Hexachloroethane	A	ND	200000		µg/Kg	20	10/11/07 04:20
Indeno[1,2,3cd]pyrene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Isophorone	A	ND	200000		µg/Kg	20	10/11/07 04:20
2-Methylnaphthalene	A	520000	200000		µg/Kg	20	10/11/07 04:20
2-Methylphenol	A	17000	200000	J	µg/Kg	20	10/11/07 04:20
3/4-Methylphenol	A	ND	200000		µg/Kg	20	10/11/07 04:20
2-Nitroaniline	A	ND	960000		µg/Kg	20	10/11/07 04:20
3-Nitroaniline	A	ND	960000		µg/Kg	20	10/11/07 04:20
4-Nitroaniline	A	ND	960000		µg/Kg	20	10/11/07 04:20
2-Nitrophenol	A	ND	200000		µg/Kg	20	10/11/07 04:20
4-Nitrophenol	A	ND	960000		µg/Kg	20	10/11/07 04:20
N-Nitrosodi-n-propylamine	A	ND	200000		µg/Kg	20	10/11/07 04:20
N-Nitrosodimethylamine	A	ND	200000		µg/Kg	20	10/11/07 04:20
N-Nitrosodiphenylamine	A	ND	200000		µg/Kg	20	10/11/07 04:20
Naphthalene	A	180000	200000	J	µg/Kg	20	10/11/07 04:20
Nitrobenzene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Pentachlorophenol	A	ND	960000		µg/Kg	20	10/11/07 04:20
Phenanthrene	A	88000	200000	J	µg/Kg	20	10/11/07 04:20
Phenol	A	31000	200000	J	µg/Kg	20	10/11/07 04:20
Pyrene	A	ND	200000		µg/Kg	20	10/11/07 04:20
Pyridine	A	ND	200000		µg/Kg	20	10/11/07 04:20
1,2,4-Trichlorobenzene	A	ND	200000		µg/Kg	20	10/11/07 04:20
2,4,5-Trichlorophenol	A	ND	960000		µg/Kg	20	10/11/07 04:20
2,4,6-Trichlorophenol	A	ND	200000		µg/Kg	20	10/11/07 04:20
Total Cresol	A	ND	200000		µg/Kg	20	10/11/07 04:20
Surr: Nitrobenzene-d5	S	45.6	10-139		%REC	20	10/11/07 04:20
Surr: 2-Fluorobiphenyl	S	60.0	10-124		%REC	20	10/11/07 04:20
Surr: Terphenyl-d14	S	77.4	10-157		%REC	20	10/11/07 04:20
Surr: Phenol-d5	S	31.2	10-97.5		%REC	20	10/11/07 04:20
Surr: 2-Fluorophenol	S	28.8	10-91.4		%REC	20	10/11/07 04:20

# ANALYTICAL RESULTS

Date: *Monday, October 15, 2007*

Client: Microbac Laboratories, Inc.  
 Client Project: 0710108-001A  
 Client Sample ID: 0710108-001A  
 Sample Description: Greys Landfill grab  
 Sample Matrix: Solid

Work Order / ID: ME0710268-01A  
 Collection Date: 10/03/07 11:30  
 Date Received: 10/05/07 09:50

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
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**SEMIVOLATILE ORGANICS** Method: **SW8270C** Prep Date/Time: **10/08/07 08:41** Analyst: **BEM**

Surr: 2,4,6-Tribromophenol	S	45.6	10-107		%REC	20	10/11/07 04:20
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**TCLP VOLATILES** Method: **SW1311/8260B** Prep Date/Time: **10/09/07 18:30** Analyst: **MAK**

Benzene	A	0.024	0.050	J	mg/L	10	10/10/07 23:38
2-Butanone	A	ND	0.10		mg/L	10	10/10/07 23:38
Carbon tetrachloride	A	ND	0.050		mg/L	10	10/10/07 23:38
Chlorobenzene	A	ND	0.050		mg/L	10	10/10/07 23:38
Chloroform	A	ND	0.050		mg/L	10	10/10/07 23:38
1,1-Dichloroethene	A	ND	0.050		mg/L	10	10/10/07 23:38
1,2-Dichloroethane	A	ND	0.050		mg/L	10	10/10/07 23:38
1,4-Dichlorobenzene	A	ND	0.050		mg/L	10	10/10/07 23:38
Tetrachloroethene	A	0.10	0.050		mg/L	10	10/10/07 23:38
Trichloroethene	A	ND	0.050		mg/L	10	10/10/07 23:38
Vinyl chloride	A	0.029	0.050	J	mg/L	10	10/10/07 23:38
Surr: 4-Bromofluorobenzene	S	101	76.9-116		%REC	10	10/10/07 23:38
Surr: Dibromofluoromethane	S	113	78.4-125		%REC	10	10/10/07 23:38
Surr: Toluene-d8	S	109	81.4-122		%REC	10	10/10/07 23:38
Surr: 1,2-Dichloroethane-d4	S	103	74.2-136		%REC	10	10/10/07 23:38

**VOLATILE ORGANICS** Method: **SW8260B** Prep Date/Time: Analyst: **BRR**

Acetone	A	ND	25000		µg/Kg	500	10/13/07 10:15
Acrolein	A	ND	50000		µg/Kg	500	10/13/07 10:15
Acrylonitrile	A	ND	50000		µg/Kg	500	10/13/07 10:15
Benzene	A	4600	2500		µg/Kg	500	10/13/07 10:15
Bromodichloromethane	A	ND	2500		µg/Kg	500	10/13/07 10:15
Bromoform	A	ND	2500		µg/Kg	500	10/13/07 10:15
Bromomethane	A	ND	5000		µg/Kg	500	10/13/07 10:15
2-Butanone	A	ND	5000		µg/Kg	500	10/13/07 10:15
Carbon Disulfide	A	ND	5000		µg/Kg	500	10/13/07 10:15
Carbon tetrachloride	A	ND	2500		µg/Kg	500	10/13/07 10:15
Chlorobenzene	A	ND	2500		µg/Kg	500	10/13/07 10:15
Chloroethane	A	ND	5000		µg/Kg	500	10/13/07 10:15
Chloroform	A	ND	2500		µg/Kg	500	10/13/07 10:15
Chloromethane	A	ND	5000		µg/Kg	500	10/13/07 10:15
Dibromochloromethane	A	ND	2500		µg/Kg	500	10/13/07 10:15
1,1-Dichloroethane	A	ND	2500		µg/Kg	500	10/13/07 10:15
1,2-Dichloroethane	A	ND	2500		µg/Kg	500	10/13/07 10:15
1,1-Dichloroethene	A	ND	2500		µg/Kg	500	10/13/07 10:15
cis-1,2-Dichloroethene	A	1300	2500	J	µg/Kg	500	10/13/07 10:15
trans-1,2-Dichloroethene	A	ND	2500		µg/Kg	500	10/13/07 10:15
1,2-Dichloropropane	A	ND	2500		µg/Kg	500	10/13/07 10:15



# ANALYTICAL RESULTS

Date: Monday, October 15, 2007

Client: Microbac Laboratories, Inc.  
 Client Project: 0710108-001A  
 Client Sample ID: 0710108-001A  
 Sample Description: Greys Landfill grab  
 Sample Matrix: Solid

Work Order / ID: ME0710268-01A  
 Collection Date: 10/03/07 11:30  
 Date Received: 10/05/07 09:50

