AUG 29 RECD

ecology and environment, inc.

223 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60606, TEL. 312-663-9415

International Specialists in the Environmental Sciences

Can S.I. to be scored based on data from previous SI? Second PA for this site — Original was classified as "pending" — This needs Review

DATE: May 26, 1983

TO: File/USEPA Region V

FROM: Mark Lunsford

SUBJECT: Preliminary Assessment
Indiana/TDD#R5-8212-02A, PAG #020
East Chicago/U. S. S. Lead Refining, Inc.
IND047030226

Attached is EPA's Preliminary Assessment Form 2070-12 for the above referenced site.

Primary information was gathered from the following source(s):

1. Ecology and Environment, FIT files, Region V-Chicago
2.
3.

Information indicates the following responsible parties should be listed. They are listed here because of space limitations:

1. Donald J. Bidwell, Vice-President and General Manager U. S. S. Lead
2. Joel Smollen, Plant Manager
3. Wes Dyman, Assistant Plant Manager

Presently, data gaps or no verification exists in the following key area(s):

1. Extent of groundwater contamination
2. Groundwater use in vicinity
3. Extent of surface water contamination

A review of the available data indicates that additional information will be necessary to assess the impact(s) on:

1. Groundwater
2. Surface water
3.
4.
5.

Suggested methods/sources for obtaining additonal information are:

1. *SEE ATTACHED*
2.
3.

Notice of an apparent need for emergency action was transmitted to _____ on prior to April, 1980 by Robert Stone and Elissa Brown of Air and Hazardous Materials Div.

recycled paper

For more information contact:

1. Dr. Robert Gnaedinger, Jr., USEPA, Chicago, Region V
2. Clarence Bieze, FIT, Region V - Chicago, 312/663-9415
3. Groundwater investigation
4. Ron Lillich, USEPA Biologist, Region V
5. Ali Khan, East Chicago Air Quality Control Agency

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POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE: IN | 02 SITE NUMBER: IND047030226

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): U.S. Lead Refining, Inc.

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: 5300 Kennedy Avenue

03 CITY: East Chicago

04 STATE: IN | 05 ZIP CODE: 46312 | 06 COUNTY: Lake | 07 COUNTY CODE: 089 | 08 CONG DIST: 01

09 COORDINATES: LATITUDE 41°36'50.0" | LONGITUDE 087°27'15.0" | Highland quadrangle

10 DIRECTIONS TO SITE (Starting from nearest public road):
Tri-State (Routes 6, I-80, & I-94) to Kennedy Avenue. Continue north 2½ - 3½ miles. Site is on left (west) side of road just to north of Grand Calumet River.

III. RESPONSIBLE PARTIES

01 OWNER (If known): U.S. Lead Refining, Inc.

02 STREET (Business, mailing, residential): 5300 Kennedy Avenue

03 CITY: East Chicago

04 STATE: IN | 05 ZIP CODE: 46312 | 06 TELEPHONE NUMBER: (219) 397-1012

07 OPERATOR (If known and different from owner): Joel Smollen, Plant Manager

08 STREET (Business, mailing, residential): 5300 Kennedy Avenue

09 CITY: East Chicago

10 STATE: IN | 11 ZIP CODE: 46312 | 12 TELEPHONE NUMBER: (219) 397-1012

13 TYPE OF OWNERSHIP (Check one):
■ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply):
■ A. RCRA 3001 DATE RECEIVED: 8/18/80 (MONTH/DAY/YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: none (MONTH/DAY/YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION: ■ YES DATE: 4/28/81 (MONTH/DAY/YEAR) ☐ NO
BY (Check all that apply): ■ A. EPA ■ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR ☐ E. LOCAL HEALTH OFFICIAL ■ F. OTHER: East Chicago Air Quality Control Agency (Specify)
CONTRACTOR NAME(S): Ecology + Environment, Inc.

02 SITE STATUS (Check one): ■ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION: 1906 (BEGINNING YEAR) | present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED:
heavy metals (toxic/persistent) sludges (toxic/persistent)
rare metals - less common metallic elements, not rare earths (flammable/reactive/ignitable)

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION:
discharge to surface water (environment + population)
leach into groundwater (environment + population)
contamination of soil (environment) worker exposure (population)

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents):
☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Dr. Robert Gnaedinger, Jr.	U.S. EPA, Region V - Chicago	(312) 886-7572

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
			( )	/ / (MONTH/DAY/YEAR)

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POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	0047030226

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ■ A. SOLID
- ■ B. POWDER, FINES
- ■ C. SLUDGE
- □ D. OTHER (Specify)
- □ E. SLURRY
- ■ F. LIQUID
- □ G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS 30,000

