

Bethlehem Steel Corporation

Multimedia Consent Decree

2001 Annual Report

Prepared for
US Environmental Protection Agency
Maryland Department of the Environment

Prepared by
Bethlehem Steel Corporation
Sparrows Point Division



February 2002

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1.0 Introduction

This Annual Report is prepared in accordance with a Multimedia Consent Decree (Decree) 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.

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. Text from the Decree specific to this requirement is as follows:

4. *BSC shall submit to EPA and MDE an annual report due February 15 for the previous calendar year which describes the status of implementing each Work Plan under this Section VI, and includes 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. Text from the Decree specific to this requirement is as follows:

5. *In addition to any other requirement of this Consent Decree, BSC shall submit to EPA and MDE a written annual report on the work undertaken pursuant to Sections V and VII that, with respect to such work:*
 - a) *Describes and assesses the progress and percentage of completion of all actions which have been taken toward achieving compliance with this Consent Decree during the reporting period;*
 - b) *Includes a summary of all results of sampling and tests and all other data and reports received or generated by BSC or their contractors or agents in the reporting period;*
 - c) *Includes any modifications to the work plans or other schedules or personnel that BSC has proposed to EPA and MDE that have been approved by EPA and MDE;*

- d) Summarizes all contacts with representatives of the local community, or public interest groups during the reporting period relevant to the activities in this Consent Decree;
- e) Summarizes all problems or potential problems encountered during the reporting period, including but not limited to, unresolved or anticipated delays encountered by BSC that may affect the future schedule for implementation of the requirements of this Consent Decree;
- f) Describes actions being taken to rectify problems;
- g) Describes changes and additions to pertinent BSC personnel and contractors during the reporting period;
- h) Describes all actions, including but not limited to, data collection and implementation of work plans, which are scheduled for the next reporting period; and
- i) Describes all releases reportable under any federal and/or state law which took place at the Facility during the reporting period, the status of mitigation of such releases, and the government oversight agency, contact name and telephone number.

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. Text from the Decree specific to this requirement is as follows:

2. On or before February 15 of each calendar year, BSC shall submit to MDE and EPA a written report, including supporting documentation, which describes actual pollution prevention expenditures during the previous calendar year for the pollution prevention projects described in Section VI of this Consent Decree.

This Annual Report provides information on actions undertaken in 2001 that complies 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 Bethlehem 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 2001 is presented in the following sections. To satisfy Decree Section XVIII on pollution prevention expenditures, each section also lists the costs incurred in 2001.

Sump/Tank Work Plan

Description of 2001 Activity:

BSC completed the inventory, visual inspections, repairs and/or replacements of sumps and storage tanks (performed during the initial inspection period) and reporting requirements for the program as specified in the Consent Decree and the approved "Sump/Tank Work Plan and Schedule". The Sump/Tank Work Plan and Schedule was submitted by BSC on October 10, 1998 and approved by the US EPA on January 18, 1999. The Consent Decree specified:

"BSC shall submit a work plan and schedule for an inventory and visual inspection of all active sumps and associated trenches that are located in the Cold Sheet Mill and the Tin Mill that contain significant amounts of acid, caustic, plating, or coating solutions, and an inventory and visual inspection of all above ground storage tanks with capacity greater than 500 gallons that store hazardous substances (exclusive of oil)."

The Consent Decree also required that BSC provide to EPA and MDE the following documents:

- (a) A report which summarizes the results of the inventory;
- (b) A list of repairs and/or replacements of sumps that BSC was able to perform during the initial inspection period; and
- (c) A work plan with a schedule to repair and/or replace sumps and/or aboveground storage tanks where necessary.

This report was prepared and submitted to the Agencies on September 18, 2001. The report included the following: a summary of the inventory, the list of repairs and

replacements completed during the initial inspection period, and a work plan and schedule for additional repairs that were recommended as part of the initial inspection. The report was timely submitted within 60 days of completion of the inspections as outlined in the approved Sump/Tank Work Plan.

Repairs completed for sumps and tanks during the inspection period 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

2001 Expenditures: \$220,000

Tin Mill Canal Discharge Report

This report was reviewed, finalized, and submitted in July 1998. No further action is required on this item.

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. Reuse of strong caustic solutions totaled 24,000 gallons in 2001. 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 at other various facilities. No SPL was disposed of as hazardous waste in 2001.

Recycle of Blast Furnace Gas Cleaning Slurry Solids

Description of 2001 Activity:

Full-scale pilot testing and evaluation of technologies are underway for recycle of blast furnace gas cleaning slurry solids/filter cake. These technologies are:

Hydrocycloning Scrubber Slurry - A full-scale pilot hydrocyclone facility was partially installed at Sparrows Point in 2001. This facility is scheduled for start-up in the 2nd quarter of 2002. The patented hydrocyclone process effectively removes zinc producing a suitable iron and carbon rich revert (hydrocyclone underflow) for recycling to the sinter plant.

The pilot hydrocyclone facility will have the capacity to process about 70% of the blast furnace filter cake solids; therefore, it is anticipated that trials will be completed in 2002 that will provide recycling of approximately 50% of the blast furnace solids. If hydrocycloning is

proven successful, it is anticipated that additional equipment will be installed to provide capacity to process the entire blast furnace filter cake waste stream.

Use of Blast Furnace Filter Cake as a BOF Slag Conditioner - Preliminary plant trials showed that the blast furnace filter cake (and possibly the hydrocyclone overflow filter cake) can 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.

2001 Expenditures: \$140,000

Recycling of BOF Fume Sludge

Description of 2001 Activity:

Recycling of BOF fume sludge is currently being conducted at Sparrows Point further described as follows:

RS Recycling at the BOF - The use of processed BOF fume sludge referred to as RS significantly increased at Sparrows Point during 2001. RS is a blend of sludge filter cake and slag; the recipe of the RS can be adjusted according to the need of the BOF steelmaking operation. Overall, 26,000 tons of RS were recycled for the year, a 25% increase above the recycle rate in 2000. This usage rate provided recycling and reuse of approximately 40% of the BOF fume sludge filter cake for the year. An 80% recycle rate of the BOF fume sludge was achieved during October and November. Impacts from recycling on other systems at the BOF are currently being evaluated to allow incorporation of RS use as a standard procedure in the steelmaking operation.

2001 Expenditures: \$130,000

Recycling of Humphreys Creek Wastewater Treatment Plant Sludge

Description of 2001 Activity:

Testing and evaluation of several technologies are underway for recycle of Humphrey's Creek Wastewater Treatment Plant (HCWWTP) oily sludge within the Sparrows Point iron and steelmaking operations. Work completed during 2001 for these technologies included:

Use in Sub-base for Roadway Construction - An alternative to landfilling the filter cake may be its use as a sub-base component for roadway construction. A BSC patent was issued in 2001 for this alternative using a process mixture of oily sludge, steelmaking BOF slag fines, and fly ash. After curing, the sub-base is a low-permeability, high compressive strength material, superior to commercial aggregate roadway sub-bases.

Full-scale plant trials were completed at Burns Harbor prior to 2001 where sections of roadway within the plant have been replaced with sub-base material containing oily sludge using a process developed by ERT, Inc. In a similar application, soils contaminated with petroleum wastes were successfully used in roadway construction in Texas.

2001 Expenditures: \$0

Maintenance Dredging of the Tin Mill Canal

Description of 2001 Activity:

Construction of a Sludge Drainage Pad (SDP) required to support maintenance dredging was completed in 2001. The design of the SDP was in accordance with the design outlined in the work plan submitted in October 8, 1998. The storage area provides a secure temporary location to de-water and aerate the dredged solids and allow for disposal testing requirements prior to subsequent removal of the solids to the required disposal facility.

The SDP was located north of the 68" Hot Strip Mill, on the north side of the Tin Mill Canal. The pad consists of a paved asphalt area measuring 150' by 150' constructed over an impermeable membrane, and enclosed on three sides by a constructed earthen berm with the fourth side open to the adjacent canal. The berm was constructed to a height of three feet with an impermeable swale constructed at its interior toe of slope to direct water that drains from the dredged material placed on the asphalt surface back into the canal.

Dredged material from the maintenance dredging operation will be transported to the SDP in either a roll-off box designed to segregate free liquids from the material, excavation equipment, or trucks. The vehicles will access the interior of the SDP by a ramp that was constructed over the berm.

Construction activities in 2001 included the disposal of dredge spoil materials that had been previously removed from the canal near the location of the sewer from the Hot Strip Mill and placed on the north bank of the canal. Testing procedures were completed prior to disposal including the completion of a sampling and analysis program designed to provide waste characterization of the stored materials. Sampling procedures included the recovery of discrete random and composite samples of the waste materials. Toxicity characteristic leaching procedure analyses were completed for the recovered samples to document the presence of parameters that exceeded hazardous waste regulatory limits. The material was determined to be non-hazardous based on the sampling and analytical results and was disposed of on-site in Greys Landfill. Results of the sampling and analysis program have been attached to this report in Appendix A.

No maintenance dredging activity occurred in 2001.

2001 Expenditures: \$310,000

Facility Wide Waste Minimization Plan

BSC has implemented a Facility Wide Waste Minimization Plan. The goal of this plan is to identify, if possible, ways to further reduce the volume, mobility and/or toxicity of solid wastes, hazardous wastes, and hazardous constituents generated at the Facility.

The Plan submitted in 1999 included both waste minimization projects associated with the Consent Decree as well as numerous voluntary waste minimization programs. Major components of this plan were completed prior to 2001. As required by the Decree, the Waste Minimization Plan will be updated in April 2002.

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

Rod & Wire Mill Sludge Bin Remediation Area

This remediation activity is an ongoing Interim Measure that has been included in the Consent Decree. A groundwater treatment facility was constructed in 1986 in response to a site investigation of a cadmium and zinc contaminated area near the Rod and Wire Mill. Groundwater pumping and treatment was conducted from 1987 to 1998. The groundwater pumping was discontinued and the treatment plant dismantled in 1999 to support a demolition project at the Rod and Wire Mill and to allow for reassessment of the interim measure. Sampling and reassessment of this interim measure was conducted in 1999 and 2000.

BSC submitted a Work Plan to re-establish Interim Measures at the former Rod & Wire Mill Sludge Bin Storage Area on July 26, 2000; including activities to establish institutional controls around the former in-situ leaching area, upgrade the groundwater monitoring network, perform water-level and water-quality monitoring, and install a groundwater pump-and-treat system. This Work Plan was approved by the Agencies in November 2000. With the exception of abandoning some existing groundwater monitoring wells that are no longer required for the interim measure, activities defined in the approved Work Plan are 100% complete. It is anticipated that the wells will be abandoned in 2002.

A separate annual report is required for this interim measure. Detailed information about sampling, analytical results and trends are found in these reports. The reassessment report for 2001 was submitted on schedule on January 29, 2002. A summary of the 2001 annual report is as follows:

Bethlehem resumed operation of the groundwater pump and treat system in September 2001 and completed other interim measures tasks at the former Rod & Wire Mill Sludge Bin Storage Area during 2001. The interim measures were completed 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.

Specifics of the interim measures tasks completed in 2001 are as follows:

- Institutional controls were established 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 implementation of a authorization program to conduct work in the area;

- Upgrades to the monitoring well network, including the installation of five shallow groundwater wells, six intermediate groundwater wells and one deep groundwater well;
- Final engineering, procurement, construction and start-up of a groundwater pump and treat system including two recovery wells, dual-wall transmission pipeline and treatment process equipment that was installed at Humphreys Creek Wastewater Treatment Plant (HCWWTP). Engineering work for groundwater pump-and-treat system was initiated in July 2000 on basis of informal concurrence received from EPA and MDE in June 2000. Various treatment alternatives were evaluated, and the decision was made to pump the extracted groundwater to HCWWTP for conventional alkalization treatment.
- Evaluation of the groundwater pump and treat system, including: 1) review of initial pump test data, 2) documentation of groundwater flow characteristics, 3) review of monthly groundwater elevation data, and 4) review of effectiveness;
- Semi-annual sampling, analysis and evaluation of the groundwater impacted by former operations at the sludge bin storage area.

Pump test and monthly groundwater elevation data gathered during 2001 document the presence of a pumping influence radius that effectively captures the extent of the contamination in the intermediate groundwater zone at the established pumping rates. Monthly groundwater elevation data for the shallow zone also document the presence of drawdown influences that will be effective at controlling contamination in this groundwater zone. Groundwater elevation data for deeper groundwater zones appears to show influence from the pump and treat system; however, additional data will be required in 2002 to evaluate this influence.

Groundwater monitoring data evaluated during 2001 did not show significant changes in groundwater quality as compared to 2000 except for an increase in cadmium and zinc concentrations noted in the pumping wells in 2001 (following system activation).

The Proposed Operating Plan for 2002 is to continue operation, maintenance and monitoring of the groundwater pump and treat system and semi-annual monitoring of groundwater. In addition, existing wells not being used by the monitoring network will be abandoned in accordance with MDE requirements as per the work plan.

Site Wide Investigation

Significant progress was achieved for the Site Wide Investigation during 2001. Work completed included the following activities:

Groundwater Study

The Groundwater Study initially approved by U. S. EPA on March 30, 2000 (the hydrogeologic investigation aspect of the March 1999 Phase 1 Work Plan) was completed in 2001. This study was initiated in July 2000 after concurrence with

proposed revisions to the study plan were received from the Agencies in meetings held in June of 2000. A summary of significant findings of the Groundwater Study is as follows:

- The stratigraphic framework of the uppermost 120 feet of subsurface materials at the site shows predominantly an alternating sequence of five permeable layers (comprising slag, silty sand, sand, or gravelly sand) and four low-permeability layers (comprising clay, silt, silty clay, or clayey silt). The uppermost permeable layer is composed of slag fill. A clay layer designated as Clay 1 underlies the slag. A sand layer designated as Sand 1 underlies Clay 1. These layers are underlain by another three sets of clay and sand layers designated Clay 2 through Sand 4.
- Laboratory and field dissipation tests for hydraulic conductivity indicated that the clay layers occurring at various depths in the subsurface have low vertical hydraulic conductivities that tend to impede groundwater flow downward.
- Water-level studies indicated that groundwater flow in deeper sands (Sand 3) show little influence from the surface features of the facility, and appear to be more in line with deeper regional groundwater flow patterns. Conversely, flow in shallower sands seems to be affected by both shallow and deep hydrologic influences.
- Analysis of major ion chemistry in groundwater samples at the facility showed that, while groundwater in the slag layer is characterized by proportionally elevated levels of calcium and sulfate, groundwater in most of Sand 2 and throughout Sands 3 and 4 is characterized by proportionally elevated sodium and chloride instead. The absence of proportionally elevated calcium and sulfate in these deeper transmissive layers indicates that there has been little downward movement of groundwater from the slag layer into them.
- Findings of analyses for vertical hydraulic conductivity of fine-grained materials, continuous and synoptic water-level studies, and the major ion study provided support to focus initial contamination characterization investigations on groundwater occurring within the water table (slag unit), Sand 1, and Sand 2. Although clay layers with low conductivity values may not necessarily prevent movement of groundwater into units below Sand 2, they certainly contribute to minimizing groundwater movement to those depths.
- Particle tracking was performed using the groundwater flow model developed for the facility. The great majority of particles released at the water table flowed laterally to discharge points either in Tin Mill Canal or in the water bodies surrounding Sparrows Point without penetrating into hydrologic units deeper than Sand 1. Of the few particles that showed a tendency to penetrate more deeply, none progressed farther than the bottom of Sand 2 in 100 years of simulated migration.
- Cone penetration testing (CPT) was demonstrated to be a reliable method for providing lithologic and soil characteristic data..
- Comparison of dissipation tests performed during the CPT investigation with permeability testing performed in the laboratory on undisturbed samples showed that dissipation testing provides a reliable measurement of the vertical hydraulic conductivity of the fine-grained materials (i.e., clay and silt) at the facility.

- Collecting and evaluating data on major ion chemistry proved useful in demonstrating the hydraulic connection of some water-bearing units (in particular, the slag and Sand 1) and the hydraulic isolation of other units (namely, Sand 2 from Sand 3). Therefore, evaluating the major ion chemistry serves a useful purpose in evaluating the hydrogeology of the facility.
- MODFLOW groundwater modeling was useful to define the character of groundwater flow at the facility, particularly the vertical limits of groundwater flow. Therefore, the modeling can be used to focus future investigations to ensure an adequately calibrated groundwater flow model and representative particle tracking analyses.

The preliminary results of the Groundwater Study were presented to the Agencies at a meeting on April 5, 2001. The final document was submitted in December 2001.

Site Wide Investigation Planning

An updated Site Wide Investigation program, including scope and a corresponding implementation schedule, was developed for the facility and presented to the Agencies at a meeting on December 12, 2000. Specific comments were received from the Agencies and incorporated into the planning and implementation of the program and presented to the Agencies on April 5, 2001. Informal approval was received by BSC in April from the Agencies for the overall scope of the program. This approval supported the planning and completion of investigation tasks defined for 2001 as summarized below.

Release Site Characterization Study

The Site Wide Investigation program developed by BSC includes site-specific release site characterizations of the five Special Study Areas defined by the Consent Decree (Release Site Characterization Study). The Release Site Characterization Study was initiated in 2001 and is on schedule as of December 2001.

Specific actions completed for the Release Site Characterization Study in 2001 included the following:

- A schedule was presented to the Agencies on April 5, 2001 with anticipated dates for: 1) delivery of planning memorandums, start-up of field work, and delivery of results for the Release Site Characterization Study;
- Specific planning memorandums that presented the work to be performed to characterize the special study areas were submitted and approved by the Agencies as follows:

Humphrey Impoundment and Tin Mill Canal/Finishing Mill Areas -submitted by BSC on May 21, 2001, approved by the Agencies on July 17, 2001;

Coke Point Landfill and Coke Oven Area - submitted by BSC on July 30, 2001, approved by the Agencies on August 16, 2001;

Greys Landfill - submitted by BSC on September 17, 2001, approved by the Agencies on October 2, 2001;

- Meetings were held on site with representatives of the Agencies to support the review and approval process for the proposed investigation work. The meetings included a review of the scope of the planning memorandums, field inspections of the special study areas and proposed locations for the investigation activities, and inspections of ongoing investigation activities. Dates and associated activities are summarized as follows:

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|--------------------|--|
| July 10, 2001 | Review of proposed activities, Humphrey Impoundment and Tin Mill Canal/Finishing Mill Areas, field tour of the area; |
| August 15, 2001 | Review of proposed activities, Coke Point Landfill and Coke Oven Area, field tour of the area; |
| September 26, 2001 | Review of proposed activities, Greys Landfill, field tour of the area; |
| October 24, 2001 | Field Inspection of Cone Penetration Testing at Greys Landfill; |
| November 30, 2001 | Field Inspection of Monitoring Well Installation at Coke Oven Area; |
- Development and submittal of a Data Collection Quality Assurance Plan to support sampling and analysis tasks of the Release Site Characterization Study. This plan was submitted by BSC on June 19, 2001 and approved by the Agencies on September 12, 2001;
- Completion of field investigation programs for the special study areas, including the following activities;
 - Geological investigations, including cone penetration testing and installation of conventional hollow stem auger borings and soil sampling at the Special Study Areas;
 - Hydrogeological investigations, including dissipation testing, collection of water level data, collection of major ion data from groundwater sampling and analysis;
 - Groundwater sampling and analysis, including the collection of approximately 130 groundwater samples to be analyzed for specific subsets of Appendix IX parameters that will provide characterization of the special study areas;

The field investigation programs were initiated in August 2001 and completed by December 2001;

2002 Activities

Activities planned in 2002 for the Site Wide Investigation will include the following:

- Completion of the Release Site Characterization Study and submission of report;
- Meeting(s) with the Agencies to discuss findings of the Release Site Characterization Study;

- Development and submittal of Nature and Extent Work Plans to support the completion of required investigations for the Site Wide Investigation at the Special Study Areas; implementation of the approved Work Plans;

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 records for the compliance requirements for visible emissions from the Basic Oxygen Furnace (BOF) Shop roof monitor during 2001 have been attached in Appendix B. Monitoring was conducted in accordance with the stipulations outlined in Section VII. A. of the Consent Decree. No exceedances of the 15% opacity, based on the 3-observation rolling arithmetic average calculation method outlined in the Consent Decree, occurred during 2001. This monitoring program will continue in 2002.

Kish Reduction

The Kish Reduction Work Plan was submitted for review and approval on January 6, 1998. MDE returned detailed comments to the plan on February 20, 1998. A revised plan was submitted by BSC in August 1998. Approval was received from the Agencies on December 1, 1999.

In addition to Decree Work Plan requirements, modifications to the dust collection system at the "L" Blast Furnace have been included within the scope of work completed by BSC. Modifications to this system to minimize emissions generated from the removal of dust from the dust collection system were added to the kish reduction plan as a result of discussions between MDE and Bethlehem during the approval process of the Plan.

A summary report was developed and provided to MDE and EPA on October 5, 2000, in accordance with reporting requirements of the Consent Decree. This report presented a description and assessment of the actions taken by BSC to reduce kish emissions at the Sparrows Point facility in accordance with the outlined measures in the approved Plan and summarized the kish reduction actions taken in the three previous years.

Actions and work completed during 2001 for kish reduction is summarized as follows.

- Meeting held 1/4/01 at MDE with representatives of BSC and MDE. Scope of meeting reviewed the Kish Reduction Plan Report submitted to MDE in October 2000 and comments received by BSC from MDE in December 2000;

- Comment response letter prepared and submitted by BSC to MDE on February 14, 2001. Scope of letter provided responses to MDE comment letter (December 2000) and documented agreements defined in the meeting held 1/4/01;
- Meeting held 2/21/01 at MDE to discuss Kish Reduction Plan measures completed at Sparrows Point. Attendees at the meeting included representatives from MDE, US EPA and BSC. Scope of the meeting provided responses from BSC to comments received by MDE from the US EPA concerning the Kish Reduction Plan Report. Agreement was reached in the meeting as to the submitted comments and remaining items for kish reduction at Sparrows Point;
- A response letter was received by BSC from MDE on March 7, 2001 concerning the comments and associated responses of the Kish Reduction Plan Report. This letter identified that: 1) modifications to the dust collection system at the "L" Blast Furnace were adequate and no further improvements were required, 2) the proposed schedule for implementation of operational improvements of the BOF slag skimming operation was acceptable and 3) the proposed schedule for submission of a plan to control emissions from slag ladle dumping was acceptable;
- A "Work Plan to Evaluate the Control of Kish Emissions from BOF Slag Skimmer Ladle Dumping" was submitted by BSC to MDE on June 1, 2001. This work plan identified objectives and procedures to evaluate possible solutions to control specific kish emissions from the dumping of slag ladles from the slag skimming operation.
- Activities completed for the Work Plan for Slag Skimmer Ladle Dumping included:
 1. Standard Operating Procedure for dumping Skimmer Slag Bowls was developed by the on-site contractor responsible for slag skimmer ladle dumping (Langenfelder).
 2. Cost estimates were developed for utilizing an existing structure for dumping Skimmer Slag Bowls.
 3. Cost estimates were developed for building a structure to dump Skimmer Slag bowls.
 4. Electronic monitor was installed to enhance Charging Crane Operators control of tilting Iron Ladles for skimming slag. It is anticipated that the monitor will enable improved positioning of the iron Ladle for more effective kish capture and reduced iron run-over.
- Activities planned for 2002 will include;
 1. Develop operating procedures utilizing electronic monitor at the Skimmer bowl and evaluate the effectiveness.
 2. Evaluate procedures and facilities utilized at the Burns Harbor facility.
 3. Finalize and submit Work Plan Report for Slag Ladle Skimmer Bowl Dumping;

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.

Preliminary MDE comments concerning the Landfill Compliance Plan and the Plan and Timetable for Future Uses and Closure of Coke Point and Greys Landfills were received by BSC on May 7, 1999. BSC provided a written response to the comments on July 7, 1999. BSC received approval from the Baltimore County Soil Conservation District for the erosion and sediment control plan submitted for Greys Landfill on September 2, 1999.

In subsequent meetings with MDE, BSC indicated that the implementation scope for improvements at the landfills would focus initially on Greys Landfill and that Coke Point Landfill would follow. In the interim time period, disposal operations at Coke Point Landfill would be minimized to the practical extent possible. A revised submittal for the Compliance Plan for Greys Landfill was submitted by BSC to MDE on September 30, 1999.

Waste disposal activities at Sparrows Point have been reorganized to support the proposed implementation schedule for the on-site landfills. Waste disposal activities at Coke Point Landfill have been minimized to the greatest extent possible. This landfill is now used only for the periodic disposal of construction and demolition debris and for the disposal of specific steelmaking wastes associated with the BOF slag skimming operation. These wastes are transported to Coke Point Landfill (closest disposal facility) in an effort to reduce emissions from transportation of the wastes as identified in the Kish Reduction Plan requirements of the Consent Decree.

BSC initiated a wetlands jurisdiction and permitting program in 2000 to support the construction of the approved erosion and sediment control plan at Greys Landfill.

Actions and work completed during 2001 for the landfills is summarized as follows.

- BSC received notice from the Baltimore District, U. S. Army Corps of Engineers on March 20, 2001 of their determination to regulate certain delineated wetlands surrounding Greys Landfill as jurisdictional waters of the United States.
- Approval was received from MDE on April 19, 2001 for implementation of the Greys Landfill portion of the Landfill Compliance Plan, as amended in September, 1999.
- A Joint Federal/State Application for Alteration of Wetlands in Maryland (Wetlands Permit Application) was submitted to MDE on June 11, 2001 for authorization to alter jurisdictional wetlands that were delineated surrounding Greys Landfill. Approval of this application was required prior to the installation of the approved

sediment and erosion control plan and remedial measures planned for the existing slopes of Greys landfill.

- BSC submitted an updated compliance schedule for Coke Point and Greys Landfill on July 2, 2001. The schedule included tasks to be completed for both Greys and Coke Point Landfill summarized as follows:
 - A construction schedule was defined for Greys Landfill that included tasks to: 1) complete engineering and appropriation documents, 2) obtain approval of the Wetland Permit Application, 3) obtain corporate funding, 4) complete bidding process and place construction order, 5) install sediment and erosion control systems, 6) rework the existing side walls of the facility. This work was proposed to be completed within 30 months of the submittal date of the schedule;
 - The schedule for Coke Point Landfill included an engineering study. The scope of this study incorporated tasks to: 1) provide supporting information to address the comments forwarded by MDE in the review of the initial engineering report submission and, 2) obtain MDE approval of the engineering concept for Coke Point Landfill. Engineering plans approved by MDE are an integral first step for this landfill prior to pursuing approval for sediment and erosion control plans. The approved engineering plans will provide the design criteria for detailed engineering required for final submissions of the sediment and erosion control plan. The schedule for the engineering study was proposed to begin after field construction activities at Greys Landfill were underway.
- BSC submitted a request to MDE to modify the updated compliance schedule on November 12, 2001. This request was made because of the Chapter 11 bankruptcy proceedings that were entered into by BSC on October 15th, 2001. It was indicated that adjustments to the originally proposed schedule dates would help facilitate cash flow management requirements. Modifications that were requested are as follows:

| Activity Description | Original Start Date | Revised Start Date |
|---|------------------------------|------------------------------|
| Implementation of site work including obtaining internal BSC funding approval associated with the sediment and erosion control systems and rework of the existing north, west and south side walls of the Greys Landfill facility | 3 rd Quarter 2002 | 2 nd Quarter 2003 |
| Complete bidding process for east wall rework | 2 nd Quarter 2003 | 2 nd Quarter 2004 |
| Rework east side wall | 3 rd Quarter 2003 | 3 rd Quarter 2004 |
| Engineering study of the Coke Point Landfill | 3 rd Quarter 2002 | 2 nd Quarter 2003 |

- Final engineering and the development of appropriation documents for Greys Landfill continued as planned in 2001.

- BSC received notice from MDE on November 29, 2001 that the revised schedule proposed on November 12, 2001 for implementation of the Greys Landfill Compliance Plan and the Engineering Study of the Coke Point Landfill was approved.
- BSC received notice from MDE on December 20, 2001 that the Phase 1 mitigation plans for wetlands impacts associated with the construction activities at Greys Landfill were approved.

Activities planned for 2002 at Greys Landfill will include: 1) complete engineering and appropriation documents, 2) obtain approval of the Wetland Permit Application, 3) obtain corporate funding, and 4) initiate bidding process for the rework of the north, south and west walls of the facility.

5.0 Decree Management Reporting

Community Relations

Several informational meetings were held in 2001 with representatives from community groups and with the community at large. A chronology of meetings and presentations is as follows:

| | |
|--|---|
| <u>February and ongoing</u> | Participation in the Dundalk Renaissance Corp. and the Digital Harbor East project. |
| <u>April 25, 2001</u> | Presentation to the Southeast Leadership Team on plant properties and the future of economic growth. |
| <u>April 26, 2001</u> | Clean Air Conference and presenter of "Ozone Action Day Program that Works" |
| <u>May 14, 2001</u> | Presentation to Dundalk Association of Business on plant properties. |
| <u>May 15 through October 15, 2001</u> | Sparrows Point's Code Red Bad Air Alert Program |
| <u>November 6, 2001</u> | Community Commitment Initiative meeting held with Multimedia Steering Committee to discuss the following: <ul style="list-style-type: none"> • Report on Multimedia Consent Decree progress and future work scope |
| <u>November 7, 2001</u> | Clean Air Partners Annual Meeting and Awards |
| <u>November 14, 2001</u> | Community Commitment Initiative meeting held with community leaders to discuss the following: <ul style="list-style-type: none"> • Financial status of company • No. 3 Mould Yard Kish Containment project • Dredge Spoil Containment project • Overview of chemical usage and storage • Multi-Media Consent Decree update |
| <u>November 27, 2001</u> | Port land use master plan public forum |

Project Management

BSC announced on October 15, 2001 that it has filed Chapter 11 bankruptcy proceedings. While Decree-required environmental projects are moving forward as expeditiously as possible, MDE's consideration was requested in 2001 for modifications to the implementation schedule that was originally proposed for the landfill compliance plan. Adjustments to the originally proposed schedule dates were proposed to facilitate the cash flow management requirements. MDE has approved the modified schedule request for the landfill compliance program.

No other schedule changes were requested in 2001 other than the updates provided for ongoing tasks of the Site Wide Investigation. No changes in pertinent BSC personnel or subcontractors occurred in 2001.

Release Reporting

Appendix C contains spill reports for the facility that were required to be reported in 2001. These reports document the status of mitigation of the releases, and the government oversight agency, contact name and telephone number.

APPENDIX A

**DREDGE SPOIL MATERIALS, TIN MILL CANAL
SAMPLING AND ANALYSIS RESULTS**

LABORATORY ANALYTICAL RESULTS FOR TIN MILL CANAL DREDGE PILE SAMPLING

BETHLEHEM STEEL
SPARROWS POINT, MARYLAND

Page 1 of 2

| EPA Method | Parameter Analyzed | EPA Regulatory Limits | DREDGE PILE LOCATION AND COMPOSITION NUMBER | | | | | | | | | | | | | | | | | | |
|------------------------------------|--------------------|-----------------------|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------------|--------|--------|
| | | | Pile 1-1 | Pile 1-2 | Pile 1-3 | Pile 1-4 | Pile 2-1 | Pile 2-2 | Pile 2-3 | Pile 2-4 | Pile 3-1 | Pile 3-2 | Pile 3-3 | Pile 3-4 | Pile 4-1 | Pile 4-2 | Pile 4-3 | Pile 4-4 | Composite Pile | | |
| TCCLP EPA 8005A TCCLP EPA 7470A | Paint Filter | NA | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | |
| | Mercury | 0.2 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | Arsenic | 5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| TCCLP EPA 8010B | Barium | 100 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| | Cadmium | 1 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| | Chromium | 5 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| | Lead | 5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| | Selenium | 1 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| TCCLP EPA 8010B | Silver | 6 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| | | | | | | | | | | | | | | | | | | | | | |

Note: All concentrations are reported in mg/L. NS denotes not sampled. NA denotes not applicable.

LABORATORY ANALYTICAL RESULTS FOR TIN MILL CANAL DREDGE PILE SAMPLING

BETHLEHEM STEEL
SPARROWS POINT, MARYLAND
Page 2 of 2

| | | DREDGE PILE LOCATION AND COMPOSITION NUMBER | | | | | | | | | | | | | | | | | |
|----------------|-----------------------------------|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------------|
| EPA Method | Parameter Analyzed | EPA Regulatory Limits | Pile 1-1 | Pile 1-2 | Pile 1-3 | Pile 1-4 | Pile 2-1 | Pile 2-2 | Pile 2-3 | Pile 2-4 | Pile 3-1 | Pile 3-2 | Pile 3-3 | Pile 3-4 | Pile 4-1 | Pile 4-2 | Pile 4-3 | Pile 4-4 | Composite Pile |
| TCLP EPA 8151A | 2, 4, 6-TP | 1 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.020 |
| | 2,4-D | 10 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.050 |
| TCLP EPA 8260B | gamma-BHC | NA | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.00050 |
| | Heptachlor | 0.008 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.00050 |
| | Heptachlor Epoxide | 0.008 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.00050 |
| | Endrin | 0.02 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.0010 |
| | Methoxychlor | 10 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.00050 |
| | Heptachlor and Heptachlor Epoxide | 0.008 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.010 |
| | Chlordane | 0.03 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.50 |
| | Toxaphene | 0.5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.10 |
| | Pyridine | 5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.10 |
| | 1,4-Dichlorobenzene | 7.5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.10 |
| TCLP EPA 8260B | ortho-Cresol | NA | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.10 |
| | Hexachloroethane | 3 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.10 |
| | methylpara-Cresol | NA | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.10 |
| | Nitrobenzene | 2 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.10 |
| | Hexachlorobutadiene | 2 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.10 |
| | 2,4,6-Trichlorophenol | 0.13 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.10 |
| | 2,4,5-Trichlorophenol | 400 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.50 |
| | Pentachlorophenol | 100 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.10 |
| | Total Cresols | 200 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.090 |
| | Vinyl Chloride | 0.2 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.045 |
| TCLP EPA 8260B | 1,1-Dichloroethane | 0.7 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.45 |
| | 2-Butanone | NA | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.045 |
| | Chloroform | 6 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.045 |
| | Carbon Tetrachloride | 0.5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.045 |
| | Benzene | 0.5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.045 |
| | 1,2-Dichloroethane | 0.5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.045 |
| | Trichloroethane | 0.5 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.045 |
| | Tetrahydrofuran | 0.7 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.045 |
| | Cyclohexane | 100 | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | NS | <0.045 |

Note: All concentrations are reported in mg/L. NS denotes not sampled. NA denotes not applicable.

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REPORT OF ANALYSIS

Sample Summary

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Client: Bethlehem Steel Corporation
Project: Sparrows Point
Report No: 0103008
Date Received: 03/01/2001

| Client Sample ID | Lab Sample ID | Collection Date | Collection Time |
|----------------------|---------------|-----------------|-----------------|
| Pile 1-1; comp | 0103008-001 | 02/28/2001 | 11:00 |
| Pile 1-2; comp | 0103008-002 | 02/28/2001 | 11:30 |
| Pile 1-3; comp | 0103008-003 | 02/28/2001 | 11:45 |
| Pile1-4; comp | 0103008-004 | 02/28/2001 | 12:00 |
| Pile2-1; comp | 0103008-005 | 02/28/2001 | 12:10 |
| Pile2-2; comp | 0103008-006 | 02/28/2001 | 12:20 |
| Pile2-3; comp | 0103008-007 | 02/28/2001 | 12:35 |
| Pile2-4; comp | 0103008-008 | 02/28/2001 | 12:50 |
| Pile3-1; comp | 0103008-009 | 02/28/2001 | 13:05 |
| Pile3-2; comp | 0103008-010 | 02/28/2001 | 13:20 |
| Pile3-3; comp | 0103008-011 | 02/28/2001 | 13:30 |
| Pile3-4; comp | 0103008-012 | 02/28/2001 | 13:45 |
| Pile4-1; comp | 0103008-013 | 02/28/2001 | 14:05 |
| Pile4-2; comp | 0103008-014 | 02/28/2001 | 14:15 |
| Pile4-3; comp | 0103008-015 | 02/28/2001 | 14:30 |
| Pile4-4; comp | 0103008-016 | 02/28/2001 | 14:40 |
| Composite Pile; comp | 0103008-017 | 02/28/2001 | 15:05 |

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REPORT OF ANALYSIS

Test Results

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| | | | |
|-------------------|-----------------------------|--------------------------|------------------|
| Client: | Bethlehem Steel Corporation | Client Sample ID: | Pile 1-1; comp |
| Report No: | 0103008 | Lab ID: | 0103008-001 |
| Project: | Sparrows Point | Collection Date: | 02/28/2001 11:00 |
| Matrix: | SLUDGE | | |

| Analyses | Test Results | Reporting Limit | Units | Date/Time Analyzed |
|---|--------------|-----------------|----------|--------------------|
| Analyst: RWJ | | | | |
| <u>PAINT FILTER TEST (FREE LIQUID) (EPA 9095A)</u> | | | | |
| Free Liquid | Negative | N/A | Pos/Neg | 03/02/2001 9:35 |
| Analyst: JLS | | | | |
| <u>TCLP MERCURY (HG) (EPA 7470A)</u> | | | | |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 12:43 |
| Analyst: JSM | | | | |
| <u>TCLP METALS (EPA 6010B)</u> | | | | |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 17:53 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 17:53 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 17:53 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 17:53 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 17:53 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 17:53 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 17:53 |

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REPORT OF ANALYSIS

Test Results

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| | | | |
|-------------------|-----------------------------|--------------------------|------------------|
| Client: | Bethlehem Steel Corporation | Client Sample ID: | Pile 1-2; comp |
| Report No: | 0103008 | Lab ID: | 0103008-002 |
| Project: | Sparrows Point | Collection Date: | 02/28/2001 11:30 |
| Matrix: | SLUDGE | | |

| <u>Analyses</u> | <u>Test Results</u> | <u>Reporting Limit</u> | <u>Units</u> | <u>Date/Time Analyzed</u> |
|--------------------------------------|---------------------|------------------------|--------------|---------------------------|
| <u>TCLP MERCURY (HG) (EPA 7470A)</u> | | | | Analyst: JLS |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 12:50 |
| <u>TCLP METALS (EPA 6010B)</u> | | | | Analyst: JSM |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:12 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 18:12 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 18:12 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 18:12 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:12 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:12 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 18:12 |

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REPORT OF ANALYSIS

Test Results

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| | | | |
|-------------------|-----------------------------|--------------------------|------------------|
| Client: | Bethlehem Steel Corporation | Client Sample ID: | Pile 1-3; comp |
| Report No: | 0103008 | Lab ID: | 0103008-003 |
| Project: | Sparrows Point | Collection Date: | 02/28/2001 11:45 |
| Matrix: | SLUDGE | | |

| Analyses | Test Results | Reporting Limit | Units | Date/Time Analyzed |
|--------------------------------------|--------------|-----------------|----------|--------------------|
| Analyst: JLS | | | | |
| TCLP MERCURY (HG) (EPA 7470A) | | | | |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 12:52 |
| Analyst: JSM | | | | |
| TCLP METALS (EPA 6010B) | | | | |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:15 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 18:15 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 18:15 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 18:15 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:15 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:15 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 18:15 |



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REPORT OF ANALYSIS

Test Results

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| | | | |
|-------------------|-----------------------------|--------------------------|------------------|
| Client: | Bethlehem Steel Corporation | Client Sample ID: | Pile1-4; comp |
| Report No: | 0103008 | Lab ID: | 0103008-004 |
| Project: | Sparrows Point | Collection Date: | 02/28/2001 12:00 |
| Matrix: | SLUDGE | | |

| Analyses | Test Results | Reporting Limit | Units | Date/Time Analyzed |
|--|--------------|-----------------|----------|--------------------|
| TCLP MERCURY (HG) (EPA 7470A) | | | | Analyst: JLS |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 12:54 |
| TCLP METALS (EPA 6010B) | | | | Analyst: JSM |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:26 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 18:26 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 18:26 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 18:26 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:26 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:26 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 18:26 |

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REPORT OF ANALYSIS

Test Results

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| | |
|--|--|
| Client: Bethlehem Steel Corporation | Client Sample ID: Pile2-1; comp |
| Report No: 0103008 | Lab ID: 0103008-005 |
| Project: Sparrows Point | Collection Date: 02/28/2001 12:10 |
| Matrix: SLUDGE | |

| Analyses | Test Results | Reporting Limit | Units | Date/Time Analyzed |
|---|--------------|-----------------|----------|--------------------|
| Analyst: RWJ | | | | |
| <u>PAINT FILTER TEST (FREE LIQUID) (EPA 9095A)</u> | | | | |
| Free Liquid | Negative | N/A | Pos/Neg | 03/02/2001 9:35 |
| Analyst: JLS | | | | |
| <u>TCLP MERCURY (HG) (EPA 7470A)</u> | | | | |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 12:58 |
| Analyst: JSM | | | | |
| <u>TCLP METALS (EPA 6010B)</u> | | | | |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:30 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 18:30 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 18:30 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 18:30 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:30 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:30 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 18:30 |

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REPORT OF ANALYSIS

Test Results

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Client: Bethlehem Steel Corporation **Client Sample ID:** Pile2-2; comp
Report No: 0103008
Project: Sparrows Point **Lab ID:** 0103008-006
Matrix: SLUDGE **Collection Date:** 02/28/2001 12:20

| Analyses | Test Results | Reporting Limit | Units | Date/Time Analyzed |
|--------------------------------------|--------------|-----------------|----------|--------------------|
| TCLP MERCURY (HG) (EPA 7470A) | | | | Analyst: JLS |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 13:11 |
| TCLP METALS (EPA 6010B) | | | | Analyst: JSM |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:49 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 18:49 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 18:49 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 18:49 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:49 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:49 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 18:49 |

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REPORT OF ANALYSIS

Test Results

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Client: Bethlehem Steel Corporation

Client Sample ID: Pile2-3; comp

Report No: 0103008

Lab ID: 0103008-007

Project: Sparrows Point

Collection Date: 02/28/2001 12:35

Matrix: SLUDGE

| Analyses | Test Results | Reporting Limit | Units | Date/Time Analyzed |
|--------------------------------------|--------------|-----------------|----------|--------------------|
| <u>TCLP MERCURY (HG) (EPA 7470A)</u> | | | | Analyst: JLS |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 13:13 |
| <u>TCLP METALS (EPA 6010B)</u> | | | | Analyst: JSM |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:52 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 18:52 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 18:52 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 18:52 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:52 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:52 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 18:52 |

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Test Results

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| | | | |
|-------------------|-----------------------------|--------------------------|------------------|
| Client: | Bethlehem Steel Corporation | Client Sample ID: | Pile2-4; comp |
| Report No: | 0103008 | Lab ID: | 0103008-008 |
| Project: | Sparrows Point | Collection Date: | 02/28/2001 12:50 |
| Matrix: | SLUDGE | | |

| Analyses | Test Results | Reporting Limit | Units | Date/Time Analyzed |
|---|---------------------|------------------------|--------------|---------------------------|
| <u>TCLP MERCURY (HG) (EPA 7470A)</u> | | | | Analyst: JLS |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 13:15 |
| <u>TCLP METALS (EPA 6010B)</u> | | | | Analyst: JSM |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:56 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 18:56 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 18:56 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 18:56 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:56 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 18:56 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 18:56 |

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Client: Bethlehem Steel Corporation
 Report No: 0103008
 Project: Sparrows Point
 Matrix: SLUDGE

Client Sample ID: Pile3-1; comp
 Lab ID: 0103008-009
 Collection Date: 02/28/2001 13:05

| Analyses | Test Results | Reporting Limit | Units | Date/Time Analyzed |
|--|--------------|-----------------|----------|----------------------------------|
| PAINT FILTER TEST (FREE LIQUID) (EPA 9095A) | | | | |
| Free Liquid | Negative | N/A | Pos/Neg | 03/02/2001 9:35 Analyst: RWJ |
| TCLP MERCURY (HG) (EPA 7470A) | | | | |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 13:17 Analyst: JLS |
| TCLP METALS (EPA 6010B) | | | | |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:00 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 19:00 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:00 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 19:00 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:00 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:00 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:00 |

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Test Results

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Client: Bethlehem Steel Corporation **Client Sample ID:** Pile3-2; comp
Report No: 0103008 **Lab ID:** 0103008-010
Project: Sparrows Point **Collection Date:** 02/28/2001 13:20
Matrix: SLUDGE

| <u>Analyses</u> | <u>Test Results</u> | <u>Reporting Limit</u> | <u>Units</u> | <u>Date/Time Analyzed</u> |
|--------------------------------------|---------------------|------------------------|--------------|---------------------------|
| <u>TCLP MERCURY (HG) (EPA 7470A)</u> | | | | Analyst: JLS |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 13:19 |
| <u>TCLP METALS (EPA 6010B)</u> | | | | Analyst: JSM |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:10 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 19:10 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:10 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 19:10 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:10 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:10 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:10 |

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Test Results

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Client: Bethlehem Steel Corporation
 Report No: 0103008
 Project: Sparrows Point
 Matrix: SLUDGE

Client Sample ID: Pile3-3; comp
 Lab ID: 0103008-011
 Collection Date: 02/28/2001 13:30

| Analyses | Test Results | Reporting Limit | Units | Date/Time Analyzed |
|--------------------------------------|--------------|-----------------|----------|--------------------|
| <u>TCLP MERCURY (HG) (EPA 7470A)</u> | | | | Analyst: JLS |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 13:26 |
| <u>TCLP METALS (EPA 6010B)</u> | | | | Analyst: JSM |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:21 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 19:21 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:21 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 19:21 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:21 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:21 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:21 |

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Client: Bethlehem Steel Corporation **Client Sample ID:** Pile3-4; comp
Report No: 0103008 **Lab ID:** 0103008-012
Project: Sparrows Point **Collection Date:** 02/28/2001 13:45
Matrix: SLUDGE

| Analyses | Test Results | Reporting Limit | Units | Date/Time Analyzed |
|--------------------------------------|--------------|-----------------|----------|--------------------|
| TCLP MERCURY (HG) (EPA 7470A) | | | | Analyst: JLS |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 13:32 |
| TCLP METALS (EPA 6010B) | | | | Analyst: JSM |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:25 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 19:25 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:25 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 19:25 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:25 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:25 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:25 |

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Test Results

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Client: Bethlehem Steel Corporation
 Report No: 0103008
 Project: Sparrows Point
 Matrix: SLUDGE

Client Sample ID: Pile4-1; comp
 Lab ID: 0103008-013
 Collection Date: 02/28/2001 14:05

| Analyses | Test Results | Reporting Limit | Units | Date/Time Analyzed |
|--|--------------|-----------------|----------|----------------------------------|
| PAINT FILTER TEST (FREE LIQUID) (EPA 9095A) | | | | |
| Free Liquid | Negative | N/A | Pos/Neg | 03/02/2001 9:35 Analyst: RWJ |
| TCLP MERCURY (HG) (EPA 7470A) | | | | |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 13:34 Analyst: JLS |
| TCLP METALS (EPA 6010B) | | | | |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:29 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 19:29 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:29 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 19:29 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:29 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:29 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:29 |

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| | | | |
|-------------------|-----------------------------|--------------------------|------------------|
| Client: | Bethlehem Steel Corporation | Client Sample ID: | Pile4-2; comp |
| Report No: | 0103008 | Lab ID: | 0103008-014 |
| Project: | Sparrows Point | Collection Date: | 02/28/2001 14:15 |
| Matrix: | SLUDGE | | |

| <u>Analyses</u> | <u>Test Results</u> | <u>Reporting Limit</u> | <u>Units</u> | <u>Date/Time Analyzed</u> |
|--------------------------------------|---------------------|------------------------|--------------|---------------------------|
| <u>TCLP MERCURY (HG) (EPA 7470A)</u> | | | | Analyst: JLS |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 13:36 |
| <u>TCLP METALS (EPA 6010B)</u> | | | | Analyst: JSM |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:32 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 19:32 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:32 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 19:32 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:32 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:32 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:32 |

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REPORT OF ANALYSIS

Test Results

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| | | | |
|-------------------|-----------------------------|--------------------------|------------------|
| Client: | Bethlehem Steel Corporation | Client Sample ID: | Pile4-3; comp |
| Report No: | 0103008 | Lab ID: | 0103008-015 |
| Project: | Sparrows Point | Collection Date: | 02/28/2001 14:30 |
| Matrix: | SLUDGE | | |

| Analyses | Test Results | Reporting Limit | Units | Date/Time Analyzed |
|--------------------------------------|--------------|-----------------|----------|--------------------|
| Analyst: JLS | | | | |
| TCLP MERCURY (HG) (EPA 7470A) | | | | |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 13:41 |
| Analyst: JSM | | | | |
| TCLP METALS (EPA 6010B) | | | | |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:36 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 19:36 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:36 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 19:36 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:36 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:36 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:36 |

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REPORT OF ANALYSIS

Test Results

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Client: Bethlehem Steel Corporation **Client Sample ID:** Pile4-4; comp
Report No: 0103008 **Lab ID:** 0103008-016
Project: Sparrows Point **Collection Date:** 02/28/2001 14:40
Matrix: SLUDGE

| <u>Analyses</u> | <u>Test Results</u> | <u>Reporting Limit</u> | <u>Units</u> | <u>Date/Time Analyzed</u> |
|--------------------------------------|---------------------|------------------------|--------------|---------------------------|
| <u>TCLP MERCURY (HG) (EPA 7470A)</u> | | | | Analyst: JLS |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 13:45 |
| <u>TCLP METALS (EPA 6010B)</u> | | | | Analyst: JSM |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:43 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 19:43 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:43 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 19:43 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:43 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:43 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:43 |

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REPORT OF ANALYSIS

Test Results

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Client: Bethlehem Steel Corporation
 Report No: 0103008
 Project: Sparrows Point
 Matrix: SLUDGE

Client Sample ID: Composite Pile; comp
 Lab ID: 0103008-017
 Collection Date: 02/28/2001 15:05

| Analyses | Test Results | Reporting Limit | Units | Date/Time Analyzed |
|--|--------------|-----------------|----------|--------------------|
| Analyst: MST | | | | |
| TCLP HERBICIDES (EPA 8151A) | | | | |
| 2,4,5-TP (Silvex) | < 0.020 | 0.020 | mg/L -TC | 03/14/2001 14:13 |
| 2,4-D | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 14:13 |
| Analyst: JLS | | | | |
| TCLP MERCURY (HG) (EPA 7470A) | | | | |
| Mercury | < 0.010 | 0.010 | mg/L -TC | 03/14/2001 13:49 |
| Analyst: JSM | | | | |
| TCLP METALS (EPA 6010B) | | | | |
| Arsenic | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:54 |
| Barium | < 5.0 | 5.0 | mg/L -TC | 03/14/2001 19:54 |
| Cadmium | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:54 |
| Chromium | < 0.10 | 0.10 | mg/L -TC | 03/14/2001 19:54 |
| Lead | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:54 |
| Selenium | < 0.50 | 0.50 | mg/L -TC | 03/14/2001 19:54 |
| Silver | < 0.050 | 0.050 | mg/L -TC | 03/14/2001 19:54 |
| Analyst: MST | | | | |
| TCLP PESTICIDES (EPA 3510C/8081A) | | | | |
| gamma-BHC | < 0.00050 | 0.00050 | mg/L -TC | 03/15/2001 0:36 |
| Heptachlor | < 0.00050 | 0.00050 | mg/L -TC | 03/15/2001 0:36 |
| Heptachlor epoxide | < 0.00050 | 0.00050 | mg/L -TC | 03/15/2001 0:36 |
| Endrin | < 0.0010 | 0.0010 | mg/L -TC | 03/15/2001 0:36 |
| Methoxychlor | < 0.0050 | 0.0050 | mg/L -TC | 03/15/2001 0:36 |
| Heptachlor and Heptachlor Epoxide | < 0.00050 | 0.00050 | mg/L -TC | 03/15/2001 0:36 |
| Chlordane | < 0.010 | 0.010 | mg/L -TC | 03/15/2001 1:09 |
| Toxaphene | < 0.030 | 0.030 | mg/L -TC | 03/15/2001 1:09 |
| Analyst: MYD | | | | |
| TCLP SEMI VOLATILES (EPA 3510C/8270C) | | | | |
| Pyridine | < 0.50 | 0.50 | mg/L -TC | 03/13/2001 14:45 |
| 1,4-Dichlorobenzene | < 0.10 | 0.10 | mg/L -TC | 03/13/2001 14:45 |
| ortho-Cresol | < 0.10 | 0.10 | mg/L -TC | 03/13/2001 14:45 |
| Hexachloroethane | < 0.10 | 0.10 | mg/L -TC | 03/13/2001 14:45 |

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Test Results

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Client: Bethlehem Steel Corporation **Client Sample ID:** Composite Pile; comp
Report No: 0103008 **Lab ID:** 0103008-017
Project: Sparrows Point **Collection Date:** 02/28/2001 15:05
Matrix: SLUDGE

| Analyses | Test Results | Reporting Limit | Units | Date/Time Analyzed |
|-----------------------|--------------|-----------------|----------|--------------------|
| meta/para-Cresol | < 0.10 | 0.10 | mg/L -TC | 03/13/2001 14:45 |
| Nitrobenzene | < 0.10 | 0.10 | mg/L -TC | 03/13/2001 14:45 |
| Hexachlorobutadiene | < 0.10 | 0.10 | mg/L -TC | 03/13/2001 14:45 |
| 2,4,6-Trichlorophenol | < 0.10 | 0.10 | mg/L -TC | 03/13/2001 14:45 |
| 2,4,5-Trichlorophenol | < 0.10 | 0.10 | mg/L -TC | 03/13/2001 14:45 |
| 2,4-Dinitrotoluene | < 0.10 | 0.10 | mg/L -TC | 03/13/2001 14:45 |
| Hexachlorobenzene | < 0.10 | 0.10 | mg/L -TC | 03/13/2001 14:45 |
| Pentachlorophenol | < 0.50 | 0.50 | mg/L -TC | 03/13/2001 14:45 |
| Total Cresols | < 0.10 | 0.10 | mg/L -TC | 03/13/2001 14:45 |

TCLP VOLATILES (EPA 8260B)

Analyst: THP

note: Results expressed as mg/liter of TC extract after performing a total analysis of the sample and adjusting the result to reflect the 20 times dilution factor in the TCLP extraction procedure.

| | | | | |
|----------------------|---------|-------|----------|------------------|
| Vinyl chloride | < 0.090 | 0.090 | mg/L -TC | 03/03/2001 17:15 |
| 1,1-Dichloroethene | < 0.045 | 0.045 | mg/L -TC | 03/03/2001 17:15 |
| 2-Butanone | < 0.45 | 0.45 | mg/L -TC | 03/03/2001 17:15 |
| Chloroform | < 0.045 | 0.045 | mg/L -TC | 03/03/2001 17:15 |
| Carbon tetrachloride | < 0.045 | 0.045 | mg/L -TC | 03/03/2001 17:15 |
| Benzene | < 0.045 | 0.045 | mg/L -TC | 03/03/2001 17:15 |
| 1,2-Dichloroethane | < 0.045 | 0.045 | mg/L -TC | 03/03/2001 17:15 |
| Trichloroethene | < 0.045 | 0.045 | mg/L -TC | 03/03/2001 17:15 |
| Tetrachloroethene | < 0.045 | 0.045 | mg/L -TC | 03/03/2001 17:15 |
| Chlorobenzene | < 0.045 | 0.045 | mg/L -TC | 03/03/2001 17:15 |

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TCLP

Toxicity Characteristic Leaching Procedure

| METALS | Regulatory limits mg/L | HERBICIDES/ PESTICIDES | Regulatory limits mg/L |
|---------------|------------------------|------------------------|------------------------|
| Arsenic (As) | 5.0 | 2,4-D | 10.0 |
| Barium (Ba) | 100.0 | 2,4,5-TP (Silvex) | 1.0 |
| Cadmium (Cd) | 1.0 | Chlordane | 0.03 |
| Chromium (Cr) | 5.0 | Endrin | 0.02 |
| Lead (Pb) | 5.0 | Heptachlor and Epoxide | 0.008 |
| Mercury (Hg) | 0.2 | Lindane | 0.4 |
| Selenium (Se) | 1.0 | Methoxychlor | 10.0 |
| Silver (Ag) | 5.0 | Toxaphene | 0.5 |

| SEMI-VOLATILES | Regulatory limits mg/L | VOLATILES | Regulatory limits mg/L |
|------------------------------------|------------------------|----------------------|------------------------|
| Total Cresols (ortho, para & meta) | 200.0 | Benzene | 0.50 |
| 2,4-Dinitrotoluene | 0.13 | Carbon Tetrachloride | 0.50 |
| Hexachloro-1,3-butadiene | 0.5 | Chlorobenzene | 100.0 |
| Hexachlorobenzene | 0.13 | Chloroform | 6.0 |
| Hexachloroethane | 3.0 | 1,2-Dichloroethene | 0.50 |
| Nitrobenzene | 2.0 | 1,1-Dichloroethene | 0.70 |
| Pentachlorophenol | 100.0 | Methyl Ethyl Ketone | 200.0 |
| 2,4,5-Trichlorophenol | 400.0 | Tetrachloroethene | 0.7 |
| 2,4,6-Trichlorophenol | 2.0 | Trichloroethene | 0.5 |
| Pyridine | 5.0 | Vinyl Chloride | 0.20 |
| 1,4-Dichlorobenzene | 7.5 | | |

Please see reverse side for explanation of terms and other information.

APPENDIX B

BOF SHOP ROOF MONITOR RECORDS

Bethlehem Steel Corporation - Sparrows Point Division
 BOF Roof Monitor Observations for Year 2001

| <u>Date Of Report</u> | <u>Six Minute Average</u> | <u>ROLLING 3 DAY AVERAGE</u> | <u>OBSERVER'S NAME</u> |
|-----------------------|---------------------------|------------------------------|------------------------|
| 1/3/01 | 2.7 | 0.9 | CAMPEGGI |
| 1/4/01 | 4.4 | 2.4 | CAMPEGGI |
| 1/5/01 | 0.6 | 2.6 | CAMPEGGI |
| 1/9/01 | 2.7 | 2.6 | KOLB |
| 1/10/01 | 1.9 | 1.7 | KOLB |
| 1/11/01 | 10.0 | 4.9 | JANSSEN |
| 1/16/01 | 0.2 | 4.0 | CAMPEGGI |
| 1/17/01 | 1.0 | 3.7 | CAMPEGGI |
| 1/18/01 | 1.5 | 0.9 | CAMPEGGI |
| 1/23/01 | 0.6 | 1.0 | KOLB |
| 1/25/01 | 4.6 | 2.2 | GORSCHBOTH |
| 1/28/01 | 11.9 | 5.7 | KOLB |
| 1/30/01 | 4.2 | 6.9 | CAMPEGGI |
| 1/31/01 | 2.7 | 6.3 | CAMPEGGI |
| 2/1/01 | 0 | 2.3 | CAMPEGGI |
| 2/6/01 | 6.3 | 3.0 | KOLB |
| 2/7/01 | 1.5 | 2.6 | KOLB |
| 2/8/01 | 23.1 | 10.3 | LANG |
| 2/13/01 | 0 | 8.2 | CAMPEGGI |
| 2/14/01 | 3.1 | 8.7 | CAMPEGGI |
| 2/15/01 | 1.3 | 1.5 | CAMPEGGI |
| 2/20/01 | 2.3 | 2.2 | KOLB |
| 2/21/01 | 7.7 | 3.8 | KOLB |
| 2/22/01 | 0.8 | 3.6 | JANSSEN |
| 2/27/01 | 4.2 | 4.2 | CAMPEGGI |
| 2/28/01 | 0.6 | 1.9 | CAMPEGGI |
| 3/1/01 | 6.0 | 3.6 | CAMPEGGI |
| 3/6/01 | 0 | 2.2 | KOLB |
| 3/7/01 | 0.2 | 2.1 | KOLB |
| 3/8/01 | 3.1 | 1.1 | KOLB |
| 3/13/01 | 0 | 1.1 | CAMPEGGI |
| 3/14/01 | 0 | 1.0 | CAMPEGGI |
| 3/15/01 | 4.8 | 1.6 | JANSSEN |
| 3/20/01 | 0.8 | 1.9 | KOLB |
| 3/21/01 | 10.2 | 5.3 | KOLB |
| 3/22/01 | 0 | 3.7 | KOLB |
| 3/27/01 | 0.6 | 3.6 | CAMPEGGI |
| 3/28/01 | 20.2 | 6.9 | GORSCHBOTH |
| 3/29/01 | 2.7 | 7.8 | CAMPEGGI |
| 4/3/01 | 8.1 | 10.3 | KOLB |
| 4/4/01 | 6.0 | 5.6 | KOLB |
| 4/5/01 | 0 | 4.7 | KOLB |
| 4/10/01 | 11.4 | 5.8 | JANSSEN |
| 4/11/01 | 4.0 | 5.1 | CAMPEGGI |
| 4/12/01 | 2.1 | 5.8 | CAMPEGGI |
| 4/17/01 | 2.3 | 2.8 | KOLB |
| 4/18/01 | 20.4 | 8.3 | KOLB |
| 4/19/01 | 6.0 | 9.6 | KOLB |
| 4/24/01 | 0 | 8.8 | CAMPEGGI |