Analyses	ST	Result	RL	Qual	Units	DF	Analyzed
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VOLATILE ORGANICS		Method: SW8260B	Prep Date/Time:			Analyst: BRR	
cis-1,3-Dichloropropene	A	ND	2500		µg/Kg	500	10/13/07 10:15
trans-1,3-Dichloropropene	A	ND	2500		µg/Kg	500	10/13/07 10:15
Ethylbenzene	A	14000	2500		µg/Kg	500	10/13/07 10:15
2-Hexanone	A	ND	5000		µg/Kg	500	10/13/07 10:15
4-Methyl-2-Pentanone	A	ND	5000		µg/Kg	500	10/13/07 10:15
Methyl-t-Butyl Ether	A	ND	2500		µg/Kg	500	10/13/07 10:15
Methylene chloride	A	ND	10000		µg/Kg	500	10/13/07 10:15
Styrene	A	ND	2500		µg/Kg	500	10/13/07 10:15
1,1,1,2-Tetrachloroethane	A	ND	5000		µg/Kg	500	10/13/07 10:15
1,1,2,2-Tetrachloroethane	A	ND	2500		µg/Kg	500	10/13/07 10:15
Tetrachloroethene	A	160000	25000		µg/Kg	5,000	10/13/07 13:14
Toluene	A	26000	2500		µg/Kg	500	10/13/07 10:15
1,1,1-Trichloroethane	A	ND	2500		µg/Kg	500	10/13/07 10:15
1,1,2-Trichloroethane	A	ND	2500		µg/Kg	500	10/13/07 10:15
Trichloroethene	A	1000	2500	J	µg/Kg	500	10/13/07 10:15
Trichlorofluoromethane	A	ND	5000		µg/Kg	500	10/13/07 10:15
Vinyl Acetate	A	ND	5000		µg/Kg	500	10/13/07 10:15
Vinyl chloride	A	ND	5000		µg/Kg	500	10/13/07 10:15
m,p-Xylene	A	58000	2500		µg/Kg	500	10/13/07 10:15
o-Xylene	A	27000	2500		µg/Kg	500	10/13/07 10:15
Total Xylenes	A	85000	2500		µg/Kg	500	10/13/07 10:15
Surr: 4-Bromofluorobenzene	S	117	57.4-135		%REC	500	10/13/07 10:15
Surr: Dibromofluoromethane	S	122	63.5-139		%REC	500	10/13/07 10:15
Surr: 1,2-Dichloroethane-d4	S	138	51.7-162		%REC	500	10/13/07 10:15
Surr: Toluene-d8	S	102	66.6-143		%REC	500	10/13/07 10:15

# Microbac®

## FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

NA	=	Not Analyzed	N/A	=	Not Applicable		
mg/L	=	Milligrams per Liter (ppm)	ug/L	=	Micrograms per Liter (ppb)	cfu	= Colony Forming Unit
mg/Kg	=	Milligrams per Kilogram (ppm)	ug/Kg	=	Micrograms per Kilogram (ppb)	ng/L	= Nanograms per Liter (ppt)
U	=	Undetected					
J	=	Analyte concentration detected between RL and MDL (Metals / Organics)					
B	=	Detected in the associated Method Blank at a concentration above the routine PQL/RL					
b	=	Detected in the associated Method Blank at a concentration above the Method Detection Limit but less than the routine PQL/RL					
D	=	Surrogate recoveries are not calculated due to sample dilution					
ND	=	Not Detected at the Reporting Limit (or the Method Detection Limit, if listed)					
E	=	Value above quantitation range					
H	=	Analyte was prepared and/or analyzed outside of the analytical method holding time					
I	=	Matrix Interference					
R	=	RPD outside accepted recovery limits					
S	=	Spike recovery outside recovery limits					
Surr	=	Surrogate					
DF	=	Dilution Factor	RL	=	Reporting Limit	ST	= Sample Type
						MDL	= Method Detection Limit

## SAMPLE TYPES

A	=	Analyte
I	=	Internal Standard
S	=	Surrogate
T	=	Tentatively Identified Compound (TIC, concentration estimated)

## QC SAMPLE IDENTIFICATIONS

MBLK	=	Method Blank	ICSA	=	Interference Check Standard "A"	OPR	=	Ongoing Precision and Recovery Standard
DUP	=	Method Duplicate	ICSAB	=	Interference Check Standard "AB"			
LCS	=	Laboratory Control Sample	LCSD	=	Laboratory Control Sample Duplicate			
MS	=	Matrix Spike	MSD	=	Matrix Spike Duplicate			
ICB	=	Initial Calibration Blank	CCB	=	Continuing Calibration Blank			
ICV	=	Initial Calibration Verification	CCV	=	Continuing Calibration Verification			
PDS	=	Post Digestion Spike	SD	=	Serial Dilution			

## CERTIFICATIONS

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

- Illinois EPA for the analysis wastewater and solid waste in accordance with the requirements of the National Environmental Laboratory Accreditation Program [NELAP] (accreditation #100435)
- Illinois Department of Public Health for the microbiological analysis of drinking water (registry #175458)
- Indiana DEM approved support laboratory for solid waste and wastewater analyses
- Indiana SDH for the chemical analysis of drinking water (lab #C-45-02)
- Indiana SDH for the microbiological analysis of drinking water (lab #M-45-08)
- Kentucky EPPC for the analysis of samples applicable to the Underground Storage Tank program (lab #0061)
- North Carolina DENR for the environmental analysis for NPDES effluent, surface water, groundwater, and pretreatment regulations (certificate #597)
- Wisconsin DNR for the chemical analysis of wastewater and solid waste (lab #998036710)

