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EJ ANALYSIS MAP

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

178340

0000005

REPLY TO THE ATTENTION OF:

SE-5J

**MEMORANDUM**

**DATE:** JUL 21 2000

**SUBJECT:** **ENFORCEMENT ACTION MEMORANDUM** - Determination of Need to Conduct a Time-Critical Removal Action at the Old American Zinc Site, Fairmont City, St. Clair County, Illinois 62201 (Site ID: B5A1)

**FROM:** Michael D. Harris, On-Scene Coordinator  
Emergency Response Branch - Section II

**TO:** William E. Muno, Director  
Superfund Division

**THRU:** Richard Karl, Chief *RFK*  
Emergency Response Branch

**I. PURPOSE**

The purpose of this memorandum is to document the need to conduct a time-critical removal action to mitigate an imminent and substantial threat to the public health and the environment posed by the presence of hazardous substances located at the Old American Zinc (OAZ) Site and surrounding residences. The OAZ site is a former zinc smelting site located at, 2575 Kingshighway, Fairmont City, St. Clair County, Illinois 62201. Soils containing hazardous wastes are present at the OAZ site and surrounding residential areas. This response action is necessary to mitigate the immediate threat to public health and the environment posed by these hazardous substances. The soil data shows elevated levels of arsenic, cadmium, lead and mercury. Lead is considered the main contaminant of concern.

Environmental Protection Agency (EPA) has determined that the site is eligible for listing. This site does not exhibit any nationally significant or precedent-setting issues associated with the response action herein described.

CERCLIS ID Number IL0000034355

## **II. SITE CONDITIONS AND BACKGROUND**

### **A. Site Description**

#### **1. Site History**

From 1913 until 1967, the Old American Zinc Company operated a primary smelter facility on the property. The waste products from the operation included slab zinc, zinc oxides, zinc carbonate, cadmium, lead, sulfuric acid, and waste slag. Old American Zinc piled the slag along the northern portion of the site. Over the years, these piles grew to the size of large mounds. XTRA Intermodal, the current site owner, spread a good deal of this material in an effort to level the site, and some of the waste slag may have been spread on icy streets by Fairmont City employees. It is unknown what Old American Zinc did with the coal tar that was also generated as a byproduct of smelter operations; some of it may remain on site.

The property lay vacant from 1967, when Old American Zinc discontinued its Fairmont City operation, until 1976. In 1976, XTRA Intermodal, a division of Boston-based X-L Company, leased the site to store semi-trailers. In 1979, XTRA Intermodal bought the property and has run its trailer leasing operation from there ever since.

In 1994, the Illinois Environmental Protection Agency (Illinois EPA) conducted a site assessment of the OAZ site as a result of complaints by local residents about smelter slag dust blowing onto their properties. Some properties were impacted to the extent that lawn growth was inhibited. During its investigation, Illinois EPA interviewed other neighbors and collected soil and sediment samples. Samples were collected on the OAZ industrial property, in surrounding residential yards, in Rose Creek, and in the wetland north of Collinsville Road.

Results from analysis of the Illinois EPA samples indicated the presence of elevated levels of the following: 10 semivolatile compounds and numerous inorganic substances, especially arsenic, cadmium, copper, lead, mercury, and zinc, in soils and slag on the industrial property; arsenic, cadmium, copper, lead, and zinc in residential soils; and heavy metals, especially cadmium, copper, lead, mercury, and zinc, in Rose creek.

## **2. Physical location**

The Old American Zinc (OAZ) site consists of two parts: a 132-acre industrial property located at 2575 Kingshighway in Fairmont City, St. Clair County, Illinois 62201; and an unknown number of residential properties surrounding the industrial property. Coordinates for the industrial property, as represented by the front gate on Kingshighway, are latitude 38° 39'06.9 north by longitude 90° 05'35.8" west.

There are residential areas approximately one city block north and west of the property, and industrial sites to the south and east. The property is bordered by Delmar Street on the north, Kingshighway and Rose Creek on the east, 45<sup>th</sup> Street on the west, and railroad tracks of the Penn Central and Baltimore & Ohio lines on the south. Rail car loading and unloading facilities border the property on the south. After flowing south between the eastern edge of the industrial property and Kingshighway, Rose Creek cuts southwest across the property to the southern edge, then westward off site, and eventually into a wetland north of Collinsville Road (Attachment 3 shows the site area).

Except for three large slag piles and ditch-like Rose Creek, most of the industrial property is flat. All of the Old American Zinc buildings have been demolished and only their foundations can now be seen in many locations around the property. The property is almost entirely covered with a layer of dark brown to black slag, a waste product of the smelting furnaces. Crushed limestone has been placed over the slag in many locations to construct roadways and parking areas. Sparse vegetation over most of the property consists mainly of moss patches, but wetland plants grow along the course of Rose Creek and in a poorly-drained low-lying area of approximately 3 to 4 acres located in the southeastern corner of the property.

The property is entirely fenced with access via the main gate on Kingshighway and another unpaved road at the southwest corner of the property. Relatively new buildings immediately inside the Kingshighway gate house the offices and operations of XTRA Intermodal, the current site owner.

In Illinois, the low-income percentage is 27% and the minority percentage is 25%. To meet the Environmental Justice (EJ) concern criteria, the area within 1 mile of the Site must have a population that's twice the state low-income percentage and/or twice the state minority percentage. That is, the area must be at least 54% low income and/or 50% minority. At this Site, the low-income percentage is 44.3% and the minority percentage is 49.35% as determined by ArcView EJ analysis. However, less than 1 mile south of the Site, the low-income percentage is 70.0% and the minority percentage is 54.67% as determined by ArcView EJ analysis. Therefore, these demographic conditions indicate an EJ priority for the community around the site (see Attachment 4).

### **3. Removal site evaluation**

On November 2, 1999, OSC Michael Harris and START member Larry Lueck mobilized to the OAZ site to perform a site assessment. They were met at the XTRA Intermodal offices by Kevin J. Barnes of Dames & Moore (D&M), environmental consultant for XTRA Intermodal, and began a site reconnaissance and sampling. All samples were collected on November 2 and November 3, 1999. START collected each sample and provided portions of samples from the industrial property to D & M, in bottles furnished by them, for independent laboratory analysis. D & M declined portions of samples collected off the industrial property, but observed all sample collection and decontamination procedures.

START collected one duplicate soil sample on each of the two sampling days. All soil samples from the industrial property consisted of fine-grained slag. EPA soil sample portions from the industrial property were analyzed for both total Resource Conservation and Recovery Act (RCRA) metals and zinc, and toxic characteristic leaching procedure (TCLP) RCRA metals and zinc. START collected each sediment sample at or below the water line. EPA sediment samples were analyzed for both total RCRA metals and zinc, and TCLP metals and TCLP zinc. Residential properties sampled were those at which the analysis of Illinois EPA soil samples indicated elevated levels of heavy metals. Each residential soil sample was analyzed for total RCRA metals and zinc.

A summary of the soil and sediment analytical data indicate elevated levels of contaminants. Soil samples OZS1, OZS1D (duplicate of OZS1), OZS2, and OZS3, collected at various locations on flat ground on the industrial property, had concentrations of total lead ranging from 4,646 milligrams per kilogram (mg/kg) to 23,110 mg/kg, and cadmium concentrations up to 745 mg/kg. The usual cleanup action level for lead in industrial property is 1000 mg/kg. These samples also showed concentrations of TCLP cadmium and lead above the regulatory maximum concentrations of 1.0 milligrams per liter (mg/L) and 5.0 mg/L, respectively. Sample OZS5, taken from a waste slag pile, had elevated total lead at 2,970mg/kg.

Sediment samples OZD2 and OZD3, collected at an on-site midpoint of Rose Creek and at the point where Rose Creek flows off site, had elevated total lead concentrations of 1,620 mg/kg and 3,440 mg/kg, respectively. Sample OZD3 also had a TCLP cadmium concentration of 1.28 mg/L, above the regulatory maximum of 1.0 mg/L. Total zinc in the two samples were 16,460 mg/kg and 22,950 mg/kg, respectively.

OZS8/OZS8D was a residential soil sample that showed heavy metal contaminant levels above usual cleanup action levels. At 815 mg/kg (820 mg/kg for duplicate OZS8D), the lead concentration in this sample is above the usual cleanup action level of 400 mg/kg for lead in residential soil.

**4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant**

A Health Consultation report released on February 14, 1996 by the Agency for Toxic Substances and Disease Registry states that the OAZ Site poses a public health threat based on chronic exposure of children to arsenic, cadmium, and lead in the residential soils. Nearby residents are exposed to contaminated airborne particulates which originate at the OAZ Site. Worker exposure to on-site contaminants also occurs. The highest exposures would likely occur during activities which disturb the waste material, such as the movement of heavy trucks and machinery at the site.

**B. State and Local Authorities' Role**

**1. State and local actions to date**

In 1994, the Illinois EPA conducted a site assessment of the OAZ site as a result of complaints by local residents about smelter slag dust blowing onto their properties. Illinois EPA will be unable to mitigate threats from this site posed by the presence and migration of hazardous wastes. The site has been referred to the EPA for possible removal actions. The EPA has determined that a time-critical removal action is necessary to abate threats to human health and the environment.

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

The conditions at the Old American Zinc site constitute a threat to public health and welfare or the environment based upon the considerations set forth in the National Contingency Plan (NCP), 40 CFR Section 300.415 (b)(2) which include, but are not limited to the following:

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

Smelting waste and cinders cover the site. Samples taken by EPA of the soil on site and specific residential properties showed elevated concentrations of RCRA metals. All of the on-site soil samples taken on flat ground exceeded the 5.0 mg/l and 1.0 mg/l RCRA TCLP regulatory concentration limits for lead and cadmium, respectively.

These smelting wastes pose a threat to human health and the environment. The wastes are being blown from the site to nearby residences, the wastes are entering the sediments and waters of nearby creeks and wetlands where they are being transported offsite, and the wastes pose a threat to workers at or near the site, such as the drivers of trucks currently using the site, workers at the rail loading facility and other industrial facilities located near the site, trespassers, including children from the surrounding residences, and pedestrians and motorists on nearby roads.

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

Illinois EPA conducted a CERCLA Integrated Site Assessment (ISA) at the site. Numerous soil samples were taken and analyzed. Many of these samples indicated arsenic, cadmium, lead, and zinc at elevated levels. EPA sampling verified these results. There are elevated levels of hazardous wastes present at the OAZ Site and surrounding residential areas.

**3. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.**

The Site Assessment documented that surface runoff from the site empties into a point where Rose Creek flows off site. Sediment sample results indicate elevated total lead concentrations of up to 3,440 mg/kg. Heavy rains may cause further migration of contaminants off site. Winds could cause dust particles containing heavy metals 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.

**4. The availability of other appropriate federal or state response mechanisms to respond to the release.**

Illinois EPA requested U.S. EPA, Region 5, assistance with the Old American Zinc site. The State of Illinois does not have the funds to undertake removal of the hazardous wastes found at this site.

**IV. ENDANGERMENT DETERMINATION**

Local residents complain of black dust blowing off the industrial property and inhibiting plant growth in their yards. The presence of elevated concentrations of arsenic, cadmium, lead and mercury on surface soils and slag material as stated in Section II above, poses an imminent and substantial endangerment to the community. Therefore, given the site conditions, the nature of the hazardous substances, and the potential exposure pathways described in Section III above, actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

**V. PROPOSED ACTIONS**

**A. Proposed Actions**

The response actions described in this memorandum directly address actual or threatened releases of hazardous substances or contaminants at the site, and at surrounding residential areas, which may pose an imminent and substantial endangerment to public health and safety, or the environment.

The purpose of this removal action is to mitigate the imminent and substantial threats posed to public health or welfare or the environment from wastes at the site. The proposed immediate response action includes the following actions:

- 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) Perform a soil characterization survey, with appropriate QA/QC, to determine the levels of specific metals in the surface soil and sediments in the creeks throughout surrounding residential and industrial property. The metals of concern are arsenic, cadmium, lead, and mercury. Lead is considered the main contaminant of concern. Removal action levels for lead are 1000 parts per million (ppm) for the industrial property and 400 ppm for the residential properties. The site, including impacted residences, will be cleaned to these action levels.
- 3) Provide site security measures as required.
- 4) Consolidate hazardous waste covering the surface of the industrial property.
- 5) 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 concrete and soil located at residential properties due to the hazardous waste migration from the OAZ Site 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.



**B. Contribution to remedial performance**

The proposed removal action will not impede future responses based upon available information. EPA will determine if further remedial response actions are warranted to ensure that the Site does not pose a threat to human health, welfare, or the environment. Institutional controls may also be considered to limit future uses of the site.