CUBIC YARDS

NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

- ■ A. TOXIC
- □ B. CORROSIVE
- □ C. RADIOACTIVE
- ■ D. PERSISTENT
- □ E. SOLUBLE
- □ F. INFECTIOUS
- ■ G. FLAMMABLE
- ■ H. IGNITABLE
- □ I. HIGHLY VOLATILE
- □ J. EXPLOSIVE
- ■ K. REACTIVE
- □ L. INCOMPATIBLE
- □ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	unknown		$CaSO_3$ sludge from acid neutralization
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS	unknown		chloride, sulfate, & flouride ions
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	unknown		30,000 tons of stockpiled flue dust with heavy metals contamination, traces of rare metal

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

~~Field Team I~~ (FIT)

Field Investigation Team files, Region V - Chicago (TDD # FS-8012-6)

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POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: IN | 02 SITE NUMBER: D047030226

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ■ A. GROUNDWATER CONTAMINATION | 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 1000
04 NARRATIVE DESCRIPTION
Wide variety of heavy metals found in onsite soils and in nearby surface waters plus the presence of highly permeable sandy soils make this a likely possibility.

01 ■ B. SURFACE WATER CONTAMINATION | 02 ■ OBSERVED (DATE: 4-7-80) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: over 10,000
04 NARRATIVE DESCRIPTION
Sampling results from USEPA & ↑Field Investigation Team (4-28-81) show a wide variety of heavy metals present in USS Lead Canal, Grand Calumet River, & in a marsh next to site, including antimony (Sb), arsenic (As), alluminum (Al), barium (Ba), lead (Pb), manganese (Mn)

01 ■ C. CONTAMINATION OF AIR | 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 11,000
04 NARRATIVE DESCRIPTION
↑flue dust in open piles at site could be scattered by wind. Workers at site wear masks to filter airborne particles. ↑flue dust has high lead concentration.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS | 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION

01 ■ E. DIRECT CONTACT | 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 11,000
04 NARRATIVE DESCRIPTION
Potential via contact with contaminated soils & waters or from flue dust in air. Southern border of site is part of Grand Calumet River floodplain. In high water periods contact with contaminated floodwaters could occur.

01 ■ F. CONTAMINATION OF SOIL | 02 ■ OBSERVED (DATE: 4-28-81) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: 80 (ACRES)
04 NARRATIVE DESCRIPTION
Sampling by FIT found wide variety of heavy metals present in slag & flue dust piles on site. Surface soil composite sample had 1220 ppm antimony, 1600 ppm arsenic, & 160,000 ppm lead. Marsh soil samples were significantly lower.

01 ■ G. DRINKING WATER CONTAMINATION | 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: over 10,000
04 NARRATIVE DESCRIPTION
Lake Michigan, which is the main source of drinking water in the area, could recieve lead & arsenic from site via Grand Calumet River & Indiana Harbor Canal. Private wells drawing from shallow aquifer could be contaminated.

01 ■ H. WORKER EXPOSURE/INJURY | 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: 50
04 NARRATIVE DESCRIPTION
Prolonged & repeated contact with soils & surface waters is possible. It is unknown how effective workers' masks are in filtering airborne contaminates.

01 ■ I. POPULATION EXPOSURE/INJURY | 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 11,000
04 NARRATIVE DESCRIPTION
Contact with contaminants in airborne flue dust & surface waters is possible.

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POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D047030226

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ■ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Flora of marsh & river systems have probably been adversely impacted.

01 ■ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (include name(s) of species)

Fish of the Grand ~~Pine~~ Calumet River could be vulnerable to biological magnification of heavy metal contaminants since they are at the top of aquatic food chain.

01 ■ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Heavy metals present in surface waters and stream bottoms can accumulate in tissues of aquatic organisms & undergo biological magnification.

01 ■ M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/leaking drums) — 02 ■ OBSERVED (DATE: 4-6-81) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 11,000 — 04 NARRATIVE DESCRIPTION

Furnace slag, calcium sulfate sludge & flue dust are dumped or stockpiled on ground. Runoff problem. Occasional failures of flue dust collection system.

01 ■ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Site is on southern border of Calumet floodplain. Under flood conditions contaminants could be deposited on offsite property & leave an undesirable residue when floodwaters retreat.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

Highly acidic conditions increase the solubilities of most metallic oxides. Accidental spills in the river of materials with a high affinity for lead could solubilize large amounts of lead from bottoms into river.

III. TOTAL POPULATION POTENTIALLY AFFECTED: over 11,000

IV. COMMENTS

25 acres of the 80-acre site have been used. There are five seperate 6000 ton piles of flue dust at site. Slag is used in marsh land.

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Field Investigation Team files, Region V - Chicago
Includes sampling results from FIT & USEPA sampling, site ~~[illegible]~~ inspection report, & reports on sampling results.

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