## MICROBAC LOCATIONS, SERVICE CENTERS (SC) AND SATELLITE OFFICES (Sat)

Baltimore Division - Baltimore, MD  
Camp Hill Division - Camp Hill, PA  
Camp Hill Division (SC) - Pittston, PA  
Chicagoland Division - Merrillville, IN  
Chicagoland Division (SC) - Indianapolis, IN  
Corona Division - Corona, CA  
Erie Division - Erie, PA  
Fayetteville Division - Fayetteville, NC  
Hauser Division - Boulder, CO

Kentucky Division - Louisville, KY  
Kentucky Division (Sat) - Evansville, IN  
Kentucky Division (Sat) - Lexington, KY  
Kentucky Division (Sat) - Paducah, KY  
Knoxville Division - Maryville, TN  
Massachusetts Division - Marlborough, MA  
Microbac Corporate Office - Wexford, PA  
Microbac NY - Cortland Office - Cortland, NY  
Microbac NY - Waverly Office - Waverly, NY

New Castle Division - New Castle, PA  
Pittsburgh Division - Warrendale, PA  
Richmond Division - Richmond, VA  
South Carolina Division - New Ellenton, SC  
South Jersey Division - Turnersville, NJ  
Southern Headquarters - Poquoson, VA  
Southern Testing Division - Wilson, NC  
Southern Testing Division (Sat) - Greensboro, NC  
Venice Division - Venice, FL



COOLER INSPECTION

Date: Monday, October 15, 2007

Client Name Microbac Laboratories, Inc.

Date / Time Received: 10/5/2007 9:50:00 AM

Work Order Number ME0710268

Received by: DPP

Checklist completed by DPP 10/5/2007 11:55:01 AM

Reviewed by DDG 10/9/2007 7:20:37 AM

Carrier name: UPS

- After-Hour Arrival? Yes [ ] No [x]
Shipping container/cooler in good condition? Yes [x] No [ ] Not Present [ ]
Custody seals intact on shipping container/cooler? Yes [ ] No [ ] Not Present [ ]
Custody seals intact on sample bottles? Yes [ ] No [ ] Not Present [x]
Chain of custody present? Yes [x] No [ ]
Chain of custody included sufficient client identification? Yes [x] No [ ]
Chain of custody included sufficient sample collector information? Yes [ ] No [x]
Chain of custody included a sample description? Yes [x] No [ ]
Chain of custody agrees with sample labels? Yes [x] No [ ]
Chain of custody identified the appropriate matrix? Yes [x] No [ ]
Chain of custody included date of collection? Yes [x] No [ ]
Chain of custody included time of collection? Yes [x] No [ ]
Chain of custody identified the appropriate number of containers? Yes [x] No [ ]
Samples in proper container/bottle? Yes [ ] No [x]
Sample containers intact? Yes [x] No [ ]
Sufficient sample volume for indicated test? Yes [x] No [ ]
All samples received within holding time? Yes [x] No [ ]
Chain of custody identified the appropriate preservatives (if preserved)? Yes [x] No [ ]
Samples properly preserved? Yes [x] No [ ]

If No, adjusted by: \_\_\_\_\_ Date/Time \_\_\_\_\_

- Chain of custody included the requested analyses? Yes [x] No [ ]
Chain of custody signed when relinquished and received? Yes [x] No [ ]
Samples received on ice? Yes [x] No [ ]

Container/Temp Blank temperatures Cooler Temp 1 2 °C

VOA vials for aqueous samples have zero headspace? No VOA vials submitted [x] Yes [ ] No [ ]

ANY "NO" EVALUATION (excluding After-Hour Receipt) REQUIRES CLIENT NOTIFICATION.

