Reference 1

Reference 31

ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415
International Specialists in the Environment

EPA Region 5 Records Ctr.
255473

JUL 25 9 54 AM '85
DIVISION OF LAND POLLUTION CONTROL
STATE BOARD OF HEALTH

MEMORANDUM

DATE: June 13, 1985
TO: File
FROM: C. F. Bieze
SUBJECT: Indiana/TDD# R5-8307-04/IN0020
East Chicago/USS Lead Refining
IND047030226

On March 13, 1984, E & E (FIT) personnel conducted an on-site inspection of the above referenced facility. The purpose of the inspection was to obtain information and data relevant for HRS scoring for the site. These objectives were met by sampling on-site wastes, sampling the adjacent waterways, and interviewing facility personnel.

Samples were obtained from five points: the water discharge from the blast furnace (sample SO-1); an upstream point on the Grand Calument River (SO-2); a downstream point on the Indiana Harbor Canal (SO-3); blast furnace slag used for landfilling the marsh between the facility and the Grand Calumet River (SO-5); air emission control flue dust from a waste pile within a large building on the plant grounds (SO-6). It was originally intended that another waste sampling (SO-4) be obtained from the marsh between the slag fill area and the river, but this area proved devoid of water.

USS Lead Refining personnel interviewed included R. Golden, Plant Manager and A. Traicoff, Plant Maintenance Supervisor. Mr. Traicoff accompanied FIT members during the inspection and answered questions pertaining to plant operations upon conclusion of the sampling. Traicoff was given split samples of SO-1 and SO-5, but declined the offer for splits for the remaining samples.

DRAFT

Also scheduled to attend the inspection were Steve Gentry and Ted Warner of the Indiana State Board of Health. Mr. Warner did meet FIT members at the site, but was unable to accompany the team due to an injury. He did however, confirm the proposed sampling points in a brief conversation prior to site entry. Mr. Gentry was unable to attend due to adverse weather conditions between East Chicago and his office in Indianapolis.

Following completion of on-site work, FIT members transported the samples to the E & E warehouse in Schaumburg. Samples were then packaged, sealed, and sent to Rocky Mountain Analytical Laboratories, Inc. (organics) and Chemtec Consulting Group, Ltd. (inorganics) for analyses.

CFB:1F

3

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D047030226

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
USS Lead Refining	5300 Kennedy Ave.

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
East Chicago	IN	46312	Lake	089	01

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

10 TYPE OF OWNERSHIP (Check one): [X] A. PRIVATE [ ] B. FEDERAL ____ [ ] C. STATE [ ] D. COUNTY [ ] E. MUNICIPAL [ ] F. OTHER ____ [ ] G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION: 03 13 84 (MONTH DAY YEAR)

02 SITE STATUS: [X] ACTIVE [ ] INACTIVE

03 YEARS OF OPERATION: 1906 (BEGINNING YEAR) / Present (ENDING YEAR) ____ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply): [ ] A. EPA [X] B. EPA CONTRACTOR Ecology & Environ. (Name of firm) [ ] C. MUNICIPAL [ ] D. MUNICIPAL CONTRACTOR ____ (Name of firm) [ ] E. STATE [ ] F. STATE CONTRACTOR ____ (Name of firm) [ ] G. OTHER ____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
C.F. Bieze Jr	Earth Scientist	E+E. (FIT)	(312) 663-9415

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
T. Koch	Hydrologist	E+E (FIT)	(312) 663-9415
T. Pachowicz	Technician	E+E (FIT)	(312) 663-9415
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
			( )
Ron Golden	Plant Mgr.	5300 Kennedy Ave E. Chicago, Ind.	(219) 397-1012
Antony Traicoff	Plant Maintenance Sup.	5300 Kennedy Ave E. Chicago, Ind.	(219) 397-1012
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
[X] PERMISSION [ ] WARRANT	9:30 - 11:00 A.	≈ 25° Cloudy

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Dr. Robert Gnaedinger, Jr	USEPA Region V - Chicago	(312)

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
C.F. Bieze Jr	E+E	FIT	(312) 663-9415	03 14 84 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D047030226

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [x] A. SOLID
- [x] B. POWDER, FINES
- [x] C. SLUDGE
- [ ] D. OTHER _____ (Specify)
- [ ] E. SLURRY
- [ ] F. LIQUID
- [ ] G. GAS

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

TONS UNK
CUBIC YARDS
NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

- [x] A. TOXIC
- [ ] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [x] D. PERSISTENT
- [ ] E. SOLUBLE
- [ ] F. INFECTIOUS
- [ ] G. FLAMMABLE
- [x] H. IGNITABLE (Flue Dust)
- [ ] 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	UNK		$CaSO_3$ sludge from acid neutralizati
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS	UNK		Lead, Heavy Metals
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unk		Lead; Heavy Metals

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
	See Attached List				

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	N/A		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

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

E+E site inspection + interview of plant personnel.
E+E files (previous work at USS Lead) Chicago

SOIL SAMPLING RESULTS (mg/kg)(ppm)

Compiled from USEPA Report by Dr. Robert J. Gnaedinger, Jr.

