



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

FEB 19 2009

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Russell Becker
Program Manager
Environmental Engineering & Affairs
Severstal Sparrows Point
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

Subject: United States of America and State of Maryland Department of the
Environment v. Bethlehem Steel Corporation
Docket No. JFM-97-558 & JFM-97-559

Dear Mr. Becker:

This letter is to request that, pursuant to Section V.A. 4. of the above-referenced Consent Decree (CD), Severstal Sparrows Point (Severstal) submit to EPA for approval a workplan to implement interim measures (IM) to recover hydrocarbon product in the Coke Oven area of the Sparrows Point Facility (Facility or Site), within sixty (60) calendar days of your receipt of this letter. EPA has determined that a more aggressive recovery method for the product is necessary to prevent further degradation of the area pending implementation of a final remedy at the Facility. The recovery system shall be designed to capture the benzene and naphthalene plumes at locations where the measured groundwater concentrations exceed one percent of their solubility limits¹, that is, 17,800 ppb and 310 ppb for benzene and naphthalene, respectively.

The measured groundwater concentrations of indicator compounds, benzene and naphthalene, range between one to ten percent of their solubility limits in large part from the Coke Oven area, suggesting the presence of product phase hydrocarbons in the subsurface (One percent rule, EPA, 1993)². The current use of a single skimmer well as a recovery method for the product is inadequate.

The recovery system shall consist of, at a minimum, but not be limited to groundwater pumping, vapor extraction, vacuum and/or thermal enhancement to optimize the recovery rate. To the extent practicable, the workplan should be consistent with and suitable for integration into any long-term remediation likely to be implemented at the Facility. See Section V. A. of the CD

¹ Based on solubility limits of benzene and naphthalene at 1780 ppm and 31 ppm by Patricia Ellis, LUSTLine, 2003.

² DNAPL Site Evaluation by Robert M. Cohen, James W. Mercer, and John Matthews, Robert S. Kerr Environmental Research Laboratory, USEPA, 1993


for a detailed description of the IM requirements at the Facility. In addition, pursuant to paragraph 7 of paragraph V.A. of the CD, an IM Health and Safety plan must also be submitted to EPA and MDE.

The site-wide investigation completed between 2005 and 2007 has identified the former Coke Oven area as the most contaminated area of the Facility with high concentrations of volatile and semi-volatile organic compounds in groundwater³. In certain hot spots, the measured groundwater concentrations exceed 100,000 times the Maximum Contaminant Level (MCL) for benzene, and 1,000 times the MCL for naphthalene. Benzene concentrations were also measurable in the bay water samples⁴, suggesting that the Coke Oven plume has migrated offshore impacting the bay habitat. Typically, volatile organic compounds are rarely detectable in open water due to mixing, dilution and agitation of the large volume of receiving water. The fact that benzene is measurable in the bay water is an indication that the pollutant loading rate from the Facility is significant as the aforementioned factors were inadequate to mitigate the effect. It should be noted that benzene and naphthalene are but two indicator compounds out of the hundred compounds present in the Coke Oven plume. Therefore, the impact of the Coke Oven plume is not limited to benzene and naphthalene but is far greater if the synergistic effect of all of the compounds is considered.

Prior owners have made significant progress with respect to the remediation required by the CD. I look forward to working with you in the immediate future to address this area of significant concern.

If you have questions about the requirements of the workplan, please call the project manager for the site, Andrew Fan at (215) 814-3426. For legal questions regarding the requirements described above, please have your attorney contact Susan Hodges in our Office of Regional Counsel at (215)814-2643.

Sincerely,


Abraham Ferdas, Director
Land and Chemicals Division

cc: Rick Johnson, MDE

³ Site Wide Investigation – Report of Nature & Extent of Releases to Groundwater from the Special Study Areas, ISG, January 2005, October 2007 (supplemental figures).

⁴ ISG Sparrows Point, Environmental Indicator Human Health Evaluation by URS, 2005