



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

EPA Region 5 Records Ctr.



286112

JAN 22 2008

REPLY TO THE ATTENTION OF:

MEMORANDUM

SUBJECT: ACTION MEMORANDUM - Request to Conduct a Time-Critical Removal Action at the residential portion of the USS Lead Site, 5300 Kennedy Avenue (the area bounded by Chicago Avenue to the north, Parish Avenue to the east, USS Lead to the south and Aster Avenue to the west), East Chicago, Indiana, Lake County, Indiana (053J)

FROM: Fredrick A. Micke, On-Scene Coordinator
Emergency Response Branch 2 -- Section 3

TO: Richard C. Karl, Director
Superfund Division

THRU: Linda M. Nachowicz, Chief
Emergency Response Branch 2

I. PURPOSE

The purpose of this memorandum is to request and document your approval to expend up to \$472,110 to perform a time critical removal action to mitigate threats to public health, welfare, and the environment in residential areas adjacent to the USS Lead Site in East Chicago (Lake County), Indiana. The response action is necessary to address the release and the threat of future releases of lead contamination in these residential areas.

The response actions to the release and potential release of hazardous materials will be conducted in accordance with Section 104(a)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, (CERCLA), 42 U.S.C. § 9604(a)(1) to abate the further release into the environment. The presence of lead contaminated soil with concentrations up to 3,000 ppm which is above the regulatory removal action level of 1,200 ppm in residential areas makes this a time-critical removal action.

There are no nationally significant or precedent setting issues associated with the residential portion of the USS Lead Site. This Site is proposed for the National Priorities List.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID# IND047030226

The USS Lead Site includes the residential area north of the US Smelter and Lead facility in East Chicago, Indiana. The area is roughly bounded by Aster Street, Chicago Avenue, Parish Avenue, and 151st Street and includes about 1200 homes, a small number of parks, open space as a part of the railroad right-of-way, schools, and public buildings. Some properties in the residential area have levels of lead elevated above U.S. EPA cleanup levels. The likely source for the lead contamination is the USS Lead facility.

The US Smelter and Lead facility (USS Lead) was a primary and secondary smelter of lead in the East Chicago, Indiana area. It began operations around 1906 and ended in 1985. From about 1920 until 1973, USS Lead was a primary smelter of lead. This included a refining process to create high quality lead free of bismuth. From 1973 until its closure in 1985, USS Lead was a secondary smelter and a reprocessor of car batteries. The secondary refinery operations included: battery breaking with tank treatment of spent battery acid at a rate of 16,000 gallons per day; baghouse dust collection with storage in on-site waste piles of up to 8,000 tons of flu dust; and blast furnace slag disposal, which was deposited in the wetland adjacent to and along the southern boundary of the facility. Secondary lead recovery operations ceased in 1985. USS Lead paid out a settlement to fund the operation and maintenance at the closed and remediated facility in an agreement with the Resource Conservation and Recovery Act (RCRA) Corrective Action part of the U.S. EPA.

The East Chicago neighborhood, around USS Lead, has been an area of intense industrial activity dating back to the early 1900's. Smelting and other metal related processes dominated the activities in the area. Many of the companies involved in metal work included lead related processes which operated smelting and lead compound production. As a part of their activities, the companies in the area generated lead product or waste in a particulate form. The potential emission sources at these facilities include: furnace stacks, waste piles, and spills of lead products. Chronic airborne pollution from USS Lead and other facilities in the area is the probable source of the lead contamination in the area.

The Indiana Department of Environmental Management (IDEM) sampled some of the residential properties to the north of USS Lead in 1985. IDEM found elevated lead levels in these residential yards and attributed the contamination to USS Lead. In September of 1985, the Indiana State Board of Health found USS Lead in violation of state law and made the statement that the lead contaminated soils may pose a risk to human health and the environment. IDEM referred the USS Lead facility to U.S. EPA for cleanup.

Since 1985, U.S. EPA RCRA Corrective Action has overseen the remediation and management of lead-contaminated soils within the boundaries of the U.S. Smelter and Lead Refinery, Inc. facility. The cleanup efforts at the facility included the placement of

the contamination in a Corrective Action Management Unit (CAMU) and the remediation of the on-site wetlands. In 2003, U.S. EPA sampled soils in the residential area north of USS Lead as a part of the RCRA Corrective Action investigation. These sampling results showed some yards to have high levels of lead contamination. Most of the yards with the highest lead sampling results were in the southern region of the residential area.

In Region 5, the Environmental Justice (EJ) Criteria for Indiana is: the low income percentage is 58% or greater and/or the minority percentage is 28% or greater. To meet the environmental justice (EJ) criteria, the area within 1 mile of the Site must have a population that is twice the state low-income percentage and/or twice the state minority percentage. At this site, the low-income percentage is 58% and the minority percentage is 92%. Therefore, this Site does meet the Region's EJ criteria based on demographics as identified in the "Region 5 Superfund EJ Analysis USS Lead Site, East Chicago, IN" (Attachment 2).

III. THREATS TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The conditions at the USS Lead Site present an imminent and substantial endangerment to the public health, welfare, and the environment and meet the criteria for a time-critical removal action provided for in Section 300.415 (b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), as amended, 40 C.F.R. Part 300. The criteria include, but are not limited to the following:

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

Lead contaminated-soil is situated throughout the residential community near the site. Samples taken by U.S. EPA of the soil in specific residential properties showed elevated concentrations of lead. Surface soil samples collected at 11 properties showed levels of lead exceeding 1,200 ppm. The highest sample found had a lead level of 3,000 ppm. This exceeds the regulatory removal action level of 1,200 ppm.

ii) Elevated levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface.

U.S. EPA sampling verified many of these results. There are elevated levels of hazardous wastes present at the residential areas surrounding the USS Lead Site. Surface soil samples collected at 11 properties showed levels of lead exceeding 1,200 ppm. The highest sample found had a lead level of 3,000 ppm which exceeds the regulatory removal action level of 1,200 ppm.

iii) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

The Site Assessment documented surface soil samples with elevated total lead concentrations of up to 3000 mg/kg. Heavy rains may cause further migration of contaminants off site. Winds could cause dust particles containing heavy metals to continue to migrate into the surrounding community. These weather conditions could result in a continued release of the hazardous wastes described herein to the surrounding soil, air and surface water.

iv) The availability of other appropriate federal or state response mechanisms to respond to the release.

The State of Indiana does not have the financial resources to eliminate this threat.

IV. ENDANGERMENT ASSESSMENT

Given the site conditions, the nature of the suspected hazardous substances off-site and the potential exposure pathways described in Sections II and III above, the actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response actions selected in the Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

The response actions described in this memorandum directly address actual or potential releases of hazardous substances on Site, which pose an imminent and substantial endangerment to public health, or welfare, or the environment. Removal activities on Site will include:

- 1) Prepare a work plan that includes tasks and time line for the activities as well as a site Health and Safety Plan addressing continuous monitoring of airborne contaminants and dust control measures.
- 2) Obtain site access to conduct a removal action from those residences which exceeded 1,200 ppm lead as determined by U.S. EPA's Site Assessment of June, 2006. Lead is considered the main contaminant of concern. Removal cleanup levels for lead are 400 ppm for the residential properties, as noted in guidance from ATSDR. Impacted residences will be cleaned to these action levels.
- 3) Provide site security measures as required.
- 4) If temporary, on-site disposal is to be conducted, consolidate hazardous waste

covering the surface of the property to create a temporary storage area.

- 5) If temporary, on-site disposal is to be conducted, construct a temporary cover over consolidation area and areas exceeding the established action levels for the metals of concern.
- 6) Excavate and dispose of significantly contaminated soil located at residential properties and conduct confirmation sampling of these areas.
- 7) Backfill the excavated areas with clean material and topsoil. Restore and vegetate to prevent soil erosion.
- 8) Properly address any additional hazardous waste and/or materials identified during the removal action.
- 9) Ensure that the proposed cleanup adequately protects human health, welfare, and the environment from the hazardous waste described in this Action Memo.

The removal action will be conducted in a manner not inconsistent with the NCP. The OSC has initiated planning for provision of post-removal Site control consistent with the provisions of Section 300.415(1) of the NCP. Elimination of all surface threats is, however, expected to minimize the need for post-removal Site control.

In 2006, EPA obtained and analyzed soil samples collected from 13 residences. It selected the 13 residences after reviewing the results of XRF data gathered in 2003. The XRF data consisted of approximately 80 data points scattered throughout the residential portion of the USS Lead site. The XRF results showed the highest concentrations of lead in soils in the area immediately north and northeast of the USS Lead facility with concentrations generally diminishing as the distance from the USS Lead facility increased. The 13 residences sampled were located in areas that EPA suspected had concentrations of lead equal to or greater than 1200 ppm.

At this time, EPA has found 11 properties that meet the action level for a removal action (lead concentrations in soils of equal to or greater than 1200 ppm). This number may rise as further information may indicate additional homes that meet the action level.

U.S. EPA Site Assessment is working with IDEM on evaluating the site and has initiated the preliminary steps of the NPL listing process. Future activities will be coordinated with the Removal and Remedial programs based on the outcome of that process.

U.S. EPA conducted further sampling in East Chicago, IN, in order to better understand the lead contamination in neighborhood soils. In order to accomplish this U.S. EPA collected data that determined the applicability of real-time field based screening approaches at the site by establishing a calibration between the XRF (field portable X-ray fluorescence) and lab data. While all samples were sent to the lab for analysis, data from the XRF was also collected in the field in order to demonstrate the applicability of

XRF methods at this site. The data was used to develop a site-specific relationship between XRF and lab data, and determined that the XRF met data quality objectives for future work at this site.

The removal activities are expected to take 24 on-site working days to complete.

As determined by U.S. EPA, all hazardous substances, pollutants, or contaminants removed off-site pursuant to this removal action for treatment, storage, or disposal shall be treated, stored, or disposed of at a facility in compliance with Off-Site Rule, 40 CFR § 300.440.

The response actions described in this memorandum directly address actual or threatened releases of hazardous substances, pollutants, or contaminants at the Site which may pose an imminent and substantial endangerment to public health and safety and the environment. These response actions do not impose a burden on the affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

REMOVAL PROJECT CEILING ESTIMATE

EXTRAMURAL COSTS:

Regional Removal Allowance Costs:

Total Cleanup Contractor Costs	\$376,800
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(This cost category includes estimates for: ERRS, subcontractors, Notices to Proceed, and Interagency Agreements with other Federal Agencies. Includes 20% Contingency.)

Other Extramural Costs not Funded from the Regional Allowance:

Total START, including multiplier costs	\$16,625
<u>Subtotal, Extramural Costs</u>	<u>\$393,425</u>
Extramural Costs Contingency (20% of Subtotal, Extramural Costs)	<u>\$78,685</u>
TOTAL, REMOVAL ACTION PROJECT CEILING	\$472,110

Applicable or Relevant and Appropriate Requirements

All applicable, relevant, and appropriate requirements (ARARs) of Federal and State law will be complied with to the extent practicable. An e-mail was sent to Mr. Harry Atkinson of IDEM asking for any State of Indiana ARARs that may apply.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Failing to take, or delaying action will increase the potential that toxic hazardous substances will be released, thereby threatening the adjacent population and the environment.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this site is contained in the Enforcement Confidential Addendum.

The total U.S. EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be \$752,479.¹

$$(\$472,110 + \$10,000 \text{ [Headquarters]}) + (55.15\% \times \$472,110 + \$10,000) = \$752,479$$

¹Direct 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-judgment 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.

IX RECOMMENDATION

This decision document represents the selected removal action for the residential portion of the USS Lead Site located in East Chicago, IN. It was developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for the Site (Attachment 1). Conditions at the Site meet the NCP Section 300.415(b)(2) criteria for a removal and I recommend your approval of the proposed removal action.

The total removal action project ceiling if approved will be \$472,110. Of this, an estimated \$376,800 may be used for cleanup contractor costs. You may indicate your decision by signing below.

APPROVE  DATE: 1-22-00
Director, Superfund Division

DISAPPROVE _____ DATE: _____
Director, Superfund Division

**Enforcement Addendum
Attachments**

1. Administrative Record Index
2. Environmental Justice Analysis
3. Enforcement Addendum
4. Detailed Cleanup Contractor Cost Estimate
5. Independent Government Cost Estimate

cc: D. Chung, U.S. EPA 5202G
M. Chezick, U.S. Department of Interior, w/o Enf. Addendum
E. Admire, IDEM w/o Enf. Addendum

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(REDACTED 1 PAGE)

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

ATTACHMENT 1

**ADMINISTRATIVE RECORD INDEX
USS LEAD
EAST CHICAGO, IN**



ATTACHMENT 1

U.S. ENVIRONMENTAL PROTECTION AGENCY REMOVAL ACTION

ADMINISTRATIVE RECORD FOR USS LEAD SITE EAST CHICAGO, LAKE COUNTY, INDIANA

ORIGINAL
DECEMBER 7, 2007

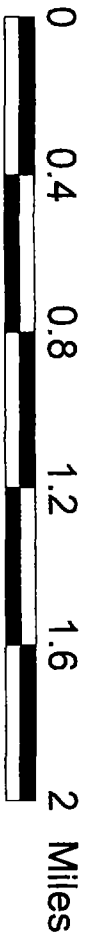
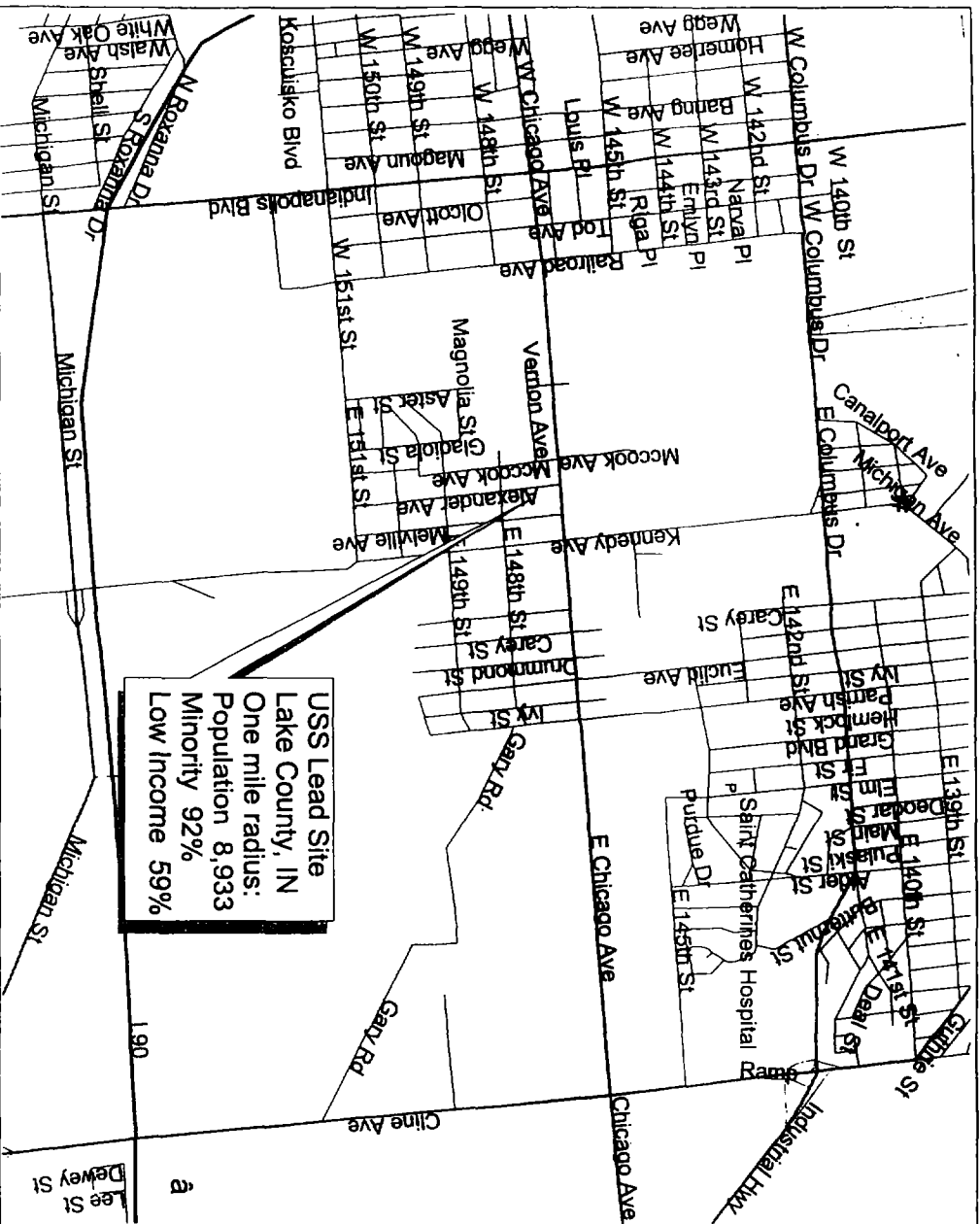
<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	04/28/06	U.S. EPA/ CRL	File	Generic Chain of Custody for the US Smelter Lead Refinery	26
2	05/02/06	U.S. EPA/ CRL	File	Generic Chain of Custody for the US Smelter Lead Refinery	17
3	05/26/06	U.S. EPA/ CRL	File	Review of Region 5 Data for US Smelter Lead Re- finery (ICP and GFAA Metals for Waters and Soils)	224
4	00/00/00	Micke, F., U.S. EPA	Karl, R., U.S. EPA	Action Memorandum: Request to Conduct a Time Critical Removal Action at the Residential Portion of the USS Lead Site (PENDING)	

ATTACHMENT 2

**ENVIRONMENTAL JUSTICE
USS LEAD
EAST CHICAGO, IN**

Region 5 Superfund EJ Analysis

USS Lead Site East Chicago, IN



State of Indiana averages:
 Minority: 14%
 Low Income: 29%

U.S. EPA Region 5
 Environmental Justice Case Criteria
 for State of Indiana
 Minority: 28% or greater
 Low Income: 58% or greater

Date of Map: 10/6/05
 Source of Map: Census 2000 Database/
 ArcView 3.0

ATTACHMENT 3

**ENFORCEMENT ADDENDUM
USS LEAD SITE
EAST CHICAGO, LAKE COUNTY, INDIANA**

(REDACTED 6 PAGES)

**ENFORCEMENT CONFIDENTIAL
NOT SUBJECT TO DISCOVERY**

ATTACHMENT 4

**DETAILED CLEANUP CONTRACTOR COST ESTIMATE
USS LEAD SITE
EAST CHICAGO, LAKE COUNTY, INDIANA**

(REDACTED 1 PAGE)

**ENFORCEMENT CONFIDENTIAL
NOT SUBJECT TO DISCOVERY**

ATTACHMENT 4

**INDEPENDENT GOVERNMENT COST ESTIMATE
USS LEAD SITE
EAST CHICAGO, LAKE COUNTY, INDIANA**

(REDACTED 1 PAGE)

**ENFORCEMENT CONFIDENTIAL
NOT SUBJECT TO DISCOVERY**