August 27, 1980 and F.I.T. Report, May, 1982

	SLAG PILE	FLUE-DUST PILE	SURFACE SOIL COMPOSITE	MARSH SOIL
ALUMINUM	22,100	1,600		
ANTIMONY	1,180	4,850	1,220	87.2-126
ARSENIC	991	2,440	1,600	45-2,400
BARIUM	3,870			
CADMIUM		730		
CALCIUM	110,000	1,300		
CHROMIUM	320			
COBALT	19			
COPPER	150	120		
IRON	203,000	4,100		
LEAD	21,300	656,000	160,000	990-2300
MAGNESIUM	7,180	390		
MANGANESE	2,260	30		
MOLYBDENUM	80			
POTASSIUM	400	3,200		
SELENIUM	120	820		
SILICON	56,100	16,500		
SODIUM	13,400	7,800		
STRONTIUM	184	6.0		
TITANIUM	570	60		
TUNGSTEN	200			
VANADIUM	50			
YTTRIUM	372			
ZINC	2,960	2,390		
ZIRCONIUM	50			

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IN	D047030226

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 — 04 NARRATIVE DESCRIPTION
Heavy metals and possible other contaminants leaching from landfilled area and waste storage areas. Shallow groundwater is not used for drinking or extensive commercial use, but is susceptible to contamination due to the high water table and high soil permeability

01 [X] B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — [X] POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 — 04 NARRATIVE DESCRIPTION
Same as above (Groundwater Contamination) – Grand Calumet River is adjacent to the site and the floodplain is being filled with slag from site. No use of river is known other than possible fishing + boating.

01 ☐ C CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
N/A

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

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
N/A

01 [X] F CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: ± 3 acres (Acres) — 04 NARRATIVE DESCRIPTION
Slag from furnace used to fill floodplain of Grand Calumet R.

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
N/A – No known population on groundwater or affected surface water

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
N/A

01 [X] I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION
Potential exposure for anyone utilizing Grand Calumet River for recreation, etc. in vicinity of facility. (See "B", above)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

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

II. HAZARDOUS CONDITIONS AND INCIDENTS *(Continued)*

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

N/A

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

N/A

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

N/A

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES *(Spills/Runoff/Standing liquids, Leaking drums)* — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

Unlined, no dikes, open landfilling of slag from furnace; (See "A", above)

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

N/A

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

N/A

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

N/A

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

N/A

III. TOTAL POPULATION POTENTIALLY AFFECTED: 0

IV. COMMENTS

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

E+E site inspections + file. Chicago.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D047030226

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES	N/A			
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☒ B. PILES	Unk	
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☒ F. LANDFILL	Unk	
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)

- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify) N/A

05 OTHER

- ☒ A. BUILDINGS ON SITE

9-Misc Industrial

06 AREA OF SITE: 80 (Acres)

07 COMMENTS

Site is a secondary recycler of lead from auto batteries. Other recycled ~~are~~ components antimony, plastic, etc. Piles of used batteries, plastic battery casings, and flue dust from plant furnaces lie at several points on the property.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☒ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

No diking, liners, etc.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

Slag fill area accessible from off-site

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

FIT E+E files, Chicago.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D047030226

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)	SURFACE	WELL	02 STATUS ENDANGERED	AFFECTED	MONITORED	03 DISTANCE TO SITE
COMMUNITY	A. ☒	B. ☐	A. ☐	B. ☐	C. ☒	A. 3.0 (mi) North
NON-COMMUNITY	C. ☒	D.	D. ☐	E. ☐	F. ☐	B. 3.0 (mi) North

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☒ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER 0

03 DISTANCE TO NEAREST DRINKING WATER WELL Unk (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
0-8 (ft)	aquifer Lower - N. to L. Mich. Upper - Unknown	90± (ft)	(gpd)	☐ YES ☒ NO

09 DESCRIPTION OF ~~WELLS~~ (including useage, depth, and location relative to population and buildings)

E. Chicago water dept. states that all water for drinking, commercial, and industrial purposes is obtained from L. Michigan.

10 RECHARGE AREA		11 DISCHARGE AREA	
☒ YES ☐ NO	COMMENTS None	☒ YES ☐ NO	COMMENTS A good portion of the property consists of marshland adjacent to the Grand Calumet R.

