CURRENT CONDITIONS REPORT

GM POWERTRAIN BEDFORD FACILITY
105 GM DRIVE
BEDFORD, INDIANA

EPA ID# IND006036099

Volume III - Appendix F and G

Prepared For:
GM/ENCORE

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MAY 25, 2001
REF. NO. 013968 (1)

APPENDIX G.1

ISBH COMPLIANCE SAMPLING INSPECTION
DATED NOVEMBER 9, 1979

STATE OF INDIANA

STATE BOARD OF HEALTH

AN EQUAL OPPORTUNITY EMPLOYER

INDIANAPOLIS

Address Reply to:
Indiana State Board of Health
1330 West Michigan Street
P. O. Box 1964
Indianapolis, IN 46206

NOV 9 1979

Mr. Floyd M. McCurdy
Plant Manager
Central Foundry Division
General Motors Corporation
P.O. Box 271
Bedford, IN 47421

Dear Mr. McCurdy:

Re: Compliance Sampling Inspection (3560-3)
Central Foundry Division
NPDES Permit No. IN0003573

Enclosed please find the Compliance Sampling Inspection report written in conjunction with the inspection and survey conducted at your facility on July 27, 1979, and July 24-25, 1979, respectively. This report is for your information and files.

Item 2 in the "Summary" indicates a violation of the daily maximum permit limitation for suspended solids at discharge 001. However, because the ISBH laboratory shows that the parameter was just slightly exceeded and the Central Foundry laboratory shows no violation, no conclusion concerning compliance is being made at this time.

Any questions that you may have concerning the report may be directed to Mr. Mike Mott at 317/633-8490.

Very truly yours,

Joseph H. Snyder
for Joseph C. Stallsmith, Chief
Enforcement & Operations Branch
Division of Water Pollution Control

JET/reg
cc: U.S. EPA,
Enforcement Division
Mr. Lee Townsend,
Central District Office, U.S. EPA

Summary: Findings and Conclusions

Subject: Compliance Sampling Inspection (3560-3)
Central Foundry Division
NPDES Permit No. IN0003573

Relative to the Compliance Sampling Inspection conducted by Jim Traylor on July 27, 1979, with a corresponding survey conducted by the Survey Section on July 24-25, 1979, the following findings and conclusions have been made:

1. Samples of what appears to be the surfacing of an underground spring that emerges at the southwest corner of the treatment plant area were taken at the time of the survey. These samples indicated that chlorides and dissolved solids are relatively high. Subsequent samples of this same area taken by ISBH staff indicate that this discharge also contains significant concentrations of PCBs. The ISBH plans further efforts to attempt to determine the source of the PCBs; however, the company should develop and carry out a plan for investigating the source of the contamination. This office will cooperate with and assist the company within staff capability.

2. Laboratory analysis for permit parameters at discharges 001 and 002 indicate a violation of permit conditions for suspended solids at 001.

O.K.

ITEM 2

GERRY BRENT, CFD, AND BILL MCELHANEY, INDSBH, DISCUSSED THEIR DIFFERENT RESULTS FOR TSS. THEY AGREED THAT THE RESULTS FOR THIS TEST LEFT SOME DOUBT ABOUT THE ACCURACY OF THE READINGS.

1. BOTH LABS ANALYZED SAMPLES FROM SAME BOTTLE OF WATER. THIS SOUNDS GOOD, BUT GERRY SAYS THIS IS NOT THE CORRECT WAY TO COLLECT SPLIT SAMPLES. THERE IS A CHANCE THAT WATER WAS NOT MIXED PROPERLY BEFORE POURING OFF CFD SAMPLE.

2. TECHNICALLY YOU COULD ARGUE THAT THE RESULTS SHOULD BE AVERAGED SINCE THE SAME BOTTLE OF WATER WAS TESTED BY TWO LABORATORIES.

B. Ohl
11-19-79

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

TRANSACTION CODE	NPDES	YR	MO	DA	TYPE	INSPECTOR	FAC TYPE	TIME
W	IN0003573	79	07	27	S	S	4	8:30 a.m. / p.m.

REMARKS

ADDITIONAL

SECTION A - Permit Summary

NAME AND ADDRESS OF FACILITY *(Include County, State and ZIP code)*
CENTRAL FOUNDRY DIVISION
GENERAL MOTORS CORPORATION
BEDFORD, IN 47421

EXPIRATION DATE: APRIL 1, 1978
ISSUANCE DATE: MAY 30, 1974

RESPONSIBLE OFFICIAL	TITLE	PHONE
FLOYD M. McCUNDY	PLANT MANAGER	1-812-275-7000
FACILITY REPRESENTATIVE	TITLE	PHONE
GLEN OHL	SENIOR ENGINEER	1-812-275-7000

SECTION B - Effluent Characteristics *(Additional sheets attached YES)*

PARAMETER/ OUTFALL		MINIMUM	AVERAGE	MAXIMUM	ADDITIONAL
	SAMPLE MEASUREMENT				
	PERMIT REQUIREMENT				
	SAMPLE MEASUREMENT				
	PERMIT REQUIREMENT				
	SAMPLE MEASUREMENT				
	PERMIT REQUIREMENT				
	SAMPLE MEASUREMENT				
	PERMIT REQUIREMENT				
	SAMPLE MEASUREMENT				
	PERMIT REQUIREMENT				

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

	EFFLUENT WITHIN PERMIT REQUIREMENTS	S	OPERATION AND MAINTENANCE	S	SAMPLING PROCEDURES
S	RECORDS AND REPORTS	N/A	COMPLIANCE SCHEDULE	S	LABORATORY PRACTICES
S	PERMIT VERIFICATION	U	FLOW MEASUREMENTS		OTHER:

SECTION D - Comments

SECTION E - Inspection/Review

SIGNATURES	AGENCY	DATE
INSPECTED BY: [signature]	ISBH	7/27/79
INSPECTED BY		
REVIEWED BY		

ENFORCEMENT DIVISION USE ONLY
COMPLIANCE STATUS
☐ COMPLIANCE
☐ NONCOMPLIANCE

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

PERMIT NO. IN0003573

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: JUNE 5, 1979

FINDINGS: PCB SURVEY OF PERMITTED DISCHARGES AND DISCHARGES TO SANITARY COLLECTION SYSTEM.

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 STANDARD METHODS	☑ 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.	☑ 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:

(a) CORRECT NAME AND MAILING ADDRESS OF PERMITTEE.	☑ YES	☐ NO	☐ N/A
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.	☑ 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:

(a) STANDBY POWER OR OTHER EQUIVALENT PROVISIONS PROVIDED. GRAVITY FLOW THRU TREATMENT	☐ YES	☑ NO	☐ N/A
(b) ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE COMMUNICATIONS	☑ 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. BENEFICIAL FOR ULTIMATE DISPOSAL	☐ 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. OJT	☑ 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.	☑ YES	☐ NO	☐ N/A
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

PERMIT NO. IN0003573

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 _____)*			
PERMITTEE FLOW MEASUREMENT MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT.	☑ YES	☑ NO	☐ N/A
DETAILS:			
(a) PRIMARY MEASURING DEVICE PROPERLY INSTALLED.	☑ YES	☐ NO	☐ N/A
TYPE OF DEVICE: ☐ WEIR ☑ PARSHALL FLUME ☐ MAGMETER ☐ VENTURI METER ☐ OTHER *(Specify* 1 Foot Recorder from LANDELLER (OO?			
(b) CALIBRATION FREQUENCY ADEQUATE. *(Date of last calibration* WEEKLY *)*	☑ YES	☐ NO	☐ N/A
(c) PRIMARY FLOW MEASURING DEVICE PROPERLY OPERATED AND MAINTAINED.	☑ YES	☐ NO	☐ N/A
(d) SECONDARY INSTRUMENTS *(totalizers, recorders, etc.)* PROPERLY OPERATED AND MAINTAINED.	☑ YES	☐ NO	☐ N/A
(e) FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGES OF FLOW RATES.	☑ YES	☐ NO	☐ N/A
Part 2 – Sampling *(Further explanation attached _____)*			
PERMITTEE SAMPLING MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT.	☑ YES	☐ NO	☐ N/A
DETAILS:			
LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES.	☑ YES	☐ NO	☐ N/A
(b) PARAMETERS AND SAMPLING FREQUENCY AGREE WITH PERMIT.	☑ YES	☐ NO	☐ N/A
(c) PERMITTEE IS USING METHOD OF SAMPLE COLLECTION REQUIRED BY PERMIT. IF NO, ☐ GRAB ☐ MANUAL COMPOSITE ☐ AUTOMATIC COMPOSITE FREQUENCY _____	☑ YES	☐ NO	☐ N/A
(d) SAMPLE COLLECTION PROCEDURES ARE ADEQUATE.	☑ YES	☐ NO	☐ N/A
(i) SAMPLES REFRIGERATED DURING COMPOSITING	☑ YES	☐ NO	☐ N/A
(ii) PROPER PRESERVATION TECHNIQUES USED	☑ YES	☐ NO	☐ N/A
(iii) FLOW PROPORTIONED SAMPLES OBTAINED WHERE REQUIRED BY PERMIT	☐ YES	☐ NO	☑ N/A
(iv) SAMPLE HOLDING TIMES PRIOR TO ANALYSES IN CONFORMANCE WITH 40 CFR 136.3	☑ YES	☐ NO	☐ N/A
(e) MONITORING AND ANALYSES BEING PERFORMED MORE FREQUENTLY THAN REQUIRED BY PERMIT.	☐ YES	☑ NO	☐ N/A
(f) IF (e) IS YES, RESULTS ARE REPORTED IN PERMITTEE'S SELF-MONITORING REPORT.	☐ YES	☐ NO	☑ N/A
Part 3 – Laboratory *(Further explanation attached _____)*			
PERMITTEE LABORATORY PROCEDURES MEET THE REQUIREMENTS AND INTENT OF THE PERMIT.	☑ YES	☐ NO	☐ N/A
DETAILS:			
(a) EPA APPROVED ANALYTICAL TESTING PROCEDURES USED. *(40 CFR 136.3)*	☑ YES	☐ NO	☐ N/A
(b) IF ALTERNATE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED.	☐ YES	☐ NO	☑ N/A
(c) PARAMETERS OTHER THAN THOSE REQUIRED BY THE PERMIT ARE ANALYZED.	☐ YES	☑ NO	☐ N/A
(d) SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT.	☑ YES	☐ NO	☐ N/A
(e) QUALITY CONTROL PROCEDURES USED.	☑ YES	☐ NO	☐ N/A
(f) DUPLICATE SAMPLES ARE ANALYZED. _____ % OF TIME.	☐ YES	☑ NO	☐ N/A
(g) SPIKED SAMPLES ARE USED. _____ % OF TIME.	☐ YES	☑ NO	☐ N/A
(h) COMMERCIAL LABORATORY USED.	☑ YES	☐ NO	☐ N/A
(i) COMMERCIAL LABORATORY STATE CERTIFIED.	☐ YES	☐ NO	☑ N/A

LAB NAME TEN-ECH

LAB ADDRESS SOUTH BEND

PERMIT NO. IN0003573

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

UTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	VISIBLE FLOAT SOL	COLOR	OTHER
001	No	No	SLIGHT	No	No	SLIGHT	
002	No	No	No	No	No	No	

(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
- ☐ FLOW PROPORTIONED SAMPLE
- ☐ AUTOMATIC SAMPLER USED
- ☑ SAMPLE SPLIT WITH PERMITTEE
- ☐ CHAIN OF CUSTODY EMPLOYED
- ☐ SAMPLE OBTAINED FROM FACILITY SAMPLING DEVICE

COMPOSITING FREQUENCY ____ PRESERVATION YES

SAMPLE REFRIGERATED DURING COMPOSITING: ☑ YES ☐ NO

SAMPLE REPRESENTATIVE OF VOLUME AND NATURE OF DISCHARGE ____

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

1
001

DATE OF SAMPLING: July 24-25, 1979

FACILITY: Central Foundry
LOCATION: Bedford, IN

IN0003573
Pleasant Run Creek

Parameters *	NPDES Limits Daily Avg.	NPDES Limits Daily Max.	ISBE Lab.	Facility Lab.
Flow MGD			0.463	
BOD_5			18.	10.
Suspended Solids	10.	15.	17.	10.
pH	6.0-9.0	6.0-9.0	7.3	8.6
Fecal Coli MPN/100 ml				
Arsenic ug/l			1.0	
Phosphorus - P				
Total Solids			940.	750.
Sulfate			79.	30.
Cadmium ug/l			10.	
Chlorides			360.	
Cr (Hex) ug/l			10.	
Cr (Total) ug/l			10.	
Temperature-C			26-30	
Copper ug/l			20.	
Fluoride			0.9	
Total Iron ug/l			1,100	
Lead ug/l			20.	
Manganese ug/l			20.	
Nickel ug/l			20.	
PCB ug/l as Arochlor 1242			41.	
Oil-Grease			4.4	4.0
Zinc ug/l			130.	

SBII65-039
1/79

State Form 3965

Units included if other than mg/l.

TABLE NO. 2
OUTFALL NO. 002
DATE OF SAMPLING: July 24-25, 1979

FACILITY: Central Foundry
LOCATION: Bedford, IN
PERMIT NO. IN0003573
RECEIVING STREAM: Pleasant Run Creek

Parameters *	NPDES Limits Daily Avg.	NPDES Limits Daily Max.	ISBH Lab.	Facility Lab.
Flow MGD			0.361	0.361
BOD_5			5.8	6.5
Suspended Solids	10.	15.	6.	5.
pH	6.0-9.0	6.0-9.0	7.2	7.1
Fecal Coli MPN/100 ml				
Arsenic			1.	
Phosphorus - P				
Total Solids			280.	600.
Temperature-C			27-31	
Cadmium ug/l			10.	
Sulfate			100.	60.
Cr (Hex) ug/l			10.	
Cr (Total) ug/l			10.	
PCB ug/l as Arochlor	1242		0.98	
Copper ug/l			20.	
Fluoride			1.1	0.55
Total Iron ug/l			200.	
Lead ug/l			20.	
Manganese ug/l			80.	
Nickel ug/l			20.	
$NO_2 + NO_3 - N$				
Oil-Grease			2.7	3.
Zinc ug/l			30.	

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Units included if other than mg/l.

TABLE NO. 3
OUTFALL NO. 002 South
DATE OF SAMPLING: July 24-25, 1979

FACILITY: Central Foundry
LOCATION: Bedford, IN
PERMIT NO. IN0003573
RECEIVING STREAM: Pleasant Run Creek

Parameters *	NPDES Limits Daily Avg.	NPDES Limits Daily Max.	ISEH Lab.	Facility Lab.
Flow MGD				
BOD_5			8.7	
Suspended Solids			150.	
pH			6.5	
Fecal Coli MPN/100 ml				
Residual Cl				
Phosphorus - P				
Total Solids			2,500	
Ammonia - N				
Sulfate			100.	
Chlorides			1,200	
Cr (Hex)				
Cr (Total)				
COD				
Copper				
Fluoride				
Total Iron				
Lead				
Manganese				
Nickel				
$NO_2 + NO_3 - N$				
Oil-Grease			3.4	
Zinc				

SBH65-039
1/79

State Form 3965

* Units included if other than mg/l.

APPENDIX G.2

LETTER DATED SEPTEMBER 24, 1979

2 COPIES TO D. GRAVES FOR MAILING TO EPA & STATE

Division of General Motors Corporation
Bedford Plant
Bedford, Indiana 47421

September 24, 1979

Mr. Joe Stallsmith, Chief
Enforcement and Operations
Branch, Div. of Water
Pollution Control
1330 W. Michigan St.
Indianapolis, IN 46202

Dear Sir:

In compliance with your instructions given during the meeting held at your office Thursday afternoon, August 30, 1979, I am enclosing the following CFD readings of fluid samples taken from the seepage that appears to be flowing from Milwaukee Railroad property adjacent to CFD Treatment Plant.

Date of Analysis	Sample Type and Count	
9-27-76	Oil Water Mix	1.6 PPM PCB
9-27-76	Bottom Scraping	10.8 PPM PCB
4-27-78	Oil Water Mix	1453 PPM PCB
4-27-78	CFD Fuel Oil	0 PPM PCB
5-29-78	Oil Water Mix	1.5 PPB PCB
6-25-79	Oil Water Mix	200 PPM PCB
6-27-79	Oil Water Mix	33 PPM PCB
6-28-79	Oil Water Mix	33 PPM PCB
8-22-79	Oil Water Mix	70 PPM PCB
8-27-79	Water	15,000 PPM Chlorides

Very truly yours,

James E. Hoon

cc. Ms. Kaye Jacobs
Enforcement
US EPA
250 S. Dearborn Ave.
Chicago, IL 60657
Phone: 312-353-2094

MAY 25, 2001

APPENDIX G.3

EMR-MIDWEST ENVIRONMENTAL ASSESSMENT

MINERALS PROCESSING CORPORATION

Post Office Box 723

Bedford, Indiana 47421

Telephone (812) 279-4487

December 23, 1988

Central Foundry
Division of General Motors Corporation
Bedford Plant, Box 271
Bedford, Indiana 47421

Attention: Mr. Stan Kleiss

Dear Stan:

Per your request I am enclosing a recent environmental assesment study of Minerals Processing Corporation prepared by ERM Midwest, Inc. although the report was not dated I believe it was done either late November or early December 1988.

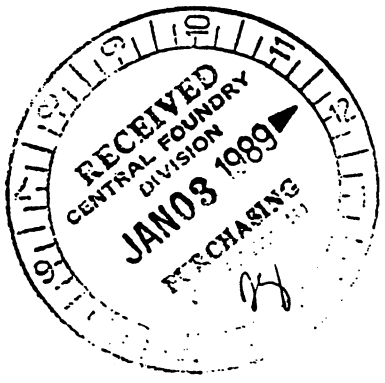
As I advised you, both Minerals and Bamar are in the process of refinancing to increase their processing so that we can better serve you. As you already know we are in the process of putting in a new dryer operation for Needmore Processing and at least on more furnace at Minerals Processing in Bedford, Indiana.

I would like to thank you for all the help you have been in the past and assure you that we feel that in the future we will be able to handle your material more expidiously. We have already made arrangements for our personel to get involved with the new General Motors program which I understand will start some time next month I would like to take this opportunity to thank you for your aid in getting the lease increased from three years to five years for the Minerals Property.

Very truly yours,

William T. Teller
President
Minerals Processing Corp.

WT:tc
enc.



44 EAST LONG LAKE RD., BLOOMFIELD HILLS, MI 48304

MICA RESOURCES LTD.

May 6, 1991

Mr. Kevin J. Moore
GM Central Foundry Division
North Jackson Street
Bedford, IN 47429-0271

Dear Kevin:

Enclosed please find a copy of the environmental assessment of the Minerals and Needmore properties which was conducted by ERM-Midwest, Inc. at the end of 1988, in connection with the acquisition of those properties by MICA Resources.

In interpreting this report, start with the proposition that no environmental consultant has ever not found something wrong! I think their pricing philosophy is to do the initial assessments for a low price, and then make their profit on the recommended follow-ons.

In the case of the Minerals' property, you will note that the principal problem was the waste oil above-ground tank, which was removed and disposed of in an approved manner in early 1989. In addition, ERM recommended that soil samples be taken as a follow-on step: this activity was undertaken in the early months of 1989, and the results indicated that there was no meaningful environmental contamination. I have not yet located the follow-on report, but when we find it, I will send you a copy.

On the strength of the assessment, we were quite satisfied to proceed with the acquisition of the properties. Just as telling is the fact that our Bank was willing to provide the financing.

Yours sincerely,

William A. Zebedee
President

WAZ:hs
cc: Stuart Burton

ERM-Midwest, inc.

8910 Purdue Road Suite 150 • Indianapolis, Indiana 46268 • (317) 872-0212

Telefax (317) 872-8363

ENVIRONMENTAL ASSESSMENT OF MINERAL PROCESSING CORPORATION AND NEEDMORE PROCESSING CORPORATION LAWRENCE COUNTY, INDIANA

Project No. I-006-01-01

Submitted

to

Mica Resources Limited

Prepared
by
ERM-Midwest, Inc.
8910 Purdue Road, Suite 150
Indianapolis, IN 46268

An affiliate of The Environmental Resources Management Group with offices throughout North America

The ERM Group

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Appendix A-ERM's Phased Approach to Environmental Assessments

ERM-Midwest, inc.

8910 Purdue Road Suite 150 • Indianapolis, Indiana 46268 • (317) 872-0212 Telefax (317) 872-8363

ENVIRONMENTAL ASSESSMENT
of
MINERAL PROCESSING CORPORATION
and
NEEDMORE PROCESSING CORPORATION

Submitted

to

Mica Resources Limited

1.0 INTRODUCTION

ERM-Midwest, Inc. was contracted by Mica Resources Limited to conduct an environmental assessment of specifically identified parcels of real estate in Indiana that are the object of a transfer of ownership. It is our understanding that Mica Resources Limited is considering the acquisition of two industrial sites in Lawrence County and desires the results of these assessments prior to closure on the property transfer transaction agreements.

The properties that were assessed for purposes of this particular project report were identified as: Mineral Processing Corporation at 1000 Third Street in Bedford, and Needmore Processing Corporation on County Road 425 North in Needmore; both in Lawrence County, Indiana.

2.0 OBJECTIVE

The purpose of ERM-Midwest's investigation is to provide, based on existing and readily available information, an information base regarding the potential presence or absence of contaminants in the form of hazardous substances. Hazardous substances in this case refers to RCRA (Resource Conservation and Recovery Act) and CERCLA (Comprehensive Environmental Response Compensation and Liability Act) materials. Such an assessment produces a set of professional observations and conclusions based on those observations which are used to judge the likelihood of significant environmental issues having existed in the past or currently, that would present potential environmental liabilities to the owners/operators of the property.

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3.0 APPROACH AND SCOPE

We have focused our efforts in the tasks described below to address the **Level 1** scope and objectives agreed upon during the formulation of this project. The approach ERM-Midwest has adopted for making property transfer assessments involves work in four task areas:

1. Compilation of a history of site development and use with emphasis on any chemical substances which might have been on site that could have contributed to contamination;

2. Review of environmental regulatory agency documents to determine site compliance with applicable regulations;

3. Inspection of the property to detect indications of the presence of hazardous contaminants; and

4. Reporting conclusions and recommendations for each of the noted sites.

The scope of work conducted for Mica Resources did not include sampling or analysis of environmental media in a limited effort to detect the presence, or confirm the absence, of contaminants. Typically, it is determined during a **Level 1** assessment that such sampling and analysis is indicated, and the specifics of such an effort are presented in the CONCLUSIONS AND RECOMMENDATIONS section of the final project report.

4.0 EXECUTIVE SUMMARY

Based on our professional experience and expertise in environmental affairs, particularly in the area of potential liabilities associated with property transfers, it is our qualified opinion that there exists the potential for historical contamination of sediments, surface water and groundwater at, or in the vicinity of, the properties assessed by this report.

However, any potential contamination would not be of a hazardous nature. The waste materials generated at the assessed properties are not regulated as hazardous wastes. It is worth noting that approximately 4000 gallons of a fuel oil/waste oil mixture is present in an above-ground vertical storage tank at the Mineral Processing Corporation facility. The mixture was formerly used as a fuel source for the rotary furnaces that are used for aluminum smelting. An analysis of the waste oil, in 1979, indicated trace levels of heavy metals and no PCB's present in the oil. The concern here is that while waste oil is not currently regulated as a hazardous waste, the U.S. Supreme Court recently ordered the U.S. Environmental Protection Agency to reconsider listing waste oil as

a hazardous waste subject to regulation by the Resource Conservation and Recovery Act.

It is possible, however, that PCB issues may exist relative to the electrical transformers located on each property. Such a potential situation prudently calls for further evaluation and action as deemed appropriate. The findings, conclusions, and recommendations made part of this project report are not to be construed as legal advice.

To the extent that the services described herein require subjective judgment, there can be no assurance that definitive results are obtained or those results that are obtained are usable. Moreover, the services provided include the application of subjective judgment to scientific principles and to that extent the results of this work are subject to human error.

5.0 HISTORY OF SITE DEVELOPMENT AND USE

5.1 Mineral Processing Corporation

The operations of Mineral Processing Corporation (MPC) located at 1000 Third Street, Bedford, Indiana, involves secondary smelting of aluminum by mixing rock salt, aluminum dross and grindings to resmelt aluminum. Figure 1 shows the location of the facility. The property that MPC is sited on, is currently owned by General Motors Corporation (GMC). GMC purchased the property from the Milwaukee Railroad in 1977.

MPC began operations at this location in 1971 and leased the property from the Milwaukee Railroad until the property was sold to GMC in 1977. MPC has leased the property from GMC since 1978. The current president of MPC is Mr. William Tiller.

5.1.1 General Description

MPC commenced operations in 1971, and the facility consists of an office building, truck scales, two separate baghouses for emissions collection, three rotary gas-fired furnaces housed in a building which also contains areas for rock salt storage, hot aluminum dross storage and cold scrap aluminum storage. Another small shelter is provided for aluminum dross storage, separate from the main building. A large part of the yard area is used for the stockpiling of 1000 pound aluminum/salt blocks. Each block is referred to as a "sow" and these blocks are the finished product at MPC.

MPC receives hot aluminum dross from the adjacent GMC Central Foundry, cold aluminum clips and borings from Needmore Processing, and cold aluminum dross from the Sheller-Ryobi facility located in Columbus, Indiana.

5.2 Needmore Processing Corporation

The operations of Needmore Processing Corporation (NPC), located on Lawrence County Road 425 North, approximately one-half mile southeast of Needmore, Indiana, involves processing aluminum borings and clips from part stamping at the GMC Central Foundry in Bedford, Indiana. Figure 2 shows the location of the facility. Iron/aluminum borings from Central Foundry and U.S. Reduction are also processed at this facility. The NPC operations are owned by Mineral Processing Corporation, which purchased the operations from Barmet of Needmore in approximately 1981.

Barmet had purchased the grounds, that house the facility, from Indiana Limestone in approximately 1973. Indiana limestone had operated a stone processing mill on these grounds since approximately 1910.

5.2.1 General Description

NPC began operations at the current location in approximately 1981, and the facility consists of an office building, truck scales, off-loading area for materials that are loaded onto a conveyor belt which feeds a crusher/shredder, and a main building which houses storage areas for raw materials, processed scrap, and a gas-fired rotary dryer equipped with an afterburner. Junk equipment and machinery, railroad ties, etc. are stored in the eastern portion of the yard area.

Semi-truck trailers, containing aluminum scrap, are stored in the southeast portion of the yard. Currently, the south central portion of the yard is being prepared for the construction of a building addition which will house an additional rotary dryer and aluminum scrap processing activities. A portion of the yard is also being developed as a storage area for semi-truck trailers.

6.0 SITE DOCUMENT REVIEW

6.1 On-Site Files

Mr. Stuart Burton, General Manager of Mineral Processing Corporation, was contacted by ERM to obtain background information on the two sites being assessed. Mr. Burton has been with MPC since 1971, and he is knowledgeable of the history of both of the sites.

Mr. Burton provided copies of all permits, lease arrangements, site maps, waste disposal approval letters, etc. for each of the two facilities. He was not aware of any recorded environmental regulations violations, consent orders, enforcement actions, fines, litigation or identification as a CERCLA "potentially responsible party."

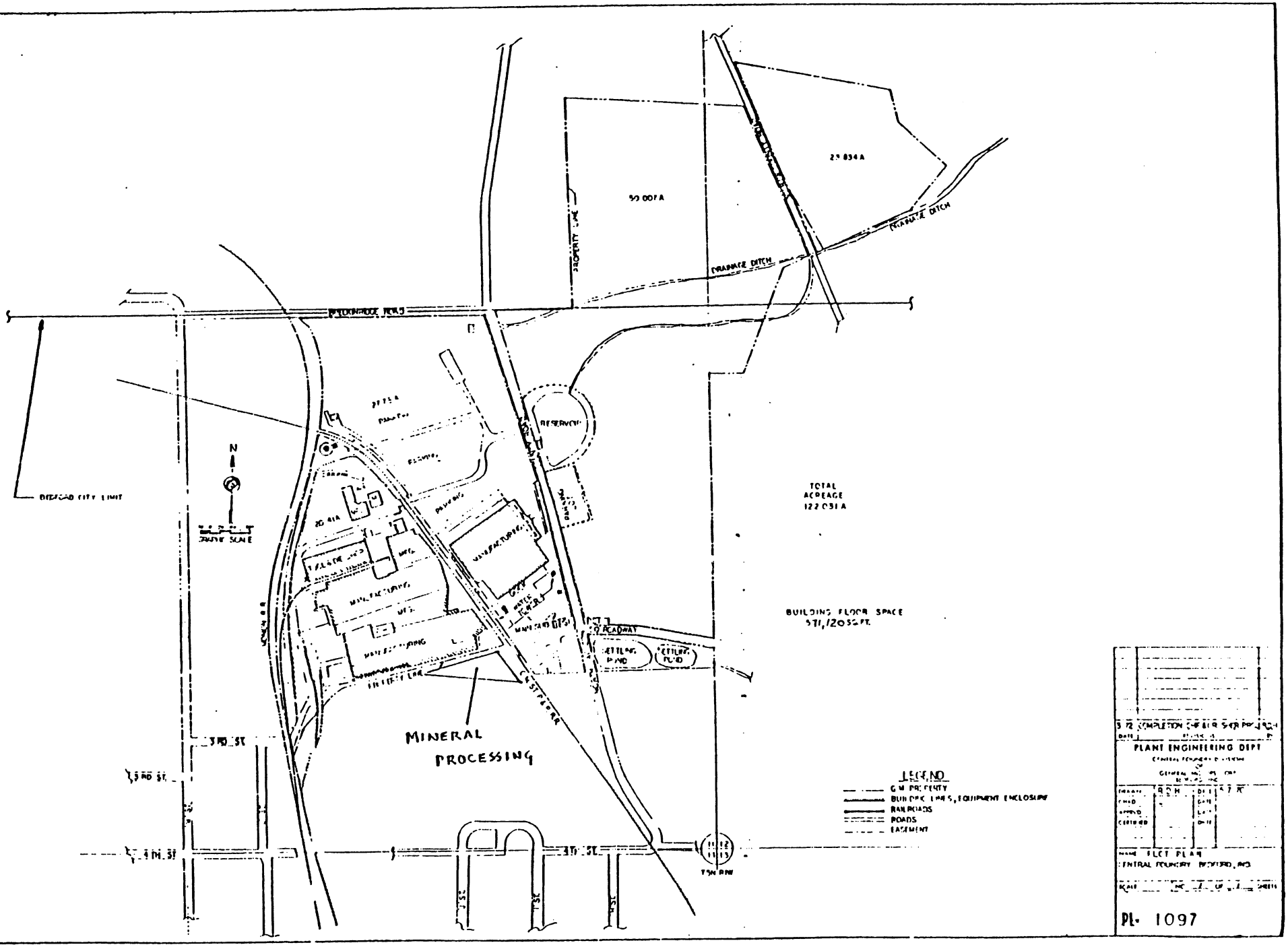
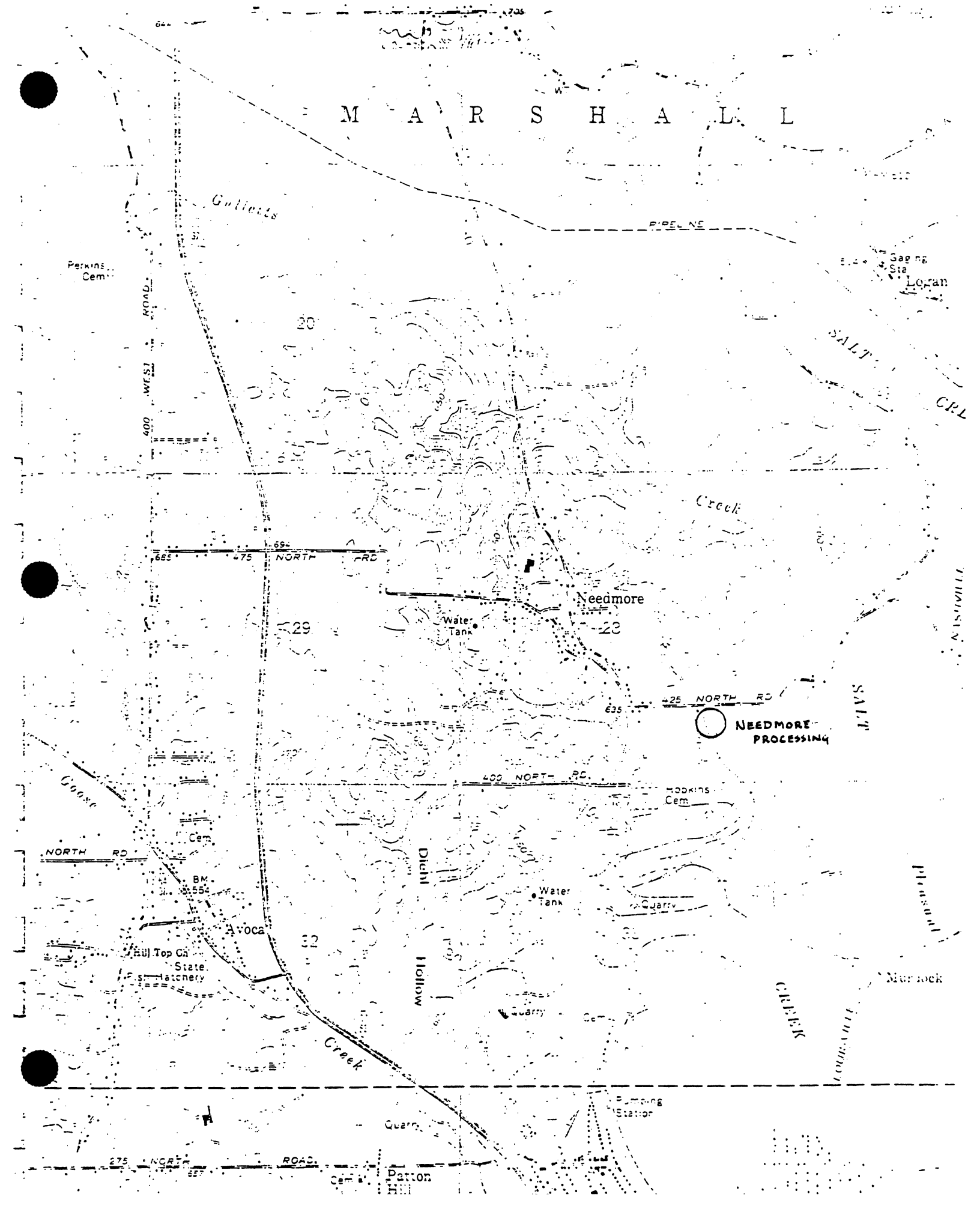

PLYMOUTH ROAD
DEDFORD CITY LIMIT
PROPERTY LINE
DRAINAGE DITCH
RESERVOIR
TOTAL ACREAGE 122.031 A
BUILDING FLOOR SPACE 571,120 SQ. FT.
MINERAL PROCESSING
SETTLING POND
SETTLING POND
3RD ST
4TH ST
5TH ST
T5S R9E
T5S R10E
LEGEND
G.M. PROPERTY
BUILDING LINES, EQUIPMENT ENCLOSURE
RAILROADS
ROADS
EASEMENT
PLANT ENGINEERING DEPT
PLANT FACILITY
PLOT PLAN
CENTRAL FOUNDRY BEDFORD, IND.
PL- 1097

Figure 2


MARSHALL
Gullets
PIPELINE
Perkins Cem.
ROAD
WEST
400
20
Logan
SALT
CRK
Creek
NORTH RD
Needmore
Water Tank
29
28
425 NORTH RD
635
NEEDMORE PROCESSING
SALT
400 NORTH RD.
Hopkins Cem.
Goose
Cem.
NORTH RD
BM 554
Ditch
Water Tank
Quarry
Avoca
32
33
Hill Top Ch
State
Fish Hatchery
Hollow
Murdock
CREEK
Creek
Quarry
Pumping Station
275 NORTH ROAD
Cem.
Patton Hill

6.2 Public Records

City of Bedford Records

1) Water Department: Mr. Ernie Mitchell, of the Bedford Water Department, indicated that Bedford's water supply is derived from the East Fork of the White River. The Water Treatment Plant has intakes just south of Bedford. Mineral Processing Corporation is within the Bedford City Limits and is therefore supplied with municipal water.

2) Sewer Department: The Bedford Wastewater Treatment Plant is located approximately 1000 yards downstream from the Bedford Water Treatment Plant. MPC is connected to the Bedford Sanitary Sewer system.

3) Fire Department: Mr. Don Tyree, Chief of the Bedford Fire Department, was contacted with regards to underground storage tanks. Mr. Tyree indicated that his department has no files or permits relative to underground storage tanks at the MPC facility.

Lawrence County Records

1) Health Department: Mr. Paul McBride, Chief Sanitary Officer for the Lawrence County Health Department, indicated that the Needmore Processing facility utilizes a septic tank and drainage field for disposal of sanitary wastes. Mr. McBride has filed complaints, with the Indiana Department of Environmental Management's Air Pollution Control Division (APCD), on behalf of residents complaining about emissions from both Mineral Processing and Needmore Processing.

   The APCD responded to a complaint of particulate emissions fall-out covering automobiles in the vicinity of Mineral Processing, in 1983. An inspector from APCD did not observe any noticeable violation on the day that he visited the area. It was further noted that it would be difficult to determine if particulate fall-out was originating from MPC or the adjacent GM Central Foundry.

   In 1987, the APCD responded to a complaint of heavy smoke emissions from Needmore Processing. The situation was remedied by adding an afterburner to the rotary dryer to more effectively remove oil from the aluminum scrap that is processed at the facility. The complaint was closed, and no enforcement action was pursued, by the APCD after two successive inspections revealed acceptable emissions.

2) Marshall Township Fire Department: Mr. Steve Cobb, Chief of the Marshall Township Fire Department indicated that his

department has no files or permits relative to underground storage tanks at Needmore Processing.

State of Indiana Records

1) Indiana Department of Natural Resources (IDNR): This state agency does not involve itself with environmental pollution issues relative to private properties, such as Mineral Processing or Needmore Processing. The IDNR concentrates primarily on the identification, characterization, and profiling of groundwater and surface water within Indiana.

The IDNR was contacted with regards to floodplain status for the two facilities. Floodplain insurance would not be required for either facility, as they exist outside of any floodplain, as currently defined by IDNR.

2) Indiana Department of Environmental Management (IDEM) Files.

a) Solid Waste: There are no records of solid waste disposal at either Mineral Processing or Needmore Processing. All paper trash or sanitary refuse generated at either facility is disposed of at the Lawrence County Landfill, Operating Permit 47-2.

The salt/dross cake generated at Mineral Processing is disposed of as a Special Waste regulated by 329 IAC. This material is disposed of at Southside Landfill (Operating Permit 84-2) in Vigo County and Worthington Landfill (Operating Permit 28-2) in Greene County. Waste analyses for the salt/dross cake are on file with IDEM.

b) RCRA Hazardous Waste: Mineral Processing notified U.S. EPA on 11/19/80 as a generator of hazardous waste (Notifier No. IND 0720511279). However, a 1/19/88 letter from IDEM to Mr. Stuart Burton indicated that Mineral Processing does not generate hazardous waste and is therefore not subject to 40 CFR 261 and/or 320 IAC 4.1-3 requirements. Needmore Processing does not generate any solid waste, as all material received there is recycled or sent to Mineral Processing for handling at that facility.

c) CERCLA: Neither of the facilities (Mineral Processing or Needmore Processing) are on the U.S. EPA CERCLIS List, a list of identified hazardous waste sites potentially requiring remedial action. However, the Southside Landfill site which receives the salt/dross cake from Mineral Processing is on the CERCLIS List. Therefore,

Mineral Processing would be a Potentially Responsible Party (PRP) for any clean-up activity which might be required at Southside Landfill. The likelihood of any clean-up that would be required at this landfill, is difficult to predict.

d) Spill Responses: No reports or incidents are on file for either Mineral Processing or Needmore Processing.

e) Groundwater: No records exist documenting groundwater quality for either Mineral Processing or Needmore Processing.

f) Water Pollution Control Division: No process wastewaters are generated at either facility. Therefore, no requirements pertaining to NPDES permits are required.

g) Public Water Supply: The Mineral Processing facility receives municipal water from the City of Bedford. Needmore Processing receives municipal water from the North Lawrence Water Corporation, which buys water from the City of Bedford, and provides chlorination of the water prior to piping to it's customers.

h) Air Pollution Control Division: No permit is required at the Needmore Processing facility, according to a 3/14/80 letter from the Indiana State Board of Health (predecessor to IDEM).

