cc: DWPC/EO
DWPC/CA

MEMORANDUM

DATE: 26 Aug. 88
TO: Rob Sulsky
FROM: Allen Anderson Jr., DWPC -- Region II
SUBJECT: Deficiency Report on LTV Steel - Chicago
NPDES No. IL00 03593 Inspection Date: 3 May 88

Description of apparent NPDES violations

None noted

EPA Region 5 Records Ctr.
307745

RECEIVED
Field Operations Section
SEP 09 1988
Environmental Protection Agency
State of Illinois

Description of O & M Deficiencies

None noted

Initial Action Recommendation:
Should CIL be sent? No Immediately
Should CIL be held pending lab results? No
Can phone call resolve problems?
Additional comments:
Acute/Ames biomonitoring for permit reissue.

Follow up action:
Comments on Discharger Action:

Final Action Recommendation:

Action Decision:

JF:mgg618b/sp/2

EPA

United States Environmental Protection Agency
Washington, D. C. 20460

NPDES Compliance Inspection Report

Form Approved
OMB No. 2040-0003
Approval Expires 7-31-85

Section A: National Data System Coding

Transaction Code	NPDES	yr/mo/day	Inspection Type	Inspector	Fac Type
N	IL0000215	880503	B	S	2

Remarks

Reserved	Facility Evaluation Rating	BI	QA	Reserved
	3	D	N	

Section B: Facility Data

Name and Location of Facility Inspected	Entry Time	Permit Effective Date
LTV Steel - Chicago 116th & Burley Ave Chicago, IL 60617	11.25 AM ☒ PM ☐	1/30/85
	Exit Time/Date 5 May 88 1:00 PM	Permit Expiration Date 1/1/90

Name(s) of On-Site Representative(s)	Title(s)	Phone No(s)
Tom Lockus	Environ. Coord.	(312) 933-4587

Name, Address of Responsible Official	Title	Contacted
" "	" "	☒ Yes ☐ No
	Phone No. (312) 933-4587	

Section C: Areas Evaluated During Inspection

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

— Permit	— Flow Measurement	— Pretreatment	— Operations & Maintenance
— Records/Reports	— Laboratory	— Compliance Schedules	— Sludge Disposal
S Facility Site Review	S Effluent/Receiving Waters	— Self-Monitoring Program	S Other: Acute/Chronic Biomonitoring

Section D: Summary of Findings/Comments *(Attach additional sheets if necessary)*

1. No algal stimulation or inhibition observed
2. No acute toxity in significant amounts apparent, but low C.R. suggest future chronic testing (see attached Cover Memo).
3. No conventional samples taken or submitted.

Name(s) and Signature(s) of Inspector(s)	Agency/Office/Telephone	Date
[signature]	IEPA/Maywood (312) 345-9780	26 Aug. 88

Signature of Reviewer	Agency/Office	Date
[signature]	IEPA/DWPC/FOS-CHGO Area	9-2-88

Regulatory Office Use Only

Action Taken	Date	Compliance Status
		☐ Noncompliance ☐ Compliance

c.c. RBS

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

MEMORAND

DATE: July 22, 1988

TO: See Distribution List

FROM: Bob Mosher

SUBJECT: Biomonitoring Fact Sheets

The enclosed biomonitoring fact sheets were produced by Planning Section after review of recent toxicity test reports. The following facilities are covered:

Acme Steel-Riverdale IL0002119-004
LTV Steel IL0002593
USX Southworks IL002691-003

Any questions regarding the recommendations or other contents of the fact sheets should be directed to me at 217/782-3362.