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☒ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:		AFFECTED	DISTANCE TO SITE
Grand Calumet R.	(Potential)	☐	Adjacent (South) (mi)
Indiana Harbor Canal	(Potential)	☐	0.4 (West) (mi)
L. Michigan	(Potential)	☐	3.0 (North) (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 5000 NO. OF PERSONS	B. 20,000 NO. OF PERSONS	C. 100 000 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION 1/4 (North) (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE ± 6000

04 DISTANCE TO NEAREST OFF-SITE BUILDING 0.1 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

Site is located in an enclave of industrial facilities, surrounded by a densely populated urban area. A three mile radius ~~to~~ includes E. Chicago (pop. 1980 - 40,000) and portions of Hammond (pop. 94,000)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

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

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec ☐ C. $10^{-4} - 10^{-3}$ cm/sec ☒ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☒ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
± 150 (ft)	Unk (ft)	Unk

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
6 (in)	2.5 (in)	0-2 %	South	0-2 %

09 FLOOD POTENTIAL
SITE IS IN Unk YEAR FLOODPLAIN

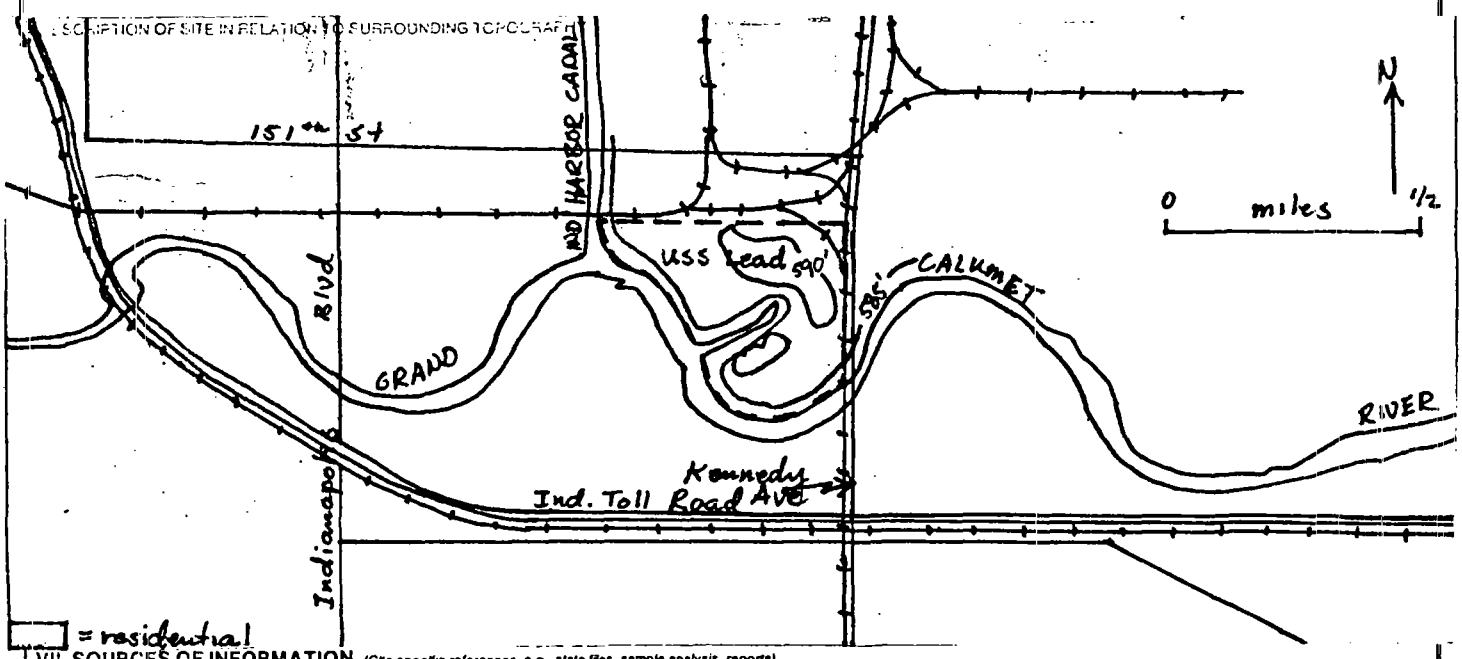
10 N/A ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)
ESTUARINE A. N/A (mi) OTHER B. 0.1 (adjacent) (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)
Unk (mi)
ENDANGERED SPECIES: Unk

13 LAND USE IN VICINITY
DISTANCE TO:
COMMERCIAL/INDUSTRIAL A. 0.1 (adjacent) (mi)
RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES B. 0.4 (Northwest residential) (mi)
AGRICULTURAL LANDS: PRIME AG LAND C. > 5.0 (mi) AG LAND D. > 5.0 (mi)

DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY



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

State of Ind. - Div. of Water Resources - Bull # 10
"Ground-Water Resources of Northwestern Indiana - Lake Co."

U.S.G.S. 7.5' map of Highland, Ind. quad.

11

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IN	D047030226

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	0		
SURFACE WATER	3	ChemTech - Inorganics Rocky Mtn Analytical - Organics	9-12-84
WASTE	2	Same	"
AIR	0	See attachments	
RUNOFF	0		
SPILL	0		
SOIL	0		
VEGETATION	0		
OTHER	—		

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
NONE	

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL (5)

02 IN CUSTODY OF Ecology + Environment, Inc (Name of organization or individual)

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS in Ecology + Environment file; maps of facility

V. OTHER FIELD DATA COLLECTED *(Provide narrative description)*

None

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

E+E site inspection

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D047030220

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER
U.S.S. Lead Refining, Inc	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
5300 Kennedy Ave	

05 CITY	06 STATE	07 ZIP CODE
East Chicago	IN	46312

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER
Sharon Steel Corp	

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

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

E+E files

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EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D047030226

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
USS Lead Refining, Inc	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
5300 Kennedy Ave	

05 CITY	06 STATE	07 ZIP CODE
East Chicago	IN	46312

08 YEARS OF OPERATION	09 NAME OF OWNER
1906--Present	SAME

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER
Sharon Steel Corp.	

