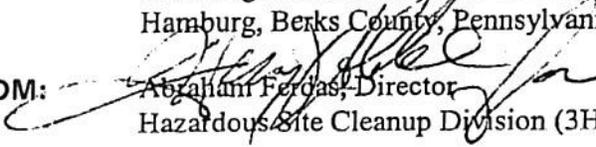


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

MAY 13 2003

**SUBJECT:** Approval of a Funding Request for a Removal Action  
Hamburg Kaercher and Mill Creeks Site  
Hamburg, Berks County, Pennsylvania

**FROM:**  Abraham Fercas, Director  
Hazardous Site Cleanup Division (3HS00)

**TO:** Marianne L. Horinko, Assistant Administrator  
Office of Solid Waste and Emergency Response (5101)

**THRU:** Michael Cook, Director  
Office of Emergency and Remedial Response (5201)

**ATTN:** David Lopez, Director  
Region 3/8 Accelerated Response Center (5204G)

Mark Mjoness, Director  
Emergency Response and Removal Center (5204G)

The attached Funding Request for a Removal Action pertains to the Kaercher and Mill Creeks Site located in Hamburg, Pennsylvania. This Site consists of sections of two creeks that run through Hamburg, Pennsylvania. There are several crushed battery casing disposal areas along these creeks. There are crushed battery casings visible over a large portion Kaercher Creek, and on the banks of one area of Mill Creek. There are homes adjacent to portions of both creeks, along with commercial and industrial properties.

The On Scene Coordinator (OSC) conducted removal assessments of both of these creeks. This assessment confirmed the presence of moderate to high levels of lead on the banks and in the sediments of the creeks, posing a threat to public health and welfare due to the potential exposure to hazardous substances in these areas, and the potential release of substances present on the Site to downstream areas. The Agency for Toxic Substances and Disease Registry (ATSDR) has evaluated the results from the sampling at this site and has stated that this Site represents a public health hazard. ATSDR has recommended that the soil and creek sediments be remediated to a safe level. Lead is listed as hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as identified at 40 CFR Section 302.4. The Site poses a threat to public health due to the actual or potential release of lead from the battery waste used as fill material.

The OSC has determined that the conditions at the Kaercher and Mill Creeks Site meet the criteria for initiating a Removal Action under the NCP, 40 CFR §300.415. Funds have been requested in the total amount of \$1,901,000, of which approximately \$1,450,000 are Extramural Costs, to mitigate the threats posed by this Site. Pursuant to Redelegation of Authority 14-2 giving the Director, Hazardous Site Cleanup Division, authority to approve CERCLA Removal Actions with a total cost of less than \$2 million and completion within 12 months, Region III has approved this request for funds.

Attachment: Request for Removal Action

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

MAY 13 2003

**SUBJECT:** Request for Funds for a Removal Action  
Hamburg Lead - Kaercher and Mill Creeks Site  
Hamburg Borough, Berks County, Pennsylvania

**FROM:** Gregory Ham, On-Scene Coordinator  
Removal Response Section (3HS31)

**TO:** Abraham Ferdas, Director  
Hazardous Site Cleanup Division (3HS00)

## I. PURPOSE

A Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Removal Action is necessary at the Hamburg Lead - Kaercher and Mill Creeks Site (Site) located in Hamburg Borough, Berks County, Pennsylvania. The On-Scene Coordinator (OSC) has identified a threat posed by the conditions at the Site. The purpose of this Action Memorandum is to request funds to initiate the Removal Action described herein to mitigate the threat posed by hazardous substances, pollutants or contaminants at the Site. The contaminant of concern at the Site is lead which is a listed hazardous substance in accordance with 40 CFR Section 302.4.

## II. SITE CONDITIONS

### A. Site Description

The Site is portions of Kaercher and Mill Creeks, two streams that run through Hamburg Borough in close proximity to each other and in relation to several lead sites in Hamburg. Battery wastes have been disposed of at a number of locations along these Creeks, resulting in lead contamination on the banks and in the sediments. Figure 1, Site Location Map, shows the Site location within the Borough of Hamburg. The Site coordinates are 40.55352° north latitude and 75.98571° west longitude (these are the coordinates for Kaercher Creek at the Price Battery plant, which is approximately the mid-point of the creek). The creeks pass through a number of privately owned properties and some municipal properties. Portions of the creeks are relatively accessible, while some portions have steep banks or are channelized. No portions of the creeks are totally inaccessible, although some of the channelized sections run underneath buildings or roads in town.

Kaercher Creek flows from Kaercher Creek Park just outside the eastern border of Hamburg, past the Cornfield and Geary Drive Sites, past the Fieldhouse Site, into town, underneath the former Price Battery Plant Site, and then to its discharge point into the Schuylkill River. All of these Sites were assessed, and all were found to contain elevated lead levels, except for the Geary Drive Site.

Mill Creek flows from outside the northeast corner of Hamburg Borough, past the Hamburg center, through a municipal property, into the developed section of Hamburg Borough, then to the west, discharging into the Schuylkill River north of the mouth of Kaercher Creek. Sections of Mill Creek are also channelized and flow underneath buildings in town.

By counting the number of residential units in a 0.25-mile radius and multiplying by the persons per household county average, the estimated population may be determined within a 0.25-mile radius. The county average persons per household is 2.56, slightly higher than Hamburg's average of 2.16. The total population of the Hamburg Borough is 4,114, and the total number of housing units in Hamburg is 1,801. About 567 homes are located within 0.25 mile of the Site (U.S. Geological Survey [USGS] 1977). Using the Borough average, about 1,225 people live within 0.25 mile of the Site. About 1,104 homes are located within a 0.5-mile radius of the Site (USGS 1977). Using the Borough average, about 2,384 people live within 0.5 mile of the Site.

## **B. Background**

The Price Battery plant operated in Hamburg Borough from 1918 to the mid-1990's. During this time there were several different owners of the plant. During operations, battery casings were broken open, and the lead plates inside the batteries were removed for resmelting. The casing materials were given away as fill, and deposited in many places throughout the Borough. In 1994, the Environmental Protection Agency (EPA) began investigating the first of these areas. EPA conducted a Removal Action (RA) at the playground located at the Hamburg Lead Site, located to the south of the I-78 overpass. During this RA, the portion of the Schuylkill Canal located at the Playground was excavated, covered with clean fill, and capped with asphalt. This area is now used as a parking lot for the municipal park. Additional areas were covered with riprap along the bank of the Schuylkill River. No work was conducted beyond the limits of the parking lot. At a later date, an RA was conducted at the Fieldhouse, where battery casings had been used to surface the parking lot. Some wastes were removed, and the lot was paved to eliminate exposure to lead wastes; however the banks of Kaercher Creek were not addressed. In March 2000, the EPA performed a removal assessment of various areas of concern in the Borough of Hamburg, including the banks of the Schuylkill River adjacent to the municipal park. During this assessment, it was noted that the canal extended north beyond the I-78 overpass. On October 6, 2000, the EPA performed a removal assessment of this area that is named the Schuylkill Canal and Towpath (SCT). As a result of these investigations, several additional RA's were initiated.

Removal assessments were done on this Site in three different events. In August 2002, EPA OSC Greg Ham, using the Superfund Technical Assistance and Response Team (START), conducted a removal assessment of Kaercher Creek from just downstream of Kaercher Creek Park to the upstream edge of the former Price Battery plant property. In September/October 2002, a removal assessment of the former Price Battery plant, including Kaercher Creek within and downstream of the plant, was conducted. In October 2002, a removal assessment of Mill Creek was conducted. The creek portions of these assessments were intended to determine lead concentrations in sediments and bank soils to a depth of 12 inches. In addition, surface water samples were taken at some locations. Figures 2 through 8 identify the sampling locations and structures located within the area of concern (AOC).

All samples were analyzed by x-ray fluorescence (XRF) technology, following the EPA Emergency Response Team standard operating procedures. Ten percent of the samples (one of every 10) were sent to an EPA Contract Laboratory Program (CLP) laboratory for confirmation of lead results by XRF analysis.

### **C. Quantities and Types of Substances Present**

Lead contamination has occurred at this site due to disposal of lead contaminated battery casings at properties along the creeks, and from downstream migration of lead from these disposal areas and the former Price Battery Plant itself (for the downstream portion of Kaercher Creek), through erosion and flooding. Due to the lack of homogeneity of the dumping and the number of areas where dumping occurred, the cubic yardage of contaminated material is not yet known. Based on the surface area of the contamination and an estimated depth of fill in these areas, it is estimated that there are 4,600 cubic yards of lead contaminated materials at this Site.

For Kaercher Creek above the former Price Battery plant, 86 soil samples and 38 sediment samples were collected. Of these, 49 soil samples and 21 sediment samples exceeded 400 parts per million (ppm). All but one of these samples exceeding 400 ppm were downstream of Pine Street. Six of the sediment samples and 34 of the soil samples exceeded 1,000 ppm (including twelve soil samples along the banks at the Fieldhouse). The highest levels of lead found in the samples were: on the creek banks 23,590 ppm; along the top of the banks at the Fieldhouse 45,184 ppm; in the creek sediments 2,148 ppm.

For Kaercher Creek downstream of the former Price Battery plant, 75 soil samples and 40 sediment samples were collected and analyzed for lead. 66 of 75 soil samples and 38 of 40 sediment samples exceeded 400 ppm for lead, with highs of 19,100 ppm and 62,259 ppm respectively. 59 soil samples and 36 sediment samples exceeded 1,000 ppm of lead. Lead battery waste (casing fragments) were observed at the soil surface and in Kaercher Creek sediments from just below Pine Street all the way to the Schuylkill River. The length of contaminated banks and sediments along Kaercher Creek is approximately 1.125 miles.

For Mill Creek, 46 soil samples and 26 sediment samples were collected and analyzed for lead. For the soil samples, 11 of 46 exceeded the 400 ppm for lead (6 of the 11 exceeded 500 ppm). Five of these samples exceeded 1,000 ppm. For sediments, 4 of the samples exceeded 400 ppm for lead (however, only one was higher than 500 ppm at 1,389 ppm). Lead battery waste (casing fragments) were observed at the soil surface along one section of Mill Creek north of State Street, on the east bank of the creek. Few or no battery wastes were observed in the creek itself. There appear to be two problem areas on Mill Creek. One encompasses the eastern bank north of State Street, where four samples had lead levels ranging from 4,857 ppm up to 182,988 ppm. The other area of concern is at sample location MC-11, where a soil sample had 3,139 ppm and a sediment sample had 1,389 ppm of lead. The combined extent of these two areas along the stream is approximately 200 yards.

### **D. National Priorities List**

The Site is not on the National Priorities List (NPL). Information on the Kaercher and Mill Creek Sites has been provided to the Site Assessment program and EPA managers for evaluation for listing the Site on the NPL.

### E. State and Local Authorities

The OSC has coordinated with both Pennsylvania Department of Environmental Protection (PADEP) and Borough of Hamburg officials regarding the actions anticipated at the Site. The local government does not possess the funding to take the actions which the OSC proposes. PADEP is focusing on other priorities with their available funding and is therefore unable to address this Site at the present time

### III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

Section 300.415 of the NCP lists the factors to be considered in determining the appropriateness of a Removal Action. Paragraphs (b)(2)(i), (iv), (v), and (vii) of Section 300.415 directly apply as follows to the conditions as they exist at the Site.

300.415 (b)(2)(i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants

No actual exposure to lead battery waste has been documented by the OSC at this Site. However, both creeks flow through residential, commercial, and industrial areas of Hamburg. The highest lead levels on the banks of Kaercher Creek were found adjacent to the Fieldhouse parking lot. There are no fences or other barriers (other than heavy vegetation) restricting access to these areas. Both creeks flow into the Schuylkill River, which is used in this area for fishing and recreation. Evidence of human activity along the banks of the River at the mouth of the creeks was noted during the assessment.

For Kaercher Creek below Pine Street (just upstream from the Fieldhouse), 115 soil samples (83% of all soil samples taken) and 59 sediment samples (92% of sediment samples taken) had lead levels higher than 400 ppm. Lead levels as high as 45,184 ppm in soils and 62,259 ppm in sediments were found. For Mill Creek, two areas of concern had soil levels as high as 182,988 ppm and 3,139 ppm. The second area also had a sediment lead level of 1,389 ppm.

Lead is poisonous to humans by ingestion and inhalation. It is a suspected carcinogen in the lungs and kidneys. Human systemic effects by ingestion and inhalation are loss of appetite, anemia, malaise, insomnia, headache, irritability, muscle and joint pains, tremors, hallucinations, distorted perceptions, muscle weakness, gastritis, and liver changes. Lead also affects the human nervous system, the blood system and the kidneys. Chronic exposure can lead to irreversible vascular sclerosis, tubular cell atrophy, interstitial fibrosis, and glomerular sclerosis. Severe toxicity can cause sterility, miscarriage, and neonatal mortality and morbidity.

The OSC has submitted data packages to the Agency for Toxic Substances and Disease Registry (ATSDR) for their review and recommendations regarding actions to protect public health. In a Health Consultation dated January 2, 2003, the ATSDR representatives who had reviewed the reports on all three creek sections indicated that this Site represents a public health hazard and recommended that the battery casings and debris and soil in the affected areas be remediated to a safe level. In addition, ATSDR recommended that additional samples be collected and analyzed for lead in areas of the Site where flooding could have occurred.

300.415 (b)(2)(iv) High levels of hazardous substances or pollutants or contaminants near the surface that may migrate

Lead concentrations of up to 182,988 ppm have been documented at this Site located in the waste which is not protected from further release. Elevated levels of lead have also been found in soils and sediments on the banks or in the sediments of the creek. Due to the uncontrolled access to the Site, these contaminants have the potential for migrating primarily from stream flooding and erosion, particularly during storm events, or from typical human activities such as walking, or playing in or along the creeks. ATSDR has indicated that this Site represents a public health hazard and recommended that the battery casings and debris and soil in the affected areas be remediated to a safe level.

300.415 (b)(2)(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released

This Site consists of areas of lead contamination in Kaercher and Mill Creeks, or on the banks of these creeks. Precipitation (annual precipitation for Hamburg of 47.28 inches, year 2000) and storm conditions in this part of Pennsylvania could cause the migration of the lead contamination into the creeks and downstream to areas beyond the current extent of contamination. There are a number of residential, commercial and industrial properties along the creeks, and there are numerous access points to contaminated areas.

300.415 (b)(2)(vii) The availability of other appropriate Federal or State response mechanisms to respond to the release

The local government does not possess the funding to take the actions which the OSC proposes. PADEP is focusing on other priorities with their available funding and is therefore unable to address this Site at the present time

#### IV. ENDANGERMENT DETERMINATION

Actual or threatened release of pollutants and contaminants from this Site, if not addressed by implementing the response action selected and described in the Action Memorandum, will continue to be an imminent and substantial endangerment to the public health, or welfare, or the environment. ATSDR has indicated that this Site represents a public health hazard to the residents of the area.

#### V. PROPOSED ACTIONS AND ESTIMATED COSTS

##### A. Proposed Action

The Removal Action proposed for the Site is designed to mitigate the imminent threat posed to the public health, welfare and the environment by removing and/or stabilizing the lead contaminated soil, sediments and debris in the surface soils and creek bed at the Site. Unless otherwise specified by ATSDR, generally cleanup actions will be performed where lead is found in concentrations above 400 ppm. This number was selected to be protective of human health and to protect the ecological health of the creeks. In areas that are relatively inaccessible (channelized areas or areas where the stream flows through culverts), a level of 1,000 ppm will be used to determine if a cleanup is needed. This level was selected to remain consistent with the cleanup strategy at other Hamburg Lead Sites, including at the Berry Property, Hamburg Playground, Port Clinton Avenue, and the Railcut locations.

The proposed action consists of the following activities:

- Mobilize personnel and equipment to the Site as necessary.
- Restrict access to those areas of the Site where high levels of lead are present at the surface. At a minimum, place warning signs along contaminated areas of the creeks.
- Develop and implement a sampling plan to determine the extent of lead contaminated soil, sediments and debris at the Site and to determine the specific areas needing to be addressed.
- if necessary, implement measures to divert the flow of the creeks around work areas (construction of a dam just upstream of work areas, pumping water around the work area, discharging in downstream areas).
- Remove and properly dispose of lead contaminated soils, sediments, and debris found at the surface of the Site, on the banks, or in the stream bed, as needed to properly install a proper cover. Work will proceed from upstream areas, working downstream. Evaluate onsite treatment of lead contaminated soils and sediments, and if feasible, complete onsite treatment before disposal.
- Stabilize environmentally sensitive areas from further exposure and effects from lead waste, sediments and soil.
- Cover with clean soil, coir logs and/or matting, rip rap, or other appropriate fill materials and restore areas of the Site to prevent direct contact with lead contaminated soil and debris below the surface, if needed. In areas where lead contamination will remain below the surface, place a barrier (filter fabric, liner, hi-visibility safety fencing, or other material approved by the OSC) above the contamination to prevent exposure to these areas, prior to placement of fill materials.
- Implement institutional controls, as needed, to prevent future excavation or disturbance of areas where contamination is left below the surface.
- Vegetate and restore affected areas with appropriate plantings and/or seeds.

This removal action will be conducted in phases, beginning with the upstream sections and working downstream, to minimize impacts on already cleaned areas. In addition, a PRP for the Site may complete the removal action for that section of Kaercher Creek within the former Price Battery plant itself. The sequence of cleanup in that case will be coordinated between the EPA-lead portion of the cleanup (upstream and downstream of the plant) and the PRP-lead portion of the cleanup.

### B. Summary of Costs

Extramural Costs	Ceiling
Regional Allowance Costs	\$1,450,000
Other Extramural Costs Not Funded from the Regional Allowance	
START Contractor	84,000
Total CLP	50,000
Subtotal, Extramural Costs	\$1,584,000
Extramural Costs Contingency (20% of Subtotal, Extramural Costs)	317,000
<b>TOTAL REMOVAL PROJECT CEILING</b>	<b>\$1,901,000</b>

### C. Contribution to Remedial Performance

There are currently no plans for long-term Remedial Action. The proposed Removal Action, however, is not inconsistent with accepted removal practices and is expected to abate the threats that meet the NCP removal criteria. The proposed action is not anticipated to impede any future responses at this Site.

### D. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

The proposed Removal Action set forth in this Memorandum will comply with applicable or relevant and appropriate environmental and health requirements, to the extent practicable, considering the exigencies of the situation. Federal and State ARARs will be complied with to the extent practicable during all phases of this Removal Action.

### VI. EXPECTED CHANGE IN THE SITUATION SHOULD NO ACTION BE TAKEN OR ACTION DELAYED

If no action is taken or if action is delayed, the threat to human health, welfare or the environment will continue. Unless mitigation of the source of contamination (battery casings and contaminated soil and sediments) is conducted, a continual threat will exist to the persons who frequent the Site area. Furthermore, should the battery casings and contaminated soil and sediments remain unstable and no response be taken, contaminant migration from the erosion of source areas will continue.

### VII. ENFORCEMENT

See attached Confidential Enforcement Addendum.

**VII. ENFORCEMENT**

See attached Confidential Enforcement Addendum.

The total EPA costs for this Removal Action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be \$2,997,503. <sup>1</sup>

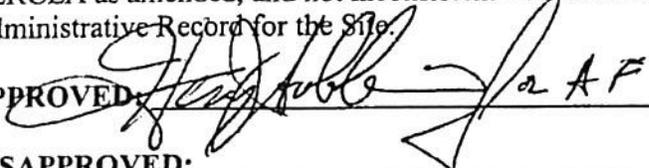
**VIII. OUTSTANDING POLICY ISSUES**

There are no known outstanding policy issues associated with this Site.

**IX. RECOMMENDATION**

Conditions at the Hamburg Kaercher and Mill Creeks Site meet the NCP Section 300.415(b) criteria for a removal and I recommend your approval of the proposed Removal Action. The total Removal Action Project Ceiling if approved will be \$1,901,000. Of this, an estimated \$1,450,000 comes from the Regional Removal Allowance.

This decision document represents the selected Removal Action for the Hamburg - Kaercher and Mill Creeks Site, in Hamburg, Pennsylvania, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the Administrative Record for the Site.

APPROVED:  DATE: 5/13/03

DISAPPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

**Attachments:**

- 1. Site Location Maps
- 2. Site Sampling Maps
- 3. ATSDR Health Consultation
- 4. Confidential Enforcement Addendum

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<sup>1</sup> Direct Costs include direct extramural costs and direct intramural costs. Indirect Costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgement interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.