The proposed removal action will address all threats meeting the NCP Section 300.415(b)(2) removal criteria as identified in Section III of this Action Memorandum.

**C. Applicable or relevant and appropriate requirements (ARARs)**

A letter will be sent to Pete Sorensen of the Illinois EPA, requesting the State to identify State ARARs. Compliance, to the extent practicable, with all ARARs of Federal and State environmental statutes and laws identified in a timely manner will be assured during this removal action.

The removal action will be taken 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(i) of the NCP.

All hazardous waste generated pursuant to the removal action will be disposed of in compliance with the Off-Site Rule, 40 CFR Section 300.440, 58 Federal Register 49215 (September 22, 1993).

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 or to 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.

**D. Project Schedule**

The removal action is expected to take place in phases. A soil characterization survey to determine the levels of specific metals in the surface soil, sediments in the creeks, surrounding residences, and industrial property should occur prior to mobilizing equipment and personnel. This will ensure all contaminated areas are identified. Work may then proceed on the residential contamination as well as the industrial site.

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

Delay or non-action may result in an increased likelihood of direct contact threats to the public residing near the site and workers on-site. Additionally, there may be further releases to on and off site soils and water.

**VII. OUTSTANDING POLICY ISSUES**

There are no outstanding policy issues associated with this site.

**VIII. ENFORCEMENT**

U.S. EPA will be working in coordination with the potentially responsible party (PRP) to eliminate the hazards posed by the site. For administrative purposes, information concerning the enforcement strategy for this site is contained in an Enforcement Confidential Addendum.

**IX. RECOMMENDATION**

This decision document represents the selected removal action for the Old American Zinc Site, Fairmont City, St. Clair County, Illinois, developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based on the information in the Administrative Record for the site. Conditions at the site meet the NCP Section 300.415(b)(2) criteria for a removal action. You may indicate your decision by signing below.

APPROVE: \_\_\_\_\_ DATE: \_\_\_\_\_  
Director, Superfund Division

DISAPPROVE: \_\_\_\_\_ DATE: \_\_\_\_\_  
Director, Superfund Division

Attachments:

1. Administrative Record Index
2. Enforcement Addendum
3. Site Map
4. Region 5 Superfund EJ Analysis

cc: K. Mould, U.S. EPA HQ, 5202G  
M. Chezik, U.S. Department of Interior, **w/o Enf. Addendum**  
P. Sorensen, IL EPA, **w/o Enf. Addendum**  
T. Skinner, IL EPA, **w/o Enf. Addendum**

## ATTACHMENT 1

U.S. ENVIRONMENTAL PROTECTION AGENCY  
REMOVAL ACTIONADMINISTRATIVE RECORD  
FOR  
OLD AMERICAN ZINC SITE  
FAIRMONT CITY, ST. CLAIR COUNTY, ILLINOISORIGINAL  
JUNE 9, 2000

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	00/00/00	Illinois EPA	U.S. EPA	CERCLA Integrated Site Assessment Report for the Old American Zinc Site	103
2	02/14/96	Illinois Department of Public Health/ATSDR	U.S. EPA	Health Consultation for the Old American Zinc Site	24
3	04/22/99	U.S. EPA	File	Memorandum re: Strategy Approval for the Old American Zinc Site	49
4	12/10/99	Ecology and Environment, Inc.	U.S. EPA	Letter Report for the Old American Zinc Site	50
5	00/00/00	Harris, M., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Determination of Need to Conduct a Time-Critical Removal Action at the Old American Zinc Site (PENDING)	

**OLD AMERICAN ZINC  
ORIGINAL AR**

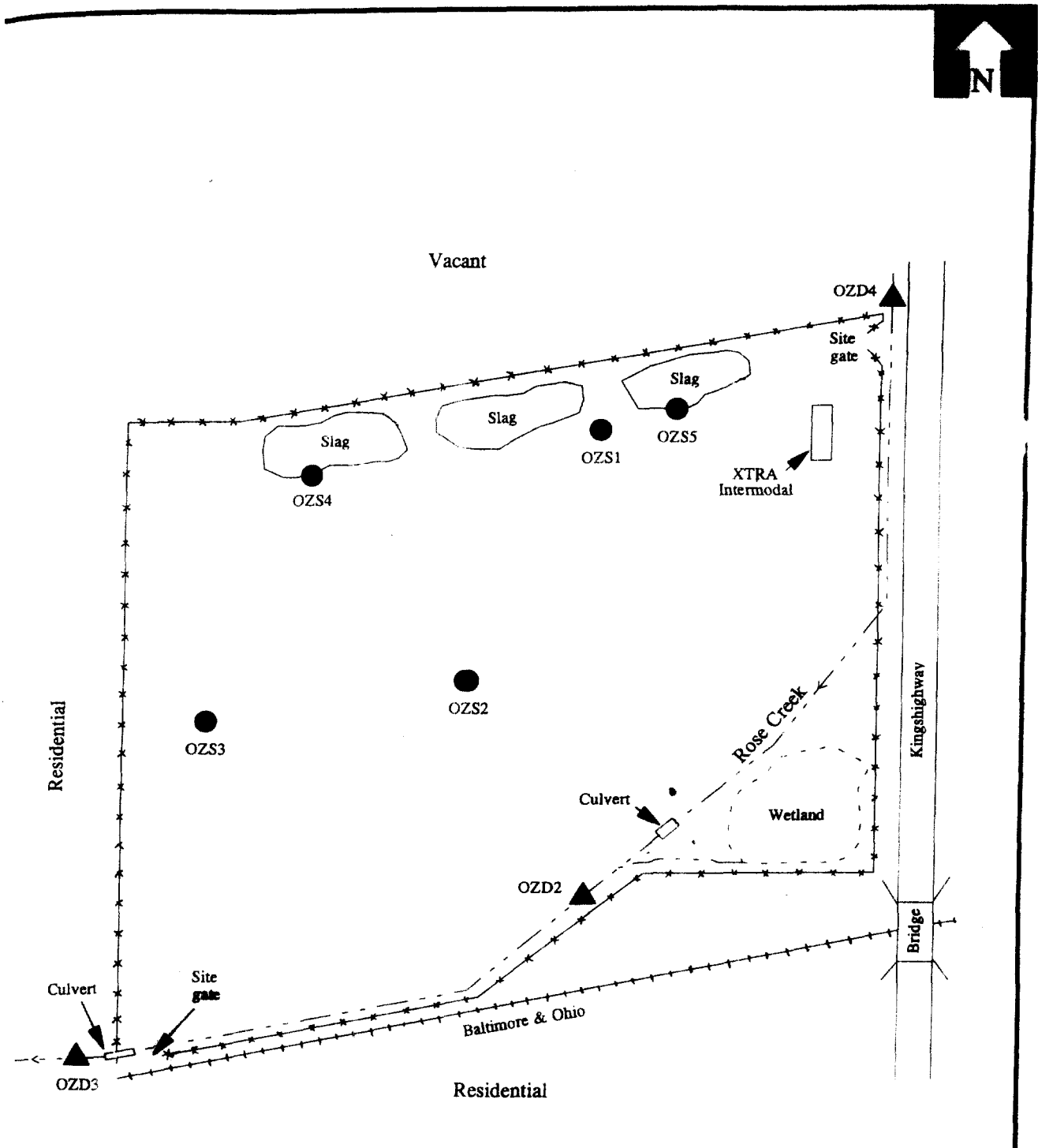
**ATTACHMENT 2**


**ENFORCEMENT ADDENDUM  
2 PAGES**

**REDACTED**

**NOT RELEVANT TO THE SELECTION OF  
THE REMOVAL ACTION**

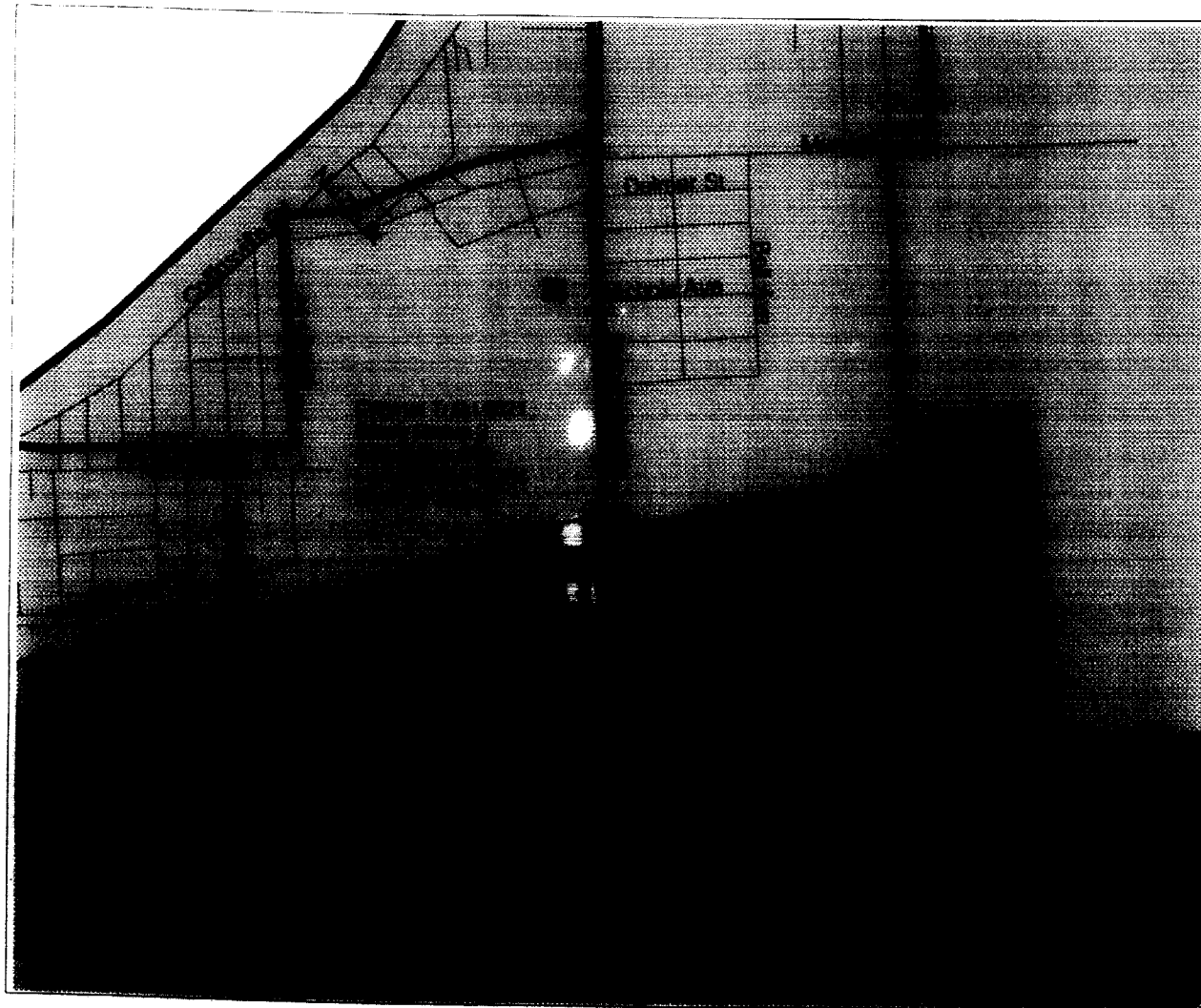
ATTACHMENT 3








<b>Legend</b> ● Soil sample location ▲ Sediment sample location - - - - - Creek/ditch * * * * * Site fence + + + + + Railroad tracks	 <b>ecology and environment, inc.</b> Region 5 - Superfund Technical Assessment and Response Team 33 North Dearborn Street, Chicago, Illinois 60602	
	TITLE	FIGURE
	SITE	SCALE
	CITY	TDD
	SOURCE	DATE
	Site Features and On-Site Sample Location Map	2
	Old American Zinc	Not to scale
	Fairmont City STATE Illinois	S05-9907-013
	Ecology and Environment, Inc.	November 1999

# Region 5 Superfund EJ Analysis

## Old American Zinc Site      Fairmont City, IL



### EJ Identification

-  Low Income and Minority Less than State Average
-  Low Income or Minority at or Greater than State Average
-  Low Income or Minority 2 Times or Greater than State Average  
[ meets Region 5 EJ Case criteria ]
-  Site Location
-  Block Group Boundary

Region 5 EJ Case Criteria for Illinois  
Minority: 50% or greater  
Low Income: 54% or greater