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

01 NAME	02 D+B NUMBER
None	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

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

E+E files

14

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D047030226

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
USS Lead Refining, Inc	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
5300 Kennedy Ave	

05 CITY	06 STATE	07 ZIP CODE
East Chicago	IN	46312

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
None			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
None			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

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

E+E files

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D047030226

II. PAST RESPONSE ACTIVITIES

N/A

01 ☐ A. WATER SUPPLY CLOSED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ D. SPILLED MATERIAL REMOVED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ F. WASTE REPACKAGED 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ H. ON SITE BURIAL 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ L. ENCAPSULATION 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ N. CUTOFF WALLS 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION	02 DATE	03 AGENCY
01 ☐ Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION	02 DATE	03 AGENCY

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

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

II PAST RESPONSE ACTIVITIES *(Continued)*

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

N/A

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
4 DESCRIPTION

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

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

FIT E+E files Chicago

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IN	D047030226

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

None

Notes:

Site has been sampled by U.S. EPA and FIT (Twice).
Heavy metal concentrations have been found to be elevated (as expected) in waste (flue dust, slag) samples; some base-neutrals detected in flue dust at generally low concentrations.
Virtually no contamination found in river.
As, Sb, Cd, Pb, Se, Cr, Zn detected in furnace discharge and slag.
As, Sb, Cd, Pb, Se, Zn, + Hg detected in flue dust

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

Analyses of FIT samples of 3-13-84

EPA FORM 2070-13 (7-81)

Immediate Removal Action Check Sheet

	High	Moderate	Low
Fire and Explosion Hazard			
Flammable Materials N/A			X
Explosives N/A			X
Incompatable Chemicals N/A			X
Direct Contact with Acutely Toxic Chemicals			
Site Security Partially fenced, but accessable			
Leaking Drums or Tanks N/A			
Open Lagoons or pits N/A			
Materials on Surface Slag, fluedust, battery casings			
Proximity of Population Site amid heavy population			
Evidence of Casual Site Use N/A			
Contaminated Water Supply			
Exceeds 10 Day Snarl N/A			
Gross Taste or Odors			
Alternate Water Available			
Potential Contamination			

Is the site abandoned or active?

Active

FIELD PHOTOGRAPHY LOG SHEET

PAGE 107 3

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DATE 3/13/84

TIME 9:45 (A.M.) P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
(W) WNW NW NNW

WEATHER cool, clear

SITE U.S.S. Lead

TDD# 83-07-04-0020

PHOTOGRAPHED BY:
T. Koch

SAMPLE ID# (if applicable)

OTR# E8249 ITR# ME 3934

DESCRIPTION: Surface Water #1 BLAST FURNACE DISCHARGE

DATE 3/13/84

TIME 10:15 (A.M.) P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
(S) SSW SW WSW
W WNW NW NNW

WEATHER clear, cool

SITE U.S.S. LEAD

TDD# 83-07-04-0020

PHOTOGRAPHED BY:
T. Koch

SAMPLE ID# (if applicable)

OTR# E8255 ITR# ME 3940

DESCRIPTION: FURNACE Slag SAMPLE POINT

FIELD PHOTOGRAPHY LOG SHEET

PAGE 20 of 2

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DATE 3/13/84

TIME 11:30 A.M. P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

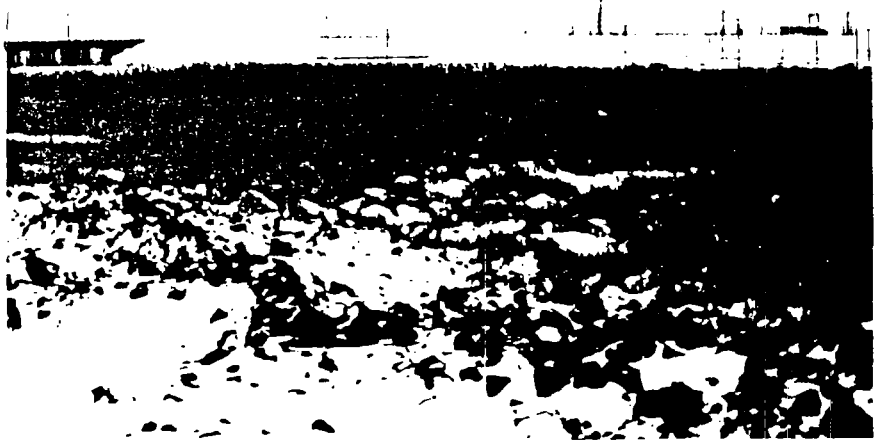
WEATHER clear, cool

SITE U.S.S. LEAD

TDD# 83-07-04-0020

PHOTOGRAPHED BY:
T. Koch

SAMPLE ID# (if applicable)
No Sample



DESCRIPTION: Predetermined Sample point in BOG ~~HAD~~ HAD No H_2O to Sample

DATE 3/13/84

TIME 11:45 A.M. P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

WEATHER clear, cool

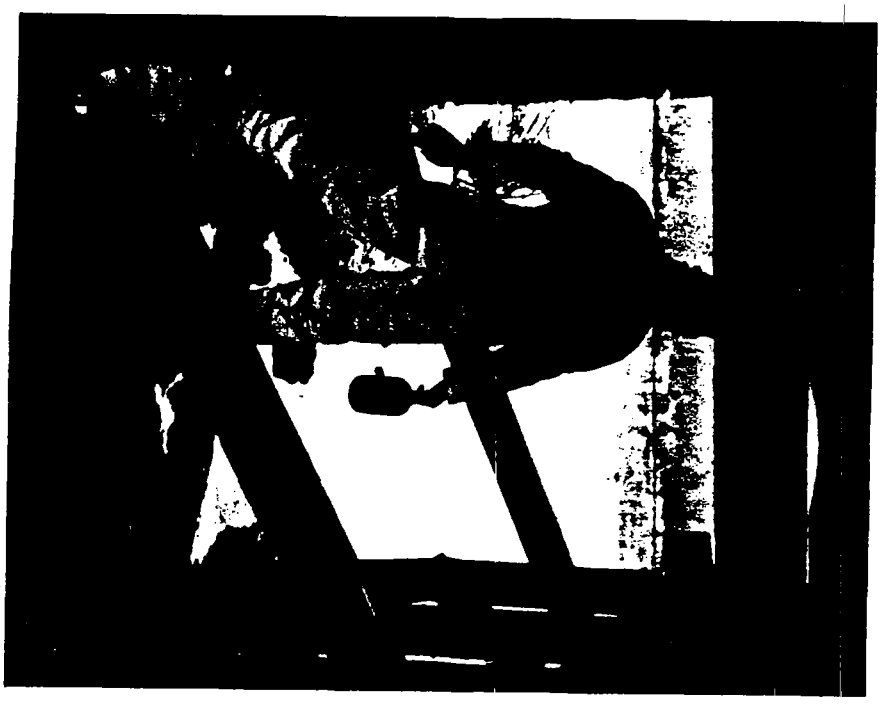
SITE U.S.S. Lead

TDD# 83-07-04

PHOTOGRAPHED BY:
T. Pachowisc 2

SAMPLE ID# (if applicable)

OTR#E 8250 ITR#AE 3935



DESCRIPTION: Upstream surface H_2O of GRAND CALUMET RIVER. UNDER R.R. Bridge Next to KENNEDY AVE.

FIELD PHOTOGRAPHY LOG SHEET

PAGE 3 of 3

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DATE 3/13/84

TIME 12:00 NOON A.M. P.M.

DIRECTION: (N) NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

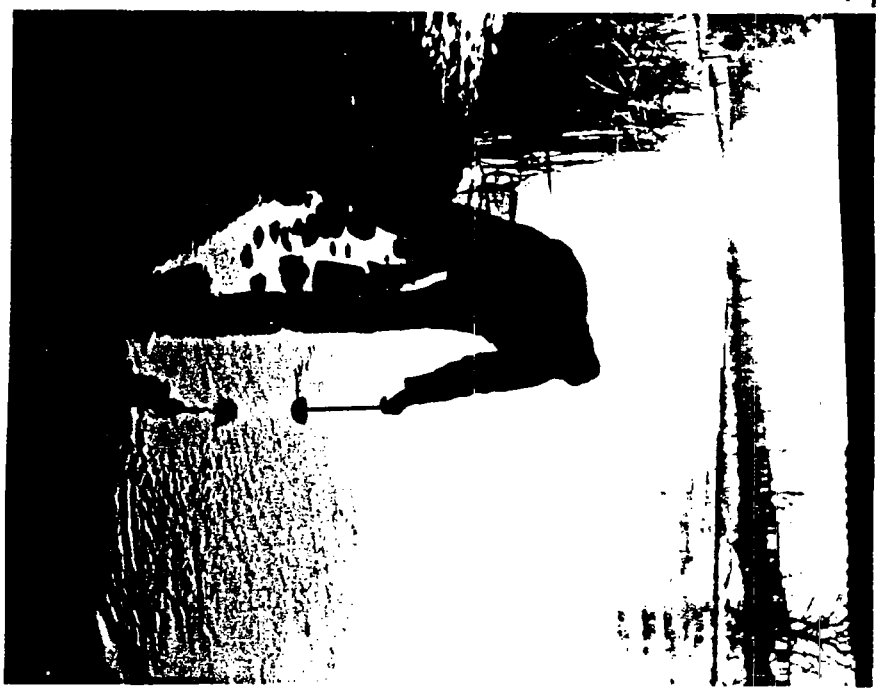
WEATHER Clear, cool

SITE U.S.S. Lead

TDD# 83-07-04-0020

PHOTOGRAPHED BY:
T. Pachowicz

SAMPLE ID# (if applicable)
ITR#E 8251 ITR#NE 3936



DESCRIPTION: Downstream H_2O sample ~~and~~ of GRANO Calumet R. under 151st St. Bridge.

DATE

TIME A.M. P.M.

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

WEATHER

SITE

TDD#

PHOTOGRAPHED BY:

SAMPLE ID# (if applicable)

PHOTO

DESCRIPTION:

All results are in ug/l (ppb)

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Parameter	SAMPLE LOCATION: Furnace water discharge S-1	Upstream Grand Calumet S-2	Downstream Grand Calumet S-3	BLANK	S-1 DUP	
Aluminum	405	199	439	<100	356	
Chromium	<10	24	99	<10	13	See lab comments
Barium	<100	<100	<100	<100	<100	
Beryllium	<5	<5	<5	<5	<5	
Cobalt	<50	<50	<50	<50	<50	
Copper	56	72	87	<50	68	
Iron	3622	1494	4298	<50	3341	
Nickel	<40	<40	<40	<40	68	
Manganese	556	63	82	<10	505	
Zinc	931	182	374	<10	877	
Boron	301	CK <100	<100	<100	305	
Vanadium	<200	<200	<200	<200	<200	
Silver	<10	<10	<10	<10	<10	
Arsenic	63	<10	<10	<10	32	
Antimony	189	<20	<20	<20	185	
Selenium	<2	<2	<2	<2	2	
Thallium	<10	<10	<10	<10	<10	
Mercury	<0.2	<0.2	<0.2	<0.2	<0.2	
Tin	<20	<20	24	<20	66	
Cadmium	400	<1	1.5	<1	16.6	
Lead	2030	26	42	6	1650	

	SLAG SO-5 (ug/g)	Flue dust SO-6
Arsenic	1090	2730
Antimony	300	1940
Cadmium	42	394
Lead	8230	229,000

Summary of sampling results - 3-13-84 by Biesel, Koch & Partners of E&E, FTC,

All results are in ug/l (ppb)

23

Parameter	Furnace water discharge S-1	Upstream Grand Calumet S-2	Downstream Grand Calumet S-3	BLANK	S-1 DUP	
Aluminum	405	199	439	<100	356	
Chromium	<10	24	99	<10	13	See lab comments
Barium	<100	<100	<100	<100	<100	
Beryllium	<5	<5	<5	<5	<5	
Cobalt	<50	<50	<50	<50	<50	
Copper	56	72	87	<50	68	
Iron	3622	1494	4298	<50	3341	
Nickel	<40	<40	<40	<40	68	
Manganese	556	63	82	<10	505	
Zinc	931	182	374	<10	877	
Boron	301	CK <100	<100	<100	305	
Vanadium	<200	<200	<200	<200	<200	
Silver	<10	<10	<10	<10	<10	
Arsenic	63	<10	<10	<10	32	
Antimony	189	<20	<20	<20	185	
Selenium	<2	<2	<2	<2	2	
Thallium	<10	<10	<10	<10	<10	
Mercury	<0.2	<0.2	<0.2	<0.2	<0.2	
Tin	<20	<20	24	<20	66	
Cadmium	400	<1	1.5	<1	16.6	
Lead	2030	26	42	6	1650	

Summary of sampling results - 3-13-84 by Biegl, Koch & Packowicz of E&E, PTI

	SLAG SO-5 (mg/l)	Fine dust SO-6
Arsenic	1090	273
Antimony	300	1946
Cadmium	42	394
Lead	8200	23,500

IN-0020-09

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ecology and environment, inc.

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

International Specialists in the Environmental Sciences

Date Received for Review: 5/21/84 Date Review Completed: 6/1/84

To: Clarence Bieze

From: Cynthia Bachunas

Subject: USS Lead (INDIANA)
R5-8307-4

Sample Description: Case 2566- low water and low solid metals

Project Data Status: Still awaiting 2 pages of organic data.

FIT Data Review Findings:

6/1/84- See CRL review comments.
Review of 4/26/84 is not attached -- will request and forward.

Additional Comments:

recycled paper

25

RECEIVED MAY 21 1984

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: ~~4-26-84~~ 5-17-84

SUBJECT: Review of Region V CLP Data
Received for Review on 4-9-84

FROM: Curtis Ross, Director Chuck Eltz
Central Regional Laboratory

TO: Data User: FIT

We have reviewed the data for the following case(s).

SITE NAME U.S.S. Lead SMO Case No. 2566

EPA Data Set No. SF 292 No. of Samples 7 D.U./Activity Numbers Y9051 C48500

CRL No. 84MB04 S70 to 84MB04 S74

SMO Traffic No. ME3934 to ME3970

Contract Laboratory: Chem Tech Hours Required for Review: 32

Following are our findings.

Contractor were rules followed. Additional raw data ARRIVED on 5-16-84 after 3 phone calls regarding values which were not found. OK now. Precision was poor for ME 3934 on Cd (>25% RPD) as well as for ME 3940 for Cr, Ba, and Ag.

See attached original review of 4/26/84. 5-16-84 DM

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

cc: Dr. Alfred Haeberer/Joan Fisk/Gary Ward, EPA Support Services
Ross K. Robeson, EMSL-Las Vegas
Robert Pritchard, CLP/SMO

EPA FORM 1320-6 (REV. 3-76)

US ENVIRONMENTAL PROTECTION AGENCY
HWI Sample Management Office
P.O. Box 818 -- Alexandria, Virginia 22313
703/557-2490 FTS 8-557-2490

SF292 (So-1) discharge

Sample No.
ME 3934

84MB04570

INORGANICS ANALYSIS DATA SHEET

LAB NAME CHEMTECH CASE NO. 2560
LAB SAMPLE ID. NO. G2-194-01 QC REPORT NO. 194

TASK 1 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)			ug/l or mg/kg (circle one)
1.	Aluminum	405	10.	Zinc	931
2.	Chromium	<10	11.	Boron	307
3.	Barium	<100	12.	Vanadium	<200
4.	Beryllium	<5	13.	Silver	<10
5.	Cobalt	<50			
6.	Copper	56			
7.	Iron	3622			
8.	Nickel	<40			
9.	Manganese	556			

TASK 2 (Elements to be Identified and Measured)

			ug/l or mg/kg (circle one)				ug/l or mg/kg (circle one)
1.	Arsenic	63		5.	Mercury	<0.2	
2.	Antimony	189		6.	Tin	<20	
3.	Selenium	<2		7.	Cadmium	400	
4.	Thallium	<10		8.	Lead	2030	ICP

TASK 3 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)
1.	Ammonia	
2.	Cyanide	
3.	Sulfide	

COMMENTS:

D. Hessemer
4/5/84

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So-2 Upstream river

RECEIVED MAY 21 1984

Sample No.
ME 3935

84MB04571

INORGANICS ANALYSIS DATA SHEET

LAB NAME CHEMTECH CASE NO. 2566

LAB SAMPLE ID. NO. G2-194-02 QC REPORT NO. 194

TASK 1 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)			ug/l or mg/kg (circle one)
1.	Aluminum	199	10.	Zinc	182
2.	Chromium	21	11.	Boron	GK 7 <100
3.	Barium	<100	12.	Vanadium	<200
4.	Beryllium	<5	13.	Silver	<10
5.	Cobalt	<50			
6.	Copper	72			
7.	Iron	1494			
8.	Nickel	<40			
9.	Manganese	63			

TASK 2 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)			ug/l or mg/kg (circle one)
1.	Arsenic	<10	5.	Mercury	<0.2
2.	Antimony	<20	6.	Tin	<20
3.	Selenium	<2	7.	Cadmium	<1
4.	Thallium	<10	8.	Lead	26

TASK 3 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)
1.	Ammonia	
2.	Cyanide	
3.	Sulfide	

COMMENTS:

D. Hessemer
4/5/84

So-3 downstream river

RECEIVED MAR 21 1984 28

US ENVIRONMENTAL PROTECTION AGENCY
HWI Sample Management Office
P.O. Box 818 — Alexandria, Virginia 22313
703/557-2490 FTS 8-557-2490

Sample No.
ME 3936

84MB04572

INORGANICS ANALYSIS DATA SHEET

LAB NAME CHEMTECH CASE NO. 2566

LAB SAMPLE ID. NO. G2-194-03 QC REPORT NO. 194

TASK 1 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)			ug/l or mg/kg (circle one)
1.	Aluminum	439	10.	Zinc	374
2.	Chromium	99	11.	Boron	5100
3.	Barium	<100	12.	Vanadium	<200
4.	Beryllium	<5	13.	Silver	<10
5.	Cobalt	<50			
6.	Copper	87			
7.	Iron	4298			
8.	Nickel	<40			
9.	Manganese	82			

TASK 2 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)			ug/l or mg/kg (circle one)
1.	Arsenic	<10	5.	Mercury	<0.2
2.	Antimony	<20	6.	Tin	~~<20~~ DH 24
3.	Selenium	<2	7.	Cadmium	1.5
4.	Thallium	<10	8.	Lead	42

TASK 3 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)
1.	Ammonia	
2.	Cyanide	
3.	Sulfide	

COMMENTS:

D. Hessem
4/5/84

US ENVIRONMENTAL PROTECTION AGENCY
HWI Sample Management Office
P.O. Box 818 — Alexandria, Virginia 22313
703/557-2490 FTS 8-557-2490

Blank

RECEIVED MAY 21 1984

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Sample No.
ME 3938

84MB04R13

INORGANICS ANALYSIS DATA SHEET

LAB NAME CHEMTECH CASE NO. 2566

LAB SAMPLE ID. NO. G2-194-04 (BLANK) QC REPORT NO. 194

TASK 1 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)			ug/l or mg/kg (circle one)
1.	Aluminum	<100	10.	Zinc	<10
2.	Chromium	<10	11.	Boron	<100
3.	Barium	<100	12.	Vanadium	<200
4.	Beryllium	<5	13.	Silver	<10
5.	Cobalt	<50			
6.	Copper	<50			
7.	Iron	<50			
8.	Nickel	<40			
9.	Manganese	<10			

TASK 2 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)			ug/l or mg/kg (circle one)
1.	Arsenic	<10	5.	Mercury	<0.2
2.	Antimony	<20	6.	Tin	<20
3.	Selenium	<2	7.	Cadmium	<1
4.	Thallium	<10	8.	Lead	6

TASK 3 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)
1.	Ammonia	
2.	Cyanide	
3.	Sulfide	

COMMENTS:

D. Hessman
4/5/84

US ENVIRONMENTAL PROTECTION AGENCY
HWI Sample Management Office
P.O. Box 818 -- Alexandria, Virginia 22313
703/557-2490 FTS 8-557-2490

D-01 discharge dup.

RECEIVED MAY 21 1984

30

Sample No. ME 3939

84MB04D70

INORGANICS ANALYSIS DATA SHEET

LAB NAME CHEMTECH CASE NO. 2566

LAB SAMPLE ID. NO. G2-194-05 QC REPORT NO. 194

TASK 1 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)			ug/l or mg/kg (circle one)
1.	Aluminum	356	10.	Zinc	877
2.	Chromium	13	11.	Boron	305
3.	Barium	<100	12.	Vanadium	<200
4.	Beryllium	<5	13.	Silver	<10
5.	Cobalt	<50			
6.	Copper	68			
7.	Iron	3341			
8.	Nickel	68			
9.	Manganese	505			

TASK 2 (Elements to be Identified and Measured)

			ug/l or mg/kg (circle one)				ug/l or mg/kg (circle one)
1.	Arsenic	32		5.	Mercury	<0.2	
2.	Antimony	DH <20	185	6.	Tin	66	
3.	Selenium	2		7.	Cadmium	16.6	
4.	Thallium	<10		8.	Lead	1650	ICP

TASK 3 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)
1.	Ammonia	
2.	Cyanide	
3.	Sulfide	

COMMENTS:

D. Hessem
4/5/84

US ENVIRONMENTAL PROTECTION AGENCY
HWI Sample Management Office
P.O. Box 818 -- Alexandria, Virginia 22313
703/557-2490 FTS 8-557-2490

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Sample No.
ME 3940

84MB04573

INORGANICS ANALYSIS DATA SHEET

LAB NAME CHEMTECH CASE NO. 2566

LAB SAMPLE ID. NO. G2-194-06 QC REPORT NO. 194

TASK 1 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)			ug/l or mg/kg (circle one)
1.	Aluminum	9000	10.	Zinc	1204
2.	Chromium	24.7	11.	Boron	169
3.	Barium	157	12.	Vanadium	29.8
4.	Beryllium	1.5	13.	Silver	1.2
5.	Cobalt	29.9			
6.	Copper	1238			
7.	Iron	196500			
8.	Nickel	178			
9.	Manganese	639			

TASK 2 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)			ug/l or mg/kg (circle one)
1.	Arsenic	1090	5.	Mercury	<0.1
2.	Antimony	300	6.	Tin	2180
3.	Selenium	0.60	7.	Cadmium	42
4.	Thallium	1.1	8.	Lead	8200 ICP

TASK 3 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)
1.	Ammonia	
2.	Cyanide	
3.	Sulfide	

COMMENTS:

D. Hessemer
4/5/84

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HWI Sample Management Office
P.O. Box 818 -- Alexandria, Virginia 22313
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Sample No.
ME 3970

84MB04574

INORGANICS ANALYSIS DATA SHEET

LAB NAME CHEMTECH CASE NO. 2566

LAB SAMPLE ID. NO. G2-194-07 QC REPORT NO. 194

TASK 1 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)			ug/l or mg/kg (circle one)
1.	Aluminum	2708	10.	Zinc	966
2.	Chromium	4.9	11.	Boron	25.3 29 GK
3.	Barium	13.8	12.	Vanadium	<10 <200 GK
4.	Beryllium	0.45	13.	Silver	<0.5
5.	Cobalt	3.2			
6.	Copper	126			
7.	Iron	7325			
8.	Nickel	30.8			
9.	Manganese	71.8			

TASK 2 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)			ug/l or mg/kg (circle one)
1.	Arsenic	2730	5.	Mercury	1.3 ~~1.4~~ DH
2.	Antimony	1940	6.	Tin	6.3
3.	Selenium	1.8	7.	Cadmium	394
4.	Thallium	10.9	8.	Lead	229500 ICP

TASK 3 (Elements to be Identified and Measured)

		ug/l or mg/kg (circle one)
1.	Ammonia	
2.	Cyanide	
3.	Sulfide	

COMMENTS:

D. Hessum 4/5/84