General Comments:

Table with 3 columns: Sample ID, Client Sample ID, Comments. Row 1: ME0710268-01A, 0710108-001A, LIMITED SAMPLE

# CHAIN-OF-CUSTODY RECORD

## Microbac Laboratories Inc., Baltimore Division

Tina Marie L. Smith  
2101 Van Deman St.  
Baltimore, Maryland 21224  
Phone: (410) 633-1800 Fax: (410) 633-6553

Baltimore Division WO#: 0710108

### Subcontractor:

Microbac Laboratories, Inc-Chicagoland Phone: (219) 769-8378  
250 W. 84th Drive Fax: (219) 769-1664  
Merrillville, IN 46410 Acct #:

0710268 04-Oct-07

Sample ID	Matrix	Collection Date	# Container	Baltimore #	Requested Tests (see comments)
Greys Landfill grab	Solid	10/3/2007 11:30:00 AM	1	0710108-001A	SUBOUT 1 <i>OLA</i>

*Need results ASAP.*

*\* SUBOUT-SUBCONTRACT\* TELP VOCs, TELP SVOCs, TELP Metals  
+ Total VOC's, Total SVOCs, Total Metals*

### Comments:

Relinquished by: Melanie Dwygnski 10/4/07 Date/Time

Received by: [Signature] Date/Time

Relinquished by: [Signature] 10-5-07/0050 Date/Time

ME0710268 MICROBAC - BALTIMORE 10/11/2007  
0710108-001A DDG  
Tina Marie Smith



*2°C*

**Tina Marie L. Smith**

---

**From:** "Deborah Griffiths" <dgriffiths@microbac.com>  
**To:** "Tina Marie L. Smith" <tsmith@microbac.com>  
**Sent:** Thursday, October 04, 2007 2:18 PM  
**Subject:** RE: TCLP and Totals

We should be able to do 4 day TAT.

Deborah Griffiths  
Sr. Project Manager  
Microbac Laboratories, Inc.  
5713 W. 85th St.  
Indianapolis, IN 46278  
PH: (317) 872-1375  
Fax: (317) 872-1379  
Mobile: (317) 399-4939

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---

**From:** Tina Marie L. Smith [mailto:tsmith@microbac.com]  
**Sent:** Thursday, October 04, 2007 2:14 PM  
**To:** Deborah Griffiths  
**Subject:** Re: TCLP and Totals

It is a solid like tar.

----- Original Message -----

**From:** Deborah Griffiths  
**To:** 'Tina Marie L. Smith'  
**Sent:** Thursday, October 04, 2007 12:47 PM  
**Subject:** RE: TCLP and Totals

Tina:

Is the sample soil or water - just need to know if it will have to be tumbled or filtered?

Thanks,

Deborah Griffiths  
Sr. Project Manager  
Microbac Laboratories, Inc.  
5713 W. 85th St.  
Indianapolis, IN 46278  
PH: (317) 872-1375  
Fax: (317) 872-1379  
Mobile: (317) 399-4939

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---

**From:** Tina Marie L. Smith [mailto:[tsmith@microbac.com](mailto:tsmith@microbac.com)]  
**Sent:** Thursday, October 04, 2007 12:02 PM  
**To:** 'Deborah Griffiths'  
**Cc:** Melanie Duszynski  
**Subject:** TCLP and Totals  
**Importance:** High

Hi Deborah,

I have a sample that needs TCLP VOC's, TCLP Semi-volatiles and TCLP metals as well as totals for all the test. I need the fastest TAT you can possibly give. Can you possibly turn around in 4 days?

Thanks,

Tina Marie L. Smith  
Senior Project Manager  
phone: 410-633-1804  
fax: 410-633-6553  
Microbac Laboratories, Inc.  
Baltimore Division  
2101 Van Deman St.  
Baltimore, MD 21224  
[tsmith@microbac.com](mailto:tsmith@microbac.com)

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# Microbac Laboratories, Inc.

## Gascoyne Division

2101 Van Deman Street · Baltimore, MD 21224

Phone: 410-633-1800

Fax: 410-633-6553

www.microbac.com

### CERTIFICATE OF ANALYSIS

Page 1 of 2

Mittal Steel - Sparrows Point  
5111 North Point Blvd.