The three rotary gas-fired furnaces at Mineral Processing are permitted by the IDEM APCD (I.D. Nos. 47-03-90-0089, 90, and 91), and regulated by 325 IAC Article 2. The permits expire on 3/1/90.

6.3 Public Service Indiana (PSI)

Mr. John White, a superintendent with PSI, indicated that he has no knowledge of significant concentrations of PCBs in any electrical transformers at the Mineral Processing facility. Mr. White thought that these transformers had been installed in the mid-seventies, and they are owned by PSI. Mr. White further indicated that PSI supplies electricity to both Mineral Processing and Needmore Processing. The transformers at Needmore Processing are owned by Needmore Processing and they were probably originally purchased by the previous property owner, Barmet. A discussion of the potential significance of this issue will be included in this report under the PCB heading.

7.0 SITE INSPECTION

7.1 On-Site Operations

On December 9, 1988, Mr. Robert A. Downey of ERM-Midwest, Inc. conducted an inspection of the two facilities. The industrial activities at each of the properties identified for purposes of this report are as follows:

- Mineral Processing

  This facility consists of an office building, truck scales, primary operations building, a storage building for scrap aluminum dross, two baghouses for emissions, and a large yard area for the storage of processed aluminum/salt dross blocks.

- Needmore Processing

  The facility consists of an office building, truck scales, off-loading area for scrap aluminum, a primary operations building, and a large yard area for the storage of semi-trailers filled with scrap aluminum.

7.2 Site Grounds

The buildings at both facilities show normal signs of wear, typical for the operations conducted at the facilities. There was evidence of some spillage of fuel or gasoline on the ground beneath the above ground storage tanks at both facilities. Run-off water at Needmore Processing appeared cloudy, undoubtedly from emissions from the operations conducted at the facility. Some staining of the building floor was noted beneath the 55 gallon solvent drums at Needmore Processing. The amount of material spilled for any one event is thought to be insignificant. The yard area of Needmore Processing is the site of miscellaneous junked material including empty solvent drums, motor oil drums, railroad ties, etc.

7.3 Chemical and Material Usage

Small quantities of solvent degreasers and lubricating oils are kept at both facilities in 55 gallon metal containers. Typically, less than 3-4 drums are present at either facility at any time. The empty containers are typically returned to the manufacturer that supplies the material, for reconditioning.

7.4 Adjacent Properties

Mineral Processing is bordered by the GM Central Foundry to the north, Kaiser Tech to the south, and residential areas to the east and west. Railroad lines and spurs are south, east and west of the facility.

Needmore Processing is bordered by Gulletts Creek to the east and woodland to the north, east, and south. An abandoned railroad spur is present, southeast of the site. Numerous large piles of limestone blocks are located to the west of the site.

7.5 Surface Waters

Surface run-off water from the building roofs, site grounds, and cooling water for the rotary dryer at Needmore Processing flows into Gulletts Creek which is located immediately east of the site. Gulletts Creek empties into Salt Creek approximately 1/2-mile south of the facility. A small continual flow of run-off was noted on the date of the inspection.

There was no standing water or surface water noted during the inspection of the Mineral Processing site. Rainwater running onto the pavement outside and beside the buildings drains to the adjacent GM Central Foundry property. The nearest surface water is Pleasant Run Creek, located approximately 2 miles north of the facility.

7.6 Solid, Hazardous Waste, and CERCLA Issues

Sanitary solid wastes, generated at both facilities, are disposed of at the Lawrence County Landfill. No hazardous wastes are generated, stored, transported, or disposed of at either facility. The salt dross cake, generated at Mineral Processing, is disposed of as an Indiana Special Waste at the Worthington Landfill (Greene County) and Southside Landfill (Vigo County). The Southside Landfill is on the U.S. EPA CERCLIS List, which makes Mineral Processing a PRP for any potential remedial activity that might be required at the landfill in the future.

7.7 TSCA Issues

PCB

As mentioned earlier in this report, Mr. John White, a superintendent with PSI, indicated that it is not likely that significant quantities of PCBs are present in the transformers at Mineral Processing.

The transformers at Needmore Processing are owned by Needmore Processing, according to Mr. White. These transformers should be investigated to determine who manufactured them. The manufacturer can then be contacted to determine if PCBs are likely to be present in significant quantities, in any of the transformers.

The adjacent GM Central Foundry was the subject of a recent voluntary clean-up of PCB-contaminated sediment, sludge, and water. A former wastewater lagoon at the GM facility was found to contain

significant quantities of PCBs, and the water, sludge and underlying sediments were removed as part of a voluntary clean-up undertaken by GM. The sediment was removed to expose the bedrock in some portions of the lagoon. The lagoon was backfilled with clean clay backfill and the former lagoon area has successfully been revegetated.

Asbestos

It does not appear that asbestos insulation is present at either property. Mr. Burton was not aware of any asbestos having been used at either facility.

7.8 Groundwater Issues

Municipal water is available at both of the facilities, however there are some groundwater users in the vicinity of each of the facilities. Groundwater is withdrawn from Mississippian-Age limestone bedrock, and the quantity and/or occurrence of groundwater is primarily dependent upon intercepting a fracture or fissure within the bedrock. Water well logs obtained from the IDNR indicate the static groundwater levels, as measured in wells, are typically 60-70 feet below grade. The typical well depth is greater than 150 feet.

Due to the complex nature of the karst limestone drainage patterns in the vicinity of the facilities, it is difficult to predict groundwater flow patterns and/or the likelihood of any historical groundwater contamination at the sites. However, since no hazardous wastes are generated, stored, or disposed of at either site; it is not likely that significant groundwater contamination has occurred.

7.9 Air Issues

The emissions from the three rotary gas-fired furnaces at Mineral Processing are regulated by 325 IAC Article 2. The IDEM APCD issues the permits for these furnaces and is responsible for the enforcement of the law. No major violations or enforcement has been pursued by the APCD with regards to Mineral Processing. The U.S. EPA requested a stack test at the facility, which was successfully conducted in 1979.

The rotary gas-fired dryer and afterburner, at Needmore Processing, do not require a permit according to a 3/14/80 letter from the Indiana State Board of Health (predeseccor to IDEM). A complaint was filed with IDEM APCD in 1987 due to heavy smoke emissions from the facility. This was apparently the result of "oily" loads of aluminum scrap that were received at the facility. The excessive amounts of oil resulted in heavy smoke production as the oil was "burnt off" in the dryer. This situation was remedied by adding

an afterburner to handle any "oily" loads of scrap aluminum. The complaint was closed in early 1988, by APCD, after two successive inspections revealed acceptable emissions.

7.10 Wastewater Issues

There are no industrial wastewater discharges from either facility. Normal sanitary discharges go directly into the city sewer system at Mineral Processing. A septic system is used for sanitary discharges at Needmore Processing.

7.11 Tank Issues

The City of Bedford and Marshall Township Fire Departments, have no permits or registrations for underground tanks at either Mineral Processing or Needmore Processing, respectively.

Mr. Burton indicated that in 1978, two underground storage tanks containing gasoline and fuel oil in 1000 gallon vessels were removed at Mineral Processing. He further indicated that no records existed as to the procedures employed for this removal project. Both Mineral Processing and Needmore Processing have a few (2-3) small above ground storage tanks containing gasoline or diesel fuel for on-site equipment fueling.

A large vertical above ground tank, that was once used to store a fuel mixture for the furnaces, is present at Mineral Processing. This tank is contained within a concrete diked area with a sand liner.

In December, 1979, Mineral Processing requested permission with the State of Indiana to remove and dispose of approximately 900 cubic yards of oil-contaminated sand from within the diked area. The State granted approval for this activity in January, 1980, and the material was disposed of at Southside Landfill in Vigo County. Mr. Burton indicated that approximately 4,000 gallons of a fuel oil/waste oil mixture is currently stored in the aforementioned vertical storage tank. This mixture is a reserve emergency supply of fuel for the furnaces should the availability of natural gas ever become scarce. The waste oil was tested in 1979, and the analysis revealed the presence of trace levels of heavy metals. However, PCBs were non-detectable.

The potential significance of the waste oil in the tank is that the U.S. Supreme Court has recently ordered the U.S. EPA, to reconsider listing waste oil as a hazardous waste subject to regulation.

8.0 CONCLUSIONS AND RECOMMENDATIONS

No environmental media samples of any type were collected or analyzed by ERM-Midwest, Inc. for purposes of this assessment. Our

conclusions are based on information obtained through interviews, agency inquiries, and observations made during the site inspection.

During this environmental assessment process, no documentation, physical signs, or citizen involvement issues were discovered at either site relative to:

- The generation, treatment, transportation or disposal of RCRA hazardous wastes
- Involvement as a "potentially responsible party" in any Superfund activities
- Releases of reportable quantities of hazardous substances
- Unacceptable building and grounds maintenance, i.e. housekeeping practices
- Surface water issues
- Groundwater issues
- Mismanagement of raw material or chemical handling practices
- CERCLA issues

However, there has been some evidence of historical air quality problems at Needmore Processing which have apparently been remedied. There is also some potential concern with the presence of significant amounts of PCBs in the transformers at this facility.

The waste oil/fuel oil mixture in the above ground tank at Mineral Processing is also a potential regulatory concern. On the basis of these observations it would appear that some potentially significant environmental issues exist that could negatively impact either of the sites. However, considering that the operations at either site do not result in the generation, treatment, or disposal on-site of hazardous wastes; it is unlikely that past operations and practices have adversely impacted human health or the environment at either location.

Nevertheless, due to the existence of documented environmental contamination at the adjacent GM Central Foundry; it appears as though the likelihood of existing or potential environmental contamination could be present in the vicinity of the Mineral Processing site. Accordingly, it may be prudent for Mica Resources Ltd. to initiate a Level 2 or Level 3 assessment as outlined in Appendix A.

Specifically, the additional tasks that would be performed under a level 2 or Level 3 assessment are as follows:

- o Sampling of soil media on-site at the Inland property
- o Screening of soil samples for volatile organics
- o Analysis of selected soil samples for volatile and semi-volatile organics and priority pollutant metals.

9.0 INFORMATION SOURCES

For the purpose of establishing an information base to provide useful and sufficient data on which to judge the likelihood of significant environmental issues existing or having existed at the sites, ERM elicited site information as available from the following sources:

Site History

- o Mr. Stuart Burton, Mineral Processing Corporation

Environmental Files

City:

Bedford Fire Department

Bedford Wastewater Treatment Plant

Bedford Water Department

County:

Lawrence County Health Department

Public Service Indiana

Marshall Township Fire Department

North Lawrence Water Corporation

State:

Indiana Department of Environmental Management - Solid and Hazardous Waste Management Division and Air Pollution Contral Division.

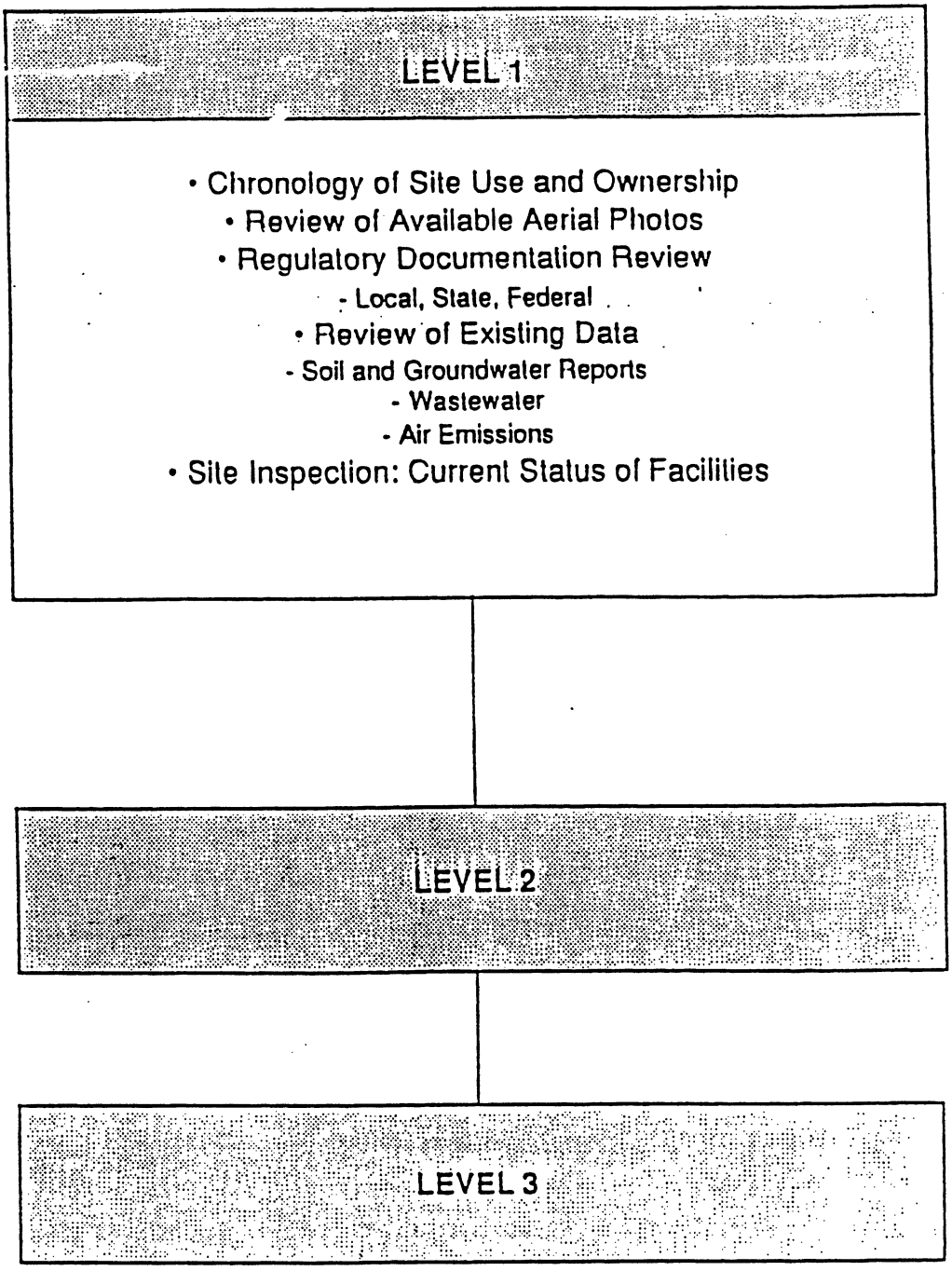
Indiana Department of Natural Resources - Division of Water

APPENDIX A

ERM'S PHASED APPROACH TO ENVIRONMENTAL ASSESSMENTS

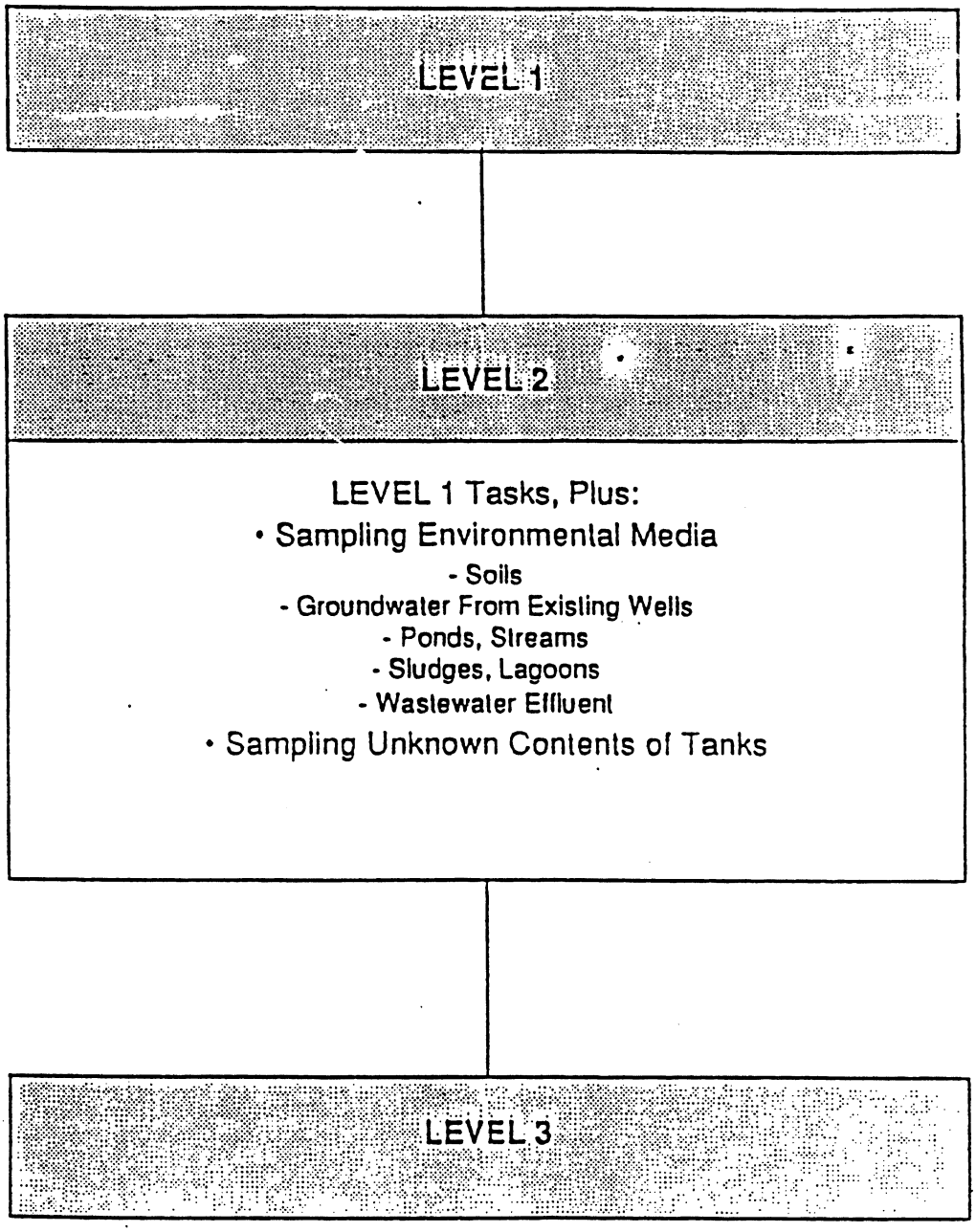
Property Transfer
Environmental Liability Asessments

ERM'S PHASED APPROACH



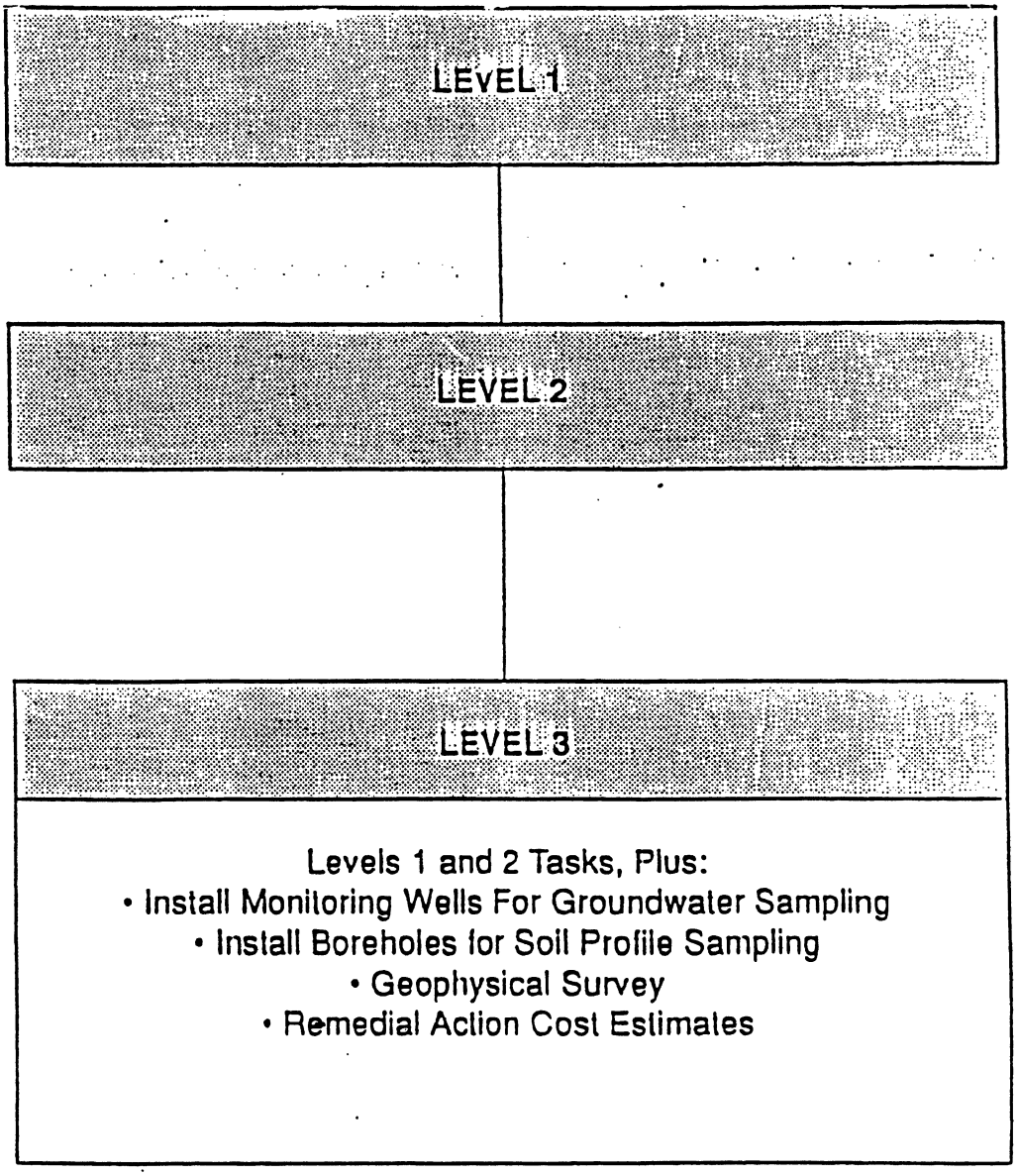
Property Transfer
Environmental Liability Assessments

ERM'S PHASED APPROACH

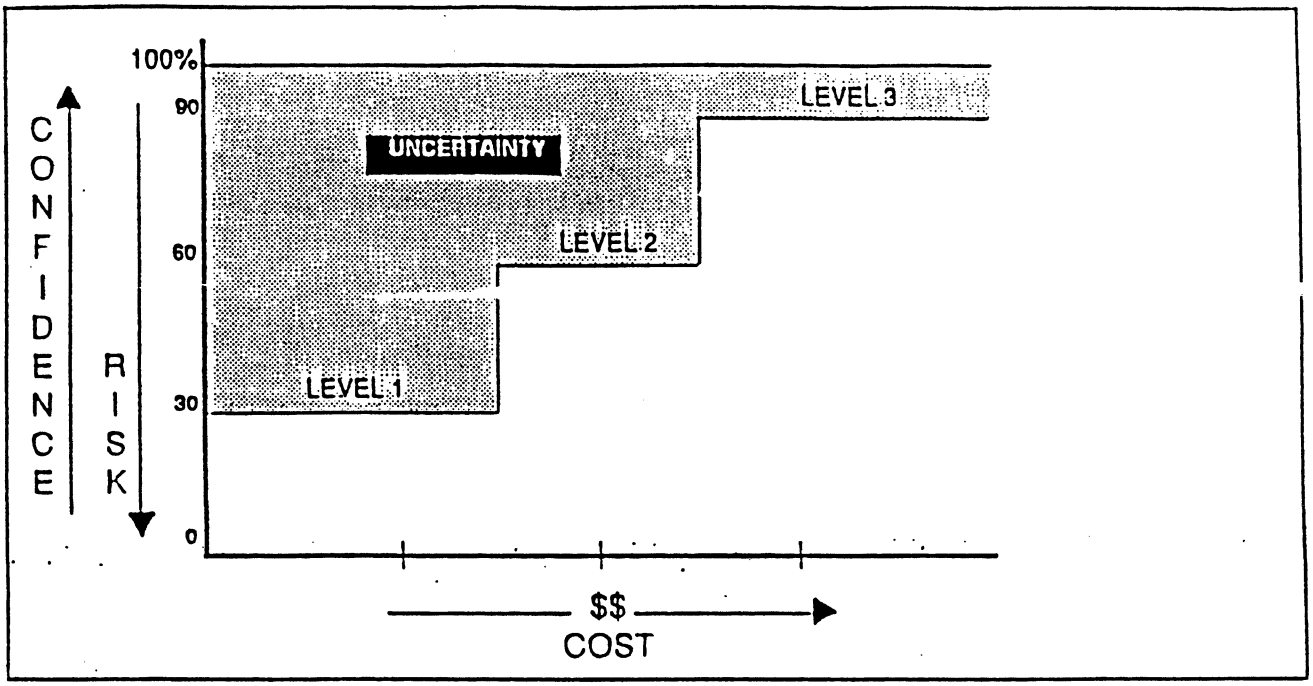


Property Transfer
Environmental Liability Assessments

ERM'S PHASED APPROACH



CONFIDENCE AND RISK VERSUS COST



With Each Increasing Level:

- Cost Increases
- Confidence Increases
- Risk Decreases
- Defensibility Increases

But, 100 percent Confidence is Unattainable.

APPENDIX G.4

ALUMINUM COMPANY OF AMERICA LETTER AND LABORATORY REPORT DATED JULY 31, 1991

ALUMINUM COMPANY OF AMERICA
1200 RIVERVIEW TOWER
900 SOUTH GAY STREET
KNOXVILLE, TENNESSEE 37902

ALCOA

1991 July 31

C.C. W. Schoonmaker

Mr.

Dear Mr.

As you know, there is recent evidence that a small, but significant, amount of saltcake must be treated as a hazardous waste. The data indicates that certain saltcake will fail either the RCRA Reactivity Test for reactive cyanides or sulfides or the RCRA TCLP Test for Metals. If a sample fails these tests, the saltcake would be deemed a hazardous waste and you must handle it in accordance with the storage, treatment, and disposal requirements of RCRA. In your compliance with these regulations, it is our understanding that it will be necessary to perform the EP Toxicity Tests on any hazardous wastes to determine what disposal options are allowed.

If you have not yet begun to characterize any saltcake you dispose of, we would urge that this begin immediately. We are also requesting that within 90 days you make arrangements to begin disposing of all saltcake generated from our skim, dross, and/or scrap in a RCRA Subtitle C hazardous waste landfill. Failure to comply with this request could result in the loss of our business.

We recognize that disposal in a hazardous waste landfill may temporarily increase your costs, although we are aware of several recyclers with competitive prices today who have elected similarly cautious approaches with respect to saltcake. We are prepared to discuss the short-term effects of this decision with you.

We also presume that you, as we continue to do, will be investigating other options for the appropriate handling of saltcake. Until we understand there is a better alternative, we believe that this conservative approach is the most prudent course of action, and will insure that your competitiveness is not jeopardized by long-term environmental liabilities associated with inappropriate saltcake disposal.

Very truly yours,

Mark S. Scrock

MARK S. SCROCK
METAL MANAGER

MSS/lap

IRONMENTAL CONSULTANTS, INC.
New Han Avenue • Clarksville, Indiana 47130 • Phone (812) 282-8481

Environmental Consultants

Professional Laboratory Services

Laboratory Report

Date 10/16/90 Page 1 of 4

Lab Control No. 12,161

P.O. Number Job No. 085129

ple Source

Minerals Processing
Corporation
P.O. Box 723
Bedford, IN 47420-
Attn: Mr. Stuart Burton

To:

ple Description	Sample Type	Location
Solid	GRAB	Salt Dross

Collected	Date Received	Collected By	Time of Collection
09-21-90	09/24/90	Client	00:00

meter	Results	Date Analyzed	Analyst	Method of Analysis
ZHE Extraction Procedure	COMPLETED	10/01/90	Clark, R.	
Benzene (TCLP)	None Detected DL = 5 ug/l	10/12/90	Wilson	Gas chromatography Mass spectrometry
Carbon tetrachloride (TCLP)	None Detected DL = 5 ug/l	10/12/90	Wilson	Gas Chromatography Mass Spectrometry
Chlorobenzene (TCLP)	None Detected DL = 5 ug/l	10/12/90	Wilson	Gas Chromatography Mass Spectrometry
Chloroform (TCLP)	None Detected DL = 5 ug/l	10/12/90	Wilson	Gas chromatography Mass spectrometry
1,2-Dichloroethane (TCLP)	None Detected DL = 5 ug/l	10/12/90	Wilson	Gas chromatography Mass spectrometry
1,1-Dichloroethylene (TCLP)	None Detected DL = 5 ug/l	10/12/90	Wilson	Gas chromatography Mass spectrometry
Methyl ethyl ketone (TCLP)	38. ug/l	10/12/90	Wilson	Gas Chromatography Mass Spectrometry
Tetrachloroethylene (TCLP)	None Detected DL = 5 ug/l	10/12/90	Wilson	Gas Chromatography Mass Spectrometry

rks

ate Certification No. M-10-1

Analysis Reviewed By

ONMENTAL CONSULTANTS, INC.
wman Avenue • Clarksville, Indiana 47130 • Phone (812) 282-8481

Environmental Consultants

Professional Laboratory Services

Laboratory Report

Source

Minerals Processing
Corporation
P.O. Box 723
Bedford, IN 47420-
Attn: Mr. Stuart Burton

Date: 10/16/90 Page 2 of 4

Lab Control No.: 12,161

P.O. Number

Job No.: 085129

Description: olid

Sample Type: GRAB

Location: Salt Dross

Collected: 9-21-90

Date Received: 09/24/90

Collected By: Client

Time of Collection: 00:00

ter	Results	Date Analyzed	Analyst	Method of Analysis
ichloroethylene (TCLP)	None Detected DL = 5 ug/l	10/12/90	Wilson	Gas Chromatography Mass Spectrometry
nyl chloride (TCLP)	None Detected DL = 10 ug/l	10/12/90	Wilson	Gas chromatography Mass spectrometry
L[redacted]traction (ABN)	COMPLETED	09/26/90	Young	
LP Acid/BN Preparation	PERFORMED	09/28/90	Clark, R.	
Cresol (TCLP)	None Detected DL = 20 ug/l	10/10/90	Cropper	Gas chromatography Mass spectrometry
Cresol (TCLP)	None Detected DL = 20 ug/l	10/10/90	Cropper	Gas chromatography Mass spectrometry
Cresol (TCLP)	None Detected DL = 20 ug/l	10/10/90	Cropper	Gas chromatography Mass spectrometry
4-Dichlorobenzene (TCLP)	None Detected DL = 20 ug/l	10/10/90	Cropper	Gas chromatography Mass spectrometry
4-Dinitrotoluene (TCLP)	None Detected DL = 20 ug/l	10/10/90	Cropper	Gas chromatography Mass spectrometry

e Certification No. M-10-1

Analysis Reviewed By

IRONMENTAL CONSULTANTS, INC.
Newman Avenue • Clarksville, Indiana 47130 • Phone (812) 282-8481

Environmental Consultants

Professional Laboratory Services

Laboratory Report

Date: 10/16/90 Page 3 of 4

Lab Control No.: 12,161

P.O. Number:

Job No.: 085129

ple Source

Minerals Processing
Corporation
P.O. Box 723
Bedford, IN 47420-
Attn: Mr. Stuart Burton

To:

ple Description	Sample Type	Location
Solid	GRAB	Salt Dross

Collected	Date Received	Collected By	Time of Collection
09-21-90	09/24/90	Client	00:00

meter	Results	Date Analyzed	Analyst	Method of Analysis
Hexachlorobenzene (TCLP)	None Detected DL = 20 ug/l	10/10/90	Cropper	Gas chromatography Mass spectrometry
Hexachlorobutadiene (TCLP)	None Detected DL = 20 ug/l	10/10/90	Cropper	Gas chromatography Mass spectrometry
Hexachloroethane (TCLP)	None Detected DL = 20 ug/l	10/10/90	Cropper	Gas chromatography Mass spectrometry
Nitrobenzene (TCLP)	None Detected DL = 20 ug/l	10/10/90	Cropper	Gas Chromatography Mass Spectrometry
Pentachlorophenol (TCLP)	None Detected DL = 50 ug/l	10/10/90	Cropper	Gas chromatography Mass spectrometry
Pyridine (TCLP)	None Detected DL = 50 ug/l	10/10/90	Cropper	Gas Chromatography Mass Spectrometry
2,4,5-Trichlorophenol (TCLP)	None Detected DL = 20 ug/l	10/10/90	Cropper	Gas chromatography Mass spectrometry
2,4,6-Trichlorophenol (TCLP)	None Detected DL = 20 ug/l	10/10/90	Cropper	Gas chromatography Mass spectrometry
TCLP Extraction Procedure	COMPLETED	09/26/90	Young	

arks

ate Certification No. M-10-1

Analysis Reviewed By: B. Rob Carnes

VIRONMENTAL CONSULTANTS, INC.
Newman Avenue • Clarksville, Indiana 47130 • Phone (812) 282-8481

Environmental Consultants

Professional Laboratory Services

Laboratory Report

Date: 10/16/90 Page 4 of 4

Lab Control No: 12,161

P.O. Number: Job No. 085129

ple Source

Minerals Processing
Corporation
P.O. Box 723
Bedford, IN 47420-
Attn: Mr. Stuart Burton

To:

mple Description: Solid | Sample Type: GRAB | Location: Salt Dross

te Collected: 09-21-90 | Date Received: 09/24/90 | Collected By: Client | Time of Collection: 00:00

Parameter	Results	Date Analyzed	Analyst	Method of Analysis
Arsenic (TCLP)	0.800 mg/l	09/28/90	Isler	Atomic absorption Graphite furnace
Barium (TCLP)	1.52 mg/l	10/02/90	Isler	Flame atomic abs.
[redacted]ium (TCLP)	0.006 mg/l	10/01/90	Isler	Flame atomic abs.
Chromium (TCLP)	0.32 mg/l	10/02/90	Isler	Flame atomic abs.
Lead (TCLP)	0.15 mg/l	10/01/90	Isler	Flame atomic abs.
Mercury (TCLP)	<0.0002 mg/l	09/28/90	Hostettler	Atomic absorption Cold vapor
Selenium (TCLP)	0.048 mg/l	10/03/90	Isler	Atomic absorption Graphite furnace
Silver (TCLP)	0.081 mg/l	10/01/90	Isler	Flame atomic abs.
Quality Control Data	See Attached	10/16/90		

[redacted]

tate Certification No. M-10-1

Analysis Reviewed: B. Rod Carlisle

Environmental Consultants

Professional Laboratory Services

SPIKE SAMPLE RECOVERY
TCLP EXTRACT
METALS

SAMPLE NUMBER
Salt Brine

Lab Sample ID Number: 11216 / Mineral Proc. Date:

Data Release Authorized by: BRC Units: mg/l

Date Extracted: 9.26 90

Date Digested: 9.27-90

Date Analyzed. 9.28 -10.3 90

Conc/Dil Factor:

Metal	Spike Smp! Result	Sample Result	Amount Spiked	Percent Recovery	Method of Std Addns
2) Arsenic		.800	.020		☐ PERFORMED
Barium	2.16	1.52	1.00	64%	☐ PERFORMED
Cadmium	.186	.006	.200	90%	☐ PERFORMED
Chromium	1.39	.32	1.00	107%	☐ PERFORMED
Lead	1.06	.15	1.00	91%	☐ PERFORMED
Mercury	.0021	<.0002	.002	105%	☐ PERFORMED
Selenium	.072	.048	.020	120%	☐ PERFORMED
1) Silver	.281	.081	.200	100%	☐ PERFORMED
					☐ PERFORMED
					☐ PERFORMED
					☐ PERFORMED
					☐ PERFORMED
					☐ PERFORMED
					☐ PERFORMED

Comments: ~~spiked after digestion~~

2) Unable to analyze spike due to high dilution

Environmental Consultants
Professional Laboratory Services

SPIKE SAMPLE RECOVERY
TCLP EXTRACT
VOLATILES

SAMPLE I.D.
Salt Dross

Lab Sample ID Number: 112161
Date: 10/15/90
Data Release Authorized by: BPL
Units: ug/1
Date Extracted:
Date Analyzed: 10/12/90
Conc/Dil Factor: 1

Compound	Spike Smpl Result	Sample Result	Amount Spiked	Percent Recovery	Method 8240 QC Limits
1,1-Dichloroethene	43	ND	100	43	61%-145%
Trichloroethene	69	ND	100	69	71%-120%
Chlorobenzene	91	ND	100	91	75%-130%
Toluene	71	ND	100	71	76%-125%
Benzene	72	ND	100	72	76%-127%

NOTE: All quantitation performed using an internal standard calibration method.

Comments: ND- None Detected

Environmental Consultants
Professional Laboratory Services

SPIKE SAMPLE RECOVERY
TCLP EXTRACT
SEMI-VOLATILES

SAMPLE I.D.
Salt Dross

Lab Sample ID Number:

Date:

Data Release Authorized by: BAC

Units: ug/l

TCLP Extraction Date:

Extract Prep. Date:

Date Analyzed:

Conc/Dil Factor:

Compound	Spike Smpl Result	Sample Result	Amount Spiked	Percent Recovery	Method 8270 QC Limits
1,2,4-Trichlorobenzene	37	ND	100	37	39%-98%
Acenaphthene	67	ND	100	67	46%-118%
2,4-Dinitrotoluene	82	ND	100	82	24%-96%
Di-n-butylphthalate	110	ND	100	110	11%-117%
Pyrene	16	ND	100	16	26%-127%
N-nitroso-Di-n-propylamine	80	ND	100	80	41%-116%
1,4-Dichlorobenzene	34	ND	100	34	36%-90%
Pentachlorophenol	144	ND	200	72	9%-103%
Phenol	76	ND	200	38	12%-89%
2-Chlorophenol	109	ND	200	55	27%-123%
4-Chloro-3-methylphenol	105	ND	200	53	23%-97%
4-Nitrophenol	101	ND	200	51	10%-80%

NOTE: All quantitation performed using an internal standard calibration method.

Comments: ND- None Detected

APPENDIX G.5

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY (EPA FORM 8700-12)

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTRUCTIONS: If you received a preprin label, affix it in the space at left. If any of information on the label is incorrect, draw a l through it and supply the correct informati in the appropriate section below. If the labe complete and correct, leave Items I, II and below blank. If you did not receive a preprint label, complete all items. "Installation" mean single site where hazardous waste is generate treated, stored and/or disposed of, or a tra porter's principal place of business. Please re to the INSTRUCTIONS FOR FILING NOTIF CATION before completing this form. T information requested herein is required by la *(Section 3010 of the Resource Conservation a Recovery Act).*

INSTALLATION'S EPA I.D. NO.	PLEASE PLACE LABEL IN THIS SPACE
I. NAME OF INSTALLATION	
II. INSTALLATION MAILING ADDRESS	
III. LOCATION OF INSTALLATION	

DETACH

FOR OFFICIAL USE ONLY

COMMENTS

C

INSTALLATION'S EPA I.D. NUMBER | APPROVED | DATE RECEIVED (yr., mo., & day)

F | T/A | C 1

I. NAME OF INSTALLATION

CENTRAL FOUNDRY DIVISION OF GMC

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX

3 P.O. BOX 271

CITY OR TOWN | ST. | ZIP CODE

4 BEDFORD | IN | 47421

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER

5 NORTH JACKSON STREET

CITY OR TOWN | ST. | ZIP CODE

6 BEDFORD | IN | 47421

IV. INSTALLATION CONTACT

NAME AND TITLE (last, first, & job title) | PHONE NO. (area code & no.)

2 OHL, GLEN SENIOR ENGINEER | 812-279-7302

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER

8 GENERAL MOTORS CORPORATION

DETACH

B. TYPE OF OWNERSHIP (enter the appropriate letter into box)

F = FEDERAL
M = NON-FEDERAL

M

VI. TYPE OF HAZARDOUS WASTE ACTIVITY (enter "X" in the appropriate box(es.

- [X] A. GENERATION
- [ ] B. TRANSPORTATION (complete item VII)
- [X] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION (transporters only – enter "X" in the appropriate box(es))

- [ ] A. AIR
- [ ] B. RAIL
- [ ] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER (specify):

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [X] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION (complete item C)

C. INSTALLATION'S EPA I.D. NO.

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

W

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
7	8	9	10	11	12

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four–digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48

D. LISTED INFECTIOUS WASTES. Enter the four–digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

- [X] 1. IGNITABLE (D001)
- [X] 2. CORROSIVE (D002)
- [ ] 3. REACTIVE (D003)
- [X] 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
[signature]	PLANT MANAGER	Aug. 14, 1980

MAY 25, 2001

APPENDIX G.6

U.S.EPA ACKNOWLEDGEMENT OF NOTIFICATION

EPA

ACKNOWLEDGEMENT OF NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

This is to acknowledge that you have filed a Notification of Hazardous Waste Activity for the installation located at the address shown in the box below to comply with Section 3010 of the Resource Conservation and Recovery Act *(RCRA)*. Your EPA Identification Number for that installation appears in the box below. The EPA Identification Number must be included on all shipping manifests for transporting hazardous wastes; on all Annual Reports that generators of hazardous waste, and owners and operators of hazardous waste treatment, storage and disposal facilities must file with EPA; on all applications for a Federal Hazardous Waste Permit; and other hazardous waste management reports and documents required under Subtitle C of RCRA.

EPA I.D. NUMBER ➤ INDD06036099

CENTRAL FOUNDRY DIVISION OF GMC
PO BOX 271
BEDFORD IN 47421

INSTALLATION ADDRESS ➤ NORTH JACKSON STREET
BEDFORD IN 47421

EPA Form 8700-12A (4-80)

APPENDIX G.7

RCRA PART A PERMIT APPLICATION

(Fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F I N D 0 0 6 0 3 6 0 9 9

LABEL ITEMS

I. EPA I.D. NUMBER

II. FACILITY NAME

III. FACILITY MAILING ADDRESS

IV. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, af it in the designated space. Review the infor ation carefully; if any of it is incorrect, cr through it and enter the correct data in t appropriate fill—in area below. Also, if any the preprinted data is absent *(the area to t left of the label space lists the informati that should appear)*, please provide it in t proper fill—in area(s) below. If the label complete and correct, you need not compl Items I, III, V, and VI *(except VI-B wh must be completed regardless)*. Complete items if no label has been provided. Refer the instructions for detailed item descr tions and for the legal authorizations unc which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		N/A	D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP G M C C E N T R A L F O U N D R Y D I V B E D F O R D P L A N T

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 O H L , G L E N S E N I O R E N G I N E E R	8 1 2 2 7 9 7 3 0 2

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 P O B O X 2 7 1

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 B E D F O R D	I N	4 7 4 2 1

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 N O R T H J A C K S O N S T R E E T

B. COUNTY NAME

L A W R E N C E

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 B E D F O R D	I N	4 7 4 2 1	

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
3361 (specify) Aluminum Foundry	(specify)

C. THIRD	D. FOURTH
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME: GMC CENTRAL FOUNDRY DIV BEDFORD PLANT

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL, S = STATE, P = PRIVATE, M = PUBLIC (other than federal or state), O = OTHER (specify)
P (specify)

D. PHONE (area code & no.): A 812 279 7000

E. STREET OR P.O. BOX: PO BOX 271

F. CITY OR TOWN: BEDFORD

G. STATE: IN

H. ZIP CODE: 47421

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
N IN 0003573	9P NA

B. UIC (Underground Injection of Fluids)	E. OTHER (specify)	(specify)
U NA	9 ****	(See Attachments) State Air Permits

C. RCRA (Hazardous Wastes)	E. OTHER (specify)	(specify)
R NA	9 NA	

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

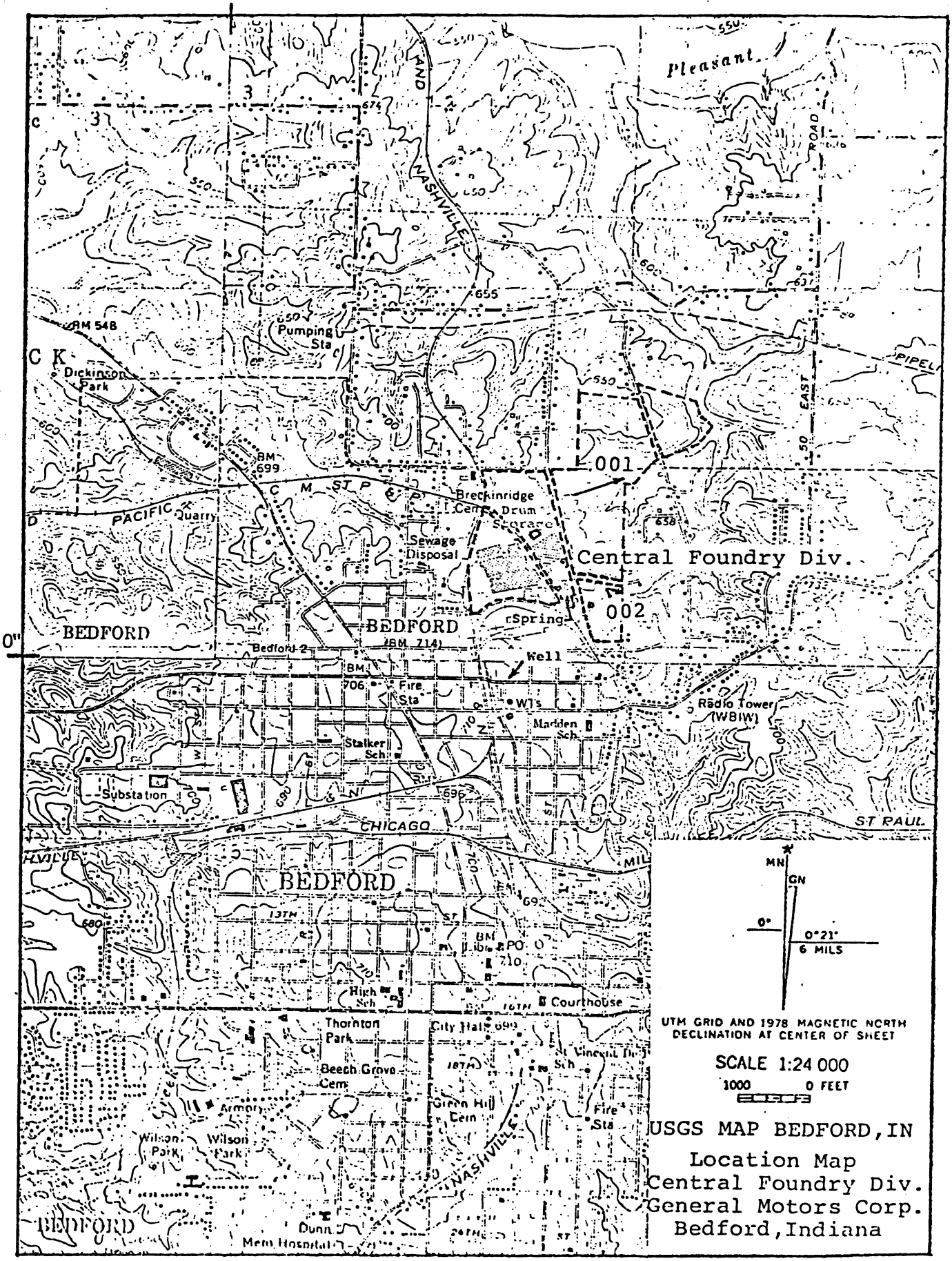
Aluminum Casting Facility

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
T. R. Wiltse, General Manager	R Wiltse	11-17-80

COMMENTS FOR OFFICIAL USE ONLY



USGS MAP BEDFORD, IN

Location Map
Central Foundry Div.
General Motors Corp.
Bedford, Indiana

X. Existing Environmental Permits (Continued)

e. Others

PC (47) 1370	State Air Construction Permit
47-07-82-0047	State Air Operation Permit
47-07-82-0055	State Air Operation Permit

FORM 3 RCRA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: F I N D 0 0 6 0 3 6 0 9 9

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*: YR. 77, MO. 07, DAY 22

FOR NEW FACILITIES PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN: YR. , MO. , DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP T/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G	
X-2	T03	20	E	
1	S01	154,000	G	
2				
3				
4				

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
5				
6				
7				
8				
9				
10				

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. **EPA HAZARDOUS WASTE NUMBER** — Enter the four–digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four–digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. **ESTIMATED ANNUAL QUANTITY** — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non–listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. **UNIT OF MEASURE** — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. **PROCESSES**

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non–listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non–listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non–listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
S W I N D 0 0 6 0 3 6 0 9 9 T/A C 1	S W DUP T/A C 2 DUP

DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D001	1	T	S01	
2	D002	19	T	S01	
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. *(enter from page 1)*

													T/A	C
F	I	N	D	0	0	6	0	3	6	0	9	9		6
1	2											13	14	15

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground–level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*						LONGITUDE *(degrees, minutes, & seconds)*					
3	8	5	2	4	3 N	0	8	6	2	9	0 4 W
65	66	67	68	69	- 71	72	- 74		75	76	77 - 79

VIII. FACILITY OWNER

[X] A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*
	- -
16 - 55	56 - 58 59 - 61 62 - 65

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
	C G		
16 - 45	15 16 - 40	41 42	47 - 51

IX. OWNER CERTIFICATION

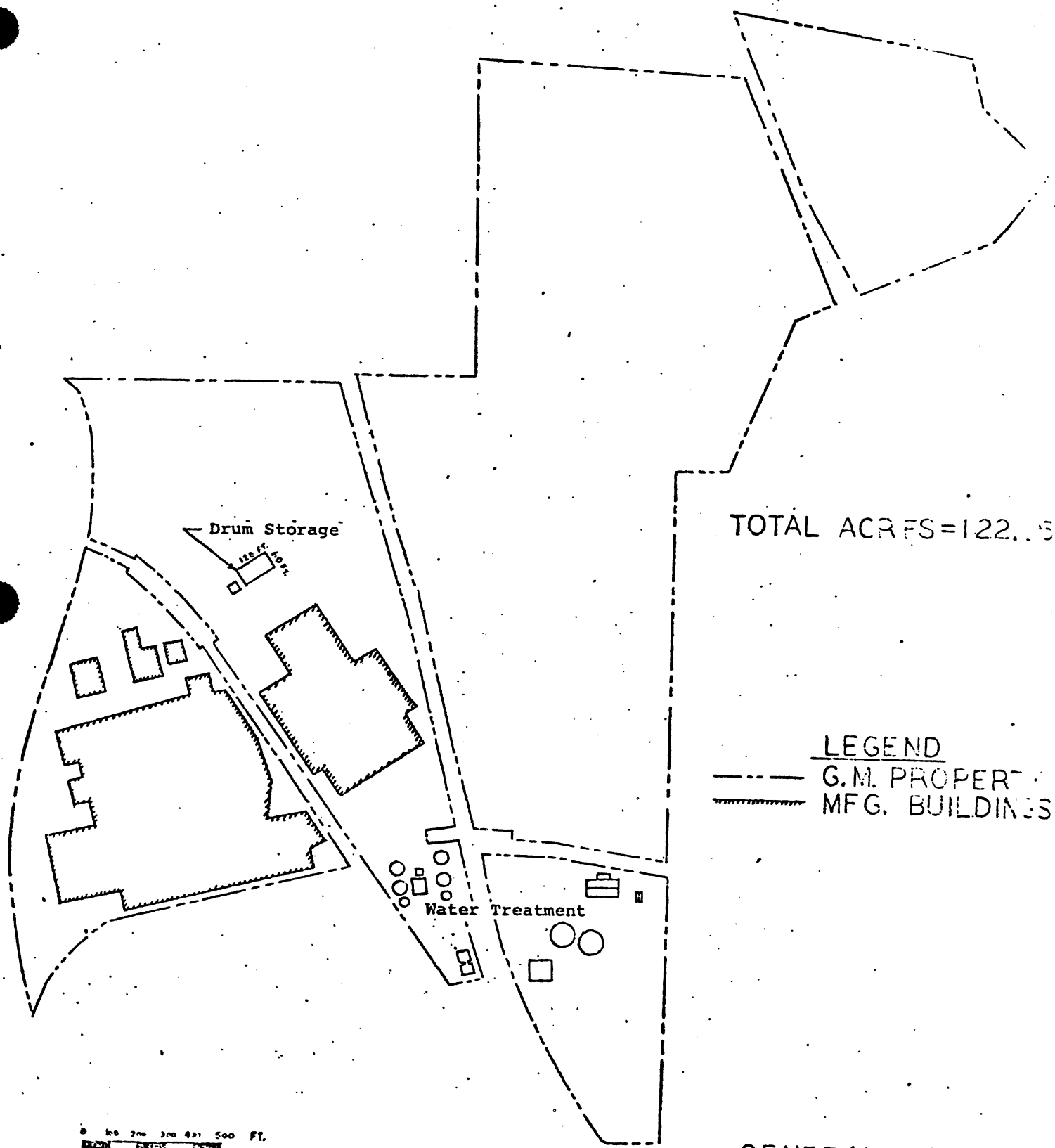
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
T. R. Wiltse, General Manager	T. R. Wiltse	11-17-80

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
N/A		


Drum Storage
Water Treatment
TOTAL ACRES=122.51
LEGEND
G.M. PROPERTY
MFG. BUILDINGS
0 100 200 300 400 500 FT.
GRAPHIC SCALE
1 INCH=500 FEET
GENERAL LAYOUT
CENTRAL FOUNDRY DIV.
GENERAL MOTORS CORP.
BEDFORD, INDIANA

APPENDIX G.8

U.S.EPA APPROVAL OF PART A PERMIT APPLICATION

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:

RCRA ACTIVITIES

FEB 11 1982

Mr. Glen Ohl, Sr. Engineer
GMC Central Foundry Div. - Bedford Plant
N. Jackson Street
Bedford, Indiana 47421

RE: Interim Status Acknowledgement USEPA ID No. IND006036099
FACILITY NAME: GMC Central Foundry Div. - Bedford Plant

Dear Mr. Ohl:

This is to acknowledge that the U.S. Environmental Protection Agency (USEPA) has completed processing your Part A Hazardous Waste Permit Application. It is the opinion of this office that the information submitted is complete and that you, as an owner or operator of a hazardous waste management facility, have met the requirements of Section 3005(e) of the Resource Conservation and Recovery Act (RCRA) for Interim Status. However, should USEPA obtain information which indicates that your application was incomplete or inaccurate, you may be requested to provide further documentation of your claim for Interim Status. Our opinion will be reevaluated on the basis of this information.

As an owner or operator of a hazardous waste management facility, you are required to comply with the interim status standards as prescribed in 40 CFR Parts 122 and 265, or with State rules and regulations in those States which have been authorized under Section 3006 of RCRA. In addition, you are reminded that operating under interim status does not relieve you from the need to comply with all applicable State and local requirements.

The printout enclosed with this letter identifies the limit(s) of the process design capacities your facility may use during the interim status period. This information was obtained from your Part A Permit application. If you wish to handle new wastes, to change processes, to increase the design capacity of existing processes, or to change ownership or operational control of the facility, you may do so only as provided in 40 CFR Sections 122.22 and 122.23.

As stated in the first paragraph of this letter, you have met the requirements of 40 CFR Part 122.23; your facility may operate under interim status until such time as a permit is issued or denied. This will be preceded by a request from this office or the State (if authorized) for Part B of your application. Please contact Arthur Kawatachi of my staff at (312) 886-7449, if you have any questions concerning this letter or the enclosure.

Sincerely yours,

Karl J. Klepitsch, Jr., Chief
Waste Management Branch

Enclosure

FACILITY NAME	EPA ID NUMBER
GMC CENTRAL FOUNDRY DIV BEDFORD PLANT	IND006036099

FACILITY OPERATOR

GMC CENTRAL FOUNDRY DIV BEDFORD PLANT

FACILITY OWNER

GMC CENTRAL FOUNDRY DIV BEDFORD PLANT

FACILITY LOCATION

NORTH JACKSON ST.
BEDFORD IN 47421

PROCESS CODE	DESIGN CAPACITY	UNIT OF MEASURE
S01	154,000.00000	G

--- KEY ---

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE
STORAGE:		
CONTAINER	S01	G or L
TANK	S02	G or L
WASTE PILE	S03	Y or C
SURFACE IMPOUNDMENT	S04	G or L
DISPOSAL:		
INJECTION WELL	D79	G,L,U, or V
LANDFILL	D80	A or F
LAND APPLICATION	D81	B or Q
OCEAN DISPOSAL	D82	U or V
SURFACE IMPOUNDMENT	D83	G or L
TREATMENT:		
TANK	T01	U or V
SURFACE IMPOUNDMENT	T02	U or V
INCINERATOR	T03	D,W,E, or H
OTHER	T04	U,V,J,R,N, or S

UNIT OF MEASURE	CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS/HOUR	W
GALLONS/HOUR	E
LITERS/HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q
POUNDS/HOUR	J
KILOGRAMS/HOUR	R
TONS PER DAY	N
METRIC TONS/DAY	S

APPENDIX G.9

RCRA PART B PERMIT APPLICATION

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
111 West Jackson Blvd.
CHICAGO, ILLINOIS 60604

FEB 10 1982

REPLY TO ATTENTION OF:
5AHWM

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Glen Ohl
GMC Central Foundry Division
P.O. Box 271
Bedford, Indiana 47421

RE: GMC-Central Foundry Division
North Jackson Street
Bedford, Indiana
IND006036099

Dear Mr. Ohl:

By now you should have received an acknowledgement of our receipt of your Part A permit application material for the above-referenced hazardous waste facility under the Resource Conservation & Recovery Act, as amended (RCRA) permit program. You should also have been apprised of your condition relative to interim status.

Accordingly, this letter constitutes the next step in the formal process leading to issuance or denial of an RCRA permit. Under the authority of 40 CFR 122.22, this is a formal request for submittal of Part B of your application for the above-referenced facility.

Enclosed is a copy of 40 CFR 122.25 which lists the items that constitute Part B for your facility. Your Part B application must be submitted in quadruplicate and postmarked no later than August 18, 1982. Please send your application to the following address:

RCRA ACTIVITIES
Part B Permit Application
USEPA, Region V
P.O. Box A3587
Chicago, Illinois 60690-3587

While your complete application is due no later than the above date, you are encouraged to submit at your earliest opportunity those components which have been completed. Several interim status documents also are used as components of your Part B application. Included are such items as your waste analysis plan, contingency plan, closure plan, etc., each of which may be submitted to this office immediately, to initiate the processing of your Part B application.

Failure to furnish your complete Part B application by the above date, and to provide in full all required information, is grounds for termination of interim status under 40 CFR 122.22.

Information you submit in the Part B application can be disclosed to the public, according to the Freedom of Information Act and U.S.Environmental Protection Agency (USEPA) Freedom of Information regulations. If you wish, however, you may assert a claim of business confidentiality by printing the word "Confidential" on each page of the application which you believe contains confidential business information. USEPA will review business confidentiality claims under regulations at 40 CFR Part 2, and will later request substantiation of any claims. Please review these rules carefully before making a claim.

We have also enclosed a copy of 40 CFR Part 264 which includes technical standards for the operation of treatment and storage facilities. These standards will become applicable upon issuance of a permit to your facility by USEPA.

We will coordinate review of your application with the Indiana State Board of Health and the Hazardous Waste facility Approval Board, and if your application is acceptable, will strive for a simultaneous issuance of Federal and State hazardous waste facility permits. It is possible that during the processing of your application, the State hazardous waste program may become authorized to issue RCRA permits for your type of facility. In that case, direct Federal processing will cease, and the State in lieu of USEPA will make the final determination on your application.

We are committed to conducting the RCRA permitting process as efficiently as possible. Consequently I suggest you contact Y.J. Kim of my staff at (312) 886-7425, as you begin preparing your application. Mr. Kim will be available to discuss specific needs of your application or to meet with you in Chicago. These efforts are intended to generate complete applications, without requiring any information beyond that which is necessary to make RCRA permit decisions.

We look forward to receiving your Part B application.

Sincerely yours,

Karl J. Klepitsch, Jr., Chief
Waste Management Branch

Enclosures: 40 CFR 122.25
40 CFR 264

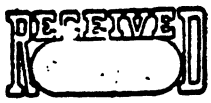
cc: T.R. Wiltse
David Lamm, ISBH

RCRA - PART B

PERMIT APPLICATION

GMC - CENTRAL FOUNDRY-BEDFORD

AUGUST - 1982



RECEIVED

AUG 18 1982

WASTE MANAGEMENT BRANCH
EPA REGION V

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INTRODUCTION

The GMC Central Foundry Division, Bedford Plant hereby submits to the United States Environmental Protection Agency, Region V that information requested to satisfy those requirements that constitute the Part B application for a hazardous waste storage permit under the requirements of RCRA.

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Date: 8/10/82 Signature: Robert W. Herr

Robert W. Herr
Plant Manager

Date: 8/16/82 Signature: T. Wiltse

T. R. Wiltse
General Manager

SECTION 1

PART A APPLICATION UPDATE

40 CFR 122.24

This section contains information as required by 40 CFR 122.24 provide on forms EPA 3510-1 and EPA 3510-3 including a facility map and photograph of the hazardous waste storage area.

The Part A Application has been updated to reflect the following changes:

1) EPA Form 3510-3, item III, "Process-Codes and Design Capacities" has been modified to show that the plant has the design capacity to store 5500 gallons (100 drums) of hazardous waste. This change is the result of the plant designating a small area within the existing drum storage facility where additional containment was installed for the storage of hazardous waste.

2) A new photograph of the modified hazardous waste storage facility.

Fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F I N D 0 0 6 0 3 6 0 9 9

LABEL ITEMS

I. EPA I.D. NUMBER

II. FACILITY NAME

III. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		N/A	D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

SKIP G M C C E N T R A L F O U N D R Y D I V B E D F O R D P L A N T

V. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
O H L , G L E N S E N I O R E N G I N E E R	8 1 2 2 7 9 7 3 0 2

VI. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: P O B O X 2 7 1

B. CITY OR TOWN	C. STATE	D. ZIP CODE
B E D F O R D	I N	4 7 4 2 1

VII. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: N O R T H J A C K S O N S T R E E T

B. COUNTY NAME: A W R E N C E

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
B E D F O R D	I N	4 7 4 2 1	

IC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
3 6 1 *(specify)* Aluminum Foundry	C 7 *(specify)*
C. THIRD	**D. FOURTH**
(specify)	C 7 *(specify)*

OPERATOR INFORMATION

A. NAME

MC CENTRAL FOUNDRY DIV BEDFORD PLANT

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box; if "Other", specify.)*

FEDERAL / STATE / PRIVATE — M = PUBLIC *(other than federal or state)*, O = OTHER *(specify)*: P *(specify)*

D. PHONE *(area code & no.)*: C A — 812 279 7000

E. STREET OR P.O. BOX

BOX 271

F. CITY OR TOWN: BEDFORD

G. STATE: IN

H. ZIP CODE: 47421

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*	D. PSD *(Air Emissions from Proposed Sources)*
I N 0 0 0 3 5 7 3	C T 1: 9 P — N A
B. UIC *(Underground Injection of Fluids)*	**E. OTHER** *(specify)*
N A	C T 1: 9 — * * * * *(specify)* (See Attachments) State Air Permits
C. RCRA *(Hazardous Wastes)*	**E. OTHER** *(specify)*
N A	C T 1: 9 — N A *(specify)*

MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

NATURE OF BUSINESS *(provide a brief description)*

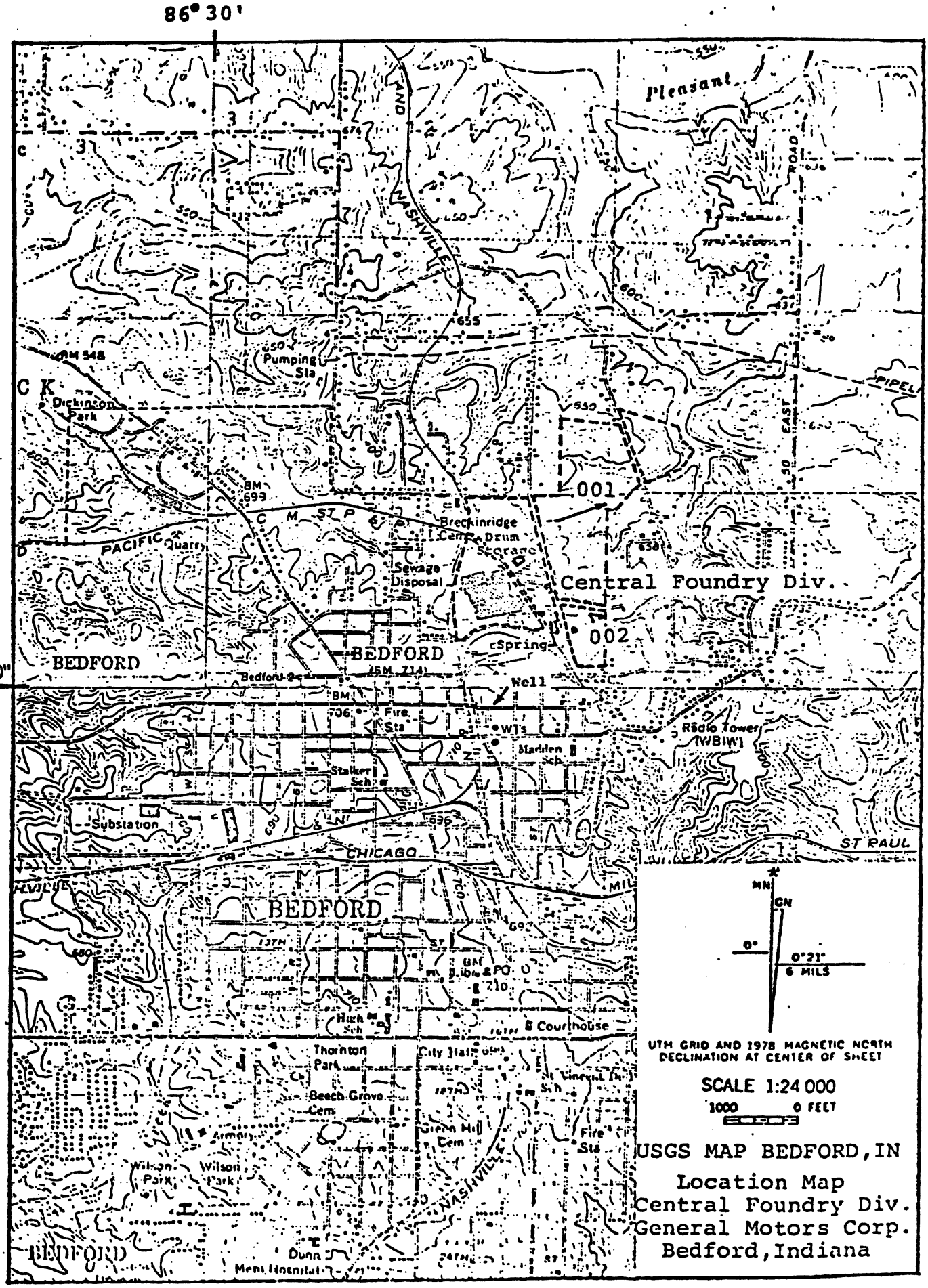
Aluminum Casting Facility

CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
R. Wiltse, General Manager	R Wiltse	11-17-80

COMMENTS FOR OFFICIAL USE ONLY



USGS MAP BEDFORD, IN

Location Map
Central Foundry Div.
General Motors Corp.
Bedford, Indiana

X. Existing Environmental Permits (Continued)

e. Others

PC (47) 1370	State Air Construction Permit
47-07-82-0047	State Air Operation Permit
47-07-82-0055	State Air Operation Permit

FORM 3 CRA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: I N D 0 0 6 0 3 6 0 9 9

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility, or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

YR.	MO.	DAY
7 7	0 7	2 2

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

II. PROCESSES – CODES AND DESIGN CAPACITIES

PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

DUP Y/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G	
X-2	T03	20	E	
1		~~154,000~~ 5,500	G	
2				
3				
4				
5				
6				
7				
8				
9				
10				

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

. PROCESSES *(continued)*

SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

. DESCRIPTION OF HAZARDOUS WASTES

EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste*(s)* that will be handled which possess that characteristic or contaminant.

UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

TE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by e than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

AMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
X-1	K054	900	P	T03 D80	
X-2	D002	400	P	T03 D80	
X-3	D001	100	P	T03 D80	
X-4	D002				included with above

inued from page 2.
E: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S00004

EPA I.D. NUMBER (enter from page 1)			FOR OFFICIAL USE ONLY			
N D 0 0 6 0 3 6 0 9 9	T/A	C		T/A	C	
		1	W DUP		2	DUP

DESCRIPTION OF HAZARDOUS WASTES (continued)

A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
D001	1	T	S01	
D002	19	T	S01	

DESCRIPTION OF HAZARDOUS WASTES *(continued)*

USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. *(enter from page 1)*

N	D	0	0	6	0	3	6	0	9	9	T/A	C
												6

FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
38 52 43 N	086 29 04 W

FACILITY OWNER

A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
C G			

OWNER CERTIFICATION

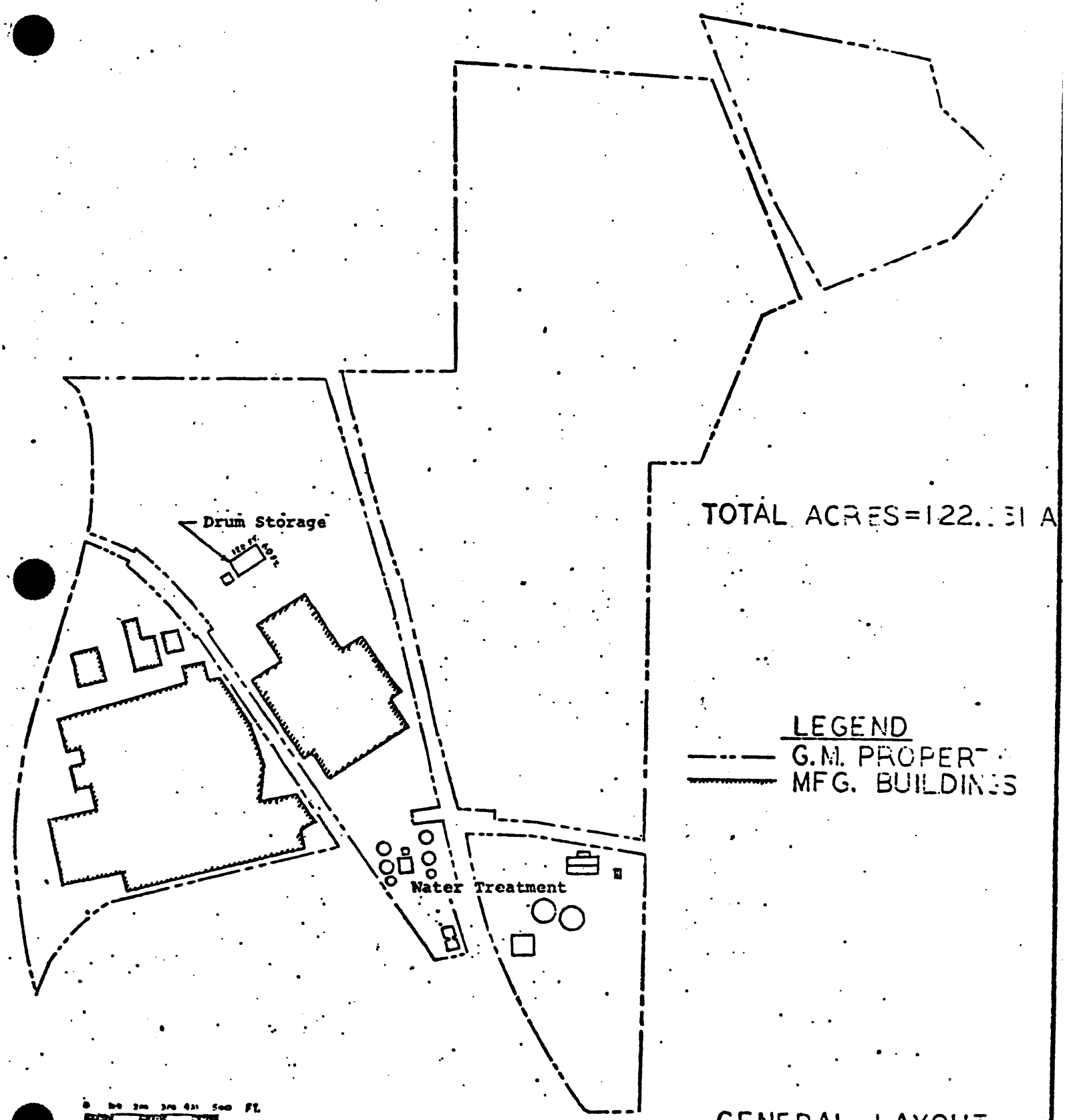
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
R. Wiltse, General Manager	R. Wiltse	11-17-80

OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
N/A		

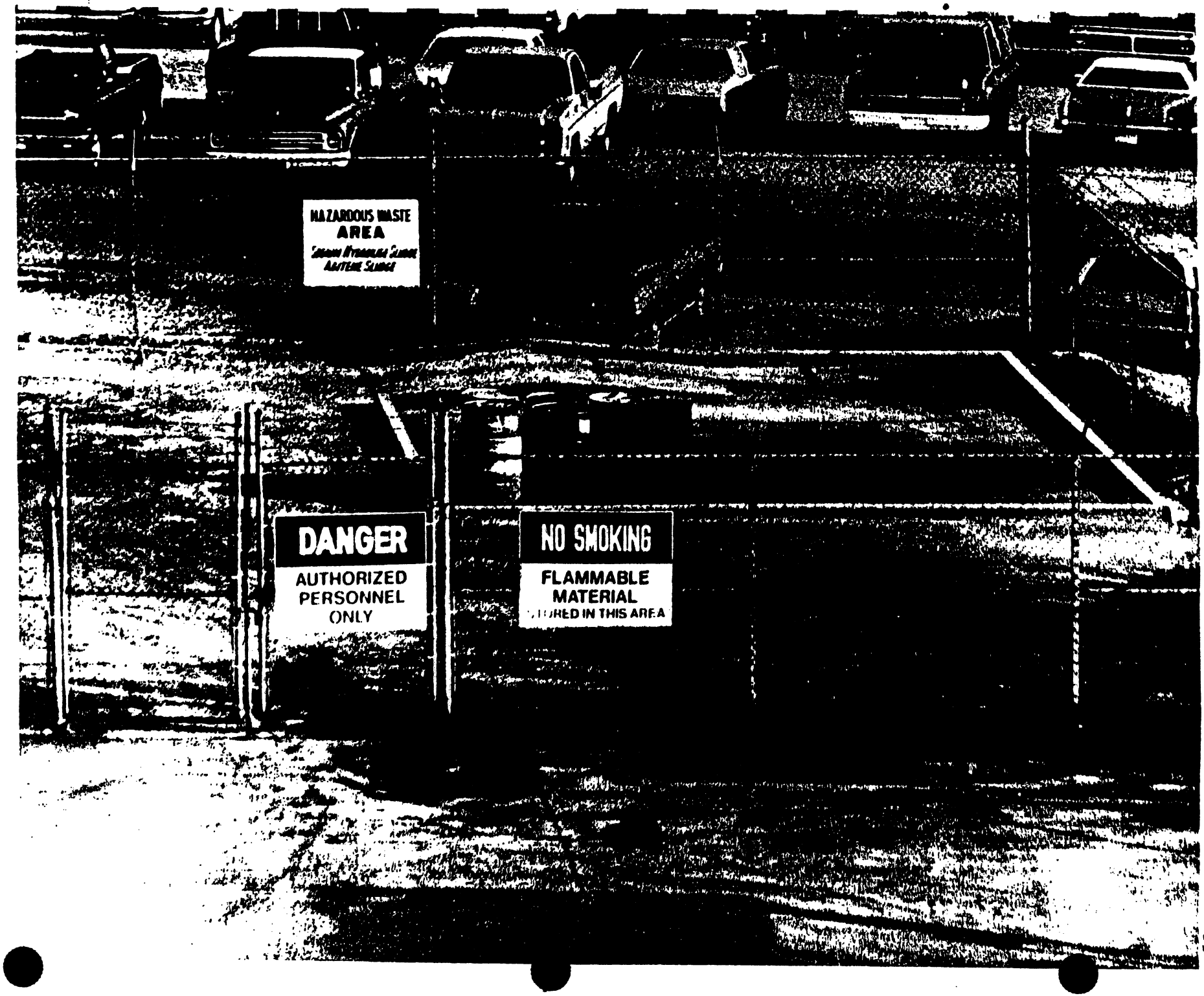


TOTAL ACRES = 122.31 A

LEGEND
G.M. PROPERTY
MFG. BUILDINGS

GRAPHIC SCALE
1 INCH = 500 FEET

GENERAL LAYOUT
CENTRAL FOUNDRY DIV.
GENERAL MOTORS CORP.
BEDFORD, INDIANA


HAZARDOUS WASTE
AREA
DANGER
AUTHORIZED
PERSONNEL
ONLY
NO SMOKING
FLAMMABLE
MATERIAL

SECTION 2

PART B PERMIT APPLICATION-GENERAL INFORMATION

40 CFR 122.25(a)

General Description (40 CFR 122.5(a)(1))

The GMC-Central Foundry Division, Bedford Plant is a manufacturer of automotive aluminum castings, such as transmission cases, pistons, air condition housings and intake manifolds. The processes used to produce these products include die casting, permanent and semi-permanent molding.

The plant stores two hazardous waste on site which are:

1) Sodium hydroxide sludge (solid) which is hazardous due to its corrosivity (pH).

2) Agitene fluid which is a non-chlorinated petroleum distillate cleaning solvent which is hazardous due to its ignitability.

The above hazardous wastes are stored, prior to shipping off site for disposal, within a designated area (approximately 20' x 30') of the plants drum storage area. This area has additional containment to accomodate the storage of this waste.

Chemical and Physical Analyses (40 CFR 122.5(a)(2))

Analyses of the two hazardous wastes stored at the plants hazardous waste facility, sodium hydroxide sludge and agitene fluid are shown on the following pages. These analyses were conducted in accordance with the plants procedure no. 532-12 "Plan for Analysis of RCRA Hazardous Waste". More detail on the procedure and the plants hazardous waste plan can be obtained from the next section.

DISPLAY G.M. MATERIAL SAFETY DATA SHEET?

- FID : 064587 -

(P) REGULAR AGITENE
AGITENE

MANUFACTURER INFORMATION

(*) MID:#501829
GRAYMILLS CORP
EMERGENCY TELEPHONE #: 312/477-4100
3705 N LINCOLN AVE
CHICAGO, IL 60613

FORMULA INFORMATION

OWNER LAST UPDATE DATE : 112282
FORMULA STATUS : Incomplete
MSDS ON FILE IN CSIS : Yes

SHIPPING INFORMATION

SID #04440 Name: COMBUSTIBLE LIQUID,N.O.S.
Hazard Class: Combustible Liquid
U.N. Code: NA1993
Flash Point : = 110 DEGREES F

INGREDIENTS

CAS#	Formulation	Chemical Name
034590948	= .5%	Propanol, (2-methoxymethylethoxy)-
008002742	= 60%	Hard paraffin
000091203	= 30%	Naphthalene

SECTION 0 -- EFFECTIVE & LAST UPDATE DATES, COMMENTS

1 -->Effective Date : 010177 Last Date Updated : 012981
2 -->Comments :

SECTION 1 -- SHIPPING INFORMATION

1 -->Chemical Family : PETROLEUM NAPTHAS
2 -->Formula :

SECTION 3 -- PHYSICAL DATA

1 -->Boiling Point : 318-388F
2 -->Specific Gravity : .78
3 -->Vapor Pressure : 2.4
4 -->% Volatile by Volume : 98
5 -->Vapor Density : 4.8
6 -->Evaporation Rate : 35 MIN
7 -->Solubility in H2O : NONE
8 -->pH :
9 -->Appearance & Odor : CLEAR BLUE - MILD NAPHA ODOR

SECTION 4 -- FIRE AND EXPLOSION DATA

1 -->Flammable Limits - LEL : 1.0%
2 -->Flammable Limits - UEL : 6.0%
3 -->Extinguishing Media : CO2
4 -->Special Fire Fighting Procedures : NORMAL (LIQUID)
5 -->Unusual Fire & Explosion Hazards : NONE

SECTION 5 -- HEALTH HAZARD DATA

1 -->Effects of Overexposure : MAY CAUSE SKIN AND EYE IRRITATION
2 -->Threshold Limit Value : 500 PPM
3 -->Permissible Exposure Limit :
4 -->Emergency First Aid Procedures : SKIN IF CHAPPED, USE LANOLIN CREAM. EYE CONTACT - FLUSH WITH WATER. INHALATION - GET FRESH AIR. DO NOT INDUCE VOMITING IF SWALLOWED.

SECTION 6 -- REACTIVITY DATA

1 -->Stable : Y
2 -->Conditions to Avoid :
3 -->Incompatible Materials :
4 -->Hazardous Decomposition Products :
5 -->Can Hazardous Polymerization Occur : N
6 -->Conditions to Avoid :

SECTION 7 -- SPILL OR LEAK PROCEDURES

1 -->Steps to be taken in case material is released or spilled : USE OILY DRY
2 -->Waste Disposal Method : REFER TO LOCAL REGULATIONS, SCAVENGER SERVICE RECOMMENDED.

SECTION 8 -- SPECIAL PROTECTION INFORMATION

1 -->Respiratory Protection : NONE
2 -->Local Exhaust : IN SAME ROOM
3 -->Special : NONE
4 -->Mechanical :
5 -->Other :
6 -->Protective Gloves : POLYETHYLENE
7 -->Eye Protection : SAFETY GLASSES
8 -->Other Protective Equipment : GLOVES NOT NEEDED FOR INTERMITTANT USE.

SECTION 9 -- SPECIAL PRECAUTIONS

1 -->Precautions to be taken in Handling & Storage : STORE IN COOL AREA AWAY FROM HEAT OR OPEN FLAME.
2 -->Other Precautions :

DIVISION OF GENERAL MOTORS
BEDFORD PLANT
BEDFORD, INDIANA

STANDARD PROCEDURE

PLAN FOR ANALYSIS OF RCRA HAZARDOUS WASTES

Proc. No. 532-12
Date Issued 3-20-82
Date Revised 11-30-83
Date Revised
Date Revised

PURPOSE

Provide a procedure for the chemical and physical analysis of the hazardous waste generated by the Bedford Plant as required by Federal and State Regulations (Federal Regulations 40 CFR, Part 265.13, and State Regulation 320 IAC 4-9-2).

SCOPE

Plan for chemical and physical analysis of the sodium hydroxide and agitene sludges which are classified as hazardous under provisions of the Resource Conservation and Recovery Act.

PROCEDURE

1.0 General Waste Analysis Requirements

1.1 All hazardous waste must be analyzed for chemical and physical properties before it is treated, stored or disposed.

1.2 The analysis must contain information that must be known to treat, store or dispose of the waste in accordance with requirements of Federal Regulation 40 CFR, Part 261.

1.3 The analysis may include analysis performed on this waste prior to the effective date of the RCRA regulations or studies conducted on the hazardous waste or wastes from a similar process. Also, may refer to GM safety data sheet for added information.

*1.4 The analysis must be, at a minimum, be repeated annually or when the process generating the waste has been changed.

*2.0 Hazardous Waste Analysis, Rationale and Parameters

*2.1 Sodium Hydroxide Sludge

*2.1.1 This waste has a pH value greater than 12.5 when the material is placed in solution making it a corrosive waste.

*2.1.2 Distilled water is added to the waste until it becomes aqueous. The pH is of the solution is then conducted following the EPA manual SW 846, section 5.

*2.2 Agitene Cleaning Solvent

*2.2.1 This waste is ignitible. The solvent as received has a flash point of 110° F.

*2.2.2 Flash point analysis is to be completed on the material following the quidelines in EPA manual SW 846, Section V using a Pensky-Martens closed cup tester.

3.0 Sampling Method

3.1 Sodium hydroxide sludge. This material is placed in DOT approved drums and stored in the plant approved hazardous waste storage area while awaiting shipment to an approved disposal site.

3.1.1 A good representative sample is to be obtained for analysis.

3.1.2 The sample collector will use a clean trowel or waste pile sampler for removing the sample material from the drum. Collect material from below the top surface. Place samples in a clean stainless steel container and mix in order to obtain a composite sample for laboratory analysis. Place composite samples in clean glass or stainless steel container with cap.

3.1.3 Mark and identify sample with label that lists the following information:

Collector
Sample Number
Place of Collection
Date Samples
Time Sampled
Field Information

3.2 Agitene fluid and sludge waste. This material is placed in an approved DOT drum per the Maintenance Department procedure Number 534-41.

3.2.1 Use a glass tube or a composite liquid waste sampler to obtain a representative sample of material from the drum or drums.

3.2.2 Follow the sampling methodology described in the EPA Manual SW 846, Section 3.0 and Subsections.

3.2.3 Mark and identify sample with label that lists the following information:

Collector
Place of Collection
Date Sampled
Time Sampled
Field Information

DIVISION OF GENERAL MOTORS
BEDFORD PLANT
BEDFORD, INDIANA

STANDARD PROCEDURE

PLAN FOR ANALYSIS OF RCRA HAZARDOUS WASTES

Proc. No. 532-12
Date Issued 3-20-82
Date Revised 11-30-83
Date Revised
Date Revised

4.0 Other plant wastes are to be added to this procedure if and when the Federal Resource Conservation and Recovery Act (RCRA) and State Regulation is revised to classify those waste materials as being hazardous.

REVISED BY:

Wm S Schoonmaker 12/1/83
W. S. Schoonmaker Date
Environmental Engineer

APPROVED BY:

W. A. Butler 12-1-83
W. A. Butler Date
Superintendent
Plant Engineering

_____
Date

* Indicates Revised Portion

TenEch
Environmental Consultants, Inc.
Mark W. Tenney, Sc.D., P.E.
Joseph L. Pavoni, Ph.D., P.E.

October 3, 1978
Louisville, Kentucky

Central Foundry Division
General Motors Corporation
Bedford Plant
Bedford, Indiana

ATTN: Gary Bowman

Re: Analysis of Sludge Sample

Sample Type - Solid Waste
Date Received - 9-15-78

LABORATORY ANALYSIS RESULTS

Parameter	Results	Date Analyzed	Method of Analyses
rcent solids	99.92%	9-16-78	Gravimetric
H	13.49	9-16-78	Electrometric
OD	2 mg/l	9-16-78	Dichromate/reflux
ilica (SiO_2)	None detected	9-16-78	Molybdosilicate
otal chromium	0.0009034% by weight	9-21-78	Atomic absorption
admium	0.0001982% by weight	9-25-78	Atomic absorption
ickel	0.0029921% by weight	9-21-78	Atomic absorption
inc	0.0059963% by weight	9-25-78	Atomic absorption
ron	0.0011553% by weight	9-21-78	Atomic absorption
opper	0.0000780% by weight	9-25-78	Atomic absorption
ead	0.0091723% by weight	9-25-78	Atomic absorption
anganese	0.0001619% by weight	9-21-78	Atomic absorption

CENTRAL FOUNDRY - BEDFORD PLANT LAB ANALYSIS

Sample I.D. RCRA-1 (Kolene Sludge)

Date Received 7-26-82

Date Reported 8-6-82

Corrosivity	pH - 13.7
EP Toxicity	
Arenic	1.42 PPM
Barium	0.22 PPM
Cadmium	Not Detected
Chromium	.016 PPM
Selenium	Not Detected
Silver	Not Detected
Lead	0.48 PPM

Sample I.D. RCRA-2 (Agitene Sludge)

Date Received 7-26-82

Dated Reported 8-6-82

Ignitability	200° F*

*Agitene fluid, when purchased, has a flash point of 105° F. Therefore, waste agitene fluids could have a flash less than 140° F.

Waste Analysis Plan (40 CFR 122.5(a)(3))

The plant has incorporated the requirements of 40 CFR 264.13(b) for a waste analysis plan into a procedure. This procedure numbered 532-12 "Plan for Analysis of RCRA Hazardous Wastes" is shown on the following pages.

:ISION OF GENERAL MOTORS
'ORD PLANT
)FORD, INDIANA

PURPOSE

Provide a procedure for the chemical and physical analysis of the hazardous waste generated by the Bedford Plant as required by Federal and State Regulations (Federal Regulations 40 CFR, Part 265.13, and State Regulation 320 IAC 4-9-2).

SCOPE

Plan for chemical and physical analysis of the sodium hydroxide and agitene sludges which are classified as hazardous under provisions of the Resource Conservation and Recovery Act.

PROCEDURE

1.0 General Waste Analysis Requirements

1.1 All hazardous waste must be analyzed for chemical and physical properties before it is treated, stored or disposed.

1.2 The analysis must contain information that must be known to treat, store or dispose of the waste in accordance with requirements of Federal Regulation 40 CFR, Part 261.

1.3 The analysis may include analysis performed on this waste prior to the effective date of the RCRA regulations or studies conducted on the hazardous waste or wastes from a similar process. Also, may refer to GM safety data sheet for added information.

1.4 The analysis must be repeated when the process generating the waste has been changed.

2.0 Hazardous Wastes and Parameters to be Analyzed

2.1 Sodium Hydroxide Sludge

2.1.1 ph as determined by following the EPA Manual SW 846, Section 5 and Subsection guidelines.

2.2 Agitene cleaning solvent waste

2.2.1 Flash point as determined by following the guidelines in EPA Manual SW 846, Section 4 and Subsection guidelines.

3.0 Sampling Method

3.1 Sodium hydroxide sludge. This material is placed in DOT approved drums and stored in the plant approved hazardous waste storage area while awaiting shipment to an approved disposal site.

3.1.1 A good representative sample is to be obtained for analysis.

3.1.2 The sample collector will use a clean trowel or waste pile sampler for removing the sample material from the drum. Collect material from below the top surface. Place samples in a clean stainless steel container and mix in order to obtain a composite sample for laboratory analysis. Place composite samples in clean glass or stainless steel container with cap.

3.1.3 Mark and identify sample with label that lists the following information:

Collector
Sample Number
Place of Collection
Date Sampled
Time Sampled
Field Information

3.2 Agitene fluid and sludge waste. This material is placed in an approved DOT drum per the Maintenance Department procedure Number 534-41.

3.2.1 Use a glass tube or a composite liquid waste sampler to obtain a representative sample of material from the drum or drums.

3.2.2 Follow the sampling methodology described in the EPA Manual SW 846, Section 3.0 and Subsections.

3.2.3 Mark and identify sample with label that lists the following information:

Collector
Place of Collection
Date Sampled
Time Sampled
Field Information

4.0 Other plant wastes are to be added to this procedure if and when the Federal Resource Conservation and Recovery Act (RCRA) and State Regulation is revised to classify those waste materials as being hazardous.

PREPARED BY: G.R. Dick Date 2-10-82

Approved By: W.A. Butler Date 3/17/82

_____ Date _____

* Indicates Revised Portion

PURPOSE

Provide a procedure for the chemical and physical analysis of the hazardous waste generated by the Bedford Plant as required by Federal and State Regulations (Federal Regulations 40 CFR, Part 265.13, and State Regulation 320 IAC 4-9-2).

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PROCEDURE

1.0 General Waste Analysis Requirements

1.1 All hazardous waste must be analyzed for chemical and physical properties before it is treated, stored or disposed.

1.2 The analysis must contain information that must be known to treat, store or dispose of the waste in accordance with requirements of Federal Regulation 40 CFR, Part 261.

1.3 The analysis may include analysis performed on this waste prior to the effective date of the RCRA regulations or studies conducted on the hazardous waste or wastes from a similar process. Also, may refer to GM safety data sheet for added information.

1.4 The analysis must be repeated when the process generating the waste has been changed.

2.0 Hazardous Wastes and Parameters to be Analyzed

2.1 Sodium Hydroxide Sludge

2.1.1 ph as determined by following the EPA Manual SW 846, Section 5 and Subsection guidelines.

2.2 Agitene cleaning solvent waste

2.2.1 Flash point as determined by following the guidelines in EPA Manual SW 846, Section 4 and Subsection guidelines.

2.3 Chip System Residue

2.3.1 EP toxicity test for lead as determined by following the guidelines in EPA Manual SW 846, Section 4 and

*11

3.0 Sampling Method

3.1 Sodium hydroxide sludge. This material is placed in DOT approved drums and stored in the plant approved hazardous waste storage area while awaiting shipment to an approved disposal site.

3.1.1 A good representative sample is to be obtained for analysis.

3.1.2 The sample collector will use a clean trowel or waste pile sampler for removing the sample material from the drum. Collect material from below the top surface. Place samples in a clean stainless steel container and mix in order to obtain a composite sample for laboratory analysis. Place composite samples in clean glass or stainless steel container with cap.

3.1.3 Mark and identify sample with label that lists the following information:

Collector
Sample Number
Place of Collection
Date Sampled
Time Sampled
Field Information

3.2 Agitene fluid and sludge waste. This material is placed in an approved DOT drum per the Maintenance Department procedure Number 534-41.

3.3 Chip system residue. This material is to be placed into a specially marked container and stored in accordance with the plant procedure No. 533-32

3.3.1 A good representative sample is to be obtained for analysis.

3.3.2 The samle collector shall placed into a clean glass container with a cap for laboratory analysis.

3.3.3 Mark and identify sample with label that list the following information.

Collector
Sample Number
Place of Collection
Date Sampled
Time Sampled
Field Sampled

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4.0 Other plant wastes are to be added to this procedure if and when the Federal Resource Conservation and Recovery Act (RCRA) and State Regulation is revised to classify those waste materials as being hazardous.

PREPARED BY: G.R. Ohl Date 2-10-82

Approved By: W.A. Butler Date 3/17/82

_____ Date _____

Security Procedures (40 CFR 122.5(a)(4))

The plant has a 24 hour surveillance which is maintained by security guards. The guards control all entry and exiting of persons to the plant. The plant's perimeter is secured with chain link fence and barb wire.

In addition to the above, the hazardous waste drum storage facility has additional fencing and gates which are monitored by direct line of sight from the guard house, and/or with television monitors.

Signs are also posted on the fence in drum storage areas which state, "Danger - Unauthorized Personnel Keep Out" and "No Smoking - Flammable Fluids". Another sign is posted in the hazardous waste designated storage area which states that hazardous wastes are stored in that area.

Inspection Schedule (40 CFR 122.5(a)(5))

Inspections of the hazardous waste drum storage facility are conducted in accordance with the plants procedure no. 533-23 entitled "Resource Conservation and Recovery Act Inspection Schedule".

This proceudre as shown on the following pages sets forth those requirements established under 40 CFR 264.15 and 274.174. This procedure establishes inspection frequency, observation requirements, corrective actions and recordkeeping.

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STANDARD PROCEDURE

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) INSPECTION SCHEDULE

Proc. No. 533-23 20
Date Issued 5-17-81
Date Revised
Date Revised
Date Revised
Page 1 of 2

PURPOSE:

This inspection is being done to comply with requirements of Federal Regulation 40 CFR265-15 and 40 CFR264-15.

SCOPE:

Drum storage area for plant wastes listed per RCRA requirements.

RESPONSIBILITY:

Material Control.

PROCEDURE:

1.0 Area/facilities to be inspected.

1 INSPECTION PLAN

1.1 Semi-Permanent Mold building for

1.2 Melting metal storage building for the storage of Chip system residue.

2.2 Loading/unloading

3.0 Problems to look for.

3.1 Drums stored/stacked improperly.

3.2 Drums improperly labeled.

3.3 Drums deteriorated or leaking.

3.4 Drums open.

3.5 Drums missing or added without documentation.

4.0 Corresponding corrective action for problems under 3.0 above.

4.1 Restack or relocate drums.

4.2 Affix proper label.

4.3 Transfer contents into another container, clean up spill, put spilled material and clean up material into approved container. Dispose of defective drum in approved disposal facility.

4.4 Affix lid or replace bungs.

4.5 Note drum count, verify count and investigate differences.

5.0 Records.

5.1 Record inspection on log sheet, form 533-23A.

5.3 Keep log sheets on file in Material Control Department at least three (3) years.

PREPARED BY:

G. R. Ohl 5-17-81
G. R. Ohl Date
Environmental Coordinator

APPROVED BY:

RG Simmerman 5/28/81
R. G. Simmerman Date
General Supervisor
Material Control

A L Snook 5/29/81
A. L. Snook Date
Superintendent
Industrial Engineering

		DAILY INSPECTIONS			WEEKLY INSPECTIONS							
INSPECTION DATE & TIME	NAME OF INSPECTOR	COUNT NO. OF DRUMS	STORAGE PROPER?		DRUMS OPEN?		DRUM CONDITION		DRUMS LEAKING?		LABELS OK?		NATURE OF REPAIRS OR OTHER REMEDIAL ACTION	DATE REPAIR COMP.
			YES	NO	YES	NO	OK	NO	YES	NO	YES	NO		
					SAMPLE									

Waiver of Preparedness and Prevention (40 CFR 122.5(a)(6))

The plant requested a waiver from 40 CFR 264.37 - arrangements with local authorities. The justification for this request follows:

> The plant has all the necessary equipment, facilities and personnel to respond to any emergencies which may involve the two hazardous wastes stored at the plant. The two wastes are (1) sodium hydroxide sludge which is a solid with a pH above 12 and (2) agitene sludge which is ignitable.

Contingency Plan (40 CFR 122.5(a)(7))

The requirements of Subpart D - Contingency Plan and Emergency Procedures have been incorporated into the plants Spill Prevention, Control, and Countermeasures (SPCC) Plan by an amendment to the SPCC plant procedure no. ECS-14. The full procedure with amendment is shown on the following pages.

Waiver of Preparedness and Prevention (40 CFR 122.5(a)(6))

The plant requests a waiver from 40 CFR 264.37 - arrangements with local authorities. The justification for this request follows.

The plant has all the necessary support groups and equipment available to respond to any hazardous waste problems or emergency situation which may arise. The plant has the following support groups:

1. A 32 member fire brigade consisting of maintenance, security and supervisory personnel. These persons under the direction of the plant Security Chief receive monthly training. The training consists of classroom and hands-on training in fighting class A, B, C and D fires.

2. A completely equipped medical department staffed 24 hours per day. The medical department personnel consists of 4 nurses, 1 doctor and the plant Safety Director.

3. A 10 member security force, which maintain 24 hour surveillance of the plant. Security controls all entry and exiting of persons to the plant. The hazardous waste drum storage facility is monitored by direct line of sight from the guardhouse and additionally by television monitors.

Contingency Plan (40 CFR 122.5(a)(7)

The requirements of Subpart D - Contingency Plan and Emergency Procedures have been incorporated into the plants Spill Prevention, Control, and Countermeasures (SPCC) Plan by an amendment to the SPCC plant procedure no. ECS-14. The full procedure with amendment is shown on the following pages.

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JFORD PLANT
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STANDARD PROCEDURE

OIL SPILL PREVENTION
AND COUNTER MEASURE PLAN

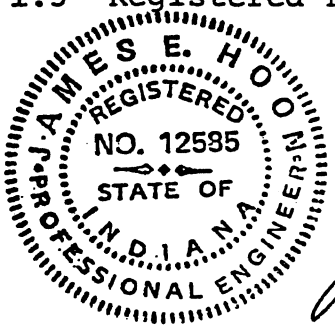
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Date Issued 6-01-77
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1. OIL SPILL PREVENTION

1.1 Central Foundry Division
General Motors Corporation
Bedford, IN 47421

1.2 Plant began operation - 1959

1.3 Registered Engineers Certification



Certified By: James E. Hoon Date 3/17/82

Approved By:

R. W. Herr Date 3-18-82
*R. W. Herr
Plant Manager

P. J. Murphy Date 3/18/82
P. J. Murphy
Manager of Plant Engineering & Maintenance

W. A. Butler Date 3/18/82
W. A. Butler
Superintendent of Plant Engineering

* Indicates Revised Portion

CERTIFICATION

I have reviewed the Spill Prevention Control and Counter-Measure Plan for (GM Plant) attached. The facility has been examined and being familiar with the provisions of Part 112, Oil Pollution Prevention, Chapter 1, Environmental Protection Agency, Subchapter D, Water Programs, as published in the Federal Register, Vol. 38, No. 237, Tuesday, December 11, 1973, I certify that the SPCC plan has been prepared in accordance with good engineering practices.

2. GENERAL INFORMATION

2.1 Plot Plan attached.

2.2 Existing Containment Facilities:

2.2.1 Fuel Oil Storage System

2.2.1.1 The fuel oil storage facility is a 200,000 gallon, 22 ft. high and 40 ft. in diameter tank. This tank is made from carbon steel and rests on a 42 ft. concrete pad, 15" in depth with reinforced steel bars. This facility is marked (A) on plot plan.

2.2.1.2 A 6 ft. high concrete circular moat surrounds the tank to contain all liquid spillage that might occur in case of tank rupture. This moat can be drained by a sump pump installed in the system.

2.2.1.3 The fuel oil distribution system is composed of 3" supply and 2 1/2" return lines. Any major line leak will create a pressure loss which will de-energize the pump control circuit. In the case of pencil thin leaks when the pressure loss is not sufficient to de-energize the circuit, clearly identified emergency shutoff buttons are placed at four locations in the Melting Department.

2.2.2 Hydraulic Fluid Losses During Production Equipment Operation

2.2.2.1 Hydraulic fluid which mixes with oil is used in the operation of the plant's die casting machines, trim presses, and permanent mold machines. Oil that leaks from this equipment drains into the drainage system located under the machines.

2.2.2.2 This leakage is captured in a series of tunnels and diverted to the plant's primary water treatment system. This is mechanically capable of reclaiming all of the most drastic spill and returning it to plant use. In the event traces of hydraulic fluid get past the primary system there is a backup secondary treatment system, chemically treating the water.

2.2.2.3 After the secondary system, there is a concrete holding basin which holds 300,000 gallons. This basin is divided to allow trapping and retaining a spill.

2.2.3 Miscellaneous Bulk Storage Facilities

2.2.3.1 Marked "D" on plot plan - two 3,000 gallon each steel tanks above grade and containing isocyanide 307 resins (isocure). Specific gravity is heavier than water, and the material is toxic and flammable.

2.2.3.2 Deleted

2.2.3.3 Marked "E" on plot plan - one 2,000 gallon steel tank containing no lead gasoline. Tank is located below grade.

2.2.3.4 Marked "F" on plot plan - one 10,000 gallon steel storage tank below grade containing regular gasoline.

2.2.3.5 Marked "J" on plot plan - one 5,000 gallon steel tank above grade and used as storage for water glycol hydraulic fluid.

2.2.3.6 Marked "K" on plot plan - one 10,000 gallon steel tank above grade, used as storage for mineral base die lube.

*2.2.3.7 Marked "L" on plot plan - one 10,000 gallon steel tank above grade. Storage for light oils from clarithickners.

*2.2.3.8 Marked "M" on plot plan - water treatment plant consisting of two 100,000 gallon concrete submerged clarithickners. Four

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2.2.3.8 (Continued)

100,000 gallon concrete submerged clarifiers Two 40,000 gallon concrete submerged sludge thickner. One 130,000 gallon steel tank above grade used as filter press effluent surge tank. One 20,000 gallon concrete tank for oil and sludge separation.

2.2.3.9 Marked "N" on plot plan - one 300,000 gallon concrete holding basin below grade. This basin holds treated water to final filtration.

*2.2.3.10 Marked "P" on plot plan - 7 steel storage tanks with total capacity of 150,000 gallons storing used phosphate ester hydraulic fluid. All tanks are surrounded by earthen dike.

*2.2.3.11 Marked "Q" on plot plan - 14 steel storag tanks with total capacity of 157,500 gallons storing used phosphate ester hydraulic fluid. All tanks are surrounded by earthen dike.

2.2.3.12 Marked "R" on plot plan - one 2,000,000 gallon sludge holding lagoon. Dormant at time time awaiting final disposition of sludge.

2.2.3.13 Marked "S" on plot plan - two 5,000 gallon steel tanks, storing new phosphate ester hydraulic fluid.

2.2.3.14 Marked "U" on plot plan - one 10,000 gallon fiberglass tank storing brine used for water softener regeneration.

2.2.3.15 Marked "V" on plot plan - one 2,000 gallon tank and one 500 gallon tank holding mineral electrolytic fluid used for EDM machining.

2.2.3.16 90,000 gallons of phosphate ester hydraulic fluid is contained in power units through the plant.

* Indicates Revised Portion

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*2.2.3.17 Marked "T" on plot plan - eight steel storage tanks with total capacity of 32,000 gallons storing used phosphate ester hydraulic fluid. All tanks are surrounded by earthen dike.

2.2.3.18 Marked "W" on plot plan - two 1,000,000 gallon steel storage tanks to store phosphate ester hydraulic fluids and waste water sludges. Tanks are surrounded by earthen dike.

*2.2.3.19 Marked "X" on plot plan - three 20,000 gallc tanks for hydraulic fluid. Tanks are surrounded by concrete dike.

*2.2.4 Containment Facilities

2.2.4.1 Tanks marked "A", "D", "I", "J", "K", "L", "P", "Q", "S", "T", "U" "V" and "W" are located above ground. Tanks "A", "K", "J", "L" and "X" are surrounded with a concrete wall. Tanks "P", "Q", "T" and "W" are surrounded by earthen dikes. Leaks in these tanks would be contained by existing dikes. Tanks "D", "I", "K", "J", "L", "S", "V" and "X" are visible and in event of leaks, the fluid leaking would be diked using sand or absorbing material and the diked fluid would be disposed of by standard methods. Tank "U contains salt and water, as such is not a serious pollutant, however, a spill from thi tank would be contained inside the building that houses it (Shipping Building).

2.2.4.2 Tanks "E", "F", "H" "M" and "N" are located below ground level. Tanks "E" and "F" have fluid levels periodically checked to determine subterain leaks, should leaks develop. Tanks in areas "H" and "M" are monitored to protect against overflow. Tank "N" contains treated water.

2.2.4.3 Electrical Sub-Station Containment

All overhead electrical substations (Sub "A" and Sub "L") with transformers containing fluid have a curbed slab under the substatio

*2.2.5 Hazardous Waste Management Facilities (See Attachment 1; "Amendment to Procedure Number ECS-14".

2.3 Inspection, Testing and Maintenance Procedures:

2.3.1 Bulk Storage Above Ground

2.3.1.1 The Bedford plant has a 200,000 gallon fuel oil storage tank surrounded by a retention wall. The fluid level is checked each time material is added to the tank. The tank, retaining walls, and distribution system are inspected twice a year. The preventive maintenance program also included changing the oil filters yearly.

2.3.1.2 The tank is made from carbon steel and complies with ARI Specifications #650, UL Bul. #142, NEPA Bul. #30 and OSHA. It has also been given additional corrosion resistance with a double primer and a metallic overcoat.

2.3.1.3 One 10,000 gallon vertical hydraulic fluid storage tank shown on included Bedford Plant layout would leak toward the water treatment plant if a leak accidently developed. In this area, the spread of fluid can be controlled on plant property. These tanks are observed and used daily and are inspected twice a year.

2.3.3 Underground Systems

2.3.3.1 In the fuel oil distribution system, all piping 2 1/2" and above is schedule 40 black welded piping, wrapped with plastic for underground use and corrosion protection. In the case of a major line leak, the pressure loss will de-energize the circuit pump. Emergency shutoff buttons are placed at four locations in the plant if a smaller leak develops which is not sufficient to de-energize the system.

2.3.3.2 Hydraulic fluid, used in the operation of the plant's die casting machines and trim presses, leak into a series of tunnels and is directed to a water treatment system. There is a continuing leak detection and prevention program in the Maintenance Department for all of this equipment.

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*2.4 Spill Definition

2.4.1 The definition is to conform to the Environmental Protection Agency regulations on discharge of oil (40 CFR 110 36 FR 22487, November 25, 1971), and specifically to section 110.3, "Discharge into Navigable Waters Harmful." Generally described as - Discharges of such quantities of oil and other hazardous materials into or upon the navigable waters of the United States of adjoining shore lines determined to be harmful to the public health or welfare of the United States, at all times and locations and under all circumstances and conditions, include discharges which:

a) Violate applicable water quality standards, or;
b) Cause a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines, or;
c) Exceed reportable quantities of the hazardous materials in Table 117.3, EPA 40 CFR, Part 11), FR 50766 August 29, 1979. (Reference GM WPC 79-2 US).

2.5 Cleanup Procedures

2.5.1 Spill Initial Action

2.5.1.1 First action in the event of any kind of pollutant spill is to prevent the pollutant from entering a sewer, sluice system, or plant settling pond, the river water inlet or the river directly. Take immediate action to confine the spill and prevent further spills. In-plant spills are the responsibility of the operating department where found. Out-plant spills are the responsibility of the Material Control Department.

2.5.1.1.1 Any spill on the floor in the plant can be contained using sand, dirt, or oil-dry, as dam material or absorbent. In extreme

emergencies, oil can be contained with productive powered materials, such as sand, clays, cement, etc., although the use of these is not recommended for this purpose.

2.5.1.1.2 Spills which occur on paved surface in plant perimeters can be treated as above. However, if the spill occurs on dirt, near a sewer or waterway, care must be taken that it does not eventually seep through the dirt into that facility. It may be necessary to ultimately excavate the polluted dirt and have it disposed of by a licensed contractor.

2.5.1.1.3 Spills which result in direct contamination of the settling pond, settling basin or Salt Cre● must be contained by any availab● means;

2.5.1.1.3.1 Oil or other floating materials - use hay, straw or a boom arrangement.

2.5.1.1.3.2 Soluable material - attempt to contain within plant owned facilities and not allow to reach the river.

2.5.2 Internal Notification

2.5.2.1 Immediately upon discovery and initial action regarding a pollutant spill, certain persons in the plant must be notified. Information to be supplied these persons is:

2.5.2.1.1 Location of spillage.

2.5.2.1.2 Type of material spilled.

2.5.2.1.3 Estimated quantity and extent.

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2.5.2.1.4 A run down of measures taken thus far to confine the spillage and prevent further spillage.

2.5.2.2 This information will be passed immediately to Plant Protection, extension, 7360. The guard receiving the call will notify the following as soon as possible: (Before each home number, dial 8-812 then the number).

	Plt. Ext.	Home Phone
*Plant Manager	7222	279-2117
Mgr. Plt. Engr. & Maint.	7357	275-7857
*Supt. Plant Engr.	7303	824-4111
Supt. of Maintenance	7328	
*Personnel Director	7334	332-2099

2.5.3 Notifying Regulatory Agencies

2.5.3.1 In the event of an accidental spill reaching State Streams, the appropriate State agency must be notified immediately. The Plant Manager is sole authority for reporting; in his absence, the Plant Engineer will act for him and in his absence the Maintenance Superintendent will act for the Plant Manager. The actual reporting will be done by the Plant Engineer or Maintenance Supt.

2.5.3.2 A spill that enters sanitary sewer lines may affect city sewage treatment facilities. Such a spill must be reported to the city.

City Sewage Service - 275-6292

Sewage Disposal Plant - 275-4901

2.5.3.3 A spill that reaches State Streams will be reported immediately to:

U. S. Coast Guard
National Response Center
400 Seventh St., S. W.
Washington, D. C. 20590
Phone: 800-424-8802

Emergency Center
Indiana Stream Pollution Control Board
Phone: 317-633-0144

2.5.3.4 Spill Notification within normal working hours

Division Works Engineer

Mr. Wm. C. Cheek
Central Foundry Div., GMC
77 West Center Street
Saginaw, MI 48605
Office Phone: 517-776-3377
Centrex Phone: 8-386-3377
Home Phone: 517-793-0089

Division Administration Environmental Activitie

Mr. J. B. Medved, P. E.
Central Foundry Div., GMC
77 West Center Street
Saginaw, MI 48605
Office Phone: 517-766-3387
Centrex Phone: 8-386- 3376
Home Phone: 313-793-2464

State Agency

Indiana Stream Pollution Control Board
1330 West Michigan Street
Indianapolis, IN 46206
Phone: 317-633-0713
(Mr. Joe Stallsmith)

Local Sanitarian

Health Department Court House
Mr. Paul McBride
Phone: 275-3234

2.5.4 External Notification

2.5.4.1 An outside call regarding a spill can come from any source to any receiver, and may have nothing to do with the plant. It is important that the proper information be obtained from the caller, so the proper action can be initiated. When such a notification is received, request the following:

2.5.4.1.1 Where is the spill?

2.5.4.1.2 Can you identify the material? What does it look like?

2.5.4.1.3 When did you observe it?

2.5.4.1.4 Will you identify yourself, (name and address) so that we can report on results of our investigation?

2.5.4.1.5 Can we contact you for further assistance if we cannot locate the spill?

2.5.4.2 The person taking spill information from outside the plant will follow the "Internal Notification" procedure.

2.5.5 Spill Confinement

2.5.5.1 In the event the spill cannot be contained within the confines of our plant boundaries, we must take immediate action to procure all necessary materials and equipment to confine and clean up the spill. It remains our reponsibility until properly disposed of.

*2.5.6 Manpower Assignments

2.5.6.1 The person designated to be responsible for spill cleanup is Mr. Joseph Choate, Maintenance Superintendent.

Phone Extension: 7328
Home Phone:
Home Address:

*2.5.6.1.1 Mr. Choate will designate alternates in the event of his absence.

Mr. Choate's first alternate is:

Jim Burch
West Rocky Creek, Bedford
PHONE: 812-275-2639

*Indicates Revised Portion

2.5.4.1.1 Were is the spill?

2.5.4.1.2 Can you identify the material? What does it look like?

2.5.4.1.3 When did you observe it?

2.5.4.1.4 Will you identify yourself, (name and address) so that we can report on results of our investigation?

2.5.4.1.5 Can we contact you for further assistance if we cannot locate the spill?

2.5.4.2 The person taking spill information from outside the plant will follow the "Internal Notification" procedure.

2.5.5 Spill Confinement

2.5.5.1 In the event the spill cannot be contained within the confines of our plant boundaries, we must take immediate action to procure all necessary materials and equipment to confine and clean up the spill. It remains our responsibility until properly disposed of.

*2.5.6 Manpower Assignments and Responsibilities

In the event of a spill, the Maintenance Superintendent, Mr. Joseph Choate will be acting Emergency Coordinator.

Plant Phone Extension	7328
Home Phone	279-0106
Home Address	1302 Crawford Drive, Bedford

*2.5.6.1 Mr. Choate will designate alternates in the event of his absence. Mr. Choate's first alternate is:

Jim Burch
West Rocky Creek, Bedford
PHONE: 812-275-2639

*2.5.6.2 Mr. Burch is responsible for:
Dispatching cleanup crews
Coordinating cleanup

Mr. Butler is responsible for:
Notifying in-plant management
Notifying proper regulatory agencies
Notifying proper corporate offices

*2.5.6a The Emergency Coordinator, (Maintenance Superintendent or designated alternate) shall provide all necessary resources including, but not limited to, manpower, materials, equipment, and funds to carryout this contingency plan.

*2.5.6b The Emergency Coordinator shall be responsible to immediately identify the character, exact source, amount, and area extent of the release. The emergency coordinator will access possible hazards, both indirect and direct, to human health and environment.

*2.5.6c The Emergency Coordinator will insure the wastes which may be uncompatible with the released material are treated, stored, or disposed of until cleanup procedures are completed.

2.5.6.3 The following spill control and cleanup equipment is available at the plant:

2.5.6.3.1 Sump pumps are installed at the fuel oil storage tank and in the die cast tunnel system.

2.5.6.3.2 A mobile 300 gallon fluid collection system and a caterpillar tractor with a backhoe are parked at the Maintenance Area.

2.5.6.3.3 Oil absorption material is available from a storage crib which is located in the southwest section of the large manufacturing building.

2.4.6.4 Cleanup contractors available:

2.5.6.4.1 McIntyre Brother Construction
1020 7th Street, Bedford, IN
Phone: 279-9637

2.5.6.4.2 Stone City Construction Company
910 R Street, Bedford, IN
Phone: 275-7541

2.5.6.4.3 Cunningham Construction Company
1000 Lincoln Avenue, Bedford, IN
Phone: 275-4469

*2.5.6.1.2 Mr. Burch is responsible for:
Dispatching cleanup crews
Coordinating cleanup
Mr. Butler is responsbile for:
Notifying in-plant management
Notifying proper regulatory agencies
Notifying proper corporate offices

2.5.6.2 The Maintenance Department will supply necessary manpower for spill cleanup.

2.5.6.3 The following spill control and cleanup equipment is available at the plant:

2.5.6.3.1 Sump pumps are installed at the fuel oil storage tank and in the die cast tunnel system.

*2.5.6.3.2 A mobile 300 gallon fluid collectio system and a caterpillar tractor with a backhoe are parked at the Maintenance Area.

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1020 7th St., Bedford, IN
Phone: 279-9637

2.5.6.4.2 Stone City Construction Company
910 R Street, Bedford, IN
Phone: 275-7541

*2.5.6.4.3 Cunningham Construction Company
1000 Lincoln Ave., Bedford, IN
Phone: 275-4469

2.5.7 Written Report

2.5.7.1 A spill designated as harmful quantities of mineral oil will require a written report, giving detailed information of the causes of the spill. The report must be sumbitted to the E.P.A. within 60 days of a spill; prior to the E.P.A. report submitting. G.M. Environ Activities Staff and Legal Department shall review the report within 30 days of a spill.

2.5.7.2 Any spill that violates the Plant NPDES Permit Limitations will require a submission of a detailed written report with the E.P.A. Regional Administrator and the State of Indiana within five (5) days after becoming aware of such condition. See plant NPDES permit for reporting requirements. Divisional Works Engineer and GM legal Department must approve all written reports before submitta

*2.5.7.3 Activation of the RCRA Contingency Plan requires a writt report. See amendment to this procedure.

2.5.8 Spill Cleanup Procedures:

2.5.8.1 Training program is continuous for Maintenance Water Treatment, and Power House personnel.

2.5.8.2 Off hour spill detection and notification is accomplished with standby Maintenance personnel and by Plant Protection.

2.5.8.3 Procedures and developments will be reviewed in departmental meetings as required.

3.0 HISTORY OF OIL SPILLS

3.1 Spills occuring since June 10, 1973; November 12, 1976 - black material discharged at 002.
February 22, 1977, approximately 5 gallons of used flushing spilled at west side of plant.
November 18, 1977, a non-compliance with NPDES permit report was filed as a result for excessive suspended soilids and grease and oils in 001 and 002 outfalls.

3.2 Description of Incident

3.2.1 On 11-12-76 black material was observed flowing from 002 outfall, this condition lasted approximately one half hour. Tests indicated this material containe ± 160 PPM PCB's. No source of contamination was found. Removing settling lagoon connection to the sewers, and by passing areas that once contained lagoons.

3.2.2 On 2-22-77, approximately five gallons of used hydraulic flushing fluid siphoned from it's storage tank and reached a storm drain discharging into a ditch west of CFD property. The siphoned flow was stopped and the fluid dammed with sand, then cleaned up and disposed of. The ditch was dredged and dredged material disposed of. The storm drain and sewer were abandoned and plugged. The storage tank was moved to a diked area.

3.2.3 On 11-18-77, a non-compliance with NPDES permit report was filed. Test results at 001 and 002 outfall indicated suspended solids and grease and oils content exceeded allowable limits. Reasons were excessive influent flow of water to the treatment plant resulting from a break in an underground city water line and a reservoir level control malfunction. Both faults were corrected and effluent water quality returned to allowable quality.

3.3 Spill Potential

3.3.1 Fuel oil distribution equipment failure would result in less than 100 gallons spillage. This spill would follow the paths previously described.

3.3.2 Fuel oil tank rupture would spill 200,000 gallons maximum and would be contained within a concrete dike area.

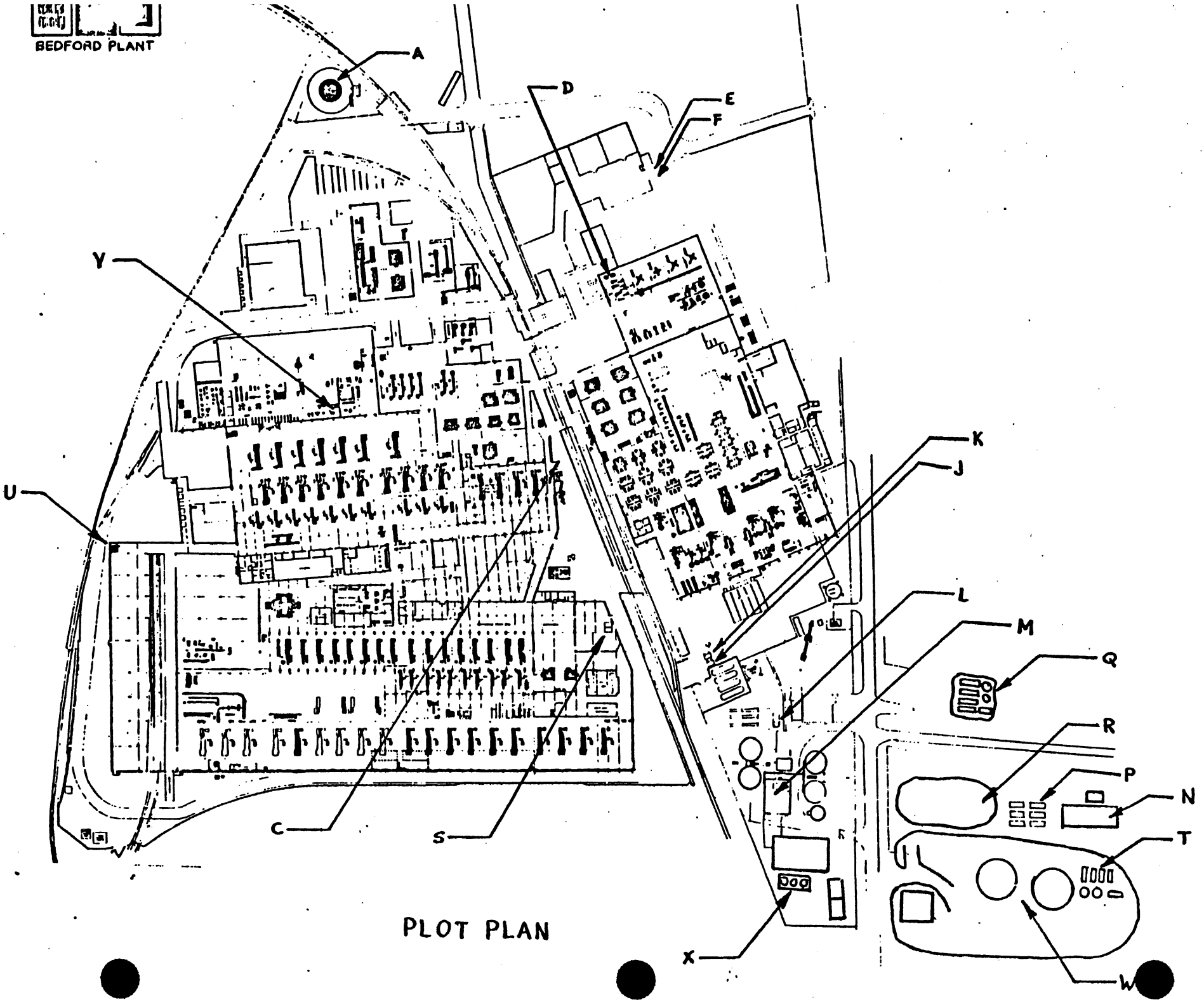
3.4 Containment Facilities Planned

3.4.1 No additional containment facilities are planned at this time.

3.5 Bulk Loading and Unloading Procedures

3.5.1 Bulk oil loading and unloading procedures are given in the operating procedures.

3.6 This procedure is to be updated and/or revised at least once every three years.



PLOT PLAN

central foundry

DIVISION OF GENERAL MOTORS
FORD PLANT
BEDFORD, INDIANA

STANDARD PROCEDURE

AMENDMENT TO SPILL
PREVENTION AND COUNTER MEASURE
PLAN (SPCC)

"Hazardous Waste Contingency Plan"

Proc. No. ECS-14
Date Issued 5-19-81
Date Revised 3-12-82
Date Revised
Date Revised

PURPOSE:

Provide for a contingency plan and emergency procedure for the RCRA hazardous waste facility as required by Federal EPA regulations 40 CFR Part 265.50.

SCOPE:

Cover the EPA permitted hazardous waste facility at the Bedford Plant, which is the drum storage area for the sodium hydroxide and agitene cleaning solvent sludges.

PROCEDURE:

1.0 The Bedford SPCC and this amendment to that plan are to be followed by plant personnel whenever there is an unplanned sudden or non-sudden release of the hazardous wastes to air, soil, or surface water of the facility which may cause personal injury or may leave the plant property.

2.0 Plant Protection and the Plant Medical Staff are available 24 hours a day to respond to any emergencies requiring their services. In case of fire, Plant Protection will call the Plant Fire Brigade per standard operating procedure.

3.0 See item 2.5.6 of the SPCC plan, page 13, for the emergency coordinator assignment and responsibilities.

4.0 See item 2.5.6.3 of the SPCC plan, page 14, for list of emergency equipment. The Plant Protection gatehouse is located approximately 300 feet from the hazardous waste storage area. The plant guards are on duty at all times in this gatehouse and have radio and telephone for communication both in and out of the plant.

5.0 The characteristics and quantity of these hazardous waste materials are such that no evacuation plan is required. Also, the storage area is located outside and clear of occupied buildings and work areas.

6.0 The emergency coordinator will notify the Superintendent of Plant Engineering and the Plant Environmental Coordinator of any incident involving hazardous wastes that requires implementing this contingency plan. The Plant Environmental Coordinator will record the time, date and details of the incident. The environmental coordinator will prepare a report for submittal to the EPA Reginal Administrator within 15 days after the incident. The report must include:

- Name, address and telephone number of the owner or operator
- Facility location
- Date, time and type of incident.
- Name and quantity of materials involved.
- Extent of injury, if any.
- Assessment of actual or potential hazards to human health or environment, if applicable.
- Estimated quantity and disposition of recovered material that resulted from the incident.

* Indicates Revised Portion

6.0 Continued

This report is to be reviewed and approved by the Division and Corporate Environmental Staff and signed by the Bedford Plant Manager.

7.0 This contingency plan must be reviewed and immediately amended, if necessary, whenever:

- Applicable regulations are revised.
- The plan fails in an emergency.
- The facility changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency.
- The list of emergency coordinators changes.
- The list of emergency equipment changes.

PREPARED BY:

G. R. Ohl 5-19-81

G. R. Ohl — Date
Environmental Coordinator

Preventive Procedures, Structure, and Equipment (40 CFR 122.5(a)(8))

To help prevent spills of hazardous waste when unloading and loading these materials, all hazardous waste drums are transported by forktrucks on wooden pallets. The storage area has a ramp which allows smooth entrance of forktrucks in and out of the hazardous waste storage area. Curbing is also provided on the ramp to prevent the forktrucks from accidentially running off the sides of the ramps.

The hazardous waste drum storage area contains any runoff of hazardous waste materials by a six inch curb around the storage area. The curbed storage area has a sump pit which allows removal of any contained materials which is determined to be hazardous. Non-hazardous fluids collected within the curbing is drained to the plants waste water treatment through a process sewer line.

Hazardous waste materials at the plant are handled and stored on concrete surfaces eliminating the possibility of these materials entering the ground and contaminating the ground water. In the event of spills, materials will be contained and cleaned up in accordance with the plants SPCC Plan.

The hazardous waste drum storage area is completely independent of electrical power other than for lighting purposes during non-daylight hours. In the event of a power outage during dark hours, all hazardous waste activities will be ceased.

All hazardous wastes are stored and sealed in drums minimizing possible human contact. All persons handling hazardous wastes are trained and informed on protective equipment and clothing needed to safely handle the hazardous waste, sodium hydroxide sludge and agitene fluids.

Prevention of Reaction of Wastes (40 CFR 122.5(a)(9))

The two hazardous wastes stored at the plant are placed within a 6" curb area segregating these materials from the remaining materials stored within the plants drum storage area. All hazardous waste drums are stored on wooden pallets to keep any contaminated fluid within the curbing from coming into contact with the drums.

Signs are placed on the fence to the storage area which clearly state that unauthorized persons are to keep out and that no smoking is allowed due to ignitable fluids stored at the location.

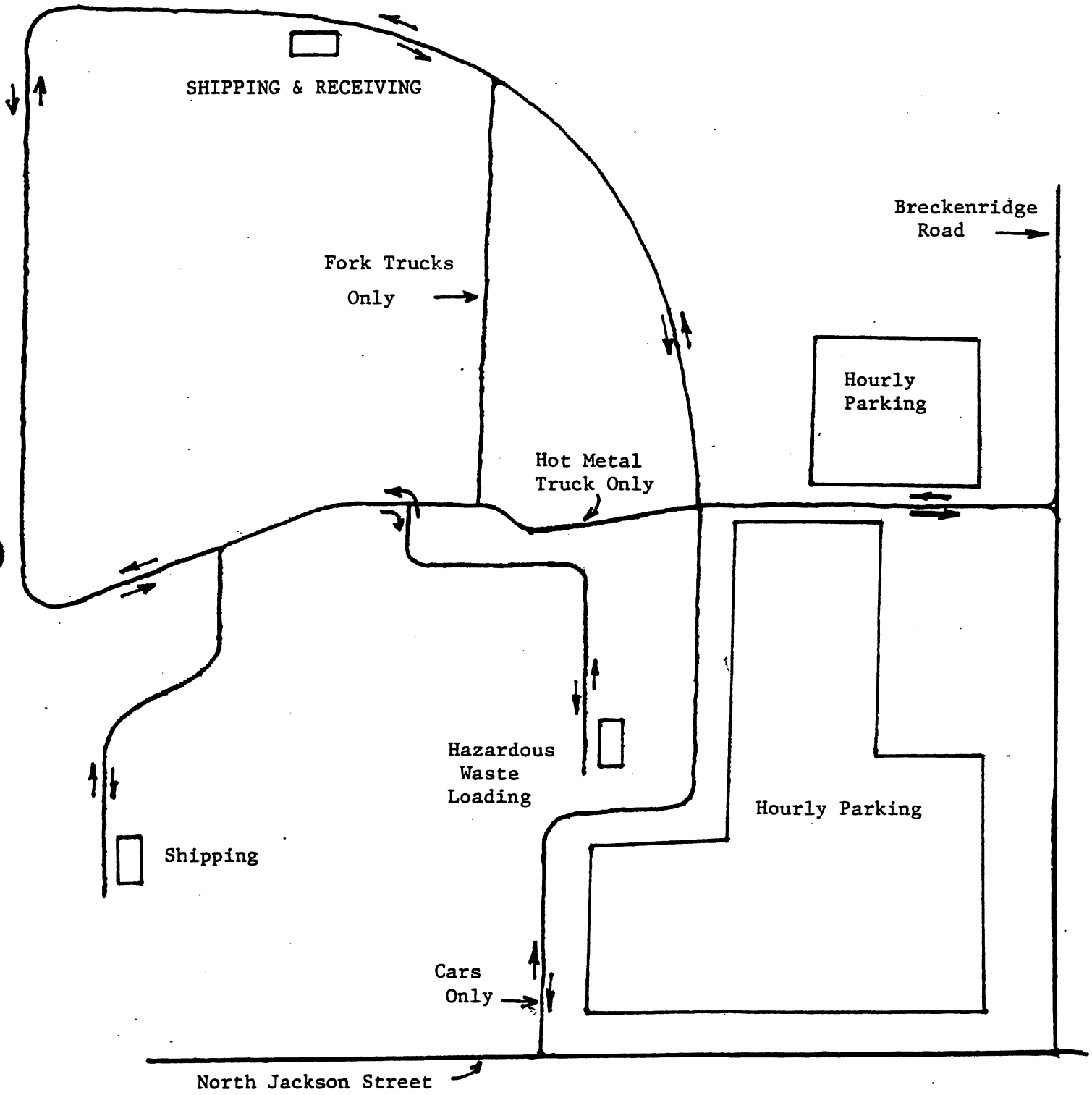
The drum storage area is located approximately 200' from the plants closest property line which meets the requirements of regulations.

Traffic Patterns (40 CFR 122.25(a)(10))

Access to the plant is obtained by turning off of Indiana State Road 58 north onto North Jackson Street. Approximately 1/2 miles north on North Jackson Street is the entrance to the plant offices and lobby. Truck entrance is found by continuing north and turing west onto Breckenridge Road. Approximately 1/8 miles on Breckenridge Road turn south into the plants access road to the gatehouse. Approximately 24 semi-tractor trailers and 8 van type trucks enter the plant each day.

Traffic is routed around the perimeter of the plant to the receiving areas. Stop signs and speed limit signs are posted throughout the plant.

All access roads within the plant are bituminous or concrete surfaces. These roads have the load bearing of at least 40,000 lbs. per axle.



Traffic Flow (Not to Scale)

Location Information (40 CFR 122.25(a)(11))

This plant is an existing facility and therefore requirements of 122.25 (a)(11)(i) and (ii) do not apply.

In respect to requirements of section 122.25(a)(11)(iii) this plant is located outside of any flood area. This statement is based on information obtained off of the U.S. Geological Survey Maps for the Bedford area and from the U.S. Department of Agriculture, Soil Conservation Office. The U.S. G.S. maps show the plants hazardous waste drum storage area to be located at an elevation of 720 feet above sea level, which is well above the 100 year flood level for the White River and Pleasant Run Creek areas flood levels of 510 feet.

Subsections 122.5(a)(11)(iv) and (v) do not apply since the plant is not located in a flood plain.

Outline of Personnel Training (40 CFR 122.25(a)(12))

The personnel training program for this plant is incorporated in the overall plant program for the training of all employes to perform their assignments in a safe manner and in accordance with all plant policies, regulations and procedures.

The Plant Departments are responsible for preparing the job procedures and insuring that their employes are trained properly to perform their job assignments. Technical advice is furnished to the operating departments by the Plant Environmental Coordinator, Environmental Engineer, Safety Director and other specialists, as required. The Environmental Coordinator directs the training program on Hazardous Wastes Management in accordance with plant procedures. The Environmental Coordinator and the Environmental Engineer have attended General Motors Corporation training meetings on hazardous wastes and the Environmental Coordinator obtained training at the General Motors Hazardous Waste Management Seminar.

Personal Resume

Mr. Glen R. Ohl, the Plant Environmental Coordinator. Mr. Ohl has been with the G.M. Central Foundry Division for 30 years and worked in the environmental area at the Bedford Plant for the past 10 years. He received his engineering degree from General Motors Institute in 1958.

Mr. William Schoonmaker, Environmental Plant Engineer, gives technical advice and recommendations on the Hazardous Waste Management Program to plant personnel. Mr. Schoonmaker has a degree in chemical engineering and is a Registered Professional Engineer. He has been employed by the Bedford Plant the past 4 years working on engineering projects in the environmental areas. Mr. Schoonmaker was previously employed by the Indiana State Board of Health.

The General Motors Corporate Environmental Activities Staff issues information bulletins concerning all environmental areas including Hazardous Waste Management to plants in the Corporation. This information is reviewed by the Plant Engineer and Environmental Coordinator and if applicable reviewed with personnel that handle hazardous waste and incorporate any new requirements into job procedures.

The job and safety procedures explain to the employe the procedures and steps to be followed while performing his or her job. Attention is given to the proper wearing of personal protective equipment, correct use of tools, clean up of spills, emergency procedures, and emergency equipment. Particular emphasis is placed on the job training to be sure the employes understand their job responsibilities and demonstrate the ability to perform their job assignments in a satis-

factory manner. The date of the employe's training and job procedure instructions are recorded and filed in the Personnel Department. All employes have their job procedures and duties explained to them on the first 3 consecutive days of employment and every 6 months thereafter. Employes that are transferred to new job assignments receive job training before they are allowed to work alone without immediate supervision.

The plant SPCC plan provides detailed instructions and information on the Bedford Plant's emergency procedures for responding to emergencies.

The plant has the following support groups available to respond to any hazardous waste problem or emergencies:

1. Fire brigade consisting of trained personnel under the direction of Plant Security and the Chief of Security.

2. Complete medical department staffed with nurses 24 hours per day, a plant doctor, and a plant Safety Director.

3. Plant Security force that patrols the plant property and controls access to the property. A two-way radio system is provided for immediate communication in case of emergencies.

All employes are required to review job and safety procedures semi-annually. Records documenting these reviews, employes names, job classification are filed in the Personnel Department.

Closure Plan (40 CFR 122.25(a)(13))

The plant's closure plan consists of a three page document as shown on the following pages. This plan sets forth the procedure; action, and cost estimate required to close the plant's hazardous waste drum storage area for sodium hydroxide sludges and agitene waste fluids.

GENERAL MOTORS CORPORATION

CENTRAL FOUNDRY DIVISION

BEDFORD PLANT

CLOSURE PLAN FOR RCRA HAZARDOUS WASTE DRUM STORAGE AREA

I. Introduction

Under the U.S. EPA regulations, 40 CFR Part 265, Subpart G, Sections 265.110 thru 265-120 each facility which stores, treats, or disposes of hazardous wastes must have a Closure Plan on file. This Closure Plan has been prepared to cover the following facility:

1. EPA I.D. Number - IND006036099

2. Owner's Name: General Motors Corporation
   Central Foundry Division
   Bedford Plant
   North Jackson Street
   Bedford, IN 47421

3. This plan has been prepared by: Glen R. Ohl
   Environmental Coordinator
   Date - July 15, 1982

4. The attached chart shows the drum storage area for storage of hazardous wastes.

II. Maximum Waste Inventory

The following table shows the maximum quantity of wastes on hand at any one time:

Sodium Hydroxide Sludge	50 drums
Agitene Sludge	50 drums

III. Schedule for Closing

This facility does not have a definite closure date. The following schedule is open-ended. It lists the timetable for closure in terms of elapsed time subsequent to the time that EPA, or an EPA authorized state agency, has approved this Closure Plan. This Closure Plan must be submitted to the EPA agency for approval at least 180 days before closure is expected to start. The Plant Engineer will submit the closure plans. (See Section 265.112 (c) of the EPA regulation in 40 CFR.)

Day 1 - Plant termination of hazardous waste activity.

Day 15 - Drums of hazardous wastes prepared for shipment to disposal site.

Day 20 - Obtain necessary approvals for shipment of hazardous wastes to approved disposal site.

Day 30 - Clean concrete storage area that was used for storing wastes by sweeping. After sweeping use a detergent cleaner solution to wash the concrete area. The area will then be rinsed with clean water.

Day 32 - Examine trench around hazardous waste storage area. Any hazardous waste residue will be removed and packaged in DOT approved drums for shipment to approved disposal area.

Day 35 - Ship hazardous wastes sludges in approved containers to disposal site.

Day 40 - Use plant power vacuum scrubber to wash and rinse vacated drum storage area for hazardous wastes. Wash liquid shall be discharged to the plant wastewater treatment facilities.

Day 45 - Closure should be complete.

Day 50 - Certification of closure by independent registered professional engineer.

IV. Decontamination of Facility

1. All hazardous waste sodium hydroxide and agitene sludges will be placed in approved DOT drums and marked for shipment to an approved chemical waste landfill.

2. Storage Area: The storage area will be sweep clean. The area will then be scrubbed with a mild detergent with the plant power scrubber. The area will be rinsed with clean water. These cleaning liquids will be collected by the plant vacuum pickup truck and treated via the plant wastewater treatment facilities. The concrete trench around the concrete storage area will be cleaned and any hazardous waste residue will be placed in an approved DOT drum and disposed of in an approved chemical waste landfill as specified by the plant environmental coordinator. Potential firms are:

Cecos	- Williamsburg, Ohio
Adams Center	- Ft. Wayne, Indiana

3. Testing: To verify the completeness of the decontamination process, the ph of the rinse water solutions will be measured by the Plant Water Treatment Department. The Plant Environmental Coordinator will inspect the cleaned area to confirm that all hazardous waste has been removed.

V. Cost Estimates for Closure (to be updated annually on July 1)

Prepared by: G. R. Ohl, Senior Engineer

Approved by: Gary C. Southern
Resident Comptroller

Area	Total Cost	
Sodium Hydroxide Sludge	~~$3,000~~ 2,000	0
Agitene Sludge	1,000	0
Drum Storage	~~7,200~~ 8,200	$ 9,000
Inspection, Approval, Testing and Report	~~3,000~~ 3,500	$ 4,000
TOTAL	~~$14,200~~ $ 14,700 to all 7-1-84	$ 13,000 W. Schoonmaker 6/20/85

Notice In Deed (40 CFR 122.25(a)(14))

This plant is only a hazardous waste storage facility and does not dispose of any hazardous waste, therefore, section 122.25(a)(14) does not apply.

Closure Cost Estimates (40 CFR 122.25(a)(15))

The closure cost information for this plant's hazardous waste storage area is included in the closure plan which was shown in a previous subsection containing the requirements of 40 CFR 122.25(a)(13).

Information pertinent to the plant's financial responsibility for liability coverage and closure care can be found in appendix A. Appendix A includes information which has been previously submitted to Mr. Valdas Adamkus, Regional Administrator of Region V on July 2, 1982.

Post-Closure Cost Estimate (40 CFR 122.25(a)(16))

This plant does not dispose of any hazardous waste on-site, therefore, this section does not apply.

Financial Assurance Mechanism (40 CFR 122.25(a)(17))

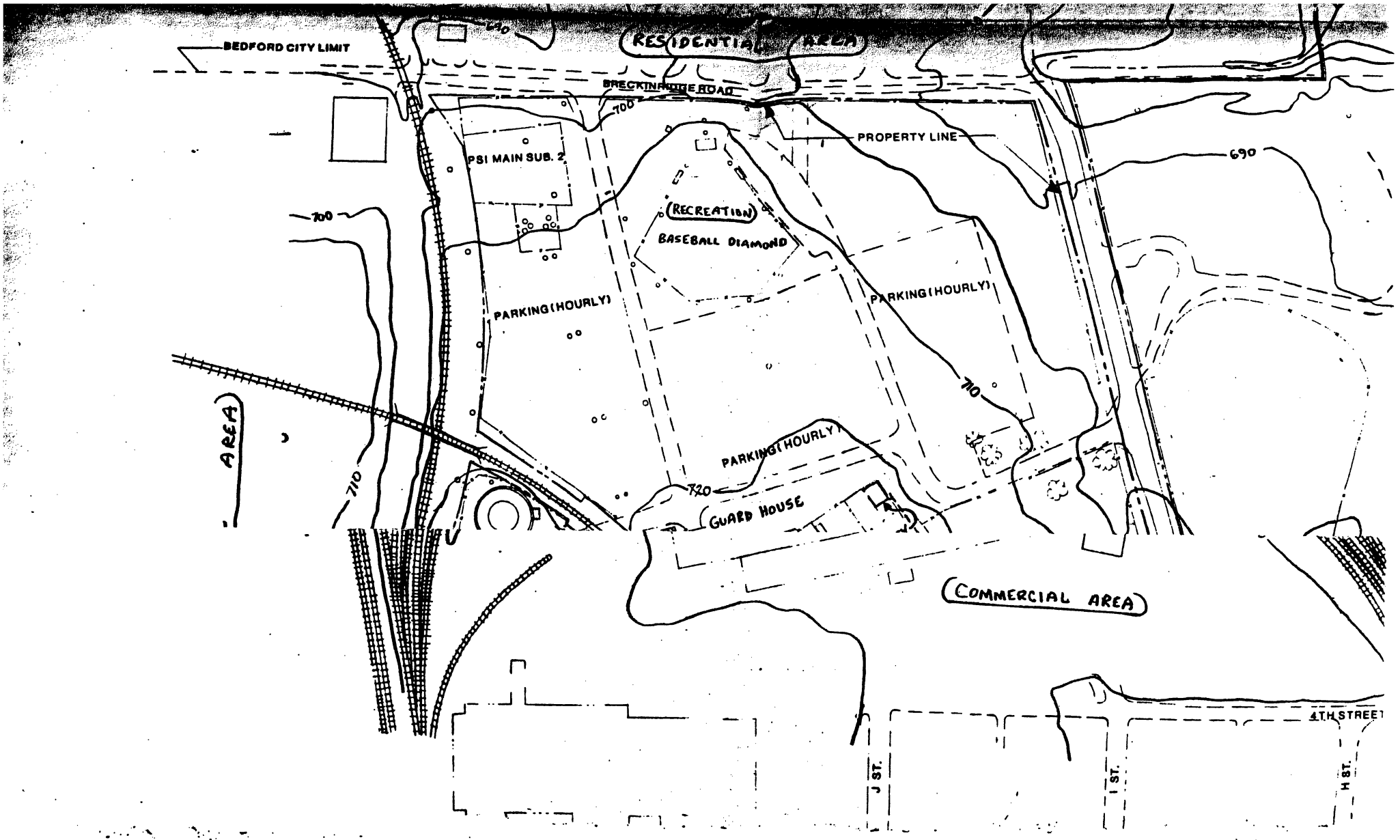
The requirements of this section has been demonstrated in the information and documentation submitted in a letter from F. A. Smith, Executive Vice President of General Motors Corporation on July 2, 1982 to Region 5 Administrator, Mr. Valdas Adamkus. A copy of this letter is shown in Appendix A including exerts from attachment A of that letter.

State Assumption of Responsibility (40 CFR 122.25(a)(18))

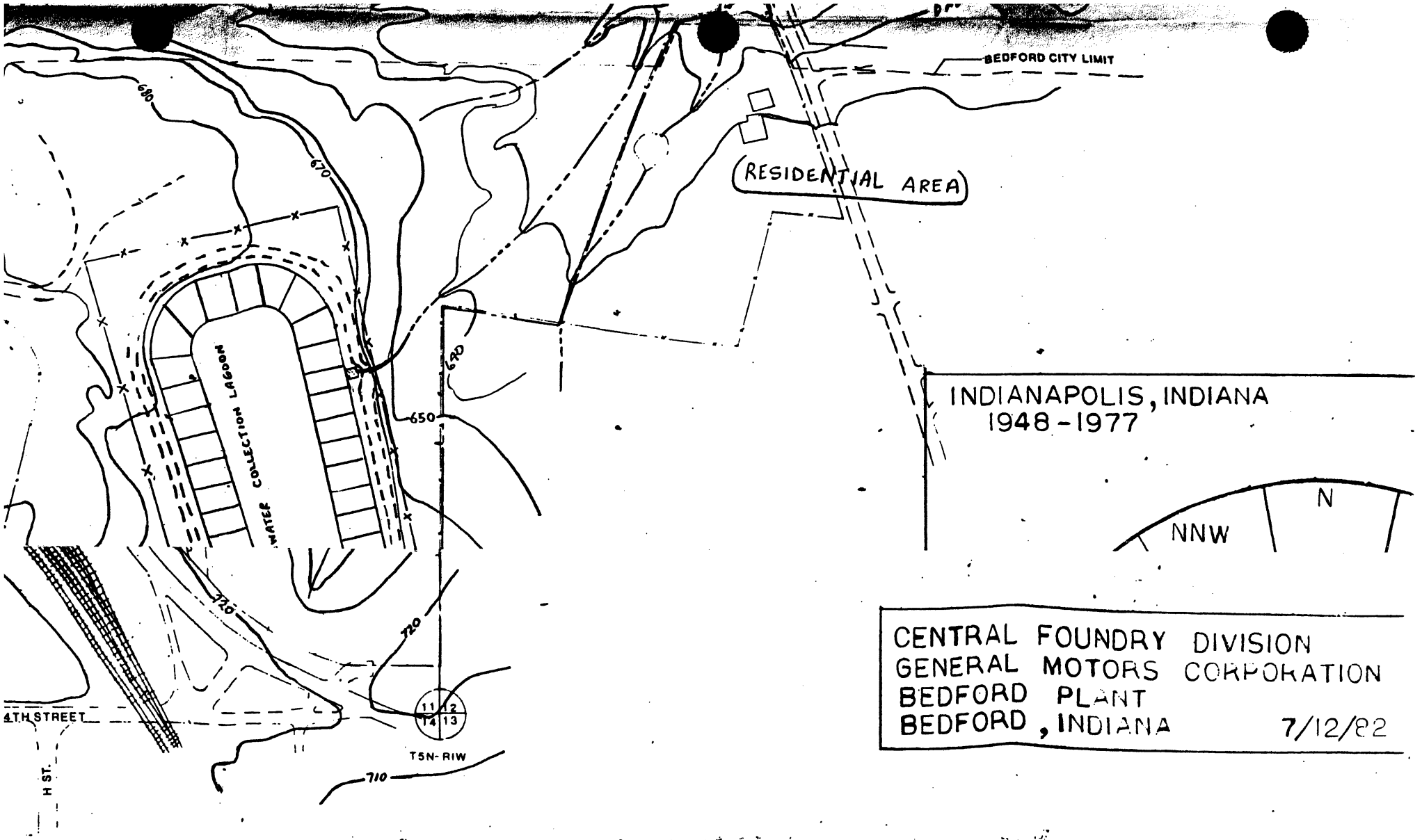
This plant will not request state assumption of legal and financial responsibilities.

Topographic Map (40 CFR 122.25(a)(19))

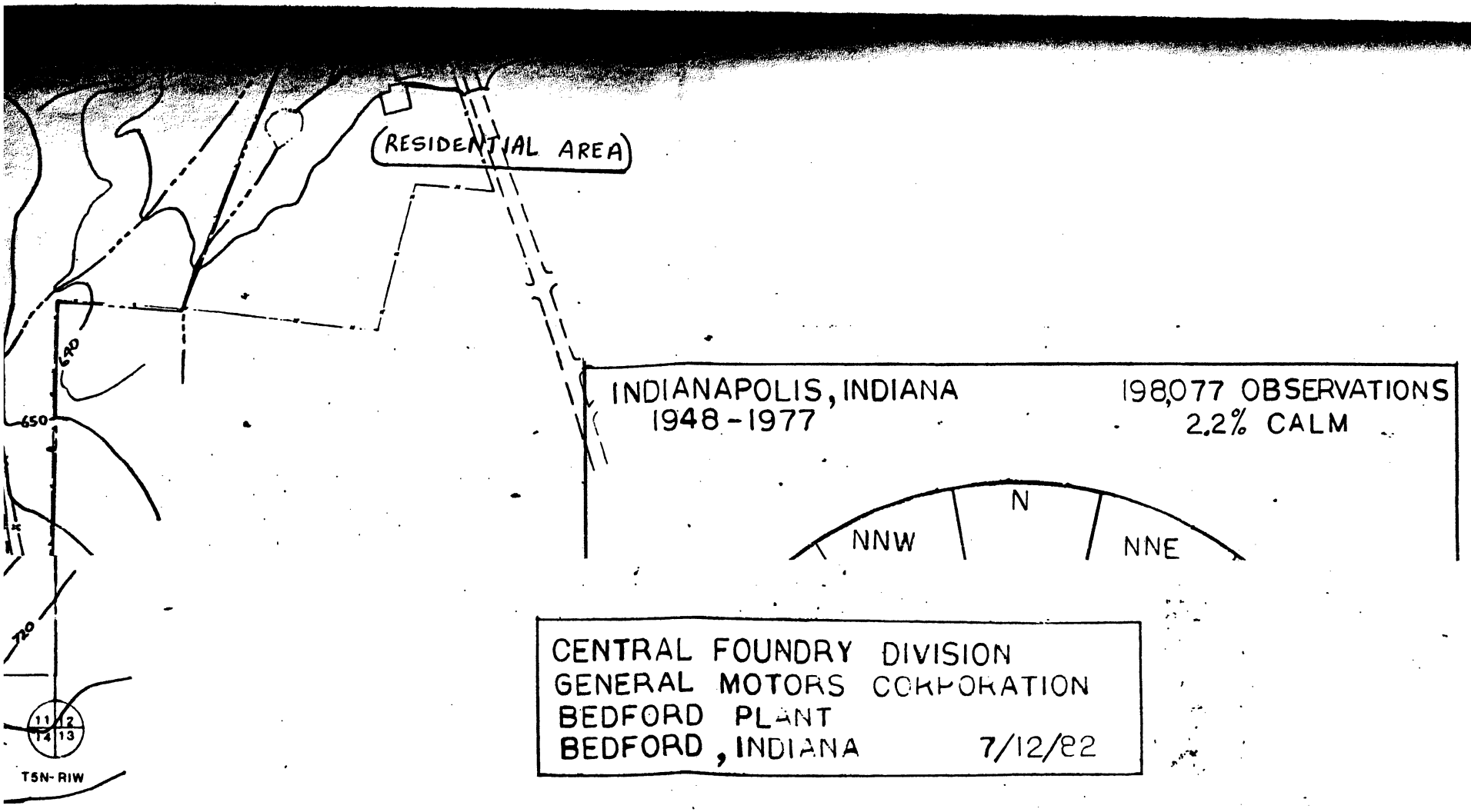
All the information section 122.25(a)(19) is shown on the topographic map located in the protective folder on the following page.



NOTE: THIS FACILITY IS NOT WITHIN THE 100 YEAR FLOOD F
BASED UPON THE U.S.G.S. MAPS, THE 100 YEAR FLOOD
AREA IS AT ELEVATION 510.



OOD PLAIN AREA.
FLOOD PLAIN


RESIDENTIAL AREA
640
650
720
11 12
14 13
T5N-R1W
INDIANAPOLIS, INDIANA
1948-1977
198,077 OBSERVATIONS
2.2% CALM
N
NNW
NNE
CENTRAL FOUNDRY DIVISION
GENERAL MOTORS CORPORATION
BEDFORD PLANT
BEDFORD, INDIANA 7/12/82

Additional Information (40 CFR 122.25(a)(20))

Additional information will be provided in accordance with the requirements of 40 CFR 122.25(a)(20) at the request of the EPA Region V Administrator.

SECTION 3

PART B PERMIT APPLICATION - SPECIFIC INFORMATION

40 CFR 122.25(b)

Container - Storage Facility

The Plant's hazardous waste drum storage area consists of a 8" concrete slab, approximately 660 sq. feet (22' x 30') area surrounded with a 6" high curbing. This area has a ramp which allows easy fork truck access. See the drawing on the following page for more detail.

The concrete slab slopes to the southeast corner of the containment to a sump. All containers stored in this area are placed on wooden pallets which eliminates the storage container coming in contact with any accumulated liquids within the containment.

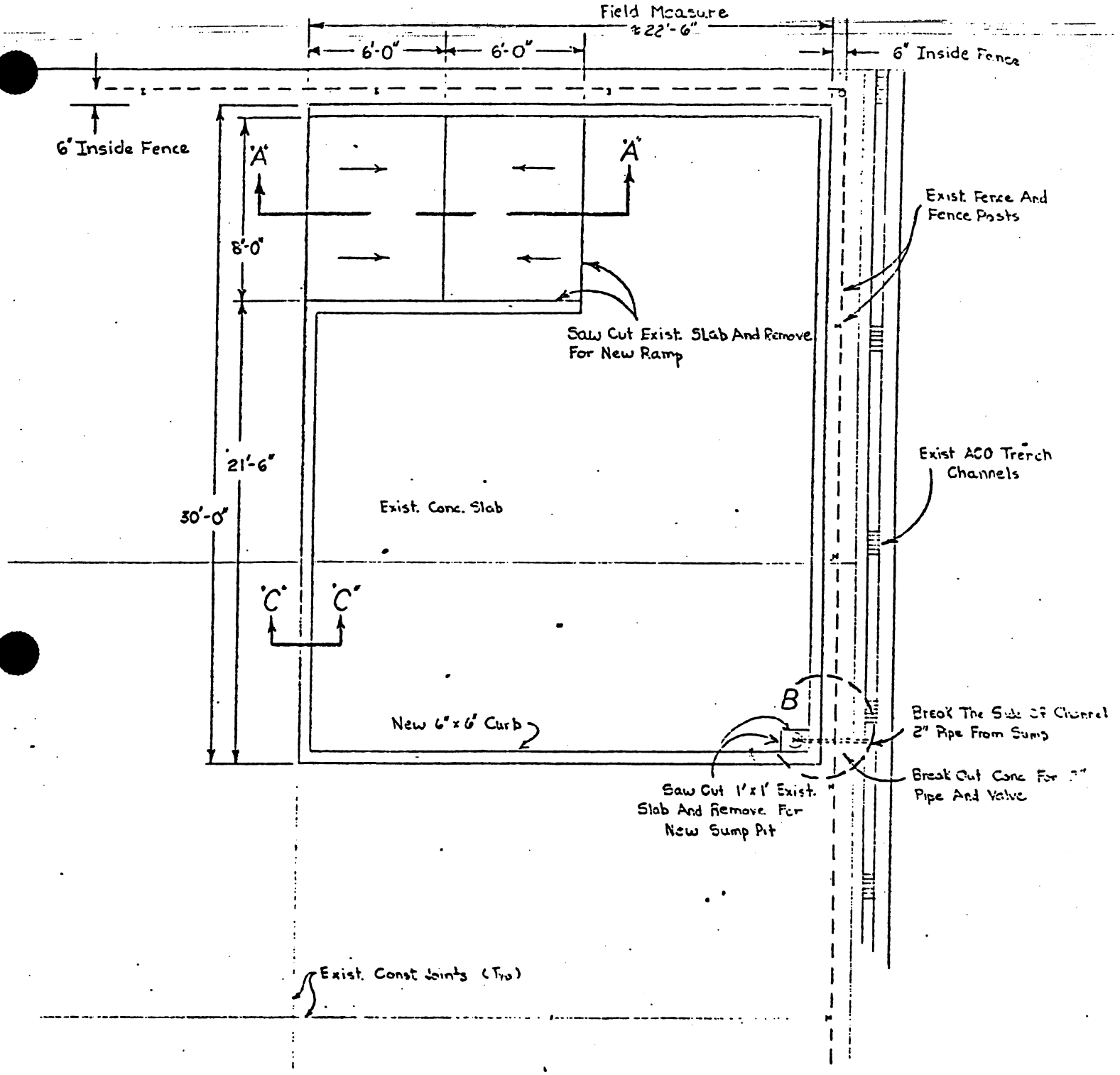
The hazardous waste storage containment has a liquid retaining capacity of 275 ft^3 or 2,060 gallons. This constitutes more than 30% of the maximum amount (100 drums or 5500 gallons) of hazardous waste to be stored in the area.

The containment is completely surrounded with a 6 inch curbing which prevents any liquid run-on into the hazardous waste storage area.

Of the two hazardous wastes stored at the hazardous waste facility, only the agitene waste is a liquid. This waste can be detected by observation and if present in the waste containment area will be removed with plant vacuum truck and placed into drums and restored. Non hazardous liquids are drained to the plants waste water treatment plant through a process sewer line.

The plant does store ignitable waste in its hazardous waste drum storage area. See the topographical map in the previous section which shows the location of the storage area in relationship to the plants property lines. The nearest property line is approximately 200 feet away.

The plant does not, at this time, store any incompatible waste within the hazardous waste drum storage area.



PLAN VIEW - HAZARDOUS WASTE STORAGE CONTAINMENT

(Scale 1/4" = 1'-0")

APPENDIX A

Financial Responsibility

GENERAL MOTORS CORPORATION

Mr. Valdas Adamkus
Regional Administrator
U.S. EPA Region 5
230 S Dearborn
Chicago, IL 60604

Dear Mr. Adamkus:

I am the chief financial officer of General Motors Corporation, 3044 West Grand Boulevard, Detroit, Michigan 48202. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage and closure and/or post-closure care as specified in Subpart H of 40 CFR Parts 264 and 265.

The owner or operator identified above is the owner or operator of the following facilities for which liability coverage is being demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. See Attachment A.

1. The owner or operator identified above owns or operates the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by the test are shown for each facility. See Attachment A.

2. The owner or operator identified above guarantees, through the corporate guarantee specified in Subpart H of 40 CFR Parts 264 and 265, the closure and post-closure care of the following facilities owned or operated by its subsidiaries. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility. None.

3. In States where EPA is not administering the financial requirements of Subpart H of 40 CFR Parts 264 and 265, this owner or operator is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility. None.

4. The owner or operator identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility. See Attachment B.

This owner or operator is required to file a Form 10-K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The figures for the following items marked with an asterisk are derived from this owner's or operator's independently audited, year-end financial statements for the latest completed fiscal year, ended December 31, 1981.

Alternative I
($ in millions)

1.	Sum of current closure and post-closure cost estimates (total of all cost estimates listed above)	$ 33.5
2.	Amount of annual aggregate liability coverage to be demonstrated	$ 2.0
3.	Sum of lines 1 and 2	$ 35.5
*4.	Total liabilities (if any portion of your closure or post-closure cost estimates is included in your total liabilities, you may deduct that portion from this line and add that amount to lines 5 and 6)	$ 21,270.1
*5.	Tangible net worth	$ 17,716.9
*6.	Net worth	$ 17,721.1
*7.	Current assets	$ 13,716.1
*8.	Current liabilities	$ 12,555.1
9.	Net working capital (line 7 minus line 8)	$ 1,161.0
*10.	The sum of net income plus depreciation, depletion, and amortization	$ 4,739.6
*11.	Total assets in U.S. (required only if less than 90% of assets are located in the U.S.)	$ 27,510.8

		Yes	No
12.	Is line 5 at least $10 million?	X	
13.	Is line 5 at least 6 times line 3?	X	
14.	Is line 9 at least 6 times line 3?	X	
*15.	Are at least 90% of assets located in the U.S.? If not, complete line 16.		X
16.	Is line 11 at least 6 times line 3?	X	
17.	Is line 4 divided by line 6 less than 2.0?	X	
18.	Is line 10 divided by line 4 greater than 0.1?	X	
19.	Is line 7 divided by line 8 greater than 1.5?		X

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 264.151(g) as such regulations were constituted on the date shown immediately below.

F. A. Smith
Executive Vice President
7/2/82

MID005356704
Facility EPA I.D. Number

GMC CADILLAC MOTOR CAR DIVISION CLARK PLANT
Name of Facility

2860 CLARK ST
Facility Mailing Address (Street or P.O. Box)

DETROIT	MI	48232
City or Town	State	Zip Code

SAME AS ABOVE
Facility Location (Street, Route No. or other specific identifier)

	WAYNE		
City or Town	County	State	Zip Code

CURRENT CLOSURE COST ESTIMATE OF FACILITY $ 31,430.00

IND006036099
Facility EPA I.D. Number

GMC CENTRAL FOUNDRY DIVISION BEDFORD PLANT
Name of Facility

PO BOX 271
Facility Mailing Address (Street or P.O. Box)

BEDFORD	IN	47421
City or Town	State	Zip Code

NORTH JACKSON ST
Facility Location (Street, Route No. or other specific identifier)

BEDFORD	LAWRENCE	IN	47421
City or Town	County	State	Zip Code

CURRENT CLOSURE COST ESTIMATE OF FACILITY $ 14,200.00

37PMZ/0629j
6/29/82

APPENDIX G.10

U.S.EPA PART B PERMIT

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

R. Hoar
P. Murphy
W. Butler
W. Cheek
} cover letter only

J. Medvec
J. Chu-CAS

REPLY TO ATTENTION OF
5HW

10-3-83

SEP 27 1983

T. R. Wiltse, General Manager
GMC Central Foundry
P.O. Box 271
Bedford, Indiana 47421

Re: GMC Central Foundry Bedford Plant
IND 006036099

Dear Mr. Wiltse:

Enclosed is a copy of the final Resource Conservation and Recovery Act (RCRA) Permit for your hazardous waste storage area at the above referenced facility. The failure of your company to meet any portion of the Permit could result in civil and/or criminal penalties. The United States Environmental Protection Agency is ready and willing to assist you in interpreting any of the conditions of the Permit as they relate specifically to your facility.

The Permit as issued is effective as of the date indicated on the cover page of the Permit. You have the right to appeal any condition of the Permit pursuant to 40 Code of Federal Regulations (CFR) Section 124.19.

Sincerely yours,

Basil G. Constantelos, Director
Waste Management Division

Enclosures

cc: Guinn Doyle, ISBH

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
HAZARDOUS WASTE MANAGEMENT PERMIT

Name of Permittee: GMC Central Foundry Bedford Plant

Facility Location: North Bedford Street, Bedford, IN

EPA Identification Number: IND 006036099

Effective Date: September 23 , 1983

Expiration Date: September 23 , 1993

Authorized Activities

In reference to GMC Central Foundry's application for a hazardous waste management permit under the Solid Waste Disposal Act, Subtitle C, as amended (42 U.S.C., Section 6901, e.t. seq., commonly known as the Resource Conservation and Recovery Act or RCRA) and the administrative record, you are authorized to conduct at the above-named facility the following hazardous waste management activities:

X Storage	Treatment	Disposal
X Container	Tank	Injection Well
Tank	Surface Impoundment	Landfill
Waste Pile	Incinerator	Land Application
Surface Impoundment	Other	Ocean Disposal
		Surface Impoundment

Applicable Regulations:

The conditions of this permit were developed in accordance with the applicable provisions of 40 CFR Part:

X 261	X 264, Subpart G	264, Subpart K
X 262	X 264, Subpart H	264, Subpart L
X 264, Subpart A-E	X 264, Subpart I	264, Subpart O
	264, Subpart J	X 270

That are effective as of September , 1983. You must operate in accordance with the terms and conditions (attachments I to VII) to this permit.

Permit Approval:

This permit approval is based upon the administrative record which is maintained at the United States Environmental Protection Agency (U.S. EPA) Region V Office.

Issued this 23rd day of September, 1983

by Basil G. Constantelos
Basil G. Constantelos, Director
Waste Management Division

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IV. Inspection Plan	
V. Closure Plan	
VI. Training Plan	
VII. Container Storage System Plan	

IND006036099

ATTACHMENT I

PERMIT CONDITIONS

I. GENERAL PERMIT

A. EFFECT OF PERMIT

The Permittee is allowed to store hazardous waste in accordance with the conditions of this permit. Any storage of hazardous waste not authorized in this permit is prohibited. Compliance with this permit constitutes compliance, for purposes of enforcement, with Subtitle C of RCRA. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Section 3013 or Section 7003 of RCRA, Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9606 (a), commonly known as CERCLA), or any other law providing for protection of public health or the environment.

B. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 270.41, 270.42, and 270.43. The filing of a request for a permit modification, revocation and reissuance, or termination or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

D. DUTIES AND REQUIREMENTS

1. Duty to Comply. The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit issued pursuant to 40 CFR 270.61(a). Any permit noncompliance, other than non-compliance authorized by an emergency permit, constitutes a violation of RCRA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

2. Duty to Reapply. If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee shall submit a complete application for a new permit at least 180 days before this permit expires.

3. Permit Expiration. This permit and all conditions herein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application and through no fault of the Permittee the Regional Administrator has not issued a new permit as set forth in 40 CFR 270.51.

4. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. Duty to Mitigate. The Permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

6. Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain all facilities and systems of control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facility or similar systems only when necessary to achieve compliance with the conditions of the permit.

7. Duty to Provide Information. The Permittee shall furnish to the Regional Administrator, within a reasonable time, any relevant information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

8. Inspection and Entry. The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

   (a) Enter at reasonable times upon the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect at reasonable times any facilities, equipment practices, or operations regulated or required under this permit; and

(d) Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

9. Monitoring and Records.

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of 40 CFR Part 261. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846 June 19, 1982, Standard Methods of Wastewater Analysis; Fifteenth Edition, 1980, and 1981 Supplement; or an equivalent method as specified in the attached Waste Analysis Plan

(b) The Permittee shall retain copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report or record. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

(c) Records of monitoring information shall specify:

(i) The dates, exact place, method, and times of sampling or measurements;

(ii) The individuals who performed the sampling or measurements;

(iii) The dates analyses were performed;

(iv) The individuals who performed the analyses;

(v) The analytical techniques or methods used; and

(vi) The results of such analyses.

10. Reporting Planned Changes. The Permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility.

11. Anticipated Noncompliance. The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Such notification does not waive permittee's duty to comply set out in I.D.1.

12. Transfer of Permits. This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to 40 CFR 270.41(b)(2) or 270.42(d). Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264 and 270.

13. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

14. Twenty-four Hour Reporting. The Permittee shall report to the Regional Administrator any noncompliance with the permit which may endanger health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:

    (a) Information concerning the release of any hazardous waste which may endanger public drinking water supplies.

    (b) Information concerning the release or discharge of any hazardous waste, or of a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

        (i) Name, address, and telephone number of the owner or operator;

        (ii) Name, address, and telephone number of the facility;

(iii) Date, time, and type of incident;

(iv) Name and quantity of materials involved;

(v) The extent of injuries, if any;

(vi) An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and

(vii) Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Permittee need not comply with the five day written notice requirement if the Regional Administrator waives the requirement and the Permittee submits a written report within fifteen days of the time the Permittee becomes aware of the circumstances.

15. Other Noncompliance. The Permittee shall report all other instances of noncompliance not otherwise required to be reported above, at the time monitoring reports, as required by this permit are submitted. The reports shall contain the information listed in condition I.D.14.

16. Other Information. Whenever the Permittee becomes aware that he or she failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, the Permittee shall promptly submit such facts or information.

E. Signatory Requirement. All reports or other information requested by the Regional Administrator shall be signed and certified as required by 40 CFR 270.11.

F. Confidential Information. The Permittee may claim confidential any information required to be submitted by this permit in accordance with 40 CFR §270.12.

G. Documents To Be Maintained at Facility Site. The Permittee shall maintain at the facility, until closure is completed and certified by an independent registered professional engineer, the following documents and amendments, revisions and modifications to these documents:

(1) Waste analysis plan as required by 40 CFR 264.13 and this permit. (Attachment II)

(2) Personnel training documents and records as required by 40 CFR 264.16(d) and this permit. (Attachment VI)

(3) Contingency plan as required by 40 CFR 264.53(a) and this permit. (Attachment III)

(4) Closure plan as required by 40 CFR 264.112(a) and this permit. (Attachment V)

(5) Cost estimate for facility closure as required by 40 CFR 264.142(d) and this permit. (Attachment V)

(6) Operating record as required by 40 CFR 264.73 and this permit.

(7) Inspection schedules as required by 40 CFR 264.15(b) and this permit. (Attachment IV)

All amendments, revisions and modifications to any plan or cost estimates required by this permit shall be submitted to the Regional Administrator for approval and permit modification.

2. GENERAL FACILITY CONDITIONS

A. Authorized Waste. The permittee is authorized to store, up to 5,500 gallons, the following hazardous waste(s) or categories of hazardous waste in accordance with the conditions specified in this permit:

1) Agitene waste fluid which is a non-chlorinated petroleum cleaning solvent, U.S. EPA #D001.

2) Kolene sludge which is solidified sodium hydroxide waste, U.S. EPA #D002.

B. Design and Operation of Facility. The Permittee shall maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

C. General Waste Analysis. The Permittee shall follow the procedures described in the attached waste analysis plan, Attachment II.

The permittee shall verify its waste analysis as part of the quality assurance program. The quality assurance program will be in accordance with current U.S. EPA practices (Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846 June 1982 and at a minimum insure that the permittee maintains proper functional instruments, uses approved sampling and analytical methods, assures the validity of sampling and analytical procedures, and permforms correct calculations.

D. Security. The Permittee shall comply with the security provisions of 40 CFR 264.14(b) and (c).

The permittee shall maintain and operate the following:

1) A 24 hour surveillance system by guards which controls entry onto the active facility portion; and

2) A fence which completely surrounds the the active facility portion.

E. General Inspection Requirements. The Permittee shall follow the inspection schedule, Attachment IV. The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by 40 CFR 264.15(c). Records of inspections shall be kept as required by 40 CFR 264.15(d).

F. Personnel Training. The Permittee shall conduct personnel training as required by 40 CFR 264.16. This training program

shall follow the attached outline, Attachment VI. The Permittee shall maintain training documents and records as required by 40 CFR 264.16(d) and (e).

G. General Requirements for Ignitable, Reactive, or Incompatible Waste. The Permittee shall comply with the requirements of 40 CFR 264.17(a).

H. Prepardnesss and Prevention

1. Required Equipment. At a minimum, the Permittee shall furnish equip the facility with the equipment set forth in the contingency plan, Attachment 3 as required by 40 CFR 264.32.

2. Testing and Maintenance of Equipment. The Permittee shall test and maintain the equipment specified in the previous permit condition as necessary to assure its proper operation in time of emergency.

3. Access to Communications or Alarm System. The Permittee shall maintain access to the communications or alarm system as required by 40 CFR 264.34.

4. Required Aisle Space. At a minimum, the Permittee shall maintain aisle space as required by 40 CFR 264.35.

5. Arrangements with Local Authorities. The Permittee shall attempt to make arrangements with State and local authorities as required by 40 CFR 264.37. If State or local officials refuse to enter into preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record.

I. Contingency Plan.

1. Implementation of Plan. The Permittee shall immediately carry out the provisions of the contingency plan, Attachment III, and follow the emergency procedures described by 40 CFR 264.56 whenever there is a fire, explosion, or release of hazardous waste or constituents which threatens or could threaten human health or the environment.

2. Copies of Plan. The Permittee shall comply with the requirements of 40 CFR 264.53.

3. Amendments to Plan. The Permittee shall review and immediately amend, if necessary, the contingency plan, as required by 40 CFR 264.54.

4. Emergency Coordinator. The Permittee shall comply with the requirements of 40 CFR 264.55, concerning the emergency coordinator.

J. Recordkeeping and Reporting.

1. Operating Record. The Permittee shall maintain a written operating record at the facility in accordance with 40 CFR 264.73(a), (b)(1), (2), (3), (4), (5), (6), and (8).

2. Annual Report. The Permittee shall comply with the biennial report requirements of 40 CFR 264.75.

K. Closure.

1. Performance Standard. The Permittee shall close the facility as required by 40 CFR 264.111 and in accordance with the closure plan, Attachment V.

2. Amendment to Closure Plan. The Permittee shall amend the closure plan in accordance with 40 CFR 264.112(b) whenever necessary.

3. Notification of Closure. The Permittee shall notify the Regional Administrator at least 180 days prior to the date he expects to begin closure.

4. Time Allowed For Closure. After receiving the final volume of hazardous waste, the Permittee shall treat or remove from the site all hazardous waste in accordance with the schedule specified in the closure plan, Attachment 5. After receiving the final volume of hazardous waste, the Permittee shall complete closure activities in accordance with the schedule specified in the closure plan, Attachment V.

5. Disposal or Decontamination of Equipment. The Permittee shall decontaminate and/or dispose of all facility equipment as required by 40 CFR 264.114.

6. Certification of Closure. The Permittee shall certify that the facility has been closed in accordance with the specifications in the closure plan as required by 40 CFR 264.115.

L. Cost Estimate for Facility Closure. The Permittee's original closure cost estimate, prepared in accordance with 40 CFR 264.142(a), is specified in Attachment V.

1. The Permittee must adjust the closure cost estimate for inflation within 30 days after each anniversary of the date on which the first closure cost estimate was prepared, as required by 40 CFR 264.142(b).

2. The Permittee must revise the closure cost estimate whenever there is a change in the facility's closure plan as required by 40 CFR 264.142(c).

3. The Permittee must keep at the facility the latest closure cost estimate as required by 40 CFR 264.142(d).

M. Financial Assurance for Facility Closure. The Permittee shall demonstrate continuous compliance with 40 CFR 264.143 by providing documentation of financial assurance, as required by 40 CFR 264.151, in at least the amount of the cost estimates required by permit condition II.L. Changes in financial assurance mechanisms must be approved by the Regional Administrator pursuant to 40 CFR 264.143.

N. Liability Requirements. The Permittee shall demonstrate continuous compliance with the requirements of 40 CFR 264.147 and the documentation requirements of 40 CFR 264.151, including the requirements to have and maintain liability coverage for sudden and accidental occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs.

O. Incapacity of Owners or Operators, Guarantors, or Financial Institutions.

The Permittee shall comply with 40 CFR 264.148 whenever necessary.

3. STORAGE IN CONTAINERS

A. Waste Identification. The Permittee may store the following wastes in containers at the facility, subject to the terms of this permit: D001 and D002. The maximum design capacity of the storage area is 5,500 gallons.

B. Condition of Containers. If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the the conditions of this permit.

C. Compatibility of Waste with Containers. The Permittee shall assure that the ability of the container to contain the waste is not impaired as required by 40 CFR §264.172.

D. Management of Containers. The Permittee shall manage containers as required by 40 CFR §264.173.

E. Containment. The Permittee shall maintain the containment system in accordance with the requirements of 40 CFR 264.175 as specified in the attached plans and specifications, Attachment VII.

F. Special Requirements for Ignitable or Reactive Waste. The Permittee shall not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the facility's property line.

G. Special Requirements for Incompatible Wastes.

1. Prior to placing incompatible wastes or incompatible wastes and materials in the same container, the Permittee shall comply with 40 CFR 264.17(b).

2. The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material.

3. The Permittee must document compliance with III. G. (1) and (2) as required by 40 CFR 264.17(c) and place this documentation in the operating record (condition II.J.1).

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ATTACHMENT II

WASTE ANALYSIS PLAN

ISION OF GENERAL MOTORS
PLANT
ORD, INDIANA

PURPOSE

Provide a procedure for the chemical and physical analysis of the hazardous waste generated by the Bedford Plant as required by Federal and State Regulations (Federal Regulations 40 CFR, Part 265.13, and State Regulation 320 IAC 4-9-2).

SCOPE

Plan for chemical and physical analysis of the sodium hydroxide and agitene sludges which are classified as hazardous under provisions of the Resource Conservation and Recovery Act.

PROCEDURE

1.0 General Waste Analysis Requirements

1.1 All hazardous waste must be analyzed for chemical and physical properties before it is treated, stored or disposed.

1.2 The analysis must contain information that must be known to treat, store or dispose of the waste in accordance with requirements of Federal Regulation 40 CFR, Part 261.

1.3 The analysis may include analysis performed on this waste prior to the effective date of the RCRA regulations or studies conducted on the hazardous waste or wastes from a similar process. Also, may refer to GM safety data sheet for added information.

1.4 The analysis must be repeated when the process generating the waste has been changed.

2.0 Hazardous Wastes and Parameters to be Analyzed

2.1 Sodium Hydroxide Sludge

2.1.1 ph as determined by following the EPA Manual SW 846, Section 5 and Subsection guidelines.

2.2 Agitene cleaning solvent waste

2.2.1 Flash point as determined by following the guidelines in EPA Manual SW 846, Section 4 and Subsection guidelines.

3.0 Sampling Method

3.1 Sodium hydroxide sludge. This material is placed in DOT approved drums and stored in the plant approved hazardous waste storage area while awaiting shipment to an approved disposal site.

3.1.1 A good representative sample is to be obtained for analysis.

3.1.2 The sample collector will use a clean trowel or waste pile sampler for removing the sample material from the drum. Collect material from below the top surface. Place samples in a clean stainless steel container and mix in order to obtain a composite sample for laboratory analysis. Place composite samples in clean glass or stainless steel container with cap.

3.1.3 Mark and identify sample with label that lists the following information:

Collector
Sample Number
Place of Collection
Date Sampled
Time Sampled
Field Information

3.2 Agitene fluid and sludge waste. This material is placed in an approved DOT drum per the Maintenance Department procedure Number 534-41.

3.2.1 Use a glass tube or a composite liquid waste sampler to obtain a representative sample of material from the drum or drums.

3.2.2 Follow the sampling methodology described in the EPA Manual SW 846, Section 3.0 and Subsections.

3.2.3 Mark and identify sample with label that lists the following information:

Collector
Place of Collection
Date Sampled
Time Sampled
Field Information

4.0 Other plant wastes are to be added to this procedure if and when the Federal Resource Conservation and Recovery Act (RCRA) and State Regulation is revised to classify those waste materials as being hazardous.

PREPARED BY: G R Ohl Date 2-10-82

Approved By: W. A. Butler Date 3/17/82

_____ Date _____

* Indicates Revised Portion

IND006036099

ATTACHMENT III

CONTINGENCY PLAN

IVISION OF GENERAL MOTORS
EDFORD PLANT
EDFORD, INDIANA

STANDARD PROCEDURE

AMENDMENT TO SPILL PREVENTION AND COUNTER MEASURE PLAN (SPCC)

"Hazardous Waste Contingency Plan"

Proc. No. ECS-14
Date Issued 5-19-81
Date Revised 3-12-82
Date Revised
Date Revised
Page 1 of 2

PURPOSE:

Provide for a contingency plan and emergency procedure for the RCRA hazardous waste facility as required by Federal EPA regulations 40 CFR Part 265.50.

SCOPE:

Cover the EPA permitted hazardous waste facility at the Bedford Plant, which is the drum storage area for the sodium hydroxide and agitene cleaning solvent sludges.

PROCEDURE:

1.0 The Bedford SPCC and this amendment to that plan are to be followed by plant personnel whenever there is an unplanned sudden or non-sudden release of the hazardous wastes to air, soil, or surface water of the facility which may cause personal injury or may leave the plant property.

2.0 Plant Protection and the Plant Medical Staff are available 24 hours a day to respond to any emergencies requiring their services. In case of fire, Plant Protection will call the Plant Fire Brigade per standard operating procedure.

3.0 See item 2.5.6 of the SPCC plan, page 13, for the emergency coordinator assignment and responsibilities.

4.0 See item 2.5.6.3 of the SPCC plan, page 14, for list of emergency equipment. The Plant Protection gatehouse is located approximately 300 feet from the hazardous waste storage area. The plant guards are on duty at all times in this gatehouse and have radio and telephone for communication both in and out of the plant.

5.0 The characteristics and quantity of these hazardous waste materials are such that no evacuation plan is required. Also, the storage area is located outside and clear of occupied buildings and work areas.

6.0 The emergency coordinator will notify the Superintendent of Plant Engineering and the Plant Environmental Coordinator of any incident involving hazardous wastes that requires implementing this contingency plan. The Plant Environmental Coordinator will record the time, date and details of the incident. The environmental coordinator will prepare a report for submittal to the EPA Reginal Administrator within 15 days after the incident. The report must include:

- Name, address and telephone number of the owner or operator
- Facility location
- Date, time and type of incident.
- Name and quantity of materials involved.
- Extent of injury, if any.
- Assessment of actual or potential hazards to human health or environment, if applicable.
- Estimated quantity and disposition of recovered material that resulted from

6.0 Continued

This report is to be reviewed and approved by the Division and Corporate Environmental Staff and signed by the Bedford Plant Manager.

7.0 This contingency plan must be reviewed and immediately amended, if necessary, whenever:

- Applicable regulations are revised.
- The plan fails in an emergency.
- The facility changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency.
- The list of emergency coordinators changes.
- The list of emergency equipment changes.

PREPARED BY:

G. R. Ohl 5-12-81
Date

G. R. Ohl
Environmental Coordinator

"A description of emergency response procedures for fires and explosions."

The GMC-Central Foundry Division, Bedford Plant has an established procedure for responding to emergency fires and explosions.

When a fire or an explosion occurs, an emergency call is made to the Maintenance dispatcher. The dispatcher then sounds a coded alarm throughout the plant to designate the area where the emergency has occurred. The plants trained fire brigade responds to the alarm with the plant fire fighting equipment to extinguish the fire. If additional fire fighting equipment is needed, the Bedford City Fire Department is called to the scene.

The plant fire brigade consists of maintenance, security and supervisory personnel who have had classroom training and hands on experience in fighting Class A, B, C and D fires.

STANDARD PROCEDURE

OIL SPILL PREVENTION AND COUNTER MEASURE PLAN

1. OIL SPILL PREVENTION

1.1 Central Foundry Division
General Motors Corporation
Bedford, IN 47421

1.2 Plant began operation - 1959

1.3 Registered Engineers Certification

J. A. MESEHOO REGISTERED NO. 12535 STATE OF INDIANA PROFESSIONAL ENGINEER

Certified By: James E. Hoon Date 3/17/82

Approved By:

R. W. Herr Date 3-18-82
*R. W. Herr
Plant Manager

P. J. Murphy Date 3/18/82
P. J. Murphy
Manager of Plant Engineering & Maintenance

W. A. Butler Date 3/18/82
W. A. Butler
Superintendent of Plant Engineering

CERTIFICATION

I have reviewed the Spill Prevention Control and Counter-Measure Plan for (GM Plant) attached. The facility has been examined and being familiar with the provisions of Part 112, Oil Pollution Prevention, Chapter 1, Environmental Protection Agency, Subchapter D, Water Programs, as published in the Federal Register, Vol. 38, No. 237, Tuesday, December 11, 1973, I certify that the SPCC plan has been prepared in accordance with good engineering practices.

2. GENERAL INFORMATION

2.1 Plot Plan attached.

2.2 Existing Containment Facilities:

2.2.1 Fuel Oil Storage System

2.2.1.1 The fuel oil storage facility is a 200,000 gallon, 22 ft. high and 40 ft. in diameter tank. This tank is made from carbon steel and rests on a 42 ft. concrete pad, 15" in depth with reinforced steel bars. This facility is marked (A) on plot plan.

2.2.1.2 A 6 ft. high concrete circular moat surrounds the tank to contain all liquid spillage that might occur in case of tank rupture. This moat can be drained by a sump pump installed in the system.

2.2.1.3 The fuel oil distribution system is composed of 3" supply and 2 1/2" return lines. Any major line leak will create a pressure loss which will de-energize the pump control circuit. In the case of pencil thin leaks when the pressure loss is not sufficient to de-energize the circuit, clearly identified emergency shutoff buttons are placed at four locations in the Melting Department.

2.2.2 Hydraulic Fluid Losses During Production Equipment Operation

2.2.2.1 Hydraulic fluid which mixes with oil is used in the operation of the plant's die casting machines, trim presses, and permanent mold machines. Oil that leaks from this equipment drains into the drainage system located under the machines.

2.2.2.2 This leakage is captured in a series of tunnels and diverted to the plant's primary water treatment system. This is mechanically capable of reclaiming all of the most drastic spill and returning it to plant use. In the event traces of hydraul fluid get past the primary system there is a backup secondary treatment system, chemically treating the water.

2.2.2.3 After the secondary system, there is a concrete holding basin which holds 300,000 gallons. This basin is divided to allow trapping and retaining a spill.

2.2.3 Miscellaneous Bulk Storage Facilities

2.2.3.1 Marked "D" on plot plan - two 3,000 gallon each steel tanks above grade and containing isocyanide 307 resins (isocure) Specific gravity is heavier than water, the material is toxic and flammable.

2.2.3.2 Deleted

2.2.3.3 Marked "E" on plot plan - one 2,000 gallon steel tank containing no lead gasoline. Tank is located below grade.

2.2.3.4 Marked "F" on plot plan - one 10,000 gallon steel storage tank below grade containing regular gasoline.

2.2.3.5 Marked "J" on plot plan - one 5,000 gallon steel tank above grade and used as storage for water glycol hydraulic fluid.

2.2.3.6 Marked "K" on plot plan - one 10,000 gallon steel tank above grade, used as storage for mineral base die lube.

*2.2.3.7 Marked "L" on plot plan - one 10,000 gallon steel tank above grade. Storage for li oils from clarithickners.

*2.2.3.8 Marked "M" on plot plan - water treatment plant consisting of two 100,000 gallon concrete submerged clarithickners. Four

2.2.3.8 (Continued)

100,000 gallon concrete submerged clarifier Two 40,000 gallon concrete submerged sludge thickner. One 130,000 gallon steel tank above grade used as filter press effluent surge tank. One 20,000 gallon concrete tank for oil and sludge separation

2.2.3.9 Marked "N" on plot plan - one 300,000 gallon concrete holding basin below grade. This basin holds treated water to final filtration.

*2.2.3.10 Marked "P" on plot plan - 7 steel storage tanks with total capacity of 150,000 gallons storing used phosphate ester hydraulic fluid. All tanks are surrounded by earthen dike.

*2.2.3.11 Marked "Q" on plot plan - 14 steel storage tanks with total capacity of 157,500 gallons storing used phosphate ester hydraulic fluid. All tanks are surrounded by earthen dike.

2.2.3.12 Marked "R" on plot plan - one 2,000,000 gallon sludge holding lagoon. Dormant at time time awaiting final disposition of sludge.

2.2.3.13 Marked "S" on plot plan - two 5,000 gallon steel tanks, storing new phosphate ester hydraulic fluid.

2.2.3.14 Marked "U" on plot plan - one 10,000 gallon fiberglass tank storing brine used for water softener regeneration.

2.2.3.15 Marked "V" on plot plan - one 2,000 gallon tank and one 500 gallon tank holding mineral electrolytic fluid used for EDM machining.

2.2.3.16 90,000 gallons of phosphate ester hydraulic fluid is contained in power units throughout the plant.

2.3.1.1 The Bedford plant has a 200,000 gallon fuel oil storage tank surrounded by a retention wall. The fluid level is checked each time material is added to the tank. The tank, retaining walls, and distribution system are inspected twice a year. The preventive maintenance program also included changing the oil filters yearly.

2.3.1.2 The tank is made from carbon steel and complies with ARI Specifications #650, UL Bul. #142, NEPA Bul. #30 and OSHA. It has also been given additional corrosion resistance with a double primer and a metallic overcoat.

2.3.1.3 One 10,000 gallon vertical hydraulic fluid storage tank shown on included Bedford Plan layout would leak toward the water treatmen plant if a leak accidently developed. In this area, the spread of fluid can be controlled on plant property. These tan observed and used daily and are inspected twice a year.

2.3.3 Underground Systems

2.3.3.1 In the fuel oil distribution system, all piping 2 1/2" and above is schedule 40 black welded piping, wrapped with plastic for underground use and corrosion protectio In the case of a major line leak, the pressure loss will de-energize the circuit pump. Emergency shutoff buttons are placed at four locations in the plant if a smaller leak develops which is not sufficient to de-energize the system.

2.3.3.2 Hydraulic fluid, used in the operation of the plant's die casting machines and tri presses, leak into a series of tunnels and is directed to a water treatment system There is a continuing leak detection and prevention program in the Maintenance Department for all of this equipment.

*2.4 Spill Definition

2.4.1 The definition is to conform to the Environmental Protection Agency regulations on discharge of oil (40 CFR 110 36 FR 22487, November 25, 1971), and specifically to section 110.3, "Discharge into Navigable Waters Harmful." Generally described as Discharges of such quantities of oil and other haza materials into or upon the navigable waters of the United States of adjoining shore lines determin to be harmful to the public health or welfare of th United States, at all times and locations and under all circumstances and conditions, include discharge which:

a) Violate applicable water quality standards, or;
b) Cause a film or sheen upon or discoloration of the surface of the water or adjoining shoreline or cause sludge or emulsion to be deposited beneath the surface of the water or upon adjoin shorelines, or;
c) Exceed reportable quantities of the hazardous materials in Table 117.3, EPA 40 CFR, Part 11), FR 50766 August 29, 1979. (Reference GM WPC 79-2 US).

2.5 Cleanup Procedures

2.5.1 Spill Initial Action

2.5.1.1 First action in the event of any kind of pollutant spill is to prevent the pollutant from entering a sewer, sluice system, or plant settling pond, the river water inlet or the river directly. Take immediate acti to confine the spill and prevent further spills. In-plant spills are the responsi- bility of the operating department where found. Out-plant spills are the responsi- bility of the Material Control Department.

2.5.1.1.1 Any spill on the floor in the plant can be contained using sa dirt, or oil-dry, as dam materia or absorbent. In extreme

emergencies, oil can be containc with productive powered material such as sand, clays, cement, etc although the use of these is not recommended for this purpose.

2.5.1.1.2 Spills which occur on paved surf in plant perimeters can be treat as above. However, if the spill occurs on dirt, near a sewer or waterway, care must be taken that it does not eventuall seep through the dirt into that facility. It may be necessary t ultimately excavate the polluted dirt and have it disposed of by licensed contractor.

2.5.1.1.3 Spills which result in direct contamination of the settling pond, settling basin or Salt Cre must be contained by any ava means;

2.5.1.1.3.1 Oil or other floati materials - use hay straw or a boom arrangement.

2.5.1.1.3.2 Soluable material attempt to contain within plant owned facilities and not allow to reach the river.

2.5.2 Internal Notification

2.5.2.1 Immediately upon discovery and initial action regarding a pollutant spill, certain persons in the plant must be notified. Information to be supplied these persons is:

2.5.2.1.1 Location of spillage.

2.5.2.1.2 Type of material spilled.

2.5.2.1.3 Estimated quantity and extent.

2.5.2.1.4 A run down of measures taken thus far to confine the spillage and prevent further spillage.

2.5.2.2 This information will be passed immediately to Plant Protection, extension, 7360. The guard receiving the call will notify the following as soon as possible: (Before each home number, dial 8-812 then the number).

	Plt. Ext.	Home Phone
*Plant Manager	7222	279-2117
Mgr. Plt. Engr. & Maint.	7357	275-7857
*Supt. Plant Engr.	7303	824-4111
Supt. of Maintenance	7328	
*Personnel Director	7334	332-2099

2.5.3 Notifying Regulatory Agencies

2.5.3.1 In the event of an accidental spill reaching State Streams, the appropriate State agency must be notified immediately. The Plant Manager is sole authority for reporting; in his absence, the Plant Engineer will act for him and in his absence the Maintenance Superintendent will act for the Plant Manager. The actual reporting will be done by the Plant Engineer or Maintenance Supt.

2.5.3.2 A spill that enters sanitary sewer lines may affect city sewage treatment facilities. Such a spill must be reported to the city.

City Sewage Service - 275-6292

Sewage Disposal Plant - 275-4901

2.5.3.3 A spill that reaches State Streams will be reported immediately to:

U. S. Coast Guard
National Response Center
400 Seventh St., S. W.
Washington, D. C. 20590
Phone: 800-424-8802

Emergency Center
Indiana Stream Pollution Control Board
Phone: 317-633-0144

2.5.3.4 Spill Notification within normal working ho

Division Works Engineer

Mr. Wm. C. Cheek
Central Foundry Div., GMC
77 West Center Street
Saginaw, MI 48605
Office Phone: 517-776-3377
Centrex Phone: 8-386-3377
Home Phone: 517-793-0089

Division Administration Environmental Activi

Mr. J. B. Medved, P. E.
Central Foundry Div., GMC
77 West Center Street
Saginaw, MI 48605
Office Phone: 517-766-3387
Centrex Phone: 8-386- 3376
Home Phone: 313-793-2464

State Agency

Indiana Stream Pollution Control Board
1330 West Michigan Street
Indianapolis, IN 46206
Phone: 317-633-0713
(Mr. Joe Stallsmith)

Local Sanitarian

Health Department Court House
Mr. Paul McBride
Phone: 275-3234

2.5.4 External Notification

2.5.4.1 An outside call regarding a spill can come from any source to any receiver, and may ha nothing to do with the plant. It is important that the proper information be obtained from the caller, so the proper action can be initiated. When such a notification is received, request the following:

2.5.4.1.1 Where is the spill?

2.5.4.1.2 Can you identify the material? What does it look like?

2.5.4.1.3 When did you observe it?

2.5.4.1.4 Will you identify yourself, (nam and address) so that we can repc on results of our investigation?

2.5.4.1.5 Can we contact you for further assistance if we cannot locate the spill?

2.5.4.2 The person taking spill information from outside the plant will follow the "Internal Notification" procedure.

2.5.5 Spill Confinement

2.5.5.1 In the event the spill cannot be contained within the confines of our plant boundaries we must take immediate action to procure al necessary materials and equipment to confine and clean up the spill. It remains our reponsibility until properly disposed of.

*2.5.6 Manpower Assignments

2.5.6.1 The person designated to be responsible for spill cleanup is Mr. Joseph Choate, Maintenance Superintendent.

Phone Extension: 7328
Home Phone:
Home Address:

*2.5.6.1.1 Mr. Choate will designate alternates in the event of his absence.

Mr. Choate's first alternate is:

Jim Burch
West Rocky Creek, Bedford
PHONE: 812-275-2639

*2.5.6.1.2 Mr. Burch is responsible for:
Dispatching cleanup crews
Coordinating cleanup
Mr. Butler is responsbile for:
Notifying in-plant management
Notifying proper regulatory agencies
Notifying proper corporate offices

2.5.6.2 The Maintenance Department will supply necessary manpower for spill cleanup.

2.5.6.3 The following spill control and cleanup equipment is available at the plant:

2.5.6.3.1 Sump pumps are installed at the fuel oil storage tank and in the die cast tunnel system.

*2.5.6.3.2 A mobile 300 gallon fluid collec system and a caterpillar trac with a backhoe are parked at the Maintenance Area.

2.5.6.3.3 Oil absorption material is available from a storage crib which is located in the southwest section of the large manufacturing building.

2.5.6.4 Cleanup contractors available:

*2.5.6.4.1 McIntyre Brothers Const.
1020 7th St., Bedford, IN
Phone: 279-9637

2.5.6.4.2 Stone City Construction Company
910 R Street, Bedford, IN
Phone: 275-7541

*2.5.6.4.3 Cunningham Construction Company
1000 Lincoln Ave., Bedford, IN
Phone: 275-4469

2.5.7 Written Report

2.5.7.1 A spill designated as harmful quantities of mineral oil will require a written report, giving detailed information of the causes of the spill. The report must be sumbitted to the E.P.A. within 60 days of a spill; prior to the E.P.A. report submitting. G.M. Envir Activities Staff and Legal Department shall review the report within 30 days of a spill.

2.5.7.2 Any spill that violates the Plant NPDES Permit Limitations will require a submissior of a detailed written report with the E.P.A. Regional Administrator and the State of Indiana within five (5) days after becoming aware of such condition. See plant NPDES permit for reporting requirements. Divisior Works Engineer and GM legal Department must approve all written reports before submittal

*2.5.7.3 Activation of the RCRA Contingency Plan requires a wr. report. See amendment to this procedure.

2.5.8 Spill Cleanup Procedures:

2.5.8.1 Training program is continuous for Maintenar Water Treatment, and Power House personnel.

2.5.8.2 Off hour spill detection and notification is accomplished with standby Maintenance personnel and by Plant Protection.

2.5.8.3 Procedures and developments will be reviewed in departmental meetings as required.

3.0 HISTORY OF OIL SPILLS

3.1 Spills occuring since June 10, 1973; November 12, 1976 - black material discharged at 002.
February 22, 1977, approximately 5 gallons of used flushing spilled at west side of plant.
November 18, 1977, a non-compliance with NPDES permit repor was filed as a result for excessive suspended soilids and grease and oils in 001 and 002 outfalls.

3.2 Description of Incident

3.2.1 On 11-12-76 black material was observed flowing fro 002 outfall, this condition lasted approximately one half hour. Tests indicated this material conta ± 160 PPM PCB's. No source of contamination was found. Removing settling lagoon connection to the sewers, and by passing areas that once contained lagoons.

3.2.2 On 2-22-77, approximately five gallons of used hydraulic flushing fluid siphoned from it's storage tank and reached a storm drain discharging into a ditch west of CFD property. The siphoned flow was stopped and the fluid dammed with sand, then cleaned up and disposed of. The ditch was dredged and dredged material disposed of. The storm drain sewer were abandoned and plugged. The storage tank was moved to a diked area.

3.2.3 On 11-18-77, a non-compliance with NPDES permit report was filed. Test results at 001 and 002 o indicated suspended solids and grease and oils content exceeded allowable limits. Reasons were excessive influent flow of water to the treatment plant resulting from a break in an underground city water line and a reservoir level control malfunctio Both faults were corrected and effluent water quali returned to allowable quality.

3.3 Spill Potential

3.3.1 Fuel oil distribution equipment failure would result in less than 100 gallons spillage. This spill would follow the paths previously described.

3.3.2 Fuel o il tank rupture would spill 200,000 gallons maximum and would be contained within a concrete dike area.

3.4 Containment Facilities Planned

3.4.1 No additional containment facilities are planned at this time.

3.5 Bulk Loading and Unloading Procedures

3.5.1 Bulk oil loading and unloading procedures are given in the operating procedures.

3.6 This procedure is to be updated and/or revised at least once every three years.

IND006036099

ATTACHMENT IV

INSPECTION PLAN

STANDARD PROCEDURE

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) INSPECTION SCHEDULE

Date Issued
Date Revised
Date Revised
Date Revised
Page 1 of 2

GENERAL MOTORS
PLANT
INDIANA

PURPOSE:

This inspection is being done to comply with requirements of Federal Regulation 40 CFR265-15 and 40 CFR264-15.

SCOPE:

Drum storage area for plant wastes listed per RCRA requirements.

RESPONSIBILITY:

Material Control.

PROCEDURE:

1.0 Area/facilities to be inspected.

1.1 Drum storage north of Semi-Permanent Mold building for storage of sodium hydroxide and agitene sludges.

2.0 Inspection frequency.

2.1 Storage area - weekly.

2.2 Loading/unloading - daily.

3.0 Problems to look for.

3.1 Drums stored/stacked improperly.

3.2 Drums improperly labeled.

3.3 Drums deteriorated or leaking.

3.4 Drums open.

3.5 Drums missing or added without documentation.

4.0 Corresponding corrective action for problems under 3.0 above.

4.1 Restack or relocate drums.

4.2 Affix proper label.

4.3 Transfer contents into another container, clean up spill, put spilled material and clean up material into approved container. Dispose of defective drum in approved disposal facility.

4.4 Affix lid or replace bungs.

4.5 Note drum count, verify count and investigate differences.

5.0 Records.

5.1 Record inspection on log sheet, form 533-23A.

5.3 Keep log sheets on file in Material Control Department at least three (3) years.

PREPARED BY:

G. R. Ohl 5-17-81
G. R. Ohl Date
Environmental Coordinator

APPROVED BY:

R G Simmerman 5/28/81
R. G. Simmerman Date
General Supervisor
Material Control

A. L. Snook 5/25/81
A. L. Snook Date
Superintendent
Industrial Engineering

		DAILY INSPECTIONS			WEEKLY INSPECTIONS								
PECTION E & TIME	NAME OF INSPECTOR	COUNT NO. OF DRUMS	STORAGE PROPER? YES	STORAGE PROPER? NO	DRUMS OPEN? YES	DRUMS OPEN? NO	DRUM CONDITION OK	DRUM CONDITION NO	DRUMS LEAKING? YES	DRUMS LEAKING? NO	LABELS OK? YES	LABELS OK? NO	NATURE OF REPAIRS OR OTHER REMEDIAL ACTION	DA REM

IND006036099

ATTACHMENT V

CLOSURE PLAN

GENERAL MOTORS CORPORATION

CENTRAL FOUNDRY DIVISION

BEDFORD PLANT

CLOSURE PLAN FOR RCRA HAZARDOUS WASTE DRUM STORAGE AREA

I. Introduction

Under the U.S. EPA regulations, 40 CFR Part 265, Subpart G, Sections 265.110 thru 265-120 each facility which stores, treats, or disposes of hazardous wastes must have a Closure Plan on file. This Closure Plan has been prepared to cover the following facility:

1. EPA I.D. Number - IND006036099

2. Owner's Name: General Motors Corporation
   Central Foundry Division
   Bedford Plant
   North Jackson Street
   Bedford, IN 47421

3. This plan has been prepared by: Glen R. Ohl
   Environmental Coordinator
   Date - July 15, 1982

4. The attached chart shows the drum storage area for storage of hazardous wastes.

II. Maximum Waste Inventory

The following table shows the maximum quantity of wastes on hand at any one time:

Sodium Hydroxide Sludge	50 drums
Agitene Sludge	50 drums

III. Schedule for Closing

This facility does not have a definite closure date. The following schedule is open-ended. It lists the timetable for closure in terms of elapsed time subsequent to the time that EPA, or an EPA authorized state agency, has approved this Closure Plan. This Closure Plan must be submitted to the EPA agency for approval at least 180 days before closure is expected to start. The Plant Engineer will submit the closure plans. (See Section 265.112 (c) of the EPA regulation in 40 CFR.)

Day 1 - Plant termination of hazardous waste activity.

Day 15 - Drums of hazardous wastes prepared for shipment to disposal site.

Day 20 - Obtain necessary approvals for shipment of hazardous wastes to approved disposal site.

Day 30 - Clean concrete storage area that was used for storing wastes by sweeping. After sweeping use a detergent cleaner solution to wash the concrete area. The area will then be rinsed with clean water.

Day 32 - Examine trench around hazardous waste storage area. Any hazardous waste residue will be removed and packaged in DOT approved drums for shipment to approved disposal area.

Day 35 - Ship hazardous wastes sludges in approved containers to disposal site.

Day 40 - Use plant power vacuum scrubber to wash and rinse vacated drum storage area for hazardous wastes. Wash liquid shall be discharged to the plant wastewater treatment facilities.

Day 45 - Closure should be complete.

Day 50 - Certification of closure by independent registered professional engineer.

IV. Decontamination of Facility

1. All hazardous waste sodium hydroxide and agitene sludges will be placed in approved DOT drums and marked for shipment to an approved chemical waste landfill.

2. Storage Area: The storage area will be sweep clean. The area will then be scrubbed with a mild detergent with the plant power scrubber. The area will be rinsed with clean water. These cleaning liquids will be collected by the plant vacuum pickup truck and treated via the plant wastewater treatment facilities. The concrete trench around the concrete storage area will be cleaned and any hazardous waste residue will be placed in an approved DOT drum and disposed of in an approved chemical waste landfill as specified by the plant environmental coordinator. Potential firms are:

Cecos	- Williamsburg, Ohio
Adams Center	- Ft. Wayne, Indiana

3. Testing: To verify the completeness of the decontamination process, the ph of the rinse water solutions will be measured by the Plant Water Treatment Department. The Plant Environmental Coordinator will inspect the cleaned area to confirm that all hazardous waste has been removed.

V. Cost Estimates for Closure (to be updated annually on July 1)

Prepared by: G. R. Ohl, Senior Engineer

Approved by: Gary C. Southern
Resident Comptroller

Area	Total Cost
Sodium Hydroxide Sludge	$ 3,000
Agitene Sludge	1,000
Drum Storage	7,200
Inspection, Approval, Testing and Report	3,000
TOTAL	$14,200

IND006036099

ATTACHMENT VI

TRAINING PLAN

"The content of your personnel training program should be presented."

As described in the GMC, Central Foundry Division-Bedford Plant RCRA Part B, Permit Application, Section 2, "Outline of Personnel Training", pages 46 and 47. The facility training program consists of job and safety procedures which explain to the employe the procedures and steps to be followed while performing his or her job. Attached are two procedures which establish those requirements for the handling, storage and disposal of the two hazardous wastes at this facility. These procedures are reviewed with the employe twice a year and for new or transferred employes on the first three consecutive days of employment in that area.

"Training for emergency response."

Members of the plant's fire brigade undergo classroom and hands-on training. Classroom training consists of slides, films, and discussion. In the field, members are exposed to various types of fires to extinguish.

Members of the brigade undergo training on a monthly schedule.

"Provisions for implementing the training program."

The Bedford Plant has developed job safety and operating procedures for various classifications of employment throughout the plant. These procedures are reviewed with appropriate employes twice a year. These procedures are also reviewed with all new employes that are assigned to the job classifications on the first three consecutive days of their employment.

Outline of Personnel Training (40 CFR 122.25(a)(12))

The personnel training program for this plant is incorporated in the overall plant program for the training of all employes to perform their assignments in a safe manner and in accordance with all plant policies, regulations and procedures.

The Plant Departments are responsible for preparing the job procedures and insuring that their employes are trained properly to perform their job assignments. Technical advice is furnished to the operating departments by the Plant Environmental Coordinator, Environmental Engineer, Safety Director and other specialists, as required. The Environmental Coordinator directs the training program on Hazardous Wastes Management in accordance with plant procedures. The Environmental Coordinator and the Environmental Engineer have attended General Motors Corporation training meetings on hazardous wastes and the Environmental Coordinator obtained training at the General Motors Hazardous Waste Management Seminar.

Personal Resume

Mr. Glen R. Ohl, the Plant Environmental Coordinator. Mr. Ohl has been with the G.M. Central Foundry Division for 30 years and worked in the environmental area at the Bedford Plant for the past 10 years. He received his engineering degree from General Motors Institute in 1958.

Mr. William Schoonmaker, Environmental Plant Engineer, gives technical advice and recommendations on the Hazardous Waste Management Program to plant personnel. Mr. Schoonmaker has a degree in chemical engineering and is a Registered Professional Engineer. He has been employed by the Bedford Plant the past 4 years working on engineering projects in the environmental areas. Mr. Schoonmaker was previously employed by the Indiana State Board of Health.

The General Motors Corporate Environmental Activities Staff issues information bulletins concerning all environmental areas including Hazardous Waste Management to plants in the Corporation. This information is reviewed by the Plant Engineer and Environmental Coordinator and if applicable reviewed with personnel that handle hazardous waste and incorporate any new requirements into job procedures.

The job and safety procedures explain to the employe the procedures and steps to be followed while performing his or her job. Attention is given to the proper wearing of personal protective equipment, correct use of tools, clean up of spills, emergency procedures, and emergency equipment. Particular emphasis is placed on the job training to be sure the employes understand their job responsibilities and demonstrate the ability to perform their job assignments in a satis-

factory manner. The date of the employes training and job procedure instructions are recorded and filed in the Personnel Department. All employes have their job procedures and duties explained to them on the first 3 consecutive days of employment and every 6 months thereafter. Employes that are transferred to new job assignments receive job training before they are allowed to work alone without immediate supervision.

The plant SPCC plan provides detailed instructions and information on the Bedford Plant's emergency procedures for responding to emergencies.

The plant has the following support groups available to respond to any hazardous waste problem or emergencies:

1. Fire brigade consisting of trained personnel under the direction of Plant Security and the Chief of Security.

2. Complete medical department staffed with nurses 24 hours per day, a plant doctor, and a plant Safety Director.

3. Plant Security force that patrols the plant property and controls access to the property. A two-way radio system is provided for immediate communication in case of emergencies.

All employes are required to review job and safety procedures semi-annually. Records documenting these reviews, employes names, job classification are filed in the Personnel Department.

"Job titles, duties, and names of each employe receiving training."

The following is a list of persons who are directly or indirectly involved with hazardous waste management and or activities at the Bedford Plant.

Environmental Coordinator - Glen Ohl

Supervisor of the plant's environmental engineers and is responsible for the plant's environmental activities.

Environmental Engineer - Wm. Schoonmaker, P.E.

Responsibilities include providing technical advice, assistances, and recommendations on environmental activities and projects.

Material Control General Supervisor - Ronald Simmerman

Supervisor of the plants material control department. Responsibilities include the transferring and handling of materials throughout the plant. The material control department is directly responsible for the hazardous

Material Control Supervisor - Roger Porter

Supervisor of the hourly workers in the material control department. This position has the responsibilities of the truck drivers and material handlers. Duties also include maintaining, inspecting and shipping of hazardous waste.

Material Control Truck Drivers - Bill Mapes
- Paul Porter
- Paul Phipps

Duties include moving materials throughout the plant as required. Truck drivers are responsible for placing hazardous waste into the hazardous waste designated storage area.

Material Control Material Handler - Jim Langley

Responsibilities include making inspections of the storage and handling of waste materials.

Maintenance General Supervisor - Jim Burch

Supervisor of maintenance supervisors. This position is responsible to respond and supervise any emergency spill cleanup in accordance with the SPCC-Plan.

Maintenance Machine Repairman - Bob Owens
Fred Pritchett

These men in their job duties use agitene fluid. This position requires the draining of agitene tanks periodically into drums, which are labeled and sent to the hazardous waste storage area.

Production Supervisor - Sheila Scherschel

Supervisor of the production floor and is responsible for production workers. This position is responsible to insure that job duties are conducted in accordance with job and safety procedures.

Kolene Operator - Lee Ray

Duties of the position include the placing of waste sludge into drums. It is the responsibility of the operator to seal and label the drums of hazardous waste.

- 1A

/ISION OF GENERAL MOTORS
)FORD PLANT
)FORD, INDIANA

STANDARD PROCEDURE

DISPOSAL OF USED AGITENE AND USED AGITENE SLUDGE

Proc. No. S534-42
Date Issued 12-14-82
Date Revised 11-10-82
Date Revised
Date Revised

Mag card

PURPOSE:

Provide a procedure for the storage, handling and disposal of spent agitene.

SCOPE:

This procedure covers all Maintenance work area agitene tanks located in the following areas:

1. Garage
2. Motor Shop
3. Cylinder and Pump Rebuild Area (2 Tanks)
4. Spindle Room
5. M/R Manifold Shop
6. M/W Hill Area
7. M/R Shop Located in Tool Room
8. Piston N/W Area
9. Power House

RESPONSIBILITY:

Maintenance Department.

PROCEDURE:

1.0 All spent agitene is to be drained from the tank and placed in an approved DOT 55 gallon drum.

1.1 The following drums are non-returnable and should be used:

1.1.1 Agitene
1.1.2 Kemseal B - Detrex
1.1.3 Foamaster - Diamond Shamrock
1.1.4 Surfacant Rinse - Houghton
1.1.5 Lacquer Thinner

2.0 It is the responsibility of the individual draining the tank to see that the barrel is properly sealed before transporting.

3.0 The individual responsible for draining out and cleaning the tank will make sure that the barrel is properly labeled.

3.1 Labels (see attached example) will be kept at the Maintenance SCALE office.

ISION OF GENERAL MOTORS
DFORD PLANT
DFORD, INDIANA

STANDARD PROCEDURE

DISPOSAL OF USED AGITENE AND USED AGITENE SLUDGE

Proc. No. S534-42
Date Issued 12-14-82
Date Revised 11-10-82
Date Revised
Date Revised

3.2 All pertinent information must be recorded on the label.

3.3 Labels (hazardous waste liquid) must also be attached per example 2.

4.0 Barrel will then be transported by truck to the "Maintenance Waste Material" storage area.

4.1 No more than four (4) barrels of spent agitene are to be stored in this area at one time.

4.2 Only one type of fluid in any one barrel.

4.3 Barrels placed in Maintenance Waste Oil Area must be on skids.

5.0 It is the responsibility of the Material Control Department to transport waste fluid from Maintenance Waste Area to the Hazardous Waste Storage Area.

5.1 Do not take any fluid to the Oil House Area without notifying Material Control General Supervisor.

5.2 The Material Control truck driver must be familiar with "Oil Spill Prevention and Counter Measure Plan" (SPCC).

5.3 "NO SMOKING" or open flames in Hazardous Waste Storage area, or while transporting material.

5.4 In the event of an accidental spill, the truck driver must take the following steps:

5.4.1 Contain the spill with oil dri, sand or other absorbant material. This material must then be picked up and put in a drum and stored in the Hazardous Material Storage Area.

5.4.2 Safety equipment and spill clean up equipment are available in plant crib.

5.4.3 Notify supervisor as soon as practical of the spill, action taken, and results.

Revised by:
RG Zimmerman 11/10/82
Date

Approved by:
[signature] 11-17-82
Environmental Coordinator Date

Approved by:
[signature] 11/18/82
Supt., Maintenance Date

RG Zimmerman 11/15/82
Gen. Supv., Mat'l Control Date

W.A. Connell WAC 11/18/82
Safety Supervisor Date

SK Indicates Revised Portion

ISION OF GENERAL MOTORS
)FORD PLANT
)FORD, INDIANA

STANDARD PROCEDURE

STORAGE, HANDLING AND DISPOSAL OF SODIUM HYDROXIDE ~~SLUDGE~~ (KOLENE)

Proc. No. 5533-17
Date Issued 12-1-78
Date Revised 11-10-82
Date Revised
Date Revised
Page 1 of 2

Mag cards

PURPOSE:

Sodium hydroxide waste is a hazardous material and therefore must be subject to control procedures. This procedure identifies the method for proper storage, handling, and disposal of sodium hydroxide sludge.

SCOPE:

This procedure applies to the storage, handling, and disposal of sodium hydroxide sludge which result from any operation at the Bedford plant.

RESPONSIBILITY:

Material Control - 5533
Permanent Mold - 5400
Purchasing

PROCEDURE:

1.0 Drums of sodium hydroxide sludge must be closed before transporting.

2.0 The source department must label each barrel with following information:

2.1 The type of material - "Sodium Hydroxide Sludge" or "Kolene Salts", etc.

2.2 The department which produced the sludge.

2.3 The date and shift the sludge started accumulating in the department.

2.4 The ORM-E hazardous waste label properly completed (see Fig. 1).

3.0 The barrels of sludge must be loaded two per pallet and hauled by the production department to a designated area in the Permanent Mold Department.

4.0 The Material Control Department will transfer the material from the Permanent Mold Department to the hazardous material waste storage area.

4.1 At no time are containers of sodium hydroxide sludge to be dumped into unlabeled containers for storage or disposal.

CONTROLLED DOCUMENT

ISION OF GENERAL MOTORS
)FORD PLANT
)FORD, INDIANA

STANDARD PROCEDURE

STORAGE, HANDLING AND DISPOSAL OF SODIUM HYDROXIDE SLUDGE (KOLENE)

Proc. No. 5533-17
Date Issued 12-1-78
Date Revised 11-10-82
Date Revised
Date Revised

5.0 When sufficient numbers of barrels have been accumulated, the Material Control Department will request that purchasing obtain the services of a carrier who is licensed to transport this hazardous material to an approved disposal site. This waste must be hauled in accordance with Regulation State 330IAC 4-10 federal RCRA regulations.

6.0 The shipment of this material must be in compliance with material Control procedure 5533-14 which includes requirements of the Hazardous Materials Shipping Act and CFR Title 49.

7.0 In the event of an accidental spill, the following action must be taken:

7.1 Contain the spill.

7.2 Personal protective equipment, including rubber gloves and face mask are required.

7.3 Place material back into an approved container and place in hazardous waste area.

7.4 Notify supervisor as soon as practical of the spill, action taken, and results.

Revised by:

RG Semmerman 11/10/82
Date

Approved by:

[signature] 11/18/82
Supt., Perm. Mold Dept. Date

[signature] 11-16-82
Environmental Coordinator Date

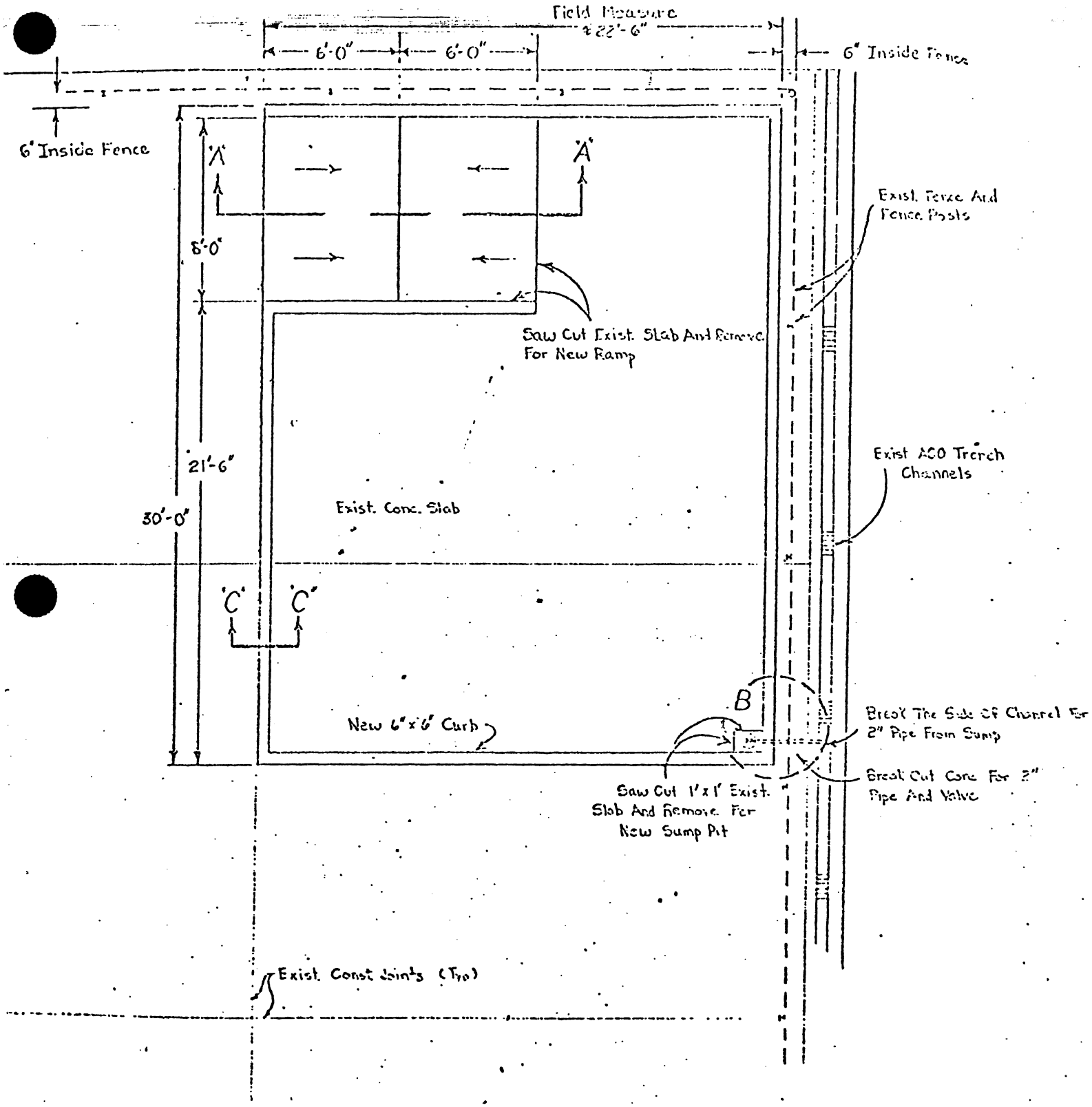
W.A. Connell [illegible] 11/18/82
Safety Supervisor Date

RG Semmerman 11/15/82
Gen. Supv., Material Ctrl. Date

*Indicates Revised Portion

ATTACHMENT VII

CONTAINMENT SYSTEM PLAN



PLAN VIEW - HAZARDOUS WASTE STORAGE CONTAINMENT

(Scale 1/4" = 1'-0")

HAZARDOUS WASTE
AREA
FLAMMABLE
MATERIAL
STORED IN THIS AREA
AUTHORIZED
PERSONNEL
ONLY

APPENDIX G.11

ISBH LETTER DATED FEBRUARY 21, 1984

STATE OF INDIANA

ENVIRONMENTAL MANAGEMENT BOARD

INDIANAPOLIS 46206-1964

1330 West Michigan Street
P. O. Box 1964

February 21, 1984

VIA CERTIFIED MAIL

Mr. Glen Ohl
GMC Central Foundry
P.O. Box 271
Bedford, IN 47421

Dear Mr. Ohl:

Re: GMC Central Foundry
Bedford Plant
Bedford, Indiana
IND 006036099

Please find enclosed a copy of the Indiana Hazardous Waste Management Permit for your hazardous waste storage facility at the above-referenced location.

If you find the terms and conditions of this permit are objectionable, you may petition for a hearing before the Environmental Management Board within 15 days after the date of receipt of this permit in accordance with IC 13-7-10-4(a).

If you have any questions regarding this matter, please contact Mr. Bruce Palin of the Division of Land Pollution Control at AC 317/633-0203.

Very truly yours,

Ralph C. Pickard
Technical Secretary

BHP/tr
Enclosure
cc: Mr. Rich Shandross, U.S. EPA
Lawrence County Health Department

INDIANA ENVIRONMENTAL MANAGEMENT BOARD
HAZARDOUS WASTE MANAGEMENT (HWM) PERMIT

EPA Identification No.:	IND 006036099
Name of Permittee:	GMC Central Foundry Bedford Plant P.O. Box 271 Bedford, IN 47421
Facility Location:	North Jackson Street Bedford, Indiana
Latitude:	38° 52' 43" N
Longitude:	86° 29' 04" W

In accordance with the provisions of the Indiana Environmental Management Act (IC 13-7, as amended, hereinafter referred to as "the Act"), you are authorized by the Indiana Environmental Management Board (hereinafter referred to as the "Board") to conduct the hazardous waste management activity of container storage at the listed facility location in accordance with the applicable provisions of 320 IAC 4 and with the provisions and conditions attached to this permit. Federal Register (40 CFR) requirements, equivalent to State regulation citations, are in parentheses throughout the permit.

320 IAC 4-3 (Part 261)
320 IAC 4-4 (Part 262)
320 IAC 4-6 (Part 265, Subparts A-E & I)
320 IAC 4-7 (Part 265, Subparts G & H)

This permit is based on the assumption that the information submitted in the permit application dated August 16, 1982 as modified by subsequent amendments dated November 15, 1982, March 10, 1983, and November 30, 1983 (hereafter referred to as the application), is accurate and that the facility is constructed and will be operated as specified in the application. Any inaccuracies found in this information may be grounds for the termination or modification of this permit (see IC 13-7-10-5(a)) and potential enforcement action. The Permittee must inform the Board of any deviation from or changes in the information in the application which would affect the permittee's ability to comply with the applicable regulations or permit conditions.

This permit is effective as of the date of signature and shall remain in effect until March 1, 1989, unless revoked and reissued, or terminated or continued in accordance with IC 13-7-10-2(f).

For the Indiana Environmental Management Board

Ralph C. Pickard

Ralph C. Pickard, Technical Secretary

Date: February 20, 1984

I - STANDARD CONDITIONS

A. EFFECT OF PERMIT

The Permittee is allowed to store hazardous waste in accordance with the conditions of this permit. Any storage of hazardous waste not authorized in this permit is prohibited. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Section 3013 or Section 7003 of RCRA, Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9606(a), commonly known as CERCLA), or any other law providing for protection of public health or the environment.

B. PERMIT ACTIONS

This permit may be modified, revoked, and reissued, or terminated for cause as specified in 320 IAC 4-8-5. The filing of a request for a permit modification, revocation, and reissuance, or termination or the notification of planned changes or anticipated noncompliance on the part of the permittee does not stay the applicability or enforceability of any permit condition.

C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

D. DUTIES AND REQUIREMENTS

1. Duty to Comply. The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit issued pursuant to 40 CFR 270.61(a). Any permit noncompliance, other than noncompliance authorized by an emergency permit, constitutes a violation of RCRA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

2. Duty to Reapply. If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee shall submit a complete application for a new permit at least 120 days before this permit expires.

3. Permit Expiration. This permit and all conditions herein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application (see IC 13-7-10-2(f)) and through no fault of the Permittee, the Board has not issued a new permit.

4. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. Duty to Mitigate. The Permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

6. Proper Operation and Maintenance. The Permittee shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facility or similar systems only when necessary to achieve compliance with the conditions of the permit.

7. Duty to Provide Information. The Permittee shall furnish to the Board, within a reasonable time, any relevant information which the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Board, upon request, copies of records required to be kept by this permit.

8. Inspection and Entry. The Permittee shall allow the Board, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

   a. Enter at reasonable times upon the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;

   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

   c. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by 320 IAC 4, any substances or parameters at any location.

9. Monitoring and Records.

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of 40 CFR Part 261. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846, July 1982, or an equivalent method as specified in the Waste Analysis Plan.

b. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least three years from the date of the sample, measurement, report, or record. These periods may be extended by request of the Board at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

c. Records of monitoring information shall specify:

i. The dates, exact place, and times of sampling or measurements;

ii. The individuals who performed the sampling or measurements;

iii. The dates analyses were performed;

iv. The individuals who performed the analyses;

v. The analytical techniques or methods used; and

vi. The results of such analyses.

10. Reporting Planned Changes. The Permittee shall give notice to the Board as soon as possible of any planned physical alterations or additions to the permitted facility.

11. Anticipated Noncompliance. The Permittee shall give advance notice to the Board of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Such notification does not waive Permitte's duty to comply as set out in I.D.1.

12. Transfer of Permits. This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to 320 IAC 4-9-6. Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator, in writing, of the requirements of 320 IAC 4 and all applicable Federal requirements.

13. Twenty-four Hour Reporting. The Permittee shall report to the Board any noncompliance with the permit which may endanger health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:

    a. Information concerning the release of any hazardous waste which may endanger public drinking water supplies.

    b. Information concerning the release or discharge of any hazardous waste, or of a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

        i. Name, address, and telephone number of the owner or operator;

        ii. Name, address, and telephone number of the facility;

        iii. Date, time, and type of incident;

        iv. Name and quantity of materials involved;

        v. The extent of injuries, if any;

        vi. An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and

        vii. Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Permittee need

not comply with the five-day written notice requirement if the Board waives the requirement and the Permittee submits a written report within 15 days of the time the Permittee becomes aware of the circumstances.

14. Other Noncompliance. The Permittee shall report all other instances of noncompliance not otherwise required to be reported above, at the time monitoring reports, as required by this permit, are submitted. The reports shall contain the information listed in condition D.13.

15. Other Information. Whenever the Permittee becomes aware that he failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Board, the Permittee shall promptly submit such facts or information.

E. SIGNATORY REQUIREMENT

All reports or other information requested by the Board shall be signed by a responsible corporate officer or principal executive officer of at least the level of vice-president and certified.

F. CONFIDENTIAL INFORMATION

The Permittee may claim confidential any information required to be submitted by this permit in accordance with 320 IAC 4-11-3.

G. DOCUMENTS TO BE MAINTAINED AT FACILITY SITE

The Permittee shall maintain at the facility, until closure is completed and certified by an independent registered professional engineer, the following documents and amendments, revisions, and modifications to these documents:

1. Waste analysis plan as required by 320 IAC 4-6-1 (265.13) and this permit.

2. Personnel training documents and records as required by 320 IAC 4-6-1 (265.16(d)) and this permit.

3. Contingency plan as required by 320 IAC 4-6-1 (265.53(a)) and this permit.

4. Closure plan as required by 320 IAC 4-6-1 (265.112(a)) and this permit.

5. Cost estimate for facility closure as required by 320 IAC 4-6-1 (265.142(d)) and this permit.

6. Operating record as required by 320 IAC 4-6-1 (265.73) and this permit.

7. Inspection schedules as required by 320 IAC 4-6-1 (265.15(b)) and this permit.

II - GENERAL FACILITY CONDITIONS

A. AUTHORIZED WASTE

The Permittee is authorized to store up to 5,500 gallons of the following hazardous waste(s) or categories of hazardous waste in containers and in accordance with the conditions specified in this permit:

1. Agitene waste fluid which is a non-chlorinated petroleum cleaning solvent, U.S. EPA Waste Code #D001.

2. Kolene sludge which is solidified sodium hydroxide waste, U.S. EPA Waste Code #D002

B. DESIGN AND OPERATION OF FACILITY

The Permittee shall maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

C. GENERAL WASTE ANALYSIS

The Permittee shall follow the procedures described in the waste analysis plan required by 320 IAC 4-6-1 (265.13).

The Permittee shall verify its waste analysis as part of the quality assurance program. The quality assurance program will be in accordance with current U.S. EPA practices (Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846, July 1982) and at a minimum insure that the Permittee maintains proper functional instruments, uses approved sampling and analytical methods, assures the validity of sampling and analytical procedures, and performs correct calculations.

D. SECURITY

The Permittee shall comply with the security provisions of 320 IAC 4-6-1 (265.14(b)(2) and (c)).

The Permittee shall maintain and operate the following:

1. A 24 hour surveillance system by guards which control entry onto the active facility portion; and

2. A fence which completely surrounds the active facility portion.

E. GENERAL INSPECTION REQUIREMENTS

The Permittee shall follow the inspection schedule, required by 320 IAC 4-6-1 (265.15). The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by 320 IAC 4-6-1 (265.15(c)). Records of inspections shall be kept as required by 320 IAC 4-6-1 (265.15(d)).

F. PERSONNEL TRAINING

The Permittee shall conduct personnel training as required by 320 IAC 4-6-1 (265.16). The Permittee shall maintain training documents and records as required by 320 IAC 4-6-1 (265.16(d) and (e)).

G. GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE

The Permittee shall comply with the requirements of 320 IAC 4-6-1 (265.17(a)).

H. PREPAREDNESS AND PREVENTION

1. Required Equipment. At a minimum, the Permittee shall equip the facility with the equipment set forth in the contingency plan, as required by 320 IAC 4-6-1 (265.32).

2. Testing and Maintenance of Equipment. The Permittee shall test and maintain the equipment specified in the previous permit condition as necessary to assure its proper operation in time of emergency.

3. Access to Communications or Alarm System. The Permittee shall maintain access to the communications or alarm systems as required by 320 IAC 4-6-1 (265.34).

4. Required Aisle Space. At a minimum, the Permittee shall maintain aisle space as required by 320 IAC 4-6-1 (265.35).

5. Arrangements With Local Authorities. The Permittee shall attempt to make arrangements with State and local authorities as required by 320 IAC 4-6-1 (265.37). Due to the nature and quantity of your waste, a copy of the contingency plan sent certified mail to the appropriate State and local authorities will satisfy this condition.

I. CONTINGENCY PLAN

1. Implementation of Plan. The Permittee shall immediately carry out the provisions of the contingency plan, and follow the emergency procedures described by 320 IAC 4-6-1 (265.56)

whenever there is a fire, explosion, or release of hazardous waste or constituents which threatens or could threaten human health or the environment.

2. Copies of Plan. The Permittee shall comply with the requirements of 320 IAC 4-6-1 (265.53).

3. Amendments to Plan. The Permittee shall review and immediately amend, if necessary, the contingency plan, as required by 320 IAC 4-6-1 (265.54).

4. Emergency Coordinator. The Permittee shall comply with the requirements of 320 IAC 4-6-1 (265.55), concerning the emergency coordinator.

J. RECORDKEEPING AND REPORTING

1. Operating Record. The Permittee shall maintain a written operating record at the facility in accordance with 320 IAC 4-6-1 (265.73(a), (b)(1), (2), (3), (4), (5), (6), and (8)).

2. Annual Report. The Permittee shall comply with the annual report requirements of 320 IAC 4-6-1.

K. CLOSURE

1. Performance Standard. The Permittee shall close the facility as required by 320 IAC 4-7-1 (265.111) and in accordance with the closure plan, required by 320 IAC 4-7-1 (265.112).

2. Amendment to Closure Plan. The Permittee shall amend the closure plan in accordance with 320 IAC 4-7-1 (265.112(b)) whenever necessary.

3. Notification of Closure. The Permittee shall notify the Board at least 180 days prior to the date he expects to begin closure.

4. Time Allowed for Closure. After receiving the final volume of hazardous waste, the Permittee shall treat or remove from the site all hazardous waste in accordance with the schedule specified in the closure plan. After receiving the final volume of hazardous waste, the Permittee shall complete closure activities in accordance with the schedule specified in the closure plan.

5. Disposal or Decontamination of Equipment. The Permittee shall decontaminate and/or dispose of all facility equipment as required by 320 IAC 4-7-1 (265.114) and the closure plan.

6. Certification of Closure. The Permittee shall certify that the facility has been closed in accordance with the specifications in the closure plan as required by 320 IAC 4-7-1 (265.115).

L. COST ESTIMATE FOR FACILITY CLOSURE

1. The Permittee must adjust the closure cost estimate for inflation within 30 days after each anniversary of the date on which the first closure cost estimate was prepared, as required by 320 IAC 4-7-5(b) (265.142(b)).

2. The Permittee must revise the closure cost estimate whenever there is a change in the facility's closure plan as required by 320 IAC 4-7-5(c) (265.142(c)).

3. The Permittee must keep at the facility the latest closure cost estimate as required by 320 IAC 4-7-5(d) (265.142(d)).

M. FINANCIAL ASSURANCE FOR FACILITY CLOSURE

The Permittee shall demonstrate continuous compliance with 320 IAC 4-7-6 (265.143) by providing documentation of financial assurance, as required by 320 IAC 4-7-28 (264.151), in at least the amount of the cost estimates required by permit condition II.K. Changes in financial assurance mechanisms must be approved by the Board pursuant to 320 IAC 4-7 (265.143).

N. LIABILITY REQUIREMENTS

The Permittee shall demonstrate continuous compliance with the requirements of 320 IAC 4-7-26 (264.147) and the documentation requirements of 320 IAC 4-7-28 (264.151), including the requirements to have and maintain liability coverage for sudden and accidental occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs.

O. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS

The Permittee shall comply with 320 IAC 4-7-27 (265.148) whenever necessary.

III STORAGE IN CONTAINERS

A. WASTE IDENTIFICATION

The Permittee may not store more than a total of 100 55-gallon drums of the wastes listed in II A. All storage must occur within the areas designated for storage in the permit application.

B. CONDITION OF CONTAINERS

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this permit.

C. COMPATIBILITY OF WASTE WITH CONTAINERS

The Permittee shall assure that the ability of the container to contain the waste is not impaired as required by 320 IAC 4-6-1 (265.172).

D. MANAGEMENT OF CONTAINERS

The Permittee shall manage containers as required by 320 IAC 4-6-1 (265.173).

E. INSPECTION

The Permittee shall inspect areas where containers are stored as required by 320 IAC 4-6-1 (265.174).

F. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTE

The Permittee shall not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the facility's property line.

G. SPECIAL REQUIREMENTS FOR INCOMPATIBLE WASTE

1. Prior to placing incompatible wastes or incompatible wastes and materials in the same container, the Permittee shall comply with 320 IAC 4-6-1 (265.17(b)).

2. The Permittee shall not place hazardous waste in an unwashed container that previously held an incompatible waste or material.

3. The Permittee shall separate containers of incompatible wastes, as required by 320 IAC 4-6-1 (265.177(c)).

4. The Permittee must document compliance with III.G.1 and 2 as required by 320 IAC 4-6-1 (265.17(c)) and place this documentation in the operating record.

MAY 25, 2001

APPENDIX G.12

U.S.EPA PRELIMINARY SITE ASSESSMENT

BARNES & THORNBURG

1313 Merchants Bank Building
11 South Meridian Street
Indianapolis, Indiana 46204
(317) 635-1313

TWX 810-341-3427 B&T LAW IND
Telecopier (317) 231-7433

August 24, 1987

Gary P. Toth, Esquire
Senior Counsel
General Motors Corporation
Legal Staff
New Center One Building
3031 West Grand Boulevard
Post Office Box 33122
Detroit, Michigan 48232

Re: Central Foundry - Bedford; State RCRA Permit

Dear Gary:

I enclose a copy of EPA's preliminary site assessment of the GMC Central Foundry - Bedford for your review. I am including copies of five of the six referenced letters/memos:

October 22, 1979
April 8, 1981
April 13, 1981
January 25, 1984
March 28, 1984

We are still seeking the document dated April 8, 1984. I also enclose a copy of a recent article which appeared in the Bloomington, Indiana newspaper regarding cleanup of the north lagoon at the Bedford site.

Very truly yours,

Joan M. Heinz

JMH:ja
Enclosure
cc: William S. Schoonmaker

7876j

COPY

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	006036099

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
GMC Central Foundry	North Jackson St., P.O. Box 271

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Bedford	IN	47421	Lawrence	093	8

09 COORDINATES LATITUDE	LONGITUDE	
38° 52' 55"	86° 28' 55"	Bartlettsville Quadrangle 7.5 minute series (1:24,000)

10 DIRECTIONS TO SITE (Starting from nearest public road) (See map) SE¼, SE¼, SECT. 11, T5N, R1W
IN Hwy 37 south from Indianapolis to Bedford, turn left onto Gillen Post Dr. (5th St), continue east on 5th St. to "H" Street. Turn left onto "H" St. and go one block to 4th St. Turn right on 4th St., drive one block and turn left on Jackson St. The plant is less than 1/2 mile from this intersection.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)		
Central Foundry Div. GMC	N. Jackson St., P.O. Box 271		
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 TELEPHONE NUMBER**
Bedford	IN	47421	(812) 279-7302

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)		
Central Foundry, Glenn Ohl	same		
09 CITY	**10 STATE**	**11 ZIP CODE**	**12 TELEPHONE NUMBER**
same	---	-----	(812) 279-7302

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

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☒ A. RCRA 3001 DATE RECEIVED: 8/22/80 (MONTH DAY YEAR) Form 8700-12 ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: / / (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES ☐ NO DATE 1/28/85 (MONTH DAY YEAR)

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): _____

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

03 YEARS OF OPERATION
1959 (BEGINNING YEAR) | Present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Polychlorinated Biphenyls (Cas #227.1336-36-3) [Toxic, Persistent]
Phenols (Cas #212.108-95-2) [Toxic, Persistent, Ignitable]

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Groundwater (population/environment)
Surface water (population/environment)
Direct contact (population/environment)

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
Harry Atkinson	Indiana State Board of Health--LPC		(317) 243-5132
04 PERSON RESPONSIBLE FOR ASSESSMENT	**05 AGENCY**	**06 ORGANIZATION**	**07 TELEPHONE NUMBER** / **08 DATE**
Sherry Evans-Carmichael	ISBH	LPC	(317) 243-5058 / 4/30/85 (MONTH DAY YEAR)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	006036099

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

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

TONS 786

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- X A TOXIC
- B CORROSIVE
- C RADIOACTIVE
- X D PERSISTENT
- X E SOLUBLE
- F INFECTIOUS
- G FLAMMABLE
- X 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			
OLW	OILY WASTE	539	tons--PCB	contaminated oil-est.
SOL	SOLVENTS	Unknown		Aquitene waste cleaning solvent
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS	2.25	ton/yr.	Potassium Cyanide-est. (1983)
ACD	ACIDS			
BAS	BASES	4.5	ton/yr	Sodium Hydroxide-est. (1983)
MES	HEAVY METALS	240	ton/yr	Aluminum Chip Drying Waste Contaminated with lead-est. (1983)

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)

GM Letter-LPC Files
Liquid Industrial Waste Hauler Reports (Oil)--LPC Files

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	006036099

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 14,000
02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [X] ALLEGED
04 NARRATIVE DESCRIPTION

The Bedford Water Company also sells water to the North Lawrence Water Company and the East Lawrence Water Company.

01 [X] B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: unk
02 [X] OBSERVED (DATE: unk) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Table 9 - pg. 16 of the Indiana Stream Pollution Control Board 1982-83 305(b) Report.

01 [X] C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: unk
02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [X] ALLEGED
04 NARRATIVE DESCRIPTION

No data available to date.

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

Unknown

01 [X] E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [X] ALLEGED
04 NARRATIVE DESCRIPTION

No data available to date.

01 [X] F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: unk (Acres)
02 [X] OBSERVED (DATE: 4/6/81) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Memo dated April 8, 1981.

01 [X] G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 182.4
02 [ ] OBSERVED (DATE: _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Located 48 wells x 3.8 people/household - estimate.
In LPC files.

01 [X] H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: unk
02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [X] ALLEGED
04 NARRATIVE DESCRIPTION

Workers in the plant.

01 [ ] I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Unknown.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IND	006036099

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

No information at this time.

01 ☒ K. DAMAGE TO FAUNA — 02 ☒ OBSERVED (DATE: 10/26/83) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

Letter dated 3/28/84 and it has been reported that 83 dairy cattle were purchased by GM, destroyed and buried on GM property due to PCB contamination. This will be researched.

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

Letter dated 1/25/84, PCB contamination of fish and a health advisory against eating fish from Pleasant Run, Salt Creek and the East Fork of the White River. (305b Report)

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

See memo dated 4/8/81.

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

Reportedly the family that owned the 83 dairy cattle that had to be destroyed, never resumed the dairy business because the stream that crossed their property was heavily contaminated with PCBs.

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

Letter from EPA dated 10/22/79.

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☒ OBSERVED (DATE: 4/13/81) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

See memo dated 4/13/81.

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

III. TOTAL POPULATION POTENTIALLY AFFECTED: 14182.4 est.

IV. COMMENTS

Additional information will be sent, as it is compiled.

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

Div. of Land Pollution Control Files - ISBH
EPA - Surface Impoundment Assessment Information System
Data on IN Public Water Supplies (Revised 1984) ISBH
Camp, Dresser & McKee Environmental Study Report for GM
Indiana Stream Pollution Control Board (1982-83), 305(b) Report.

EPA FORM 2070-12 (7-81)

ERRIS EXECUTIVE SUMMARY

Wang Sequence # _____ WINDSHIELD SURVEY _X_ YES ___ NO
EPA ID# IND006036099
Original Company Name: GM Bedford

Revised Company Name: GMC Central Foundry

Alias Names: Central Foundry Div. of GMC

Original _X_ Address: North Jackson St., PO Box 271
Corrected ___ Bedford, IN 47421
Lawrence County

___ Landfill ___ Generator ___ Treatment, Storage, Disposal (TSD)
___ Transporter _X_ Other: Surface Impoundment.

PRIORITY ASSESSMENT: ___HIGH _X_MEDIUM ___LOW ___NO FURTHER ACTION (NONE)

CLASS:
___I-STATE LEAD _X_II-REM/FIT LEAD State Accompanies FIT ___III-REM/FIT LEAD Limited On-site State Involvement ___IV OTHER: _____

Priority Justification and State Comments Regarding:
_X_PA ___SI ___Follow-up SI ___RPS ___HRS

This site has had several surface impoundments which have been closed. Much more research needs to be conducted on this site. The analyses that are available suggest unusually high levels of PCBs in aquatic life, as well as surface water and sediments. Several enforcement actions have been directed at this facility by the Indiana Stream Pollution Control Board of the Indiana State Board of Health. At one point, the company conducted a "cleanup" of the facility (mainly an equipment and process cleanup).

The State will complete an HRS on this site, as soon as all information has been compiled.

STATE INVOLVEMENT

_C_ Preliminary Assessments _R_ Site Inspection ___ Follow-up Site Inspection
___ Responsible Party Search _C_ Hazard Ranking System (HRS)

* COMPLETE DOCUMENTS (C) REVIEW DOCUMENTS (R)

Prepared by: Sherry Evans-Carmichael Phone: (317) 243-5058 Date: 4/30/85
Activity Time: 42 Hours

APPENDIX G.13

RCRA CLOSURE NOTIFICATION

Central Foundry Division
General Motors Corporation
Bedford Plant
North Jackson Street
Bedford, Indiana 47421-0271

September 18, 1987

Mr. Valdas V. Adamkus
Regional Administrator
United States Environmental
Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

Re: General Motors Corporation, Central Foundry Division/Bedford, Indiana Plant RCRA Permit IND 006036099

Dear Mr. Adamkus:

Pursuant to Section 2(K)(3) of General Motors Corporation ("GMC") Central Foundry Division/Bedford Plant's EPA Final Resource Conservation and Recovery Act ("RCRA") Permit #IND 006036099, this letter notifies you that GMC intends to close its RCRA storage facility in accordance with the Closure Plan previously approved by EPA. Upon completion of closure, and upon certification of closure by an independent registered professional engineer, the GMC Central Foundry Division/Bedford Plant will no longer operate a treatment, storage or disposal facility requiring a RCRA permit.

Please call Mr. Bill Schoonmaker, our plant Environmental Coordinator, if you have any questions.

Sincerely,

Robert W. Herr

Robert W. Herr
Plant Manager

Lets Get It Together
SAFETY BELTS SAVE LIVES

Central Foundry Division
General Motors Corporation
Bedford Plant
North Jackson Street
Bedford, Indiana 47421-0271

September 18, 1987

Nancy A. Maloley, Commissioner
Indiana Department of
Environmental Management
105 South Meridian Street
P. O. Box 6015
Indianapolis, Indiana 46206-6015

RE: General Motors Corporation, Central Foundry Division/Bedford, Indiana Plant, Indiana Hazardous Waste Permit IND 006036099

Dear Ms. Maloley:

Pursuant to Section II(K)(3) of General Motors Corporation ("GMC") Central Foundry Division/Bedford Plant's Indiana Hazardous Waste Management Permit #IND 006036099, this letter notifies you that GMC intends to close its hazardous waste storage facility in accordance with the Closure Plan previously approved by the State. Upon completion of closure, and upon certification of closure by an independent registered professional engineer, the GMC Central Foundry Division/Bedford Plant will no longer operate a treatment, storage or disposal facility requiring a hazardous waste management facility permit under Indiana law.

Please call Mr. Bill Schoonmaker, our plant Environmental Coordinator, if you have any questions.

Sincerely,

Robert W. Herr

Robert W. Herr
Plant Manager

Lets Get It Together
SAFETY BELTS SAVE LIVES

APPENDIX G.14

RCRA NOTICE TO CLOSE ACKNOWLEDGEMENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO THE ATTENTION OF:
5HS-13

OCT 28 1987

Mr. Bill Schoonmaker
General Motors Corporation
Central Foundry Division
North Jackson Street
Bedford, Indiana 47421

Re: Closure Plan Implementation
IND 006036099

Dear Mr. Schoonmaker:

Your letter dated September 18, 1987, notifying the U.S. Environmental Protection Agency (EPA) Region V of your intent to close the permitted 'drum storage facility' was received on September 28, 1987. As discussed during our telephone conversation of October 19, 1987, General Motors Corporation (GMC), Central Foundry Division will follow the approved closure plan included in the Resource Conservation and Recovery Act Permit, IND 006036099.

The approved closure plan requires that GMC notify the U.S. EPA at least 180 days prior to implementation. Therefore, you may begin closure after March 27, 1988, in accordance with the approved closure plan. GMC Central Foundry Division will, upon completion of closure, certify closure by an independent registered Professional engineer.

If you have any questions, please call me at (312) 886-0997.

Sincerely

Herbert Levine

Herbert Levine, Geologist
Indiana Unit, TPS

cc: Thomas Russel, Chief
Hazardous Waste Management Branch
Indiana Department of Environmental Management

APPENDIX G.15

RCRA CLOSURE CERTIFICATION

Central Foundry Division
General Motors Corporation
Bedford Plant
North Jackson Street
Bedford, Indiana 47421-0271

January 17, 1989

Thomas W. Rarick, Acting Commissioner
Indiana Department of Environmental
Management
105 South Meridian Street
P.O. Box 6015
Indianapolis, Indiana 46206

Dear Mr. Rarick:

Pursuant to Section II(K)(6) of General Motors Corporation ("GMC") Central Foundry Division/Bedford Plant's Indiana Hazardous Waste Management Permit #IND 006036099, this letter notifies you that GMC hereby certifies that its hazardous waste storage facility has been closed according to the closure plan approved by the Indiana Department of Environmental Management on February 21, 1984. Enclosed is the Certification of Closure by an independent Indiana Registered Professional Engineer. The GMC Central Foundry Division/Bedford Plant will no longer operate a hazardous waste storage facility requiring a permit under Indiana law. Any RCRA hazardous wastes will be stored on site for less than 90 days.

If you have any questions regarding these matters please contact Mr. Gregory Etzel, our plant Environmental Engineer at AC 812/279-7310.

Sincerely,

R. W. Herr
Plant Manager

c: Herbert Levine, USEPA

bc: J. Medved, CFD
D. Schiemann, GM Legal
W. Collinson, EAS
J. Kyle, B & T

Lets Get It Together
SAFETY BELTS SAVE LIVES

WOODARD & CURRAN INC.
CONSULTING ENGINEERS

January 24, 1989

Mr. Greg Etzel
Central Foundry
Division of General Motors
No. Jackson Street, PO Box 271
Bedford, IN 47421

Re: Closure Certification for RCRA Hazardous Waste
Drum Storage Area

Dear Mr. Etzel:

This report is to certify that the RCRA Hazardous Waste Drum Storage Area at the Central Foundry Division of GMC, Bedford plant, has been closed in accordance with the specifications in the closure plan approved on February 21, 1984.

I personally observed that all drums of material have been removed from the area, and that all loose material has been mechanically removed from the concrete storage pad. The concrete pad was cleaned with a pressure washer using detergent. Then the pad was rinsed using the pressure washer (Hotsy) and fresh potable water from the plant supply. At the end of the rinse period, a sample of the fresh water coming out of the pressure washer wand was taken (Hotsy washer), and a sample of the rinse water running off the pad into the concrete drain sump (pit washwater) was also taken. The sample analysis results are summarized in the attached table.

41 HUTCHINS DRIVE • PORTLAND MAINE 04102 • (207) 774-2112

This sampling indicates that no organics characteristic of the Agitene previously stored on this pad are present. Low levels of barium, cadmium, and lead were present.

The rinse water runoff from the storage pad was collected in a small pit in one corner of the pad. The rinse water was conveyed by gravity drain pipe to the plant process sewer and hence to the plant wastewater treatment facility for treatment. The treatment process includes primary clarification, activated sludge treatment, sand filtration, and final GAC (granular activated carbon) treatment prior to discharge. In the future, rainwater falling on the concrete pad will be collected and receive treatment as did the rinse water.

In summary, the waste drum storage area has been closed by removal of stored drums and the cleaning of the concrete pad by sweeping and washing. Stormwater runoff from the pad will continue to be treated along with the plant process wastewater.

Very truly yours,

WOODARD & CURRAN INC.

Michael R. Alberi

Michael R. Alberi, P.E.
Vice President

Indiana License ENE8605288

Attachment

MRA:tal
88080.01

ATTACHMENT 1

RCRA PAD WASHWATER SAMPLE ANALYSIS

Parameter	Hotsy Washer	Pit Washwater
pH		
- Lab	7.63	8.17
TDS - ug/l (ppb)	1070	1692
Arsenic - ug/l (ppb)	< 50	< 50
Barium - ug/l (ppb)	21	23
Cadmium - ug/l (ppb)	< 5	5
Chromium, Total - ug/l (ppb)	< 20	< 20
Lead, total - ug/l (ppb)	< 50	370
Mercury, Total - ug/l (ppb)	< 0.2	< 0.2
Selenium, Total - ug/l (ppb)	< 50	< 50
Silver, Total - ug/l (ppb)	< 10	< 10
Polyunclear Aromatics		
Napthalene	ND at 5 ppb	ND at 5 ppb
Acenaphythylene	ND at 5 ppb	ND at 5 ppb
Acenaphthane	ND at 5 ppb	ND at 5 ppb
Flourene	ND at 5 ppb	ND at 5 ppb
Phenathrene	ND at 5 ppb	ND at 5 ppb
Anthracene	ND at 5 ppb	ND at 5 ppb
Flouranthene	ND at 5 ppb	ND at 5 ppb
Pyrene	ND at 5 ppb	ND at 5 ppb
Benzo(k)flouranthene	ND at 5 ppb	ND at 5 ppb
Benzo(a)pyrene	ND at 5 ppb	ND at 5 ppb
Indeno(1,2,3-cd)pyrene	ND at 5 ppb	ND at 5 ppb
Dibenzo(a,h)anthracene	ND at 5 ppb	ND at 5 ppb
Benzo(ghi)perylene	ND at 5 ppb	ND at 5 ppb
Benso(a)anthracene	ND at 5 ppb	ND at 5 ppb

ND = None Detected < = less than

CERTIFICATE OF ANALYSIS

CORRESPOND TO

EMS Laboratories, Inc.
7901 West Morris Street
Indianapolis, Indiana 46231
(317) 243-8304

RECEIVED
NOV 14 1988
Woodard & Curran Inc.

SAMPLE

EMS SAMPLE : 110342
REPORT DATE : 11/09/88
DATE RECEIVED : 09/13/88
DATE COMPLETE : 11/08/88

REPORT TO

BOB SEVERANCE
WOODARD AND CURRAN, INC.
41 HUTCHINS DRIVE
PORTLAND ME 04102

BILL TO

BOB SEVERANCE
WOODARD AND CURRAN, INC.
41 HUTCHINS DRIVE
PORTLAND ME 04102

DESCRIPTION

RCRA #1
WATER SAMPLE
P.O. NUMBER : VERBAL

DATE :
TIME :

TEST DESCRIPTION / ANALYTE	RESULT	METHOD	DATE / DET. LIMIT	ANALYST / UNITS
AL DISSOLVED SOLIDS DRIED AT 180 C		EPA 160.1	09/24/88	MRW
SOLIDS, DISSOLVED	350		10	MG/L
pH		EPA 150.1	09/16/88	DAT
PH	8.3		0.1	STD. UNITS
ARSENIC, TOTAL		EPA 206.2	09/18/88	RLB
ARSENIC, TOTAL	ND		0.010	MG/L
INSTRUMENT	PE 3030 GFAA			
BARIUM, TOTAL		EPA 200.7	09/21/88	MYJ
BARIUM, TOTAL	0.04		0.01	MG/L
INSTRUMENT	ICAP 61			
CADMIUM, TOTAL		EPA 200.7	09/21/88	MYJ
CADMIUM, TOTAL	ND		0.005	MG/L
INSTRUMENT	ICAP 61			
CHROMIUM, TOTAL		EPA 200.7	09/21/88	MYJ
CHROMIUM, TOTAL	ND		0.01	MG/L
INSTRUMENT	ICAP 61			
LEAD, TOTAL		EPA 200.7	09/21/88	MYJ
LEAD, TOTAL	ND		0.05	MG/L
INSTRUMENT	ICAP 61			
MERCURY, TOTAL		EPA 245.1	09/21/88	RLB

EMS SAMPLE : 110342

TEST DESCRIPTION / ANALYTE	RESULT	METHOD / DET. LIMIT	DATE / ANALYST / UNITS
MERCURY, TOTAL	: ND	0.00020	MG/L
INSTRUMENT	: PE 403 CVAA		
SELENIUM, TOTAL		EPA 270.2	09/20/88 SON
SELENIUM, TOTAL	: ND	0.0050	MG/L
INSTRUMENT	: PE 5100 GFAA		
SILVER, TOTAL		EPA 200.7	09/27/88 MYJ
SILVER, TOTAL	: ND	0.01	MG/L
INSTRUMENT	: ICAP 61		
POLYNUCLEAR AROMATIC HYDROCARBONS		SW846-8100	10/31/88 JLM
SURROGATE LIST (spike conc)	: uG/L	NA	NA
Nitrobenzene-d5	: 42	(25)	% Rec
2-Fluorobiphenyl	: 26	(25)	% Rec
Terphenyl-d14	: 61	(25)	% Rec
TARGET COMPOUND LIST	:		
Naphthalene	: ND	10.	uG/L
Acenaphthylene	: ND	10.	uG/L
Acenaphthene	: ND	10.	uG/L
Fluorene	: ND	10.	uG/L
Phenanthrene	: ND	10.	uG/L
Anthracene	: ND	10.	uG/L
Fluoranthene	: ND	10.	uG/L
Pyrene	: ND	10.	uG/L
Benz(a)anthracene	: ND	10.	uG/L
Chrysene	: ND	10.	uG/L
Benzo(b)fluoranthene	: ND	10.	uG/L
Benzo(k)fluoranthene	: ND	10.	uG/L
Benzo(a)pyrene	: ND	10.	uG/L
Indeno(1,2,3-cd)pyrene	: ND	10.	uG/L
Dibenz(a,h)anthracene	: ND	10.	uG/L
Benzo(ghi)perylene	: ND	20.	uG/L
Dilution Factor	1		
ACID DIGESTION FOR FAA OR ICP		EPA 200.0	09/19/88 MSK
METALS, DIGEST	: COMPLETE	NA	NA
INITIAL WT OR VOL	: NA		
FINAL WT OR VOL	: NA		
ACID DIGESTION FOR GFAA		EPA 200.0	09/16/88 SON
METALS, DIGEST	: COMPLETE	NA	NA
INITIAL WT OR VOL	: NA		
FINAL WT OR VOL	: NA		
ORGANIC EXTRACTION AND SAMPLE PREPARATION		SW846-3500	09/15/88 BJW
ORG. EXT. AND PREP	: COMPLETE		
INITIAL WT OR VOL	: 100 ML		
FINAL VOLUME, ML	: 1 ML		

EMS SAMPLE : 110342

TEST DESCRIPTION ANALYTE	RESULT	METHOD	DATE DET. LIMIT	ANALYST UNITS

- Not Detected
- Not Applicable

mple was not received in the proper container for the analytes requested.
mple was not received properly chemically preserved for analysis requested.

oved by : D Peterson

CERTIFICATE OF ANALYSIS

CORRESPOND TO

EMS Laboratories, Inc.
7901 West Morris Street
Indianapolis, Indiana 46231
(317) 243-8304

SAMPLE

EMS SAMPLE : 110343
REPORT DATE : 11/09/88
DATE RECEIVED : 09/13/88
DATE COMPLETE : 11/08/88

REPORT TO

BOB SEVERANCE
WOODARD AND CURRAN, INC.
41 HUTCHINS DRIVE
PORTLAND ME 04102

BILL TO

BOB SEVERANCE
WOODARD AND CURRAN, INC.
41 HUTCHINS DRIVE
PORTLAND ME 04102

DESCRIPTION

RCRA #2
WATER SAMPLE
P.O. NUMBER : VERBAL

DATE :
TIME :

TEST DESCRIPTION / ANALYTE	RESULT	METHOD	DATE / DET. LIMIT	ANALYST / UNITS
TOTAL DISSOLVED SOLIDS DRIED AT 180 C		EPA 160.1	09/24/88	MRW
SOLIDS, DISSOLVED	650		10	MG/L
pH		EPA 150.1	09/16/88	DAT
PH	7.5		0.1	STD. UNITS
ARSENIC, TOTAL		EPA 206.2	09/18/88	RLB
ARSENIC, TOTAL	ND		0.010	MG/L
INSTRUMENT	PE 3030 GFAA			
BARIUM, TOTAL		EPA 200.7	09/21/88	MYJ
BARIUM, TOTAL	0.13		0.01	MG/L
INSTRUMENT	ICAP 61			
CADMIUM, TOTAL		EPA 200.7	09/21/88	MYJ
CADMIUM, TOTAL	ND		0.005	MG/L
INSTRUMENT	ICAP 61			
CHROMIUM, TOTAL		EPA 200.7	09/21/88	MYJ
CHROMIUM, TOTAL	0.24		0.01	MG/L
INSTRUMENT	ICAP 61			
LEAD, TOTAL		EPA 200.7	09/21/88	MYJ
LEAD, TOTAL	0.66		0.05	MG/L
INSTRUMENT	ICAP 61			
MERCURY, TOTAL		EPA 245.1	09/21/88	RLB

EMS SAMPLE : 110343

TEST DESCRIPTION / ANALYTE	RESULT	METHOD / DET. LIMIT	DATE / ANALYST / UNITS
MERCURY, TOTAL	: ND	0.00020	MG/L
INSTRUMENT	: PE 403 CVAA		
SELENIUM, TOTAL		EPA 270.2	09/20/88 SON
SELENIUM, TOTAL	: ND	0.0050	MG/L
INSTRUMENT	: PE 5100 GFAA		
SILVER, TOTAL		EPA 200.7	09/27/88 MYJ
SILVER, TOTAL	: ND	0.01	MG/L
INSTRUMENT	: ICAP 61		
POLYNUCLEAR AROMATIC HYDROCARBONS		SW846-8100	10/31/88 JLM
SURROGATE LIST (spike conc)	: uG/L	NA	NA
Nitrobenzene-d5	: ND	(25)	% Rec
2-Fluorobiphenyl	: ND	(25)	% Rec
Terphenyl-d14	: ND	(25)	% Rec
NOTE: SURROGATES DILUTED OUT			
TARGET COMPOUND LIST	:		
Naphthalene	: ND	100.	uG/L
Acenaphthylene	: ND	100.	uG/L
Acenaphthene	: ND	100.	uG/L
Fluorene	: ND	100.	uG/L
Phenanthrene	: ND	100.	uG/L
Anthracene	: ND	100.	uG/L
Fluoranthene	: ND	100.	uG/L
Pyrene	: ND	100.	uG/L
Benz(a)anthracene	: ND	100.	uG/L
Chrysene	: ND	100.	uG/L
Benzo(b)fluoranthene	: ND	100.	uG/L
Benzo(k)fluoranthene	: ND	100.	uG/L
Benzo(a)pyrene	: ND	100.	uG/L
Indeno(1,2,3-cd)pyrene	: ND	100.	uG/L
Dibenz(a,h)anthracene	: ND	100.	uG/L
Benzo(ghi)perylene	: ND	200.	uG/L
Dilution Factor 10			
ACID DIGESTION FOR FAA OR ICP		EPA 200.0	09/19/88 MSK
METALS, DIGEST	: COMPLETE	NA	NA
INITIAL WT OR VOL	: NA		
FINAL WT OR VOL	: NA		
ACID DIGESTION FOR GFAA		EPA 200.0	09/16/88 SON
METALS, DIGEST	: COMPLETE	NA	NA
INITIAL WT OR VOL	: NA		
FINAL WT OR VOL	: NA		
ORGANIC EXTRACTION AND SAMPLE PREPARATION		SW846-3500	09/15/88 BJW
ORG. EXT. AND PREP	: COMPLETE		
INITIAL WT OR VOL	: 100 ML		
FINAL VOLUME, ML	: 1 ML		

EMS SAMPLE : 110343

TEST DESCRIPTION ANALYTE	RESULT	METHOD	DATE DET. LIMIT	ANALYST UNITS

) - Not Detected
\ - Not Applicable
mple was not received in the proper container for the analytes requested.
mple was not received properly chemically preserved for analysis requested.

roved by : D L Peterson

CERTIFICATE OF ANALYSIS

CORRESPOND TO

EMS Laboratories, Inc.
7901 West Morris Street
Indianapolis, Indiana 46231
(317) 243-8304

SAMPLE

EMS SAMPLE : 110344
REPORT DATE : 11/09/88
DATE RECEIVED : 09/13/88
DATE COMPLETE : 11/08/88

REPORT TO

BOB SEVERANCE
WOODARD AND CURRAN, INC.
41 HUTCHINS DRIVE
PORTLAND ME 04102

BILL TO

BOB SEVERANCE
WOODARD AND CURRAN, INC.
41 HUTCHINS DRIVE
PORTLAND ME 04102

DESCRIPTION

RCRA #3
SOLID SAMPLE
P.O. NUMBER : VERBAL

DATE :
TIME :

TEST DESCRIPTION / ANALYTE	RESULT	METHOD	DATE / DET. LIMIT	ANALYST / UNITS
		EPA 150.1	09/15/88	DAT
PH	: 10.1		0.1	STD. UNITS
20% SLURRY				
METALS SCAN #1 BY ICP		EPA 200.7	09/21/88	MYJ
METAL SCAN #1 BY ICP	: COMPLETE		25	MG/KG
SILVER	: ND			
ALUMINUM	: 11000			
BORON	: 30			
BARIUM	: 32			
BERYLLIUM	: ND			
BISMUTH	: ND			
CALCIUM	: 82000			
CADMIUM	: ND			
COBALT	: ND			
CHROMIUM	: 280			
COPPER	: 320			
IRON	: 22000			
POTASSIUM	: 2700			
LITHIUM	: ND			
MAGNESIUM	: 8700			
MANGANESE	: 200			
MOLYBDENUM	: 58			
SODIUM	: 1200			
NICKEL	: 40			
LEAD	: 150			
ANTIMONY	: ND			

EMS SAMPLE : 110344

TEST DESCRIPTION / ANALYTE	RESULT	METHOD	DATE / DET. LIMIT	ANALYST / UNITS
SILICON	: 140			
TIN	: ND			
STRONTIUM	: 130			
TITANIUM	: 140			
THALLIUM	: ND			
VANADIUM	: 60			
ZINC	: 300			
ZIRCONIUM	: ND			
PCB, GAS CHROMATOGRAPHY:ECD		SW846-8080	09/22/88	EMW
AROCLOR 1016	: ND		1.0	MG/KG
AROCLOR 1221	: ND			
AROCLOR 1232	: ND			
AROCLOR 1242	: ND			
AROCLOR 1248	: ND			
AROCLOR 1254	: ND			
AROCLOR 1260	: ND			
POLYNUCLEAR AROMATIC HYDROCARBONS		SW846-8100	10/31/88	JLM
SURROGATE LIST (spike conc)	: MG/KG		NA	NA
Nitrobenzene-d5	: ND		(25)	% Rec
2-Fluorobiphenyl	: ND		(25)	% Rec
Terphenyl-d14	: ND		(25)	% Rec
NOTE: SURROGATES DILUTED OUT				
TARGET COMPOUND LIST	:			
Naphthalene	: ND		100.	MG/KG
Acenaphthylene	: ND		100.	MG/KG
Acenaphthene	: ND		100.	MG/KG
Fluorene	: ND		100.	MG/KG
Phenanthrene	: ND		100.	MG/KG
Anthracene	: ND		100.	MG/KG
Fluoranthene	: ND		100.	MG/KG
Pyrene	: ND		100.	MG/KG
Benz(a)anthracene	: ND		100.	MG/KG
Chrysene	: ND		100.	MG/KG
Benzo(b)fluoranthene	: ND		100.	MG/KG
Benzo(k)fluoranthene	: ND		100.	MG/KG
Benzo(a)pyrene	: ND		100.	MG/KG
Indeno(1,2,3-cd)pyrene	: ND		100.	MG/KG
Dibenz(a,h)anthracene	: ND		100.	MG/KG
Benzo(ghi)perylene	: ND		200.	MG/KG
Dilution Factor 100				
ACID DIGESTION IN S/S/S FOR ANALYSIS BY FAA OR ICP		SW846-3050	09/19/88	MSK
METALS, DIGEST	: COMPLETE		NA	G
INITIAL WT OR VOL	: 1			
FINAL WT OR VOL	: 25			
PCB EXTRACTION, SLUDGE/SOIL/SEDIMENT		SW846-3550	09/20/88	JLM
PCB EXT., SOIL	: COMPLETE		NA	NA

EMS SAMPLE #: 110344

TEST DESCRIPTION / ANALYTE	RESULT	METHOD	DATE / DET. LIMIT	ANALYST / UNITS
ORGANIC EXTRACTION AND SAMPLE PREPARATION		SW846-3500	10/16/88	BJW
ORG. EXT. AND PREP..... :	COMPLETE		NA	NA
INITIAL WT OR VOL ..... :	2.0 G			
FINAL VOLUME, ML ..... :	2 ML			

) - Not Detected
- Not Applicable
mple was not received in the proper container for the analytes requested.
mple was not received properly chemically preserved for analysis requested.

roved by : DP Peterson

APPENDIX G.16

IDEM LETTER DATED APRIL 23, 1990

FOR YOUR INFO & FILE

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

105 South Meridian Stree
P.O. Box 601
Indianapolis 46206-601
Telephone 317/232-8603

VIA CERTIFIED MAIL - P124-437-400

Mr. R.W. Herr
Central Foundry Division
General Motors Corporation
North Jackson Street
Bedford, Indiana 47421-0271

April 23, 1990

Re: Closure Certification
General Motors Corporation
Bedford, Indiana
IND 006036099

Dear Mr. Herr:

The Indiana Department of Environmental Management (IDEM) has received your certification, dated January 17, 1989, that total closure has been completed as outlined in the approved closure plan dated September 23, 1983, for the container storage area (SO1). With the receipt of this certification, total closure is complete as required by 329 IAC 3-21.

General Motors Corporation, Bedford, Indiana, originally notified the U.S. Environmental Protection Agency (U.S. EPA), Region V, as a hazardous waste storage facility with the following hazardous waste activity: container storage (SO1). With the completion of closure, that activity has been eliminated. The approved closure plan indicated that General Motors Corporation's new status is generator. The container storage area will continue to be used for less than ninety (90)-day storage.

This is also to notify you that your facility is no longer required by 329 IAC 3-22-4 to maintain financial assurance for the closure of your facility.

If you have any questions about this letter, please contact Mr. Mitch Mosier at AC 317/232-3221.

Sincerely,

Bruce H Palin

Bruce H. Palin
Acting Assistant Commissioner
Solid and Hazardous Waste Management

MJM/ssh
cc: Lawrence County Health Department
Ms. Fayola Wright, U.S. EPA, Region V
Mr. Hak Cho, U.S. EPA, Region V
Mr. Jeff Stevens
Ms. Jenny Ranck Dooley
Mr. James Hunt

An Equal Opportunity Employer

APPENDIX G.17

NRC LETTER DATED JUNE 6, 1990

Central Foundry Division
General Motors Corporation
Bedford Plant
North Jackson Street
Bedford, Indiana 47421-0271

June 6, 1990

Duty Officer, U.S. Coast Guard
National Response Center, Room 2611
2100 Second Street, S.W.
Washington, D.C. 20593

Subject: Sulfuric Acid Spill - May 24, 1990

The purpose of this letter is to confirm in writing the reporting by Wm. S. Schoonmaker, Plant Environmental Coordinator, of GMC, Central Foundry Division, Bedford Plant, located on N. Jackson Street, Bedford, Indiana 47421, of a spill on May 24, 1990, at approximately 8:30 P.M., to Mr. Dave Benson, Duty Officer. The spill consisted of an approximate 20 gallons of 66% sulfuric acid in an contained area at the plant's drum storage area. No evacuation of the area was required during this incident.

The spill was the result of a 55 gallon plastic drum developing a small leak from which the sulfuric acid leaked onto a curbed concrete storage pad. The sulfuric acid ran into a grated perimeter drain tough which runs around the inside of the curbed area. The acid ran for approximately 10 feet into a 2' x 2' x 3' pump collection box where the material was contained.

The City of Bedford's fire department emergency response team was called in to assist in the monitoring of the spill. Remediation of the spill area was completed at approximately 11:45 P.M. by Spill Recovery Of Indiana, Indianapolis, who was brought in to clean up the spilled materials.

If you have any questions or need additional information, please contact Mr. Wm. S. Schoonmaker at (812) 279-7308.

Sincerely
R. W. Herr
Robert. W. Herr
Plant Manager

cc: John Kassis, IDEM
Paul McBride, County Health Department
Wm. S. Schoonmaker, CFBedford

bcc: Keith West, CFDivision
Industrial Waste and Toxic Substance Control, GM-EAS
Environmental Law - Stationary, GM-Legal

Lets Get It Together
SAFETY BELTS SAVE LIVES

ADDRESSES FOR LETTER OF RESPONSE FOR SPILL REPORTING.

Duty Officer, U.S. Coast Guard
National Response Center, Room 2611
2100 Second Street, S.W.
Washington, D.C. 20593

Industrial Waste and Toxic Substances Control
Environmental Activities Building - Plant Environment
30400 Mound Road
Warren, MI 48090-9015

Environmental Activities Staff
General Motors Corporation
General Motors Technical Center
30400 Mound Road
Warren, MI 48090-9015

Environmental Law - Stationary
General Motors Corporation
New Center One Building
3031 West Grand Boulevard
P.O. Box 33121
Detroit, MI 48232

Indiana Department of Environmental Management
P.O. Box 6015
Indianapolis, IN 46206-6015

Environmental Response
Attn: John Kassis

Lawrence County Health Department
1410 I Street
Bedford, IN 47421

Attn: Paul McBride

Keith West
Central Foundry Division
General Motors Corporation
77 West Center Street
Saginaw, MI 48605-1629

MATERIAL USED

QUAN.	NO.	DESCRIPTION	PRICE
		TOTAL	

EQUIPMENT USED

INVOICE NO. 2952

SPILL RECOVERY OF INDIANA, INC.

P.O. BOX 34337 • INDIANAPOLIS, INDIANA 46234 • (317) 291-3972 • FAX (317) 298-3845

NAME General Motors Corporation

ADDRESS P.O. Box 771 N. Jackson St.

CITY Bedford, Indiana 47421

DATE 24 May 1990

PHONE 812-279-7308

Bill Schoonmaker

CUSTOMER'S ORDER NO.

Respond to Central Foundry to Sulphuric Acid Release. Repack Compromised Drum and Neutralize Residues.

This invoice is for clean-up only.
Disposal & related charges will be
billed on Environmental Services
of Indiana Invoice No. _____

DUE UPON RECEIPT

CUSTOMER'S AUTHORIZATION AND AGREEMENT

I, the owner or person having authority to act for the owner do hereby authorize and request the work and material covered by this order. Said work and material to be furnished at your regular prices. Payment will be made for same in cash or on other terms satisfactory to you and same shall constitute a lien until fully satisfied. If suit is required in order to secure payment, I agree to pay all collection cost, reasonable attorney fees, and waive all rights to claim exemption under the state laws. A service charge is charged on all invoices over 30 days delinquent. You will not be held responsible for articles left in case of loss by fire, or theft, or any other means beyond your control.

CUSTOMER'S SIGNATURE Wm Schoonmaker

TOTAL FOR LABOR	
TOTAL FOR MATERIAL	
TOTAL FOR EQUIP.	
SALES TAX	
TOTAL AMOUNT	

PAY FROM THIS INVOICE—NO STATEMENT WILL BE SENT

DUE UPON RECEIPT

APPENDIX G.18

U.S.EPA INSPECTION REPORT DATED MAY 18 AND 19, 1982

Spencer Hanson

Mogel

REPORT ON INSPECTION TO DETERMINE COMPLIANCE WITH THE FEDERAL PCB DISPOSAL AND MARKING REGULATIONS

GENERAL MOTORS CORPORATION
CENTRAL FOUNDRY DIVISION
NORTH JACKSON STREET
BEDFORD, INDIANA 47421

MAY 18-19, 1982

PERFORMED FOR:

U.S. ENVIRONMENTAL PROTECTION AGENCY
TOXIC SUBSTANCES SECTION
230 SOUTH DEARBORN STREET
CHICAGO, ILLINOIS 60604

PERFORMED BY:

VERSAR INC.
6621 ELECTRONIC DRIVE
SPRINGFIELD, VIRGINIA 22151

Objective

The purpose of this inspection was to document and verify the compliance of General Motors Corporation-Central Foundry Division with Federal PCB Disposal and Marking Regulations (40 CFR 761) published in Part VI of the Federal Register on May 31, 1979. The specific objective of this inspection was to document and verify the extent of PCB contamination in the die casting sumps, the water treatment plant, the surface ponds and lagoons, around PCB storage tanks, and at NPDES outfalls 001 and 002. This was a reinspection of the Central Foundry Division resulting from the high PCB concentrations detected during the previous PCB inspection conducted on September 16, 1980.

I. Facility and Responsible Official

General Motors Corporation
Central Foundry Division
North Jackson Street
Bedford, Indiana 47421

William A. Butler, Superintendent, Plant Engineering
Phone: (812) 279-7303

II. Inspection Dates and Participants

May 18-19, 1982

General Motors Corporation -
William A. Butler, Superintendent, Plant Engineering
Glen R. Ohl, Senior Engineer
Bill Schoomaker, Project Engineer
Paul Breidenback, Electrical Engineer
Ronald W. Remmers, Environmental Project Engineer
Joseph B. Medved, P.E., Administrator - Environmental Activities
Gerry Brent, Laboratory Supervisor

U.S. Environmental Protection Agency -
David H. Homer, Ph.D., Enviornmental Scientist

Indiana State Board of Health -
Jim Trailor, Chief, Technical Support Branch

Versar Inc. -

Robert F. Murphy, Compliance Auditor Robert F. Murphy

Michael C. Calhoun, Compliance Auditor Michael C. Calhoun

William M. Moran, Compliance Auditor William M. Moran

III. Facility Description

The Central Foundry Division of General Motors Corporation is located on approximately 132 acres of land and presently employs about 1,200 people. The facility has been owned and operated by General Motors Corporation since 1947; it was formerly a stone mill before 1946. A plant layout including the surrounding portion of the City of Bedford is shown as Figure 1.

The Central Foundry Division is presently operating at 60 to 70 percent production capacity. The plant manufactures aluminum automotive components including piston heads, intake manifolds, and transmission housings, as well as turbine blades composed of various heat resistant alloys (See PCB Report dated September 16, 1980). The manufactured products are then incorporated into General Motors Corporation vehicles, with a small number of transmission housings being sold to the Ford Motor Company.

IV. Inspection Findings

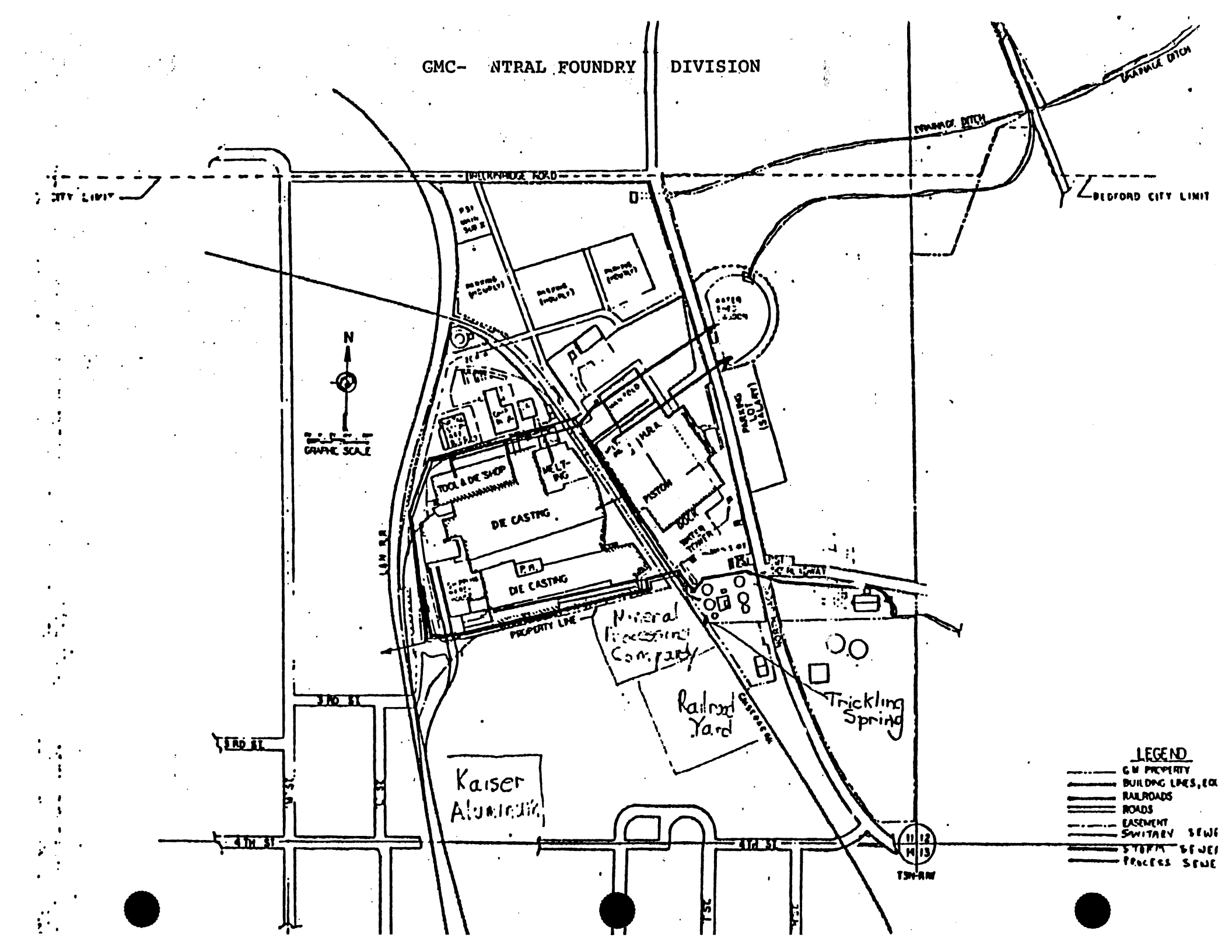
The following areas of non-compliance were noted during the PCB inspection of the General Motors Corporation - Central Foundry Division conducted May 18-19, 1982.

1. Improper storage and disposal of PCBs as defined by 40 CFR 761.65(b) and 761.60(d).

   - The south storage lagoon contains an estimated 6,810,000 kilograms of PCB mixtures (oil, water, and sludge). Sludge and oil/water PCB samples collected from the surface of the lagoon showed 16,000 ppm and 24,000 ppm Aroclor 1242, respectively (Table 1).

   - Two sediment samples were collected on two separate banks of the old watershed lagoon from areas (several square feet each) which were visibly oil-impregnated. PCB concentrations of 600,000 ppm and 91,000 ppm Aroclor 1242 were detected in these two samples (Figