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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION V

EPA Region 5 Records Ctr.
308210

Date: MAR 5 1985

Subject: Compliance Sampling Inspection (CSI) Report
U.S.S. Lead Refinery, Incorporated (IN0032425) (B21007)

From: Gerald R. Golubski, Environmental Engineer WHH for
Central District Office (5S CDO)

To: Engineering Section, 5WQC

Attn: Barry De Graff, Acting Chief
Engineering Unit, Water Quality Branch (5WQ)

Thru: Willie H. Harris, Chief WHH
Central District Office (5S CDO)

On November 28-29, 1984 a compliance sampling inspection was conducted at the subject facility in response to your October 1984 memo request for FY 85 inspections.

The compliance sampling inspection report with supplemental material is attached.

According to the analytical test results of the composite water sample obtained from the new outfall, lead concentrations appear to exceed the NPDES Limitations established for this facility. Exceedence of the Lead Limitations are also noted in the monthly DMR's for 1984. Total suspended solids and pH values appear to be in compliance as noted in the monthly DMR's for the last year as well as shown by water samples gathered at the time of the inspection. A summary table of these monthly reports is attached.

In addition, Bio Assay tests are currently being performed on the composite water sampled during that 24-hour time period. Results of those tests will be transmitted under a separate transmittal when they become available.

Since, all analytical determinations are conducted by a contracted laboratory, these practices were not evaluated.

If you have any questions regarding this report, please call the writer at 886-1968.

Attachment

001

Reference #46

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
ENVIRONMENTAL SERVICES DIVISION
CENTRAL DISTRICT OFFICE

I. Permittee Identification

A. U.S.S. Lead Refinery, Incorporated
5300 Kennedy Avenue
East Chicago, Indiana 46312

B. Responsible Officials

1. Mr. D. T. Bidwell, General Manager
2. Mr. Ron Golden, Manager of Production

C. NPDES Permit Number: IN0032425

D. Date of Issuance: June 15, 1975

E. Date of Expiration: March 31, 1980

F. Receiving Water: Grand Calumet River

II. Dates of Inspection: November 28 - 29, 1984

III. Participants

A. Facility:

1. Mr. Ron Golden, Plant Manager
2. Mr. Anthony Traicoff, Maintenance Supervisor

B. U.S. EPA

1. Gerald R. Golubski, Environmental Engineer
2. Stanley Bojczuk, Physical Science Technician

IV. Objective

The objective of this inspection was to perform a Compliance Sampling Inspection with a 24-hour composite sample collected at the new discharge well and a grab sample taken in the canal (see diagram).

V. Findings

A. Form 3560, Section C, Facility Evaluation

The facility was rated unsatisfactory for effluent within permit requirements, permit verification, and sampling procedures. Records and report-keeping practices were rated satisfactory. Operations and maintenance, flow measurements were rated marginal. Laboratory practices were not rated since an outside LAB performs all analytical testing.

VI. Description of Permittee (As reported in the NPDES inspection April 9, 1984)

A. The facility is a secondary lead smelter, using lead from old automobile and truck batteries and industrial lead scrap as its raw material.

The batteries are handled as follows:

1. Acid is treated in a two-stage system to remove lead and to control the pH.
2. Sludges from the acid treatment systems are disposed of under RCRA as hazardous waste;
3. The lead battery cells are removed and sent to the blast furnace; and
4. The battery casings are separated by type, i.e., plastic or rubber, stored on-site until enough have accumulated for shredding and then disposal.

Since this is not a continuous process, the unopened batteries and empty casings may be stored on the site for varying amounts of time.

Wastewater from the acid treatment system is discharged to the East Chicago WWTP.

B. According to Mr. Ron Golden, Manager of Production, a new route for all discharges from the facility is now in effect. All wastewater now flows to a well, which in turn flows directly to the canal. The old outfall 001 has since been plugged with cement. This outfall was undesirable, since it discharged below the water level of the receiving waterway. Furthermore, it was suspected that back-flowing occured under these conditions, thereby complicating representative sampling.

C. The facility's permit, which expired in March 1980, required flow measurement (when sampling); daily 24-hour composite sampling for total lead, arsenic, sulfate, fluoride, and total suspended solids; and a daily grab sample for pH. The sampling frequency was changed to a weekly grab sample in a letter from the ISBH, dated March 15, 1976.

VII. U.S. EPA Sampling Program

Three ISCO samplers were set up to sample effluent from the well. Unfortunately, one sampler failed to draw any water and the other two only

sampled one-half of the amount of effluent desired. However, there was sufficient amount of water to perform all necessary testing to characterize the general chemistry of the effluent.

In addition, water samples were taken from the canal on November 29, 1984. The following preservation procedures were used:

1. Diluted (1:1) nitric acid was added to the metal samples;
2. Since, freezing weather prevailed, the samples did not require cooling ice for the brief transport back to the Central Regional Laboratory.

VIII. Discussion

A. Detailed evaluation of Form 3560, Section C.

1. Effluent within permit requirements - unsatisfactory

Analytical results of the composite sample taken during the inspection show the facility exceeded its permit limit for lead concentrations in its effluent. This was also noted in the monthly DMR statements submitted to the State of Indiana. It should be noted, that the lead concentrations appear to have lessened in recent months according to their reports, (see table), and are approaching the 0.2 mg/L limitations. Mr. Ronald Golden, the manager of production, expects to meet the permit requirements once the new outfall is in service for awhile and all discharged lines are purged of lead deposits. Further testing for lead is being planned and all analytical results are to be forwarded to the State of Indiana for their review in granting a new permit for this facility. All other chemical parameters, such as arsenic, sulfates, fluorides, and total suspended solids, apparently meet the NPDES permit requirements (see attachments)

It must be cautioned however, that no preservatives are added to the water samples gathered by U.S.S. Lead personnel. Thus significant errors or discrepancies may result when tested by the contracted laboratory. Therefore it is essential that sampling procedures must conform to Federal guidelines.

2. Records and Reports - satisfactory

Records and reports were rated satisfactory in respect that contract laboratory analysis results and monthly DMR's were readily available. Dates, times, and frequency of such tests appear to meet the conditions as established under the expired NPDES permit. Since an outside contract laboratory is used to analyze the effluent from this facility, Mr. Ronald Golden, the Manager of Production, could not answer those questions. Mansfield Laboratories, lcoated in Elkhart, Indiana is on record as being the contract LAB.

To ensure accurate flow measurements at the new outfall, recording devices are to be installed once all the work on the new well is completed.

3. Permit verification - unsatisfactory

The NPDES permit expired on March 31, 1980. Mr. Golden expects a new permit to be issued after all analytical testing of the effluent is conducted and the new drainage lines have been flushed. Also, the well requires a diversion flow pipe to ensure proper mixing at the outfall. State approval is expected shortly thereafter.

4. Operation and maintenance - marginal

This facility has been conducting a variety of smelting operations since the beginning of this century. The buildings are old and weathered. Plant personnel are required to wear masks while working on the premises. This, no doubt, reflects the high concentrations of metals to be found in and around the yard.

5. Flow measurement - marginal.

The flow measurements for furnace and casting house cooling water are only estimates. These estimaes do not take into account water due to storm runoff or infiltration to the drainage system. A flow measuring device is to be installed at the new outfall.

6. Sampling procedures - unsatisfactory.

Frequency of wastewater sampling is performed as specified in the letter sent from the ISBH, dated March 15, 1976. Weekly grab sampes for lead, arsenic, sulfate, fluoride, and TSS are submitted to a contract analytical laboratory. However, it was noted that these samples receive no preservative chemicals before shipping. Also, samples are not refrigerated for shipment.

7. Laboratory practices - not rated.

U.S.S. lead sends samples to Mansfield Laboratory in Elkhart, Indiana; therefore this section was not evaluated.

8. Canal Samples.

Grab samples were taken from the canal on November 29, 1984. The analytical results of this sample are listed under CGOSO2 or simply SO2 of the attached laboratory sheets. In brief, the

following concentrations were compared to those grab samples of canal water obtained on April 10, 1984.

	Sample Obtained Nov. 29, 1984	Sample Obtained April 10, 1984
Sulfates	210 mg/L	38.2 mg/L
Chloride	91 mg/L	---
Residue-nonfilterable (TSS)	3 mg/L	2.0 mg/L
Arsenic	.054 mg/L	0.048 mg/L
Fluroide	Less than 0.1 mg/L	4.3 mg/L
Lead	.070 mg/L	0.17 mg/L
pH	8.0	-

9. Outfall samples (CG0S01)

A 24-hour composite sample of water at the new outfall was obtained on November 28 thru 29, 1984 by U.S. EPA personnel. The analytical results indicate that 2.7 mg/L of lead were present in the final effluent. The NPDES permit limitations were set at 0.2 mg/L. (See attachment from the analytical LAB). It appears that this facility exceeds the NPDES limitations prescribed for lead concentrations in its final effluent.

SUMMARY OF MONTHLY DMR for U.S.S. LEAD,

EAST CHICAGO, INDIANA

January 6, 1984 to October 29, 1984

DATE	FLOW (MGD)	PH	LEAD (mg/l)	ARSENIC (mg/l)	SULFATE (lbs/day)	FLUROIDE (lbs/day)	TSS (mg/l)
Jan. 6	.02	6.7	0.55*	0.20	0.33	0.13	14
Jan. 16	.02	6.5	0.47*	0.10	0.50	0.11	15
Jan. 23	.02	6.6	0.49*	0.09	0.00	0.13	16
Jan. 30	.02	6.3	0.42*	0.10	0.33	0.11	12
Feb. 7	.04	6.9	0.44*	0.30	2.00	0.27	10
Feb. 13	.03	6.3	0.47*	0.20	0.75	0.15	13
Feb. 21	.05	6.6	0.45*	0.20	1.67	0.24	14
Feb. 27	.04	6.5	0.40*	0.20	-	-	-
Mar. 5	.05	6.6	0.44*	0.40	2.09	0.34	8
Mar. 12	.05	6.7	0.53*	0.30	1.25	0.38	10
Mar. 19	.05	6.6	0.57*	0.60	1.67	0.29	12
Mar. 28	.04	6.7	0.33*	0.20	1.67	0.234	10
Apr. 2	.04	6.5	0.51*	0.40	2.67	0.27	12
Apr. 10	.05	7.0	0.60*	0.30	1.25	0.375	14
Apr. 16	.05	6.5	0.48*	0.20	0.83	0.375	14
Apr. 23	.03	6.6	0.45*	0.40	0.50	0.18	15
Apr. 27	.05	6.9	0.47*	0.30	2.50	0.375	13
May 6	.03	6.6	0.44*	0.30	2.00	0.2	14
May 10	.03	6.5	0.50*	0.30	1.25	0.17	10
May 17	.04	6.9	0.49*	0.40	2.00	0.23	16
May 29	.03	6.2	0.47*	0.40	2.67	0.20	12
June 12	.30	6.0	0.40*	0.20	12.51	1.75	10
June 18	.40	5.8	0.44*	0.30	16.69	2.67	14
June 26	.50	7.1	0.52*	0.40	29.20	3.75	15
June 29	.40	6.7	0.47*	0.20	20.20	2.67	11
July 5	.04	6.8	0.33*	0.09	1.00	0.26	9
July 11	.04	6.9	0.34*	0.10	0.66	0.16	10
July 17	.03	6.9	0.40	0.08	0.25	0.15	8
July 24	.04	7.0	0.30*	0.07	1.00	0.23	11
July 30	.03	7.2	0.31*	0.09	0.75	0.17	9
Aug. 6	.04	7.0	0.25*	0.08	1.00	0.17	11
Aug. 13	.04	7.1	0.31*	0.03	1.34	0.20	9
Aug. 24	.04	6.9	0.30*	0.02	1.34	0.30	7
Sept. 5	.04	6.4	0.30*	0.07	1.00	0.73	14
Sept. 11	.03	6.6	0.25*	0.06	1.04	0.45	12
Sept. 17	.04	6.4	0.22*	0.05	0.33	0.33	15
Sept. 24	.06	6.5	0.20	0.03	0.50	0.55	10
Oct. 3	.04	6.7	0.25*	0.06	1.67	0.83	20
Oct. 8	.03	6.8	0.30*	0.05	0.68	0.50	22
Oct. 15	.04	6.9	0.22*	0.06	0.67	0.73	19
Oct. 22	.04	6.5	0.24*	0.04	1.00	0.67	25
Oct. 29	.04	6.1	0.23*	0.05	1.00	0.77	24

* Indicates exceedence of permit effluent limitations

EFFLUENT LIMITATIONS

1. Flow : Monitor when sampling
2. Total Lead : 0.2 mg/l
3. Arsenic : 1.0 mg/l
4. Sulfate : Average of 50 lbs/day
5. Fluoride : Average of 4 lbs/day
6. Total Suspended Solids: 20 mg/l weekly average and 30 mg/l daily maximum

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NPDES COMPLIANCE INSPECTION REPORT (Coding Instructions on back of last page)

TRANSACTION CODE		NPDES	YR MO DA	TYPE	INSPECTOR	FAC TYPE	TIME
N	5	IN0031425	841128	S	R	2	10:30 a.m. / p.m.
1	2	3–11	12–17	18	19	20	

REMARKS (21–64)

ADDITIONAL (65–70)

SECTION A - Permit Summary

NAME AND ADDRESS OF FACILITY (Include County, State and ZIP code)	EXPIRATION DATE
U.S.S. LEAD REFINERY, INC. 5300 KENNEDY AVE EAST, CHICAGO, INDIANA 46312	MARCH 31, 1980
	ISSUANCE DATE: June 15, 1975

RESPONSIBLE OFFICIAL	TITLE	PHONE
D.J. Bidwell	Vice-President/General Mgr	(219) 397-1012
FACILITY REPRESENTATIVE	**TITLE**	**PHONE**
Ronald E. Golden	Mgr. of Production	(219) 397-1012

SECTION B - Effluent Characteristics (Additional sheets attached ✓)

PARAMETER/ OUTFALL 001		MINIMUM	AVERAGE	MAXIMUM	ADDITIONAL
FLOW	SAMPLE MEASUREMENT		.05 MGD		ESTIMATED FLOW
	PERMIT REQUIREMENT		*		* MONITOR WHEN SAMPLING
TOTAL LEAD	SAMPLE MEASUREMENT	0.2 mg/L	TO	0.6 mg/L	SAMPLES OBTAINED IN 1984 AS PER MONTHLY DMR'S
	PERMIT REQUIREMENT			0.2 mg/L	WEEKLY GRAB SAMPLE
ARSENIC	SAMPLE MEASUREMENT			.083 mg/L	COMPOSITE SAMPLE TAKEN NOV. 28-29, 1984
	PERMIT REQUIREMENT			1.0 mg/L	WEEKLY GRAB SAMPLE
TOTAL SUSPENDED SOLIDS	SAMPLE MEASUREMENT			8 mg/L	COMPOSITE SAMPLE TAKEN NOV. 28-29, 1984
	PERMIT REQUIREMENT		20 mg/L	30 mg/L	WEEKLY GRAB SAMPLE
SULFATE	SAMPLE MEASUREMENT			87.6 LB	COMPOSITE SAMPLE TAKEN NOV 28-29, 1984
	PERMIT REQUIREMENT		506 LB/DAY	1012 LB/DAY	WEEKLY GRAB SAMPLE

SECTION C - Facility Evaluation (S = Satisfactory, U = Unsatisfactory, N/A = Not applicable) M = MARGINAL * = NOT RATED

U	EFFLUENT WITHIN PERMIT REQUIREMENTS	M	OPERATION AND MAINTENANCE	U	SAMPLING PROCEDURES
S	RECORDS AND REPORTS	N/A	COMPLIANCE SCHEDULE	*	LABORATORY PRACTICES NOT RATED
U	PERMIT VERIFICATION	M	FLOW MEASUREMENTS		OTHER:

SECTION D - Comments

SEE ATTACHED REPORT

SECTION E - Inspection/Review

SIGNATURES	AGENCY	DATE
INSPECTED BY Gerald R. Golubski	U.S. EPA	NOV. 29, 1984
INSPECTED BY		
REVIEWED BY		

ENFORCEMENT DIVISION USE ONLY
COMPLIANCE STATUS
☐ COMPLIANCE
☐ NONCOMPLIANCE

009

1C

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Sections F thru L: Complete on all inspections, as appropriate. N/A = Not Applicable

PERMIT NO. IN 0032425

SECTION F - Facility and Permit Background

ADDRESS OF PERMITTEE IF DIFFERENT FROM FACILITY (Including City, County and ZIP code)

DATE OF LAST PREVIOUS INVESTIGATION BY EPA/STATE: OCTOBER 1984 INDIANA EPA

FINDINGS: SEE ATTACHED REPORT

SECTION G - Records and Reports

RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT. ☒ YES ☐ NO ☐ N/A (Further explanation attached ✓)

DETAILS:

(a) ADEQUATE RECORDS MAINTAINED OF:			
(i) SAMPLING DATE, TIME, EXACT LOCATION	☒ YES	☐ NO	☐ N/A
(ii) ANALYSES DATES, TIMES	☒ YES	☐ NO	☐ N/A
(iii) INDIVIDUAL PERFORMING ANALYSIS	☒ YES	☐ NO	☐ N/A
(iv) ANALYTICAL METHODS/TECHNIQUES USED NOT EVALUATED, performed by OUT LAB	☐ YES	☐ NO	☐ N/A
(v) ANALYTICAL RESULTS (e.g., consistent with self-monitoring report data) " " "	☐ YES	☐ NO	☐ N/A
(b) MONITORING RECORDS (e.g., flow, pH, D.O., etc.) MAINTAINED FOR A MINIMUM OF THREE YEARS INCLUDING ALL ORIGINAL STRIP CHART RECORDINGS (e.g. continuous monitoring instrumentation, calibration and maintenance records).	☒ YES	☐ NO	☐ N/A
(c) LAB EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS KEPT. NO LAB IN HOUSE	☐ YES	☐ NO	☒ N/A
(d) FACILITY OPERATING RECORDS KEPT INCLUDING OPERATING LOGS FOR EACH TREATMENT UNIT.	☒ YES	☐ NO	☐ N/A
(e) QUALITY ASSURANCE RECORDS KEPT.	☐ YES	☒ NO	☐ N/A
(f) RECORDS MAINTAINED OF MAJOR CONTRIBUTING INDUSTRIES (and their compliance status) USING PUBLICLY OWNED TREATMENT WORKS.	☐ YES	☐ NO	☒ N/A

SECTION H - Permit Verification

INSPECTION OBSERVATIONS VERIFY THE PERMIT. ☒ YES ☐ NO ☐ N/A (Further explanation attached ✓)

DETAILS: OLD PERMIT EXPIRED MARCH 31, 1980, NEW PERMIT WILL BE ISSUED PENDING RESULTS FROM NEW OUT LAB

(a) CORRECT NAME AND MAILING ADDRESS OF PERMITTEE.	☒ YES	☐ NO	☐ N/A
(b) FACILITY IS AS DESCRIBED IN PERMIT.	☒ YES	☐ NO	☐ N/A
(c) PRINCIPAL PRODUCT(S) AND PRODUCTION RATES CONFORM WITH THOSE SET FORTH IN PERMIT APPLICATION.	☒ YES	☐ NO	☐ N/A
(d) TREATMENT PROCESSES ARE AS DESCRIBED IN PERMIT APPLICATION.	☒ YES	☐ NO	☐ N/A
(e) NOTIFICATION GIVEN TO EPA/STATE OF NEW, DIFFERENT OR INCREASED DISCHARGES.	☒ YES	☐ NO	☐ N/A
(f) ACCURATE RECORDS OF RAW WATER VOLUME MAINTAINED. ESTIMATED	☐ YES	☒ NO	☐ N/A
(g) NUMBER AND LOCATION OF DISCHARGE POINTS ARE AS DESCRIBED IN PERMIT.	☒ YES	☐ NO	☐ N/A
(h) CORRECT NAME AND LOCATION OF RECEIVING WATERS.	☒ YES	☐ NO	☐ N/A
(i) ALL DISCHARGES ARE PERMITTED.	☒ YES	☐ NO	☐ N/A

SECTION I - Operation and Maintenance

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED. ☐ YES ☐ NO ☐ N/A (Further explanation attached ✓)

DETAILS: ☒ MARGINAL

(a) STANDBY POWER OR OTHER EQUIVALENT PROVISIONS PROVIDED.	☐ YES	☒ NO	☐ N/A
(b) ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE.	☐ YES	☒ NO	☐ N/A
(c) REPORTS ON ALTERNATE SOURCE OF POWER SENT TO EPA/STATE AS REQUIRED BY PERMIT.	☐ YES	☐ NO	☒ N/A
(d) SLUDGES AND SOLIDS ADEQUATELY DISPOSED.	☒ YES	☐ NO	☐ N/A
(e) ALL TREATMENT UNITS IN SERVICE.	☒ YES	☐ NO	☐ N/A
(f) CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTATION ON OPERATION AND MAINTENANCE PROBLEMS.	☒ YES	☐ NO	☐ N/A
(g) QUALIFIED OPERATING STAFF PROVIDED.	☒ YES	☐ NO	☐ N/A
(h) ESTABLISHED PROCEDURES AVAILABLE FOR TRAINING NEW OPERATORS.	☒ YES	☐ NO	☐ N/A
(i) FILES MAINTAINED ON SPARE PARTS INVENTORY, MAJOR EQUIPMENT SPECIFICATIONS, AND PARTS AND EQUIPMENT SUPPLIERS.	☒ YES	☐ NO	☐ N/A
(j) INSTRUCTIONS FILES KEPT FOR OPERATION AND MAINTENANCE OF EACH ITEM OF MAJOR EQUIPMENT.	☒ YES	☐ NO	☐ N/A
(k) OPERATION AND MAINTENANCE MANUAL MAINTAINED.	☒ YES	☐ NO	☐ N/A
(l) SPCC PLAN AVAILABLE. Will NOTIFY STATE IF Any SPILLS OCCUR	☒ YES	☐ NO	☐ N/A
(m) REGULATORY AGENCY NOTIFIED OF BY PASSING. (Dates ____ ____)	☐ YES	☐ NO	☒ N/A
(n) ANY BY-PASSING SINCE LAST INSPECTION.	☐ YES	☐ NO	☒ N/A
(o) ANY HYDRAULIC AND/OR ORGANIC OVERLOADS EXPERIENCED.	☐ YES	☐ NO	☒ N/A

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SECTION J - Compliance Schedules

PERMITTEE IS MEETING COMPLIANCE SCHEDULE. ☐ YES ☐ NO ☒ N/A *(Further explanation attached _____)*

CHECK APPROPRIATE PHASE(S):

- ☐ (a) THE PERMITTEE HAS OBTAINED THE NECESSARY APPROVALS FROM THE APPROPRIATE AUTHORITIES TO BEGIN CONSTRUCTION.
- ☐ (b) PROPER ARRANGEMENT HAS BEEN MADE FOR FINANCING *(mortgage commitments, grants, etc.)*.
- ☐ (c) CONTRACTS FOR ENGINEERING SERVICES HAVE BEEN EXECUTED.
- ☐ (d) DESIGN PLANS AND SPECIFICATIONS HAVE BEEN COMPLETED.
- ☐ (e) CONSTRUCTION HAS COMMENCED.
- ☐ (f) CONSTRUCTION AND/OR EQUIPMENT ACQUISITION IS ON SCHEDULE.
- ☐ (g) CONSTRUCTION HAS BEEN COMPLETED.
- ☐ (h) START-UP HAS COMMENCED.
- ☐ (i) THE PERMITTEE HAS REQUESTED AN EXTENSION OF TIME.

SECTION K - Self-Monitoring Program

Part 1 – Flow measurement *(Further explanation attached _____)*

	YES	NO	N/A
PERMITTEE FLOW MEASUREMENT MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT.	☒	☐	☐
DETAILS: FLOW IS ESTIMATED BY MEASURING INTAKE WATER			
(a) PRIMARY MEASURING DEVICE PROPERLY INSTALLED. PLAN TO INSTALL FLOW METERS	☐	☐	☒
TYPE OF DEVICE: ☐ WEIR ☐ PARSHALL FLUME ☐ MAGMETER ☐ VENTURI METER ☒ OTHER *(Specify* SEE ATTACH			
(b) CALIBRATION FREQUENCY ADEQUATE. *(Date of last calibration _____)*	☐	☐	☒
(c) PRIMARY FLOW MEASURING DEVICE PROPERLY OPERATED AND MAINTAINED.	☐	☐	☒
(d) SECONDARY INSTRUMENTS *(totalizers, recorders, etc.)* PROPERLY OPERATED AND MAINTAINED.	☐	☐	☒
(e) FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGES OF FLOW RATES.	☐	☐	☒

Part 2 – Sampling *(Further explanation attached _____)*

	YES	NO	N/A
PERMITTEE SAMPLING MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT.	☐	☒	☐
DETAILS:			
(a) LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES.	☒	☐	☐
(b) PARAMETERS AND SAMPLING FREQUENCY AGREE WITH PERMIT.	☒	☐	☐
(c) PERMITTEE IS USING METHOD OF SAMPLE COLLECTION REQUIRED BY PERMIT.	☐	☐	☐
IF NO, ☐ GRAB ☐ MANUAL COMPOSITE ☒ AUTOMATIC COMPOSITE FREQUENCY 2 to 1 MIN			
(d) SAMPLE COLLECTION PROCEDURES ARE ADEQUATE.	☒	☐	☐
(i) SAMPLES REFRIGERATED DURING COMPOSITING	☒	☐	☐
(ii) PROPER PRESERVATION TECHNIQUES USED	☐	☒	☐
(iii) FLOW PROPORTIONED SAMPLES OBTAINED WHERE REQUIRED BY PERMIT	☐	☐	☐
(iv) SAMPLE HOLDING TIMES PRIOR TO ANALYSES IN CONFORMANCE WITH 40 CFR 136.3	☒	☐	☐
(e) MONITORING AND ANALYSES BEING PERFORMED MORE FREQUENTLY THAN REQUIRED BY PERMIT.	☐	☐	☐
(f) IF (e) IS YES, RESULTS ARE REPORTED IN PERMITTEE'S SELF-MONITORING REPORT.	☐	☐	☐

Part 3 – Laboratory *(Further explanation attached ✓)* ALL Samples shipped to commercial LAB

	YES	NO	N/A
PERMITTEE LABORATORY PROCEDURES MEET THE REQUIREMENTS AND INTENT OF THE PERMIT.	☐	☐	☐
DETAILS:			
(a) EPA APPROVED ANALYTICAL TESTING PROCEDURES USED. *(40 CFR 136.3)*	☐	☐	☐
(b) IF ALTERNATE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED.	☐	☐	☐
(c) PARAMETERS OTHER THAN THOSE REQUIRED BY THE PERMIT ARE ANALYZED.	☐	☐	☐
(d) SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT.	☐	☐	☐
(e) QUALITY CONTROL PROCEDURES USED.	☐	☐	☐
(f) DUPLICATE SAMPLES ARE ANALYZED. _____ % OF TIME.	☐	☐	☐
(g) SPIKED SAMPLES ARE USED. _____ % OF TIME.	☐	☐	☐
(h) COMMERCIAL LABORATORY USED.	☐	☐	☐
(i) COMMERCIAL LABORATORY STATE CERTIFIED.	☐	☐	☐

LAB NAME _____

LAB ADDRESS _____

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SECTION L - Effluent/Receiving Water Observations *(Further explanation attached _____)*

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	VISIBLE FLOAT SOL	COLOR	OTHER
001	NONE	NONE	NONE	NONE	NONE	CLEAR	—

(Sections M and N: Complete as appropriate for sampling inspections)

SECTION M - Sampling Inspection Procedures and Observations *(Further explanation attached _____)*

- ☐ GRAB SAMPLES OBTAINED
- ☒ COMPOSITE OBTAINED 24 hr. composite obtained at the new discharge (well).
- ☐ FLOW PROPORTIONED SAMPLE
- ☐ AUTOMATIC SAMPLER USED
- ☒ SAMPLE SPLIT WITH PERMITTEE
- ☐ CHAIN OF CUSTODY EMPLOYED
- ☐ SAMPLE OBTAINED FROM FACILITY SAMPLING DEVICE

COMPOSITING FREQUENCY _____ PRESERVATION samples for metals was preserved

SAMPLE REFRIGERATED DURING COMPOSITING: ☐ YES ☒ NO sample delivered to lab within 1 hour.

SAMPLE REPRESENTATIVE OF VOLUME AND NATURE OF DISCHARGE Freezing conditions prevailed at time of sampling

SECTION N - Analytical Results *(Attach report if necessary)*

SEE ATTACHED REPORT

13

U.S.S. LEAD, EAST CHICAGO, IND. (IN0032425)

Form Approved
OMB No. 158-R0035

F. GUIDE - VISUAL OBSERVATION - UNIT PROCESS

RATING CODES: S = Satisfactory; U = Unsatisfactory; M = Marginal; IN = In Operation; OUT = Out of Operation

	CONDITION OR APPEARANCE	RATING	COMMENTS
GENERAL	GROUNDS	M	THE facility IS OLD AND THE
	BUILDINGS	M	buildings ARE WEATHERED.
	POTABLE WATER SUPPLY PROT	S	
	SAFETY FEATURES	S	
	BYPASSES	NON'E	
	STORM WATER OVERFLOWS	N/A	
PRELIMINARY	MAINTENANCE OF COLLECTION SYSTEMS	S	
	PUMP STATION	N/A	
	VENTILATION	N/A	
	BAR SCREEN	N/A	
	DISPOSAL OF SCREENINGS	N/A	
	COMMINUTOR	N/A	
	GRIT CHAMBER	N/A	
	DISPOSAL OF GRIT	N/A	
PRIMARY	SETTLING TANKS	N/A	
	SCUM REMOVAL	N/A	
	SLUDGE REMOVAL	N/A	
	EFFLUENT	N/A	
SLUDGE DISPOSAL	DIGESTERS	N/A	
	TEMPERATURE AND pH	N/A	
	GAS PRODUCTION	N/A	
	HEATING EQUIPMENT	N/A	
	SLUDGE PUMPS	N/A	
	DRYING BEDS	N/A	
	VACUUM FILTER	N/A	
	INCINERATION	N/A	
	DISPOSAL OF SLUDGE	N/A	
OTHER	FLOW METER AND RECORDER	M	NEW FLOWMETER IS TO BE INSTALLED AT THE
	RECORDS	S	WELL.
	LAB CONTROLS	—	NO LAB ON PREMISES
SECONDARY-TERTIARY (fill in items as required)			
CHLORINE	EFFLUENT	—	
	CHLORINATORS	N/A	
	EFFECTIVE DOSAGE	N/A	
	CONTACT TIME	N/A	
	CONTACT TANK	N/A	

12/26/84 14
CJK 45
1/4/85

JVA 21Dec84

DU: B3Ø4
Act. Cde: B21ØØ7

DL1:[001,054]RN447A.BRN 21-DEC-84 15:39:21 PAGE

DATA SET : CD0854 U.S.S. Lead E. Chicago

ELEMENT		CG01R01 (Blank)		CG01S01 (Effluent)		CG01S02 (Cancel)
AG	µg/L	< 3.00	<	3.00	<	3.00
AL		< 80.0		246.	<	80.0
BA		< 5.0		41.2		27.3
BE		< 1.00	<	1.00	<	1.00
CD		< 2.00		63.5		2.87
CO		< 6.00	<	6.00	<	6.00
CR		< 8.00	<	8.00	<	8.00
CU		< 6.00		40.3	<	6.00
FE		< 80.		1840.		1180.
LI		< 10.0		31.8		28.0
MN		< 5.		170.		307.
MO		< 10.0	<	10.0	<	10.0
NI		< 15.0		27.6	<	15.0
PB		< 70.0		2700.	<	70.0
SN		< 40.0	<	40.0	<	40.0
SR		< 10.		192.		197.
TI		< 20.0	<	20.0	<	20.0
V		< 5.00	<	5.00	<	5.00
Y		< 5.00	<	5.00	<	5.00
ZN		< 40.0		293.		45.2
CA	mg/L	< 0.5		102.0		81.2
K		< 2.00		8.06		8.43
MG		< 0.1		22.6		29.3
NA		< 1.0		44.9		59.3

all QC passed VO

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: MINERALS-NUTRIENTS

12/13/84 (2)

VISION/BRANCH ESD/CPO SAMPLING DATE 11-28-84 LAB ARRIVAL DATE 11-29-84 DUE DATE 12/21/84

NUMBER B304 DATASET NUMBER 854 STUDY USS Lead, E. Chgo PRIORITY N CONTRACTOR N

B27021 B21C01

LOG NUMBER	SAMPLE DESCRIPTION	WATER* SILICA MG SIO2/L MIN904314	WATER* ~~[illegible]~~ FLUORIDE ~~DISTILLED (INDUSTRIAL)~~ MG F/L (Distilled) MIN9022615 CJK 12/19/84	WATER* FLUORIDE UNDISTILLED (OTHER) MG F/L MIN9022715	WATER* CR+6 UG CR+6/L MIN904616	WATER* MERCURY UG HG/L MIN904717	
G01							
01	Effluent		✓ 1.5				5908
02	Ditch		✓ K0.1				5911
503	Raw water		✓ 0.6				5912
			LK 12/11/84				
			Transmitted by MAP		12/27/84		

015

12/10/84 RS

① CGK 12/20/84

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: METALS

DIVISION/BRANCH ESD/CDO SAMPLING DATE 11-28-84 LAB ARRIVAL DATE 11-29-84 DUE DATE 12/21/84

DU NUMBER B304 DATASET NUMBER 854 STUDY U.S.S. Lead, E. Chgo B27021 B21007 PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION	TOTAL METALS IN WATER* TOTAL ICAP UG/L MET11311	TOTAL METALS IN WATER* AS UG/L MET11361	TOTAL METALS IN WATER* SB UG/L MET113201	TOTAL METALS IN WATER* SE UG/L MET113211	TOTAL METALS IN WATER* TL UG/L MET113221	
35CG 01							
S01	EFFLUENT	✓	✓ 83			[illegible]	590
S02	Ditch	✓	✓ 54			[illegible]	591C
R01 ✓	Blank	✓	✓ <2			[illegible]	5904
			JVM 14Dec 84				
			Transmitted by MAP 12/27/84				

016

16

JWY 11 Jan 85

(4) CJK 1/24/85

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: METALS

DIVISION/BRANCH ESD/CDO SAMPLING DATE 11-28-84 LAB ARRIVAL DATE 11-29-84 DUE DATE 12/21/84

DU NUMBER B304 DATASET NUMBER 854 STUDY USS LEAD, E. Chgo B21007 PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION	TOTAL METALS IN WATER* MN UG/L MET113151	TOTAL METALS IN WATER* MO UG/L MET113161	TOTAL METALS IN WATER* NA MG/L MET113172	TOTAL METALS IN WATER* NI UG/L MET113181	TOTAL METALS IN WATER* PB UG/L MET113191
85CG01						
S01	5907					✓ see ICP data [illegible]
S02	5910					✓ ~~16~~ 17 P.F.
R01	5909					✓ <1
						P.F. 1-10-85
				Transmitted by SG 1-25-85		

017

all QC passed PB

3

12/11/84 AJ

12/12/84 CJK

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: MINERALS-NUTRIENTS

DIVISION/BRANCH ESD/CDO SAMPLING DATE 11-28-84 LAB ARRIVAL DATE 11-29-84 DUE DATE 12/21/84

DU NUMBER B304 DATASET NUMBER 854 STUDY USS Lead, E. Chgo B2702 / B21007 PRIORITY N CONTRACTOR N

CPL LOG NUMBER	SAMPLE DESCRIPTION	WATER* CHEMICAL OXYGEN DEMAND MG COD/L MIN90336	WATER* TOTAL ORGANIC CARBON MG C/L MIN90347	WATER* BIOCHEMICAL OXYGEN DEMAND MG BOD5/L MIN90358	WATER* RESIDUE-FILTERABLE (TDS) MG/L MIN902282	WATER* RESIDUE-NONFILTERABLE (TSS) MG/L MIN902292	
85CG01							
S01	Effluent			[illegible]		✓ 8	5-5908
S02	Ditch			[illegible]		✓ 3	5-5911
S03	Raw water			[illegible]		✓ K3	5-5912
						P.F. 12-10-84	
				Transmitted by MAP		12/10/84	

018

18

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: MINERALS-NUTRIENTS

all QC [illegible]

CGK 1/7/85

ION/BRANCH ESD/CDo SAMPLING DATE 11-28-84 LAB ARRIVAL DATE 11-29-84 DUE DATE 12/21/84

MBER B304 DATASET NUMBER 854 STUDY USS Lead, E. Chgo B27021 B21007 PRIORITY N CONTRACTOR ~

UG K 35 G01	SAMPLE DESCRIPTION	WATER SPECIFIC CONDUCTANCE 25C UMHOS/CM MIN7389	WATER PH PH UNITS MIN73910	WATER ALKALINITY MG CACO3/L MIN74011	WATER SULFATE MG SO4/L MIN74112	WATER CHLORIDE MG CL/L MIN74213	
01	Effluent				✓ 210	~~[illegible]~~ 92 (PP)	5908
02	Ditch				✓ 210	91	5911
03	Raw water.				✓ ~~22~~ 32 (PP)	12	5912
					[signature]	[signature]	
					12-21-84	12-21-84	
					Transmitted by S Griffin 1-10-85		

019

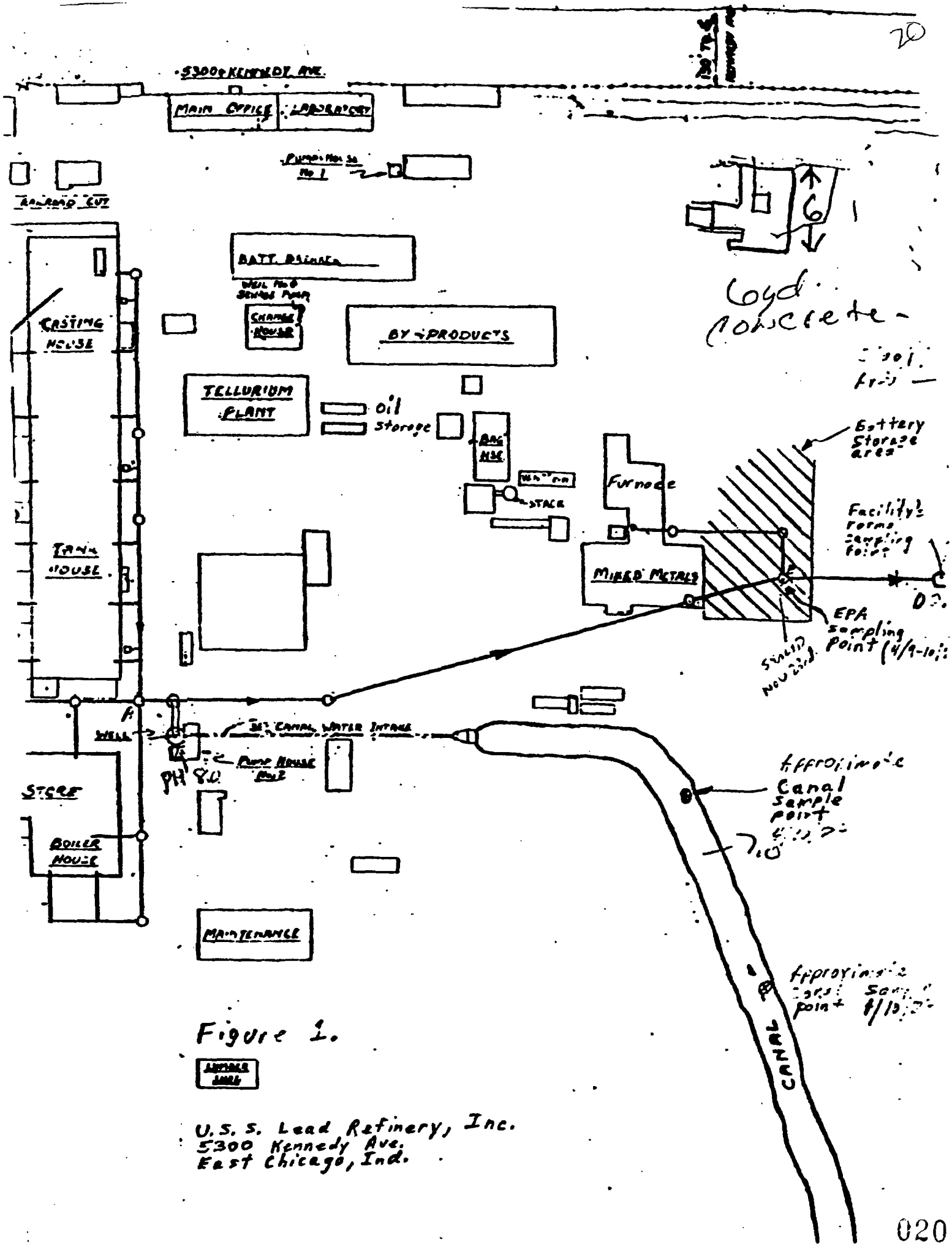

Figure 1.

U.S.S. Lead Refinery, Inc.
5300 Kennedy Ave.
East Chicago, Ind.

12/26/84 21
cgK 45
1/4/85

JVM 21 Dec 84

DU: B3Ø4
Act. Code: B21ØØ7

DL1:[001,054]RN447A.BRN 21-DEC-84 15:39:21 PAGE

DATA SET : CD0854 U.S.S. Lead E. Chicago

ELEMENT		CG01R01 (Blank)		CG01S01 (effluent)		CG01S02 (Cancel)
AG	µg/L	< 3.00	<	3.00	<	3.00
AL		< 80.0		246.	<	80.0
BA		< 5.0		41.2		27.3
BE		< 1.00	<	1.00	<	1.00
CD		< 2.00		63.5		2.87
CO		< 6.00	<	6.00	<	6.00
CR		< 8.00	<	8.00	<	8.00
CU		< 6.00		40.3	<	6.00
FE		< 80.		1840.		1180.
LI		< 10.0		31.8		28.0
MN		< 5.		170.		307.
MO		< 10.0	<	10.0	<	10.0
NI		< 15.0		27.6	<	15.0
PB		< 70.0		2700.	<	70.0
SN		< 40.0	<	40.0	<	40.0
SR		< 10.		192.		197.
TI		< 20.0	<	20.0	<	20.0
V		< 5.00	<	5.00	<	5.00
Y		< 5.00	<	5.00	<	5.00
ZN		< 40.0		293.		45.2
CA	mg/L	< 0.5		102.0		81.2
K		< 2.00		8.06		8.43
MG		< 0.1		22.6		29.3
NA		< 1.0		44.9		59.3

all ac [illegible] 08

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: MINERALS-NUTRIENTS

VISION/BRANCH ESD/CDO SAMPLING DATE 11-28-84 LAB ARRIVAL DATE 11-29-84 DUE DATE 12/21/84 12/13/84 (2)

NUMBER B304 DATASET NUMBER 854 STUDY USS Lead E. Chgo. PRIORITY N CONTRACTOR N

B27021 B41C01

L LOG NUMBER	SAMPLE DESCRIPTION	WATER* SILICA MG SIO2/L MIN904314	WATER* ~~[illegible]~~ FLUORIDE ~~DISTILLED (INDUSTRIAL~~ MG F/L (Distilled) MIN9022615 CGK 12/19/84	WATER* FLUORIDE UNDISTILLED (OTHER) MG F/L MIN9022715	WATER* CR+6 UG CR+6/L MIN904616	WATER* MERCURY UG HG/L MIN904717	
-G01							
S01	Effluent		✓ 1.5				5908
S02	Ditch		✓ <0.1				5911
S03	Raw water		✓ 0.6				5912
			GK 12/11/84				
			Transmitted by MAP		12/27/84		

022

12/10/84
AS

① CJK 12/20/84

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: METALS

DIVISION/BRANCH ESD/CDO SAMPLING DATE 11-28-84 LAB ARRIVAL DATE 11-29-84 DUE DATE 12/21/84

OU NUMBER B304 DATASET NUMBER 854 STUDY U.S.S. Lead, E. Chgo B27024 321007 PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION	TOTAL METALS IN WATER* TOTAL ICAP UG/L MET11311	TOTAL METALS IN WATER* AS UG/L MET11361	TOTAL METALS IN WATER* SB UG/L MET113201	TOTAL METALS IN WATER* SE UG/L MET113211	TOTAL METALS IN WATER* TL UG/L MET113221	
85CG 01							
S01	EFFLUENT	✓	✓ 83			✓	590
S02	Ditch	✓	✓ 54			✓	591
R01 ✓	Blank	✓	✓ <2			✓	5909
			JVM 14Dec 84				
			Transmitted by MAP 12/27/84				

023

23

JWM 11 Jan 85

(4) CJK 1/24/85

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM; METALS

DIVISION/BRANCH ESD/CDO SAMPLING DATE 11-28-84 LAB ARRIVAL DATE 11-29-84 DUE DATE 12/21/84

DU NUMBER B304 DATASET NUMBER 854 STUDY USS LEAD, E. Cmyo B21007 PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION	TOTAL METALS IN WATER* MN UG/L MET113151	TOTAL METALS IN WATER* MO UG/L MET113161	TOTAL METALS IN WATER* NA MG/L MET113172	TOTAL METALS IN WATER* NI UG/L MET113181	TOTAL METALS IN WATER* PB UG/L MET113191
85CG01						
S01	5907					✓ see ICP data JWM
S02	5910					✓ ~~#6~~ 17 P.F.
R01	5909					✓ <1
						P.F. 1-10-85

Transmitted by SG 1-25-85

024

24

all QC passed PP

3

12/11/84 AJ

12/12/84 CJK

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: MINERALS-NUTRIENTS

DIVISION/BRANCH ESD/CDO SAMPLING DATE 11-28-84 LAB ARRIVAL DATE 11-29-84 DUE DATE 12/21/84

DU NUMBER B304 DATASET NUMBER 854 STUDY USS Lead, E. Chgo B2702 / B21001 PRIORITY N CONTRACTOR N

CPL LOG NUMBER	SAMPLE DESCRIPTION	WATER* CHEMICAL OXYGEN DEMAND MG COD/L MIN90334	WATER* TOTAL ORGANIC CARBON MG C/L MIN90347	WATER* BIOCHEMICAL OXYGEN DEMAND MG BOD5/L MIN90358	WATER* RESIDUE-FILTERABLE (TDS) MG/L MIN902282	WATER* RESIDUE-NONFILTERABLE (TSS) MG/L MIN902292	
55CG01							
S01	Effluent			[illegible]		✓ 8	5-5908
S02	Ditch			[illegible]		✓ 3	5-5911
S03	Raw water			[illegible]		✓ K3	5-5912
						P.F. 12-10-84	
				Transmitted by MAP		12/10/84	

025

25

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: MINERALS-NUTRIENTS

all QC ...

CGK 1/7/85

SION/BRANCH ESD/CDo SAMPLING DATE 11-28-84 LAB ARRIVAL DATE 11-29-84 DUE DATE 12/21/84

NUMBER B304 DATASET NUMBER 854 STUDY USS Lead, E. Chgo. B2702 (D2100) PRIORITY N CONTRACTOR ~

LOG NUMBER 85 [CG01]	SAMPLE DESCRIPTION	WATER SPECIFIC CONDUCTANCE 25C UMHOS/CM MIN7389	WATER PH PH UNITS MIN73910	WATER ALKALINITY MG CACO3/L MIN74011	WATER SULFATE MG SO4/L MIN74112	WATER CHLORIDE MG CL/L MIN74213	
S01	Effluent				✓ 210	~~93~~ 92 (PP)	5908
S02	Ditch				✓ 210	91	5911
S03	Raw water.				✓ ~~22~~ 32 (PP)	12	5912
					[signature] 12-21-84	[signature] 12-21-84	
					Transmitted by S Griffin 1-10-85		

026

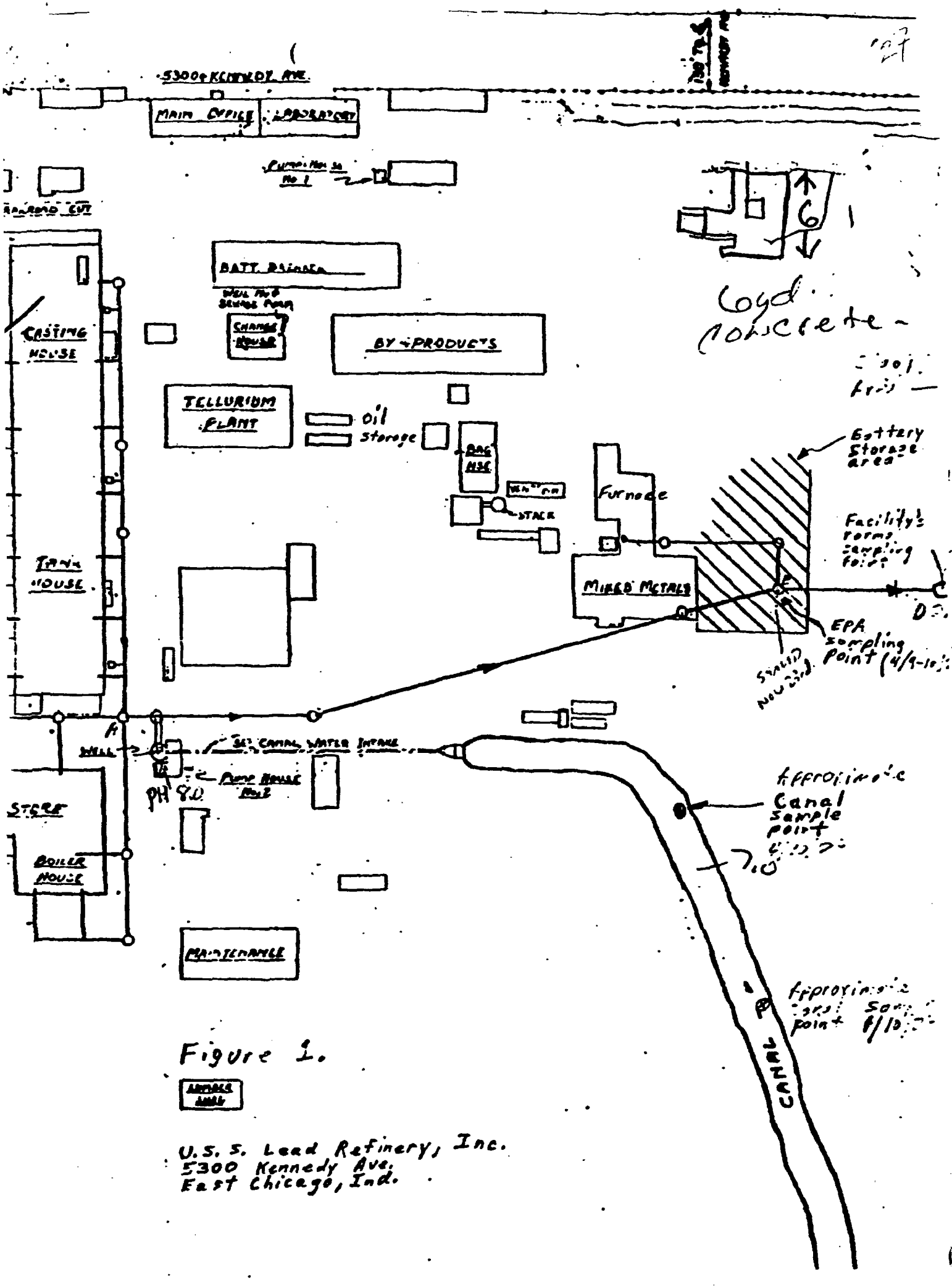

Figure 1.

U.S.S. Lead Refinery, Inc.
5300 Kennedy Ave.
East Chicago, Ind.