Baltimore, MD 21219

Attn: Russ Becker

Report No: 0703521

Date Received: 3/16/2007

Date Reported: 4/3/2007

Project: NON NPDES

Test	Result	Units	Reporting Limit	Date/Time of Analysis	Analyst
<b>Lab ID: 0703521-001</b>					
<b>Client Sample ID: ISG COA Well grab</b>					
<b>Collection Date: 3/15/2007 11:30:00 AM</b>					
<b>Matrix: OIL</b>					
<b>CORROSIVITY (METHOD: EPA 9045C)</b>					
Prep. Method:	NA	Prep. Date:	NA	Prep Analyst	NA
Corrosivity	6.2	pH Units	1.0	3/26/2007 14:00	LCR
Temperature	20.1	°C	0.10	3/26/2007 14:00	LCR
<b>IGNITABILITY (METHOD: EPA 1020A)</b>					
Prep. Method:	NA	Prep. Date:	NA	Prep Analyst	NA
<i>note: Sample received with headspace.</i>					
Ignitability	>200	°F	N/A	3/22/2007 13:00	EDP
<b>CYANIDE, REACTIVE (METHOD: SW846 CH. 7.3)</b>					
Prep. Method:	NA	Prep. Date:	NA	Prep Analyst	NA
Cyanide, Reactive	< 1.0	mg HCN/Kg	1.0	3/27/2007 6:45	RED
<b>SULFIDE, REACTIVE (METHOD: SW 846 7.3)</b>					
Prep. Method:	NA	Prep. Date:	NA	Prep Analyst	NA
Sulfide, Reactive	< 10	mg H2S/Kg	10	3/27/2007 6:45	RED
<b>TCLP MERCURY (HG) (METHOD: EPA 1311/7470A)</b>					
Prep. Method:	NA	Prep. Date:	NA	Prep Analyst	NA
Mercury	< 0.12	mg/kg	0.12	3/29/2007 12:04	APS
<b>TCLP METALS (METHOD: EPA 1311/6010B)</b>					
Prep. Method:	NA	Prep. Date:	3/23/2007 2:09:00 PM	Prep Analyst	NA
Arsenic	< 9.5	mg/Kg	9.5	3/26/2007 14:58	APS
Barium	< 24	mg/Kg	24	3/26/2007 14:58	APS
Cadmium	< 0.95	mg/Kg	0.95	3/26/2007 14:58	APS
Chromium	< 4.7	mg/Kg	4.7	3/26/2007 14:58	APS
Lead	< 4.7	mg/Kg	4.7	3/26/2007 14:58	APS
Selenium	< 4.7	mg/Kg	4.7	3/26/2007 14:58	APS
Silver	< 4.7	mg/Kg	4.7	3/26/2007 14:58	APS
<b>TCLP SEMI VOLATILES (METHOD: EPA 1311/8270C)</b>					
Prep. Method:	EPA 3510C	Prep. Date:	3/21/2007 12:45:00 PM	Prep Analyst	SBT
Pyridine	< 5,000	mg/L -TC	5,000	3/26/2007 11:17	MST



# Microbac Laboratories, Inc.

## Gascoyne Division

2101 Van Deman Street · Baltimore, MD 21224

Phone: 410-633-1800

Fax: 410-633-6553

www.microbac.com

### CERTIFICATE OF ANALYSIS

Page 2 of 2

Mittal Steel - Sparrows Point  
5111 North Point Blvd.

Report No: 0703521

Date Received: 3/16/2007

Baltimore, MD 21219

Date Reported: 4/3/2007

Attn: Russ Becker

Project: NON NPDES

Test	Result	Units	Reporting Limit	Date/Time of Analysis	Analyst
1,4-Dichlorobenzene	< 1,000	mg/L -TC	1,000	3/26/2007 11:17	MST
ortho-Cresol	< 1,000	mg/L -TC	1,000	3/26/2007 11:17	MST
Hexachloroethane	< 1,000	mg/L -TC	1,000	3/26/2007 11:17	MST
meta/para-Cresol	< 1,000	mg/L -TC	1,000	3/26/2007 11:17	MST
Nitrobenzene	< 1,000	mg/L -TC	1,000	3/26/2007 11:17	MST
Hexachlorobutadiene	< 1,000	mg/L -TC	1,000	3/26/2007 11:17	MST
2,4,6-Trichlorophenol	< 1,000	mg/L -TC	1,000	3/26/2007 11:17	MST
2,4,5-Trichlorophenol	< 1,000	mg/L -TC	1,000	3/26/2007 11:17	MST
2,4-Dinitrotoluene	< 1,000	mg/L -TC	1,000	3/26/2007 11:17	MST
Hexachlorobenzene	< 1,000	mg/L -TC	1,000	3/26/2007 11:17	MST
Pentachlorophenol	< 5,000	mg/L -TC	5,000	3/26/2007 11:17	MST

#### TCLP VOLATILES (METHOD: EPA 1311/ 8260B)

Prep. Method: NA

Prep. Date: NA

Prep Analyst NA

*note: Results expressed as mg/liter of TC extract after performing a total analysis of the sample. Sample received with headspace.*

Vinyl chloride	< 2.5	mg/L -TC	2.5	3/26/2007 13:04	MLS
1,1-Dichloroethene	< 1.2	mg/L -TC	1.2	3/26/2007 13:04	MLS
2-Butanone	< 12	mg/L -TC	12	3/26/2007 13:04	MLS
Chloroform	< 1.2	mg/L -TC	1.2	3/26/2007 13:04	MLS
Carbon tetrachloride	< 1.2	mg/L -TC	1.2	3/26/2007 13:04	MLS
Benzene	13	mg/L -TC	1.2	3/26/2007 13:04	MLS
1,2-Dichloroethane	< 1.2	mg/L -TC	1.2	3/26/2007 13:04	MLS
Trichloroethene	< 1.2	mg/L -TC	1.2	3/26/2007 13:04	MLS
Tetrachloroethene	< 1.2	mg/L -TC	1.2	3/26/2007 13:04	MLS
Chlorobenzene	< 1.2	mg/L -TC	1.2	3/26/2007 13:04	MLS

Final report reviewed by:

Michael D. Arbaugh, Sr./Division Manager

*All samples received in proper condition and results conform to ISO 17025 standards unless otherwise noted.*

*If we have not met or exceeded your expectations, please contact the Director or Trevor Boyce, President at tboyce@microbac.com or Robert Morgan, Chief Operation Officer, at rmorgan@microbac.com*

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**Table 1**  
**Coke Oven Area NAPL Investigation Summary**

Well ID	>10% of benzene solubility (µg/L)	>10% of naphthalene solubility (µg/L)	Total Depth - 03/07 (ft. TOC)	Depth to LNAPL - 03/07 (ft. TOC)	Depth to water - 03/07 (ft. TOC)	LNAPL Thickness (ft.)	DNAPL Thickness (ft.)	Headspace PID (ppm)	Observations
<b>CO02-PZM006</b>	790,000	-	19.89	ND	13.51	ND	ND	>9,999	Strong petroleum odor, slight sheen noted in bottom sample.
CO02-PZM041	-	-	54.32	ND	15.26	ND	ND	119	Petroleum odor.
<b>CO04-PZM004</b>	-	6,700	15.80	8.02	9.55	1.53	ND	25.6	LNAPL skimmer system installed 3/15/07. LNAPL sample collected.
<b>CO05-PZM006</b>	-	8,100	17.52	ND	9.06	ND	ND	1.9	Dark black sediment in bottom of well; slight sheen observed.
<b>CO13-PZM008</b>	-	22,000	19.65	ND	11.91	ND	1.10	2.2	Black, viscous coal tar DNAPL. DNAPL Sample collected.
CO13-PZM030	-	-	42.43	ND	12.79	ND	ND	NS	
<b>CO16-PZM006</b>	200,000	-	18.17	ND	13.58	ND	ND	3,859	Dark black sediment in bottom of well.
<b>CO19-PZM004</b>	-	4,400	15.50	ND	10.28	ND	ND	1.9	Black solids/"blobs" (bacteria?) in bottom of well.
<b>CO25-PZM008</b>	-	12,000	19.61	ND	11.98	ND	ND	NS	
<b>CO26-PZM007</b>	-	5,700	19.28	ND	12.10	ND	ND	7.0	
CO27-PZM012	-	-	17.70	ND	6.40	ND	ND	3,128	"Coal tar" odor noted, dark black sediment in bottom of well.
<b>CO27-PZM046</b>	390,000	-	51.39	ND	8.74	ND	ND	>9,999	Strong odor, grey/black sediment in bottom of well.
CO28-PZM010	-	-	22.05	ND	12.60	ND	ND	0.0	
<b>CO28-PZM048</b>	350,000	-	60.82	ND	13.17	ND	ND	4,680	

Wells selected by "10% of Solubility Rule" are in bold  
Solubility of benzene (reported by Lyman et. al., 1990) = 1,780,000 µg/L (10% = 178,000 µg/L)  
Solubility of naphthalene (reported by Lyman et. al., 1990) = 33,000 µg/L (10% = 3,300 µg/L)  
TOC = top of casing  
ppm = parts per million  
ND = not detected  
NS = not sampled