BM:sd

Distribution List

Bill Busch, FOS
Jim Whitaker, TTU
Ken Rogers, CAS
Bob Eisenhart, FOS
PLO File
Bob Schacht
Laurie Moyer
Ted Denning
Tim Kluge

RECEIVED
ILL. ENVIR. PROTECTION AGENCY
JUL 20 1988
DIV. WATER POLLUTION CONTROL
FIELD OPERATIONS SECTION - REG. 2

Biomonitoring test Results Reviewer's Name Mosher Date 7-22-9

A. Facility Name NPDES #/Expiration date LTV Steel IL 0002593 01019

B. Stream Name/Reach # Calumet River 04040001-006/ON

C. Upstream 7Q10 20 CFS D. Discharge Ave. ~~Dry Weather~~ Flow 57.3 CFS

E. Dilution Ratio 0.35 F. Instream Waste Concentration 74 %

G. Waste concentration in 25% of dilution water 92%

H. Facility Type industrial I. Date of last CSI unknown

J. Treatment level

K. Process Information steel mill

L. Effluent Variability

M. M. Z. Delineation Study ___Completed-Date ___ X None ___ Needed

N. DID # HA-032- O. IEPA Bioassay date 5-4-88

P. Acute test: LC50= >100% fathead ceriodaphnia Chronic test: NOEC = >100% algae

Q. Previous bioassays Date/Lab

R. Date of most recent IEPA biosurvey X None

S. Other Biosurveys Date/Agency

T. Other Stream Information

U. Human Health Information

V. Bioconcentration Information

W. Comments no observed toxicity

X. Recommendations no biomonitoring in permit; low priority for IEPA chronic testing

cc Sulaki

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BIOASSAY SAMPLE DATA FORM

Facility Name: LTV STEEL CHI 004 NPDES Permit # IL0002593

Sample DID Locator Group #(s) HAA-15-032 Date Collected 2 May 88 Time 11:25AM

Collector/Title: [illegible] Jr. EPT II (signature required)

Receiving Water: Calumet River Stream 7Q10 : _____ Map Year 1983

Type of Sample: Grab ✓ Composite ____ Effluent Chlorinated: Yes ____ No ✓

Sample Volume: 3 Number of Samples Collected: Effluent 1 Dilution 2

Other Samples Collected (describe): None

Weather Conditions: Warm / Sunny

Field Data :Effluent Flow: ____ Relative Stream Flow: ____ Other (NH3, etc.):

Source of Effluent (if different from NPDES permit site) and Dilution Water: ____

(describe &/or attach map) Effluent at the NPDES permitted outfall; D.W. 100 yds upstream from outfall.

Sample Observations, Remarks, Deviations from Protocol: N/A

Chain of Custody (signatures required):

Transported by: [illegible] Jr. Date: 2 May 88 Time: 11:25AM

Remarks: _____

Received by: _____ Date: _____ Time: _____

Remarks: _____

Received by: _____ Date: _____ Time: _____

Remarks: _____

Received at Lab by: [illegible] Date: 5/3/88 Time: 0930

Lab Log #(s) C50[illegible]-5

cc AA

*** NOTE: THIS COVER MEMO FOR DISTRIBUTION TO IEPA STAFF ONLY ***

DATE: June 6, 1988

TO: Ted Denning

FROM: Jim Whitaker

SUBJECT: Biomonitoring Data

Facility: LTV Steel - Chicago Permit #: IL 0002593

Receiving water: Calumet River Location: Chicago (Region 2)

Samples collected: 05/03/88 1125 Test(s) initiated: 05/04/88 1400

Effluent flow (X Mean / ___ Observed): 57.3 cfs Stream 7Q10: 20 cfs

Dilution Ratio: (7Q10/Eff. flow) 0.35 Acute/Chronic Ratio: (LC50/NOEC) 10

Recommendations: Priority for follow-up action by DWPC staff:

___ high ___ medium X low

___ Candidate for on-site mobile laboratory test

___ Retest at a later date

X Further chronic testing recommended

Comments: Despite the lack of observed acute toxicity, the low dilution ratio suggests that future chronic testing might be appropriate. The priority for this resampling would depend upon the degree of interest in this facility.

cc: Jim Park, DWPC
Bill Busch, DWPC-FOS
Tom McSwiggin, DWPC-Permits
Ed Kane, DWPC-Permits
Joel Cross, DWPC-Planning

RECEIVED
ILL. ENVIR. PROTECTION AGENCY
JUL 22 1988
DIV. WATER POLLUTION CONTROL
FIELD OPERATIONS SECTION - REG. 2

ezf/recommen

IEPA TOXICITY TESTING UNIT
TOXICITY TEST SUMMARY

Facility: LTV Steel - Chicago Permit #: IL 0002593
Receiving Water: Calumet River Location: Chicago (Region 2)
Effluent flow (Mean / Observed) 57.3 cfs Stream 7Q10: 20 cfs
Samples collected: 05/02/88 1125 Test(s) initiated: 05/03/88 1400

Test(s) conducted:

ACUTE	CHRONIC
X 96-hr static fathead minnow	X 96-hr algal growth test
_ 96-hr flow-through fathead minnow	_ 7-day fathead minnow growth test
X 48-hr static Ceriodaphnia dubia	_ 7-day Ceriodaphnia brood test

Results: ACUTE

_ Acute toxicity observed for:

_ fathead minnow (LC50 = _ % effluent)

_ Ceriodaphnia (LC50 = _ % effluent)

X No significant acute toxicity observed

_ Potential acute toxicity: results inconclusive

Results: CHRONIC

_ Chronic toxicity observed for:

_ fathead minnow: survival NOEC, LOEC = _ _ % effluent

growth NOEC, LOEC = _ _ % effluent

_ Ceriodaphnia: survival NOEC, LOEC = _ _ % effluent

reproduction NOEC, LOEC = _ _ % effluent

_ algae: inhibition NOEC, LOEC = _ _ % effluent

X No significant chronic effect observed

_ Potential chronic effect: results inconclusive

Comments: _

Completed by: Karen Christensen Date: 06/22/88

IEPA TOXICITY TESTING UNIT
ALGAL GROWTH TEST REPORT FORM
BIOASSAY # 050388-S1C-SC

P.I. Karen Christensen
Facility Name LTV Steel-Chicago
Contact Ted Denning
NPDES Permit # IL0002593
DID # (s) HAA-15-032
Flow: Effluent cfs Stream cfs Stream 7Q10 cfs

Beginning (date,time) 19880503 1550
Ending (date,time) 19880507 1455
Sample Type Grab
Sample Collected 19880502 1125
Receiving Water Calumet River

Start conc.	pH	Mean # cells / ml : (+ or - s.d.) x10 E 5 0	24	48	72	96hr
lab	7.4	0.15				13.2:0.75
0%	8.1	0.15				16.3:1.24
5.6%	8.2	0.13				16.7:1.50
10%	8.2	0.15				15.3:0.91
18%	8.2	0.14				16.3:1.49
32%	8.3	0.14				15.3:1.67
56%	8.3	0.14				15.9:1.17
100%	8.4	0.13				15.9:2.14

Results of Dunnetts Procedure
x 0% or Lab Control used as Control

Data Transformation ? Log 10

Concentrations significantly different from control: None %

Concentrations not significantly different from control: 5,6,10,18,32,56,100 %

NOEC (no effect concentration) N/A%

LOEC (lowest effect concentration) N/A%
Effluent inhibits stimulates algal growth by % over control

Comments:

Checked by

IEPA TOXICITY TESTING UNIT
ACUTE TOXICITY TEST REPORT FORM
Bioassay Number 050388-S1A-CD

P.I. Karen Christensen Facility Name LTV Steel-Chicago
Contact: Ted Denning Exposure Mode Static
NPDES Permit # IL0002593-001 Beginning(date,time) 19880503 1350
D.I.D.#(s) HAA-032-15 Ending (date,time) 19880505 1430
Receiving Water Calumet River Test Organism Ceriodaphnia dubia
Dilution Water Calumet River Age <24 hrs
Flow: Effluent cfs Stream cfs Stream 7Q10 cfs
Effluent: Chlorine 0.0 mg/l Dechlor.? N NH3 0.8 mg/l
Sample Type Grab Sample Collected (dte,tme) 19880502 1125

Water Chemistry Summary (other Chemical analysis in comments)

Concent. or %	Temp. Range	D.O. Range	PH Range	Cond. Range	Alkal. Range	Hard. Range
0%	20.4-20.7	9.0-9.3	8.0-8.1	577-647	108	180
5.6%	20.3-20.7	9.0-9.2	8.1-8.2	580-664		
10%	20.3-20.7	9.0-9.3	8.2	581-676		
18%	20.4-20.8	9.0-9.3	8.2	583-660		
32%	20.4-20.7	9.0-9.3	8.2-8.3	587-642		
56%	20.4-20.7	9.0-9.2	8.3	594-708		
100%	20.5-21.0	9.0-9.2	8.3-8.4	606-797	114	172

Mortality Summary (Condition of Test Animals in Comments)

Concentration or %	Mortality at Time (%) 24hr	48hr	72hr	96hr	Length(mm) mean	Weight(mg) at end of test
0%	0	0				
5.6%	0	0				
10%	0	0				
18%	0	0				
32%	0	0				
56%	0	0				
100%	0	0				

Lethality Estimates:

Method of Estimation	LC50/EC50	95% Confidence Interval	Slope
Moving Average Method			
Binomial Test			
Moving Average Angle			
Probit Method			

x Unable to Calculate LC50 With This Data Set

IEPA TOXICITY TESTING UNIT
ACUTE TOXICITY TEST REPORT FORM
Bioassay Number 050388-S1A-PP

P.I. Karen Christensen
Contact: Ted Denning
NPDES Permit #IL0002593
D.I.D.#(s) HAA-15-032
Receiving Water Calumet River
Dilution Water Calumet River
Flow: Effluent cfs Stream cfs Stream 7Q10 cfs
Effluent: Chlorine 0.0 mg/l Dechlor.? N NH3 0.8 mg/l
Sample Type Grab

Facility Name LTV Steel Chicago
Exposure Mode Static
Beginning(date,time) 19880503 1430
Ending (date,time) 19880501 1420
Test Organism Pimephales promelas
Age 6 wk
Sample Collected (dte,tme) 19880502 1125

Water Chemistry Summary (other Chemical analysis in comments)

Concent. or %	Temp. Range	D.O. Range	PH Range	Cond. Range	Alkal. Range	Hard. Range
0%	19.2-22.4	7.4-9.3	7.7-8.1	577-669	108	180
5.6%	19.5-22.0	7.5-9.2	7.9-8.2	580-676		
10%	19.7-22.5	7.6-9.3	8.0-8.2	581-677		
18%	19.6-22.3	7.4-9.3	8.0-8.3	583-701		
32%	19.5-22.3	7.8-9.3	8.0-8.3	587-692		
56%	20.1-22.2	7.8-9.2	8.1-8.3	594-685		
100%	19.9-22.4	7.4-9.2	8.1-8.4	606-714	114	172

Mortality Summary (Condition of Test Animals in Comments)

Concentration or %	Mortality at Time (%) 24hr	48hr	72hr	96hr	Length(mm) mean at end of test	Weight(mg) mean at end of test
0%	5	5	5	10		
5.6%	0	0	0	0		
10%	0	0	0	0		
18%	0	0	0	0		
32%	0	0	0	0		
56%	0	0	0	0		
100%	0	0	0	0		

Lethality Estimates:

Method of Estimation	LC50/EC50	95% Confidence Interval	Slope
Moving Average Method			
Binomial Test			
Moving Average Angle			
Probit Method			

x Unable to Calculate LC50 With This Data Set chkd by: