



**EXPLANATION OF SIGNIFICANT DIFFERENCES  
HELLERTOWN MANUFACTURING COMPANY  
SUPERFUND SITE  
HELLERTOWN, PENNSYLVANIA**

**I. INTRODUCTION AND STATEMENT OF PURPOSE**

Site Name: Hellertown Manufacturing Company Superfund Site ("Site")  
EPA ID PAD002390748

Site Location: Hellertown, Northampton County, Pennsylvania

Lead Agency: U.S. Environmental Protection Agency, Region III

Support Agency: Pennsylvania Department of Environmental Protection

The United States Environmental Protection Agency ("EPA") has prepared this Explanation of Significant Differences ("ESD") to make a modification to the September 30, 1991 Record of Decision ("ROD") for the Site. This ESD modifies the groundwater performance standards selected in the ROD.

The primary components of EPA's remedy as set forth in the ROD consists of: the placement of an impermeable cover over the entire former lagoon area; installation of surface water runoff controls; extraction and treatment of groundwater with discharge to Saucon Creek; long-term groundwater monitoring; and institutional controls.

This modification to the ROD does not fundamentally alter the basic features of the selected remedy with respect to scope, performance, or cost. This ESD is issued in accordance with Section 117(c) of CERCLA, 42 U.S.C. 9617(c), and the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP") 40 C.F.R. § 300.435(c)(2)(i), and is incorporated into the Administrative Record for the Site. The Administrative record is available for review at:

Hellertown Municipal Center  
685 Main Street  
Hellertown, PA 18055

or

EPA Public Reading Room  
1650 Arch Street  
Philadelphia, PA 19103-2029  
(215) 814-3157

*Please call to schedule an appointment.*

or

on the web at <http://loggerhead.epa.gov/arweb/public>

## **II. SUMMARY OF THE SITE HISTORY, CONDITIONS, AND SELECTED REMEDY**

For a complete summary of the Site's history and conditions, the reader should review Sections II and V of the ROD. The ROD can be found in the Administrative Record, which may be reviewed at the public repositories mentioned above, and on the internet at <http://www.epa.gov/reg3hwmd/super/sites/PAD002390748/index.htm>

### **A. Site Location and Ownership/Operations History**

The Site is located on Main Street (Route 412) in the Borough of Hellertown, Northampton County, Pennsylvania. It is currently privately owned and is zoned "highway commercial". The Site occupies an 8.46-acre property and contains a 124,000 square foot masonry building (the former manufacturing plant) located at the eastern edge of the property with its frontage on Main Street. At the rear of the building and due west is the metal groundwater treatment plant building and the capped former lagoons area. At the surface, the cap appears to be a relatively flat, asphalt-paved area. The Site property is fenced and is bounded by Interstate Highway 78 to the north, by residential and commercial properties to the south, by Main Street and undeveloped land to the east, and by a Norfolk Southern Railroad property to the west. Saucon Creek is located approximately 500 feet to the west of and hydraulically downgradient from the Site, beyond the Norfolk Southern Railroad property. Saucon Creek, which runs through Saucon Park, is used for swimming and fishing.

Groundwater in the immediate vicinity of the Site is currently not used as a drinking water source. The groundwater flow pattern in the bedrock in the vicinity of the Site is complex. However, water level measurements in monitoring wells indicate that the overburden and shallow groundwater is generally flowing to the west, ultimately discharging into the Saucon Creek, and the deep groundwater generally flows to the south.

### **B. Contamination Problems and Remedy Selection**

The Site was developed in 1918 as a spark plug manufacturing plant. Site operations included zinc and chrome plating operations, machining operations, and degreasing processes using trichloroethene ("TCE"). To conduct these operations, the plant used five underground storage tanks for storing machine oil and fuel oil. Between 1930 and 1976, wastes were disposed in five on-Site lagoons with a total storage capacity of 500,000 cubic feet. The lagoons were unlined, allowing waste to seep into the soil and bedrock beneath the Site. According to the preliminary assessment conducted by the Pennsylvania Department of Environmental Resources ("PADER", now known as the Pennsylvania Department of Environmental Protection, "PADEP"), the waste disposed in the on-Site lagoons included zinc plating waste, chrome dip waste, cleaners, and cutting oils.

The lagoons were phased out of use by 1976 and backfilled with 76,000 cubic yards of material from off-Site sources. Records show that 60,000 cubic yards of this material was excavated soil from the construction of the Bethlehem Wastewater Treatment Plant. Other materials used for fill included undocumented quantities of sillment powder (aluminum oxide powder used in spark plug seals), spark plug insulators, reject spark plugs and core assemblies, crushed stone, sand, broken bricks and blocks, and asphalt surface and stone ballast from a street expansion project.

The potential for the existence of contamination at the Site was first documented as a result of a region-wide inventory of disposal lagoons conducted by the Sanitary Water Board of the Pennsylvania Department of Health and the Delaware River Basin Commission in 1970.

In February 1988 Champion Spark Plugs ("CSP") and the EPA entered into an Administrative Order by Consent, Docket No. III-88-11-DC, that required that CSP conduct a Remedial Investigation ("RI") and Feasibility Study. The purpose of the RI was to determine the full nature and extent of the threat to the public health and welfare or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants from the Site.

The Site was added to the National Priorities List in March 1989 because exposure from the elevated volatile organic compound ("VOCs") levels in the groundwater had the potential to present an imminent and substantial endangerment to public health, welfare, or the environment.

On September 30, 1991, EPA issued the ROD for the Site. The ROD addressed both the source control of the five former lagoons and groundwater remediation.

The selected remedy consists of the following major components: (1) the placement of an impermeable cover over the entire former lagoon area; (2) installation of surface water runoff controls; (3) extraction and treatment of groundwater with discharge to Saucon Creek; (4) long-term groundwater monitoring; and (5) institutional controls.

An impermeable cover was placed over the approximate 145,000-square foot former lagoons area. The cover was designed to achieve a permeability of no more than  $1 \times 10^{-7}$  centimeter per second ("cm/sec"). A stormwater collection system, consisting of catch basins and drainage pipe, was installed to collect and convey stormwater off of the cover.

Contaminated groundwater is pumped to an on-Site treatment building from an extraction well (EW-1R). Pumped groundwater is directed to a 2,100-gallon equalization tank located within the treatment plant building, where it is stored until it is pumped through two in-series bag filters and an air stripper. Treated effluent is discharged to the storm sewer system, eventually emptying into Saucon Creek. Air stripper off-gas passes through two 2,000-pound vapor phase carbon units prior to discharge to the atmosphere.

The United States, the Commonwealth of Pennsylvania ("Commonwealth"), Federal-Mogul Corporation and Paikes Enterprise, Inc. entered into a Consent Decree, Docket No. 00-

4978, dated September 5, 2001, for reimbursement of outstanding response costs incurred by the United States and the Commonwealth in connection with the Site.

The ten-year duration of the Long Term Remedial Action associated with the groundwater treatment system ("OU-2") was completed on September 26, 2007. EPA transferred the responsibility for all further Site operation and maintenance activities to PADEP in accordance with the December 17, 1992 State Superfund Contract, as amended, for OU-2.

### III. DESCRIPTION OF SIGNIFICANT DIFFERENCES

The purpose of this ESD is to modify the Groundwater Performance Standards selected in the ROD.

This ESD establishes the Maximum Contaminant Level ("MCL") promulgated at 40 C.F.R. Part 141 pursuant to Section 1412 of the Safe Drinking Water Act, 42 U.S.C. Section 300g-1, for each Contaminant of Concern ("COC") at the Site as the groundwater performance standards. This ESD also adds the requirement for a cumulative risk evaluation after all of the applicable MCLs have been met.

The ROD states that the performance standard for each COC in the groundwater shall be the MCL for that contaminant or the background concentration of that contaminant, whichever is more stringent. At the time EPA issued the ROD, "background" was PADEP's groundwater remediation standard under 25 Pa. Code §§ 264.90-264.100. The ROD also provided that in the event that a COC was not detected in groundwater samples taken for the establishment of its background concentration, the detection limit for that COC became the performance standard for that COC. Based on that rationale, the ROD identified the following groundwater performance standards:

**Table 1 – ROD Groundwater Performance Standards in parts per billion ("ppb")**

<u>Contaminant</u>	<u>MCL</u>	<u>Detection Limit</u>
Benzene	5	0.02
Tetrachloroethene (PCE)	5	0.03
Trichloroethene (TCE)	5	0.12
Vinyl Chloride (VC)	2	0.18
Dichloroethene (trans-1,2-DCE)	100	0.10
Dichloroethene (cis-1,2-DCE)	70	0.12

Subsequent to EPA's issuance of the ROD, the Pennsylvania Land Recycling and Environmental Remediation Standards Act, 35 P.S. Sections 6026.101 *et seq.*, commonly referred to as "Act 2", was enacted, which, among other things, changed the applicable PADEP groundwater cleanup standards from background to the Act 2 Statewide Health Standards

(SHSs). The MCLs and Act 2 SHSs for individual COCs at the Site are identical. After consultation with PADEP, EPA has determined that it is appropriate to change the groundwater performance standards for individual contaminants at the Site to MCLs as identified in Table 2 below:

**Table 2 – MCLs for Site Contaminants of Concern**

<u>Contaminant</u>	<u>MCL (ppb)</u>
Benzene	5
Tetrachloroethene (PCE)	5
Trichloroethene (TCE)	5
Vinyl Chloride (VC)	2
Dichloroethene (trans-1,2-DCE)	100
Dichloroethene (cis-1,2-DCE)	70

Because groundwater which meets MCLs for individual contaminants may not meet EPA's risk-based cleanup standards (carcinogenic risk of less than 1.0 E-04 and a Hazard Index ("HI") less than or equal to 1.0, cumulatively) if multiple contaminants are present, a determination of meeting the "protection of human health and the environment" statutory requirement will be performed after MCLs have been attained. Therefore, when MCLs have been attained for all COCs at the Site, EPA will evaluate post-ROD groundwater sampling data and develop a trend analysis and risk assessment. The risk assessment will be based on cumulative risk across all applicable exposure routes for all COCs remaining in groundwater following achievement of the MCLs. The remediation of groundwater at the Site will continue until the risk-based cleanup standards (carcinogenic risk of less than 1.0 E-04 and a HI less than or equal to 1.0 cumulatively) are achieved for the COCs.

The remaining components of the remedy selected in the ROD, including the placement of an impermeable cover over the former lagoons area, surface water runoff controls, extraction and treatment of groundwater (solids removal and air stripping) with discharge to the Saucon Creek, long-term groundwater monitoring, and institutional controls, that would put use-restrictions on Site groundwater and otherwise prevent interference with the remedy, remain unchanged.

#### **IV. PUBLIC PARTICIPATION**

This ESD will become part of the Administrative Record File for the Site. The Administrative Record includes all documents that formed the basis for EPA's selected remedy. The Administrative Record is available for public review at the locations listed in Section I of this ESD. The public participation requirements of 40 C.F.R. § 300.435(c)(2)(i)(B) have been met. Questions and/or comments on EPA's action and requests to review the Administrative Record can be directed to:

Timothy M. Gallagher  
Remedial Project Manager  
Hazardous Site Cleanup Division  
U.S. EPA – Region III  
1650 Arch Street (3HS21)  
Philadelphia, PA 19103  
Phone - (215) 814-3196  
[gallagher.tim@epa.gov](mailto:gallagher.tim@epa.gov)

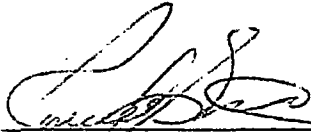
Alexander Mandell  
Community Involvement Coordinator  
Hazardous Site Cleanup Division  
U.S. EPA – Region III  
1650 Arch Street (3HS52)  
Philadelphia, PA 19103  
Phone - (215) 814-5517  
[mandell.alexander@epa.gov](mailto:mandell.alexander@epa.gov)

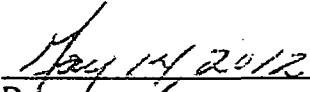
#### V. SUPPORT AGENCY REVIEW

In accordance with 40 C.F.R. § 300.435(c)(2), EPA has notified PADEP of the modifications to the Site remedy described in this ESD. PADEP concurs with the issuance of this ESD.

#### VI. AFFIRMATION OF STATUTORY DETERMINATION

Considering the change that has been made to the Site remedy under this ESD, EPA has determined that the remedy remains protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to this remedial action and is cost effective.

  
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Ronald J. Borsellino  
Hazardous Site Cleanup Division

  
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Date