Bethlehem Steel Corporation - Sparrows Point Division
BOF Roof Monitor Observations for Year 2001

| | | | |
|---------|------|-----|------------|
| 4/25/01 | 1.9 | 2.6 | CAMPEGGI |
| 4/26/01 | 6.7 | 2.9 | JANSSEN |
| 5/1/01 | 10.0 | 6.2 | KOLB |
| 5/2/01 | 4.8 | 7.2 | GORSCHBOTH |
| 5/3/01 | 0 | 4.9 | KOLB |
| 5/8/01 | 3.3 | 2.7 | CAMPEGGI |
| 5/9/01 | 0 | 1.1 | CAMPEGGI |
| 5/10/01 | 1.7 | 1.7 | CAMPEGGI |
| 5/15/01 | 1.3 | 1.0 | KOLB |
| 5/16/01 | 7.9 | 3.6 | KOLB |
| 5/17/01 | 0.4 | 3.2 | KOLB |
| 5/22/01 | 0 | 2.8 | JANSSEN |
| 5/23/01 | 1.7 | 0.7 | CAMPEGGI |
| 5/24/01 | 1.9 | 1.2 | CAMPEGGI |
| 5/30/01 | 3.1 | 2.2 | KOLB |
| 5/31/01 | 3.5 | 2.8 | KOLB |
| 6/1/01 | 1.3 | 2.6 | KOLB |
| 6/5/01 | 0.8 | 1.9 | CAMPEGGI |
| 6/6/01 | 2.7 | 1.6 | CAMPEGGI |
| 6/7/01 | 5.8 | 3.1 | CAMPEGGI |
| 6/12/01 | 1.0 | 3.2 | KOLB |
| 6/13/01 | 3.5 | 3.4 | KOLB |
| 6/14/01 | 3.8 | 2.8 | KOLB |
| 6/19/01 | 2.5 | 3.3 | CAMPEGGI |
| 6/21/01 | 1.3 | 2.5 | GORSCHBOTH |
| 6/22/01 | 0 | 1.3 | CAMPEGGI |
| 6/26/01 | 0.4 | 0.6 | KOLB |
| 6/27/01 | 0.8 | 0.3 | KOLB |
| 6/28/01 | 3.1 | 1.4 | KOLB |
| 7/3/01 | 1.7 | 1.8 | CAMPEGGI |
| 7/5/01 | 0.4 | 1.7 | FRUSHOUR |
| 7/6/01 | 3.3 | 1.8 | CAMPEGGI |
| 7/10/01 | 7.1 | 3.6 | FRUSHOUR |
| 7/11/01 | 0.2 | 3.5 | KOLB |
| 7/12/01 | 0.4 | 2.6 | KOLB |
| 7/17/01 | 1.5 | 0.7 | CAMPEGGI |
| 7/18/01 | 3.8 | 1.9 | CAMPEGGI |
| 7/19/01 | 8.5 | 4.6 | CAMPEGGI |
| 7/24/01 | 0.2 | 4.2 | KOLB |
| 7/25/01 | 4.8 | 4.5 | KOLB |
| 7/27/01 | 5.8 | 3.5 | KOLB |
| 7/31/01 | 1.0 | 3.8 | CAMPEGGI |
| 8/1/01 | 6.5 | 4.4 | CAMPEGGI |
| 8/2/01 | 8.5 | 5.3 | FRUSHOUR |
| 8/7/01 | 0 | 5.0 | GORSCHBOTH |
| 8/8/01 | 0 | 2.8 | KOLB |
| 8/9/01 | 0 | 0.0 | KOLB |
| 8/14/01 | 2.7 | 0.9 | CAMPEGGI |
| 8/15/01 | 2.1 | 1.6 | CAMPEGGI |
| 8/16/01 | 1.9 | 2.2 | CAMPEGGI |
| 8/21/01 | 0.8 | 1.6 | KOLB |

Bethlehem Steel Corporation - Sparrows Point Division
BOF Roof Monitor Observations for Year 2001

| | | | |
|----------|------|------|------------|
| 8/22/01 | 1.0 | 1.2 | KOLB |
| 8/24/01 | 1.9 | 1.2 | KOLB |
| 8/28/01 | 1.0 | 1.3 | CAMPEGGI |
| 8/29/01 | 1.7 | 1.5 | CAMPEGGI |
| 8/30/01 | 9.2 | 4.0 | FRUSHOUR |
| 9/5/01 | 13.5 | 8.1 | KOLB |
| 9/6/01 | 12.3 | 11.7 | JANSSEN |
| 9/7/01 | 0 | 8.6 | KOLB |
| 9/11/01 | 2.7 | 5.0 | CAMPEGGI |
| 9/12/01 | 4.0 | 2.2 | CAMPEGGI |
| 9/13/01 | 1.7 | 2.8 | CAMPEGGI |
| 9/18/01 | 2.5 | 2.7 | CAMPEGGI |
| 9/19/01 | 0 | 1.4 | JANSSEN |
| 9/20/01 | 0 | 0.8 | KOLB |
| 9/25/01 | 5.4 | 1.8 | JANSSEN |
| 9/28/01 | 1.0 | 2.1 | CAMPEGGI |
| 10/2/01 | 4.0 | 3.5 | KOLB |
| 10/3/01 | 0.6 | 1.9 | KOLB |
| 10/4/01 | 3.3 | 2.8 | KOLB |
| 10/5/01 | 0.8 | 1.8 | KOLB |
| 10/9/01 | 1.9 | 2.0 | CAMPEGGI |
| 10/10/01 | 0 | 0.9 | JANSSEN |
| 10/11/01 | 2.3 | 1.4 | CAMPEGGI |
| 10/16/01 | 3.3 | 1.9 | KOLB |
| 10/17/01 | 1.3 | 2.3 | KOLB |
| 10/18/01 | 11.5 | 5.4 | FRUSHOUR |
| 10/23/01 | 0 | 4.3 | CAMPEGGI |
| 10/24/01 | 0.6 | 4.0 | CAMPEGGI |
| 10/26/01 | 3.3 | 1.3 | CAMPEGGI |
| 10/30/01 | 0.8 | 1.6 | CAMPEGGI |
| 10/31/01 | 0 | 1.4 | GORSCHBOTH |
| 11/1/01 | 0 | 0.3 | CAMPEGGI |
| 11/6/01 | 4.8 | 1.5 | CAMPEGGI |
| 11/7/01 | 2.1 | 2.2 | CAMPEGGI |
| 11/8/01 | 4.8 | 3.8 | CAMPEGGI |
| 11/13/01 | 12.9 | 6.6 | KOLB |
| 11/14/01 | 0 | 5.9 | KOLB |
| 11/15/01 | 9.2 | 7.4 | KOLB |
| 11/19/01 | 2.1 | 3.8 | CAMPEGGI |
| 11/20/01 | 5.8 | 5.7 | CAMPEGGI |
| 11/21/01 | 2.1 | 3.3 | KOLB |
| 11/27/01 | 5.2 | 4.4 | KOLB |
| 11/28/01 | 0.8 | 2.7 | KOLB |
| 11/30/01 | 5.2 | 3.7 | KOLB |
| 12/4/01 | 0.6 | 2.2 | CAMPEGGI |
| 12/5/01 | 2.9 | 2.9 | CAMPEGGI |
| 12/6/01 | 17.9 | 7.1 | JANSSEN |
| 12/11/01 | 4.8 | 8.5 | KOLB |
| 12/12/01 | 1.3 | 8.0 | KOLB |
| 12/13/01 | 1.9 | 2.7 | KOLB |
| 12/18/01 | 0.6 | 1.3 | CAMPEGGI |

Bethlehem Steel Corporation - Sparrows Point Division
BOF Roof Monitor Observations for Year 2001

| | | | |
|----------|-----|-----|----------|
| 12/19/01 | 2.1 | 1.5 | CAMPEGGI |
| 12/21/01 | 1.0 | 1.2 | CAMPEGGI |
| 12/28/01 | 5.8 | 3.0 | KOLB |
| 12/27/01 | 0 | 2.3 | KOLB |
| 12/28/01 | 2.9 | 2.9 | KOLB |

APPENDIX C
RELEASE REPORTING RECORDS

Bethlehem Steel Corporation

SPARROWS POINT DIVISION
5111 NORTH POINT BOULEVARD
BALTIMORE, MARYLAND 21219-1014



April 10, 2001

CERTIFIED RETURN RECEIPT REQUESTED

Mr. Richard Collins
Maryland Department of the Environment
Hazardous and Solid Waste Administration
2500 Broening Highway
Baltimore, Maryland 21224

Dear Mr. Collins:

This letter and its attachments will serve as the required spill report for the Sparrows Point Division for the First Quarter of 2001. There were three spills during this quarter.

If there are any questions, please refer them to Mr. Joseph Dolan, of my staff, at 410-388-5991 and discuss them with him.

Sincerely,

A handwritten signature in cursive script that reads "Robert J. Abate".

Robert J. Abate
Safety, Health, and Environment Manager

Attachment

cc: SPCC Plan
EPA OPA Plan
B. Robinson
File

Attachment I

Date/Time – January 2, 2001
Amount – Approximately 10 gallons
Spilled To – Outfall 001
Material Spilled – 12B Lube Oil
Location – Outfall 001

A full report of this incident was sent to Mr. Greg Sonberg on January 8, 2001. A copy of that report is found as Attachment II.

Date/Time – January 12, 2001
Amount – Approximately 10 gallons
Spilled To – Ground
Material Spilled – Used Oil
Location – Sinter Plant Water Treatment Area

On January 12, 2001, at approximately 0845 hours, a spill of approximately 10 gallons of used oil occurred at the Sinter Plant Water Treatment Area. All of the oil was contained on the ground and none entered any sewer or waterway.

Our investigation revealed the following. A 500 gallon container of Spartan 100 synthetic oil had become contaminated with water and dirt and was in the process of being emptied into 55 gallon drums for disposal. The oil was being pumped via an air operated pump. The crew doing the job had stopped the pump and temporarily moved to another job. It appears that another crew of workers, working on a different job and using compressed air tools, inadvertently restarted the pump and the 55 gallon drum subsequently overflowed. However, a millwright working in the area was quick to spot the spill and shut down the air supply to the pump thereby stopping the spill.

The spilled oil and contaminated soil were removed and sent to an approved offsite landfill. The oil tote was subsequently removed from the area and respotted. Crew members were notified of the spill and reinstructed in the procedures for oil transfers.

Date/Time – February 18, 2001
Amount – Approximately 15 gallons
Spilled To – Ground
Material Spilled – Hydraulic Oil
Location – BOF Thickener Area

On February 18, 2001, at approximately 1637 hours, a 15 gallon spill of hydraulic oil occurred at the BOF Thickener Area. All of the oil was contained on the ground and none entered any sewer or waterway.

Our investigation revealed the following. At the time of the spill Dino Truck 6120 was in the process of removing a dumpster from the BOF Thickener Area. At that time the driver noticed that a hydraulic hose had ruptured and spilled hydraulic oil onto the ground. The driver immediately stopped his truck and summoned help. The spill was then contained and the truck

Attachment I

secured. A vacuum truck was summoned to the area to remove the standing oil which was then transported to our on site recycler. A payloader and dump truck were then brought to the area to remove the contaminated soil. The soil was later disposed of at an approved offsite landfill. The truck was taken to our repair facility and the ruptured hose was replaced. Additionally, all other hydraulic hoses on the truck were also inspected.

All trucks in our fleet receive regular preventative maintenance inspections on an every other week basis. Drivers are also instructed to give their trucks a visual inspection before putting them into service. This incident was discussed with other drivers and the daily inspection procedure was reviewed with each of them.

Attachment II

Bethlehem Steel Corporation

SPARROWS POINT DIVISION
5111 NORTH POINT BOULEVARD
BALTIMORE, MARYLAND 21219-1014



January 8, 2001

CERTIFIED RETURN RECEIPT REQUESTED

Mr. Greg Sonberg
Maryland Department of the Environment
Oil Control Program
2500 Broening Highway
Baltimore, Maryland 21224

Dear Mr. Sonberg:

On January 2, 2001, at approximately 1300 hours, approximately 10 gallons of oil was observed behind the containment boom at Outfall 001. Our investigation revealed that the oil was 12-B lubrication oil that had originated from the oil cooler at 1B induced draft fan located at Pennwood Power Plant.

On that same day, at approximately 0930 hours, Pennwood Operations notified Environmental that they suspected that 1B fan oil cooler had a leak and that it had been taken out of service and secured. Since the effluent from the oil cooler reports to Outfall 001 an inspector was immediately sent to the outfall to determine if any oil had been lost. No oil was found at that time. The inspector returned to the outfall at 1130 hours and again found no oil. He returned again at 1300 hours and found approximately ten gallons of oil contained behind the permanently installed harbor boom at the end of the outfall.

Pennwood Operations was immediately notified that oil had entered the outfall and was asked to check that the oil cooler was properly secured. It was found to be properly secured. Atlantic Environmental Services was asked to bring a vacuum truck, two boats, sorbent material, and personnel to the outfall to initiate cleanup. Notifications were made to the Maryland Department of the Environment, National Response Center, and Coast Guard Activities Baltimore.

The boats, sorbent, and personnel arrived within an hour and the vacuum truck arrived shortly thereafter. Atlantic removed the oil and left granular sorbent in the outfall to scavenge

Attachment II

any residual oil. They also installed a sorbent boom across the outfall, ahead of the harbor boom, to absorb any remaining oil that might have come down the outfall.

On January 3, 2001 Atlantic returned and collected the granular sorbent and checked to make sure the sorbent boom was holding in place. At this point cleanup was determined to be complete. We plan to leave the sorbent boom in place until it is spent.

The affected oil cooler has been removed and replaced with a new unit. The unit was tested, determined to be operating normally, and has been placed into service.

If there are any questions, please refer them to Mr. Joseph Dolan, of my staff, at 410-388-5991 and discuss them with him.

Sincerely,



Robert J. Abate
Safety, Health, and Environment Manager

CC: SPCC Plan
EPA OPA Plan
B. Robinson
M. Freedman
M. Adams
File

Bethlehem Steel Corporation

SPARROWS POINT DIVISION
5111 NORTH POINT BOULEVARD
BALTIMORE, MARYLAND 21219-1014



July 31, 2001

CERTIFIED RETURN RECEIPT REQUESTED

Mr. Richard Collins
Maryland Department of the Environment
Hazardous and Solid Waste Administration
2500 Broening Highway
Baltimore, Maryland 21224

Dear Mr. Collins:

This letter and its attachment will serve as the required spill report for the Sparrows Point Division for the Second Quarter of 2001. There was one spill during this quarter. I have attached a copy of the spill report for that incident that was sent to Mr. Greg Sonberg, MDE, on May 3, 2001.

If there are any questions, please refer them to Mr. Joseph Dolan, of my staff, at 410-388-5991 and discuss them with him.

Sincerely,

A handwritten signature in cursive script, appearing to read "Robert J. Abate".

Robert J. Abate
Safety, Health, and Environment Manager

Attachment

cc: SPCC Plan
EPA OPA Plan
M. S. Vogler
B. Robinson
File

Bethlehem Steel Corporation

SPARROWS POINT DIVISION
5111 NORTH POINT BOULEVARD
BALTIMORE, MARYLAND 21219-1014



May 3, 2001

Mr. Greg Sonberg
Maryland Department of the Environment
Oil Control Program
2500 Broening Highway
Baltimore, Maryland 21224

Dear Mr. Sonberg:

On April 24, 2001, at approximately 1150 hours a spill of approximately 50 gallons of hydraulic oil occurred at Outfall 001. Our investigation revealed the following.

On April 24, 2001, at approximately 1150 hours, the Nos. 2A and 2B induced draft fans at Pennwood Power Station were being returned to service after a repair outage. Normal procedure is to test the hydraulics on each fan individually before certifying them ready for service. However, in this case both hydraulic systems were started simultaneously. At that time personnel in the area of the fans noticed that the oil drain valves on the system had not been returned to the closed position prior to starting the hydraulic systems. Consequently, oil was being pumped out of these valves onto the paved area beneath the fans. The hydraulic systems were immediately shut down and the drain valves were closed. However, approximately 50 gallons of hydraulic oil had reached a storm drain and flowed to Outfall 001.

Outfall 001 is protected with a thirty six inch wide harbor boom that is permanently moored at the exit of the outfall. All of the oil, with the exception of approximately two gallons, was contained behind the boom. Those two gallons were captured in front of the boom. We estimate that only a small amount of sheen was lost as a result of this incident.

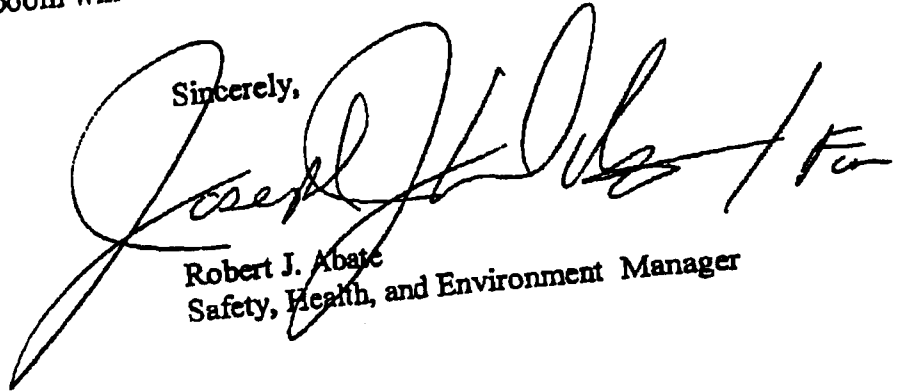
When the oil was discovered at the outfall two bales of 36"x36" sorbent pads were deployed to absorb the oil and a vacuum truck, boat, and sufficient personnel to recover the oil were ordered from Atlantic Environmental. The crew arrived at the outfall at approximately 1400 hours and completed their work by dusk. We had them return the following morning as a precaution in case additional oil had exited the sewer and into the outfall. However, this was not the case.

Mr. Greg Souberg - May 3, 2001

The oil on the paved surface at the base of the fan was absorbed with Lite Dry, an absorbent product of the New Pig Corporation. The spent Lite Dry as well as the sorbent used at the outfall and the recovered oil was disposed of by Atlantic Environmental.

To prevent this from occurring again we have taken several steps. Personnel involved in power plant operations have been made aware of the circumstances surrounding the spill. We have also modified our procedures for fan startups and have retrained all individuals in that new procedure. Additionally, we are contracting with Atlantic Environmental to install a new harbor boom at Outfall 001. The new boom will be of an improved design over the one currently in use.

Sincerely,



Robert J. Abate
Safety, Health, and Environment Manager

CC: SPCC Plan
EPA OPA Plan
R. Collins - MDE
W. Dorsey - USCG
B. Robinson
M. Freedman
M. Adams
File