**APPENDIX B      RELEASE REPORTING RECORDS**



**ISG Sparrows Point LLC.  
5111 North Point Boulevard  
Baltimore, Maryland 21219**

**March 13, 2007**

**CERTIFIED RETURN RECEIPT REQUESTED**

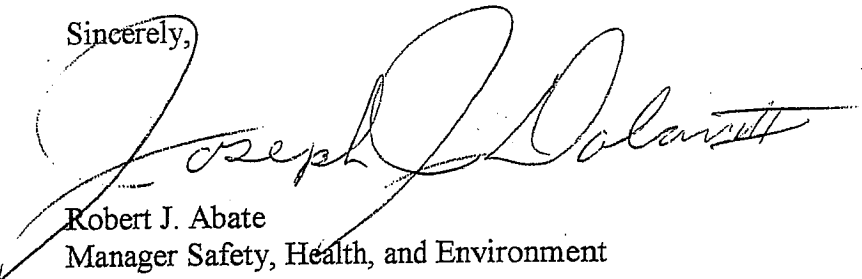
Mr. Greg Sonberg  
Maryland Department of the Environment  
Oil Control Program  
1800 Washington Boulevard Suite 620  
Baltimore, Maryland 21230-1708

Dear Mr. Sonberg:

This letter and its attachments will serve as the spill report for ISG Sparrows Point LLC. for February 2007. There were two spills during the month.

If there are questions please refer them to Joe Dolan, of my staff, at 410-388-5991.

Sincerely,



Robert J. Abate  
Manager Safety, Health, and Environment

cc: Attachments  
EPA OPA Book  
ISO14000 CFT Members  
Plant Maintenance Supervisors

Mr. Greg Sonberg – March 13, 2007

Date and Time – 2/5/07 at approximately 0910 hours

Amount – Approximately 75 gallons

Spilled to – Ground

Material Spilled – Hydraulic oil

Location – No. 7 Sinter Strand Cooler Multiclone Fan Hydraulic Oil Reservoir

On February 5, 2007, at approximately 0910 hours, a spill of approximately 75 gallons of hydraulic oil occurred at the No. 7 sinter Strand Cooler Multiclone Fan Hydraulic Oil Reservoir. All of the material was contained on the ground and none entered any sewer or plant waterway.

When the spill was discovered the hydraulic system was secured and a vacuum truck was called to the area to remove the standing oil and contaminated soil. There was a good bit of water on the ground and this was removed as well. The recovered oil/water and contaminated soil were taken to Kroff Materials Processing for further processing.

The spill resulted when a piece of mobile equipment struck the hydraulic reservoir and ruptured both oil and water piping. The ruptured piping was repaired and the system was placed back in service.

The follow-up inspection revealed that the collision may have caused additional small leakage of fluid from a tubing fitting and threads on additional piping. To verify this, we had the hydraulic reservoir and piping pressure washed as it was heavily encrusted with sinter material. Once pressure washing was complete we were able to ascertain that there was a small amount of seepage from the two fittings. The fittings were wrapped with oil absorbent material pending a time when the system could be taken out of service and further repaired. Final repairs were made during the week of March 4, 2007. We will continue to monitor the system to make sure that these repairs were sufficient.

*3/13 - no leaks.*

Mr. Greg Sonberg – March 13, 2007

Date and Time – 2/6/07 at approximately 0400 hours

Amount – Approximately 100 gallons originally reported later determined to be 20 gallons

Spilled to – Ground

Material Spilled – Non PCB transformer oil

Location – Transformer CO6 in the Coke Oven Area

On February 6, 2007 at approximately 0400 hours a spill of approximately 20 gallons of non-PCB transformer oil occurred at Transformer CO6 in the Coke Oven Area. The original spill report to MDE stated that about 100 gallons of oil has been lost. However, when the oil remaining in the transformer was measured it was determined that only twenty gallons had been released. The original estimate of the oil spilled was high due to visual limitations at the time of the spill. All of the material was contained on the concrete pad beneath the transformer and none entered into any plant sewer or waterway.

The spill occurred when a railroad train derailed, struck the transformer, and ruptured it. The train crew notified their dispatcher who in turn notified the appropriate individuals in the steel plant. Electrical and environmental personnel were brought to the scene to determine the extent of the damage and to reroute power if necessary. A2Z Environmental was brought in to do the cleanup which they completed that day. After studying the situation it was determined that the transformer should be decommissioned and scrapped. A2Z was also given that task. The transformer oil was drained on February 9 and the carcass was removed from the facility on February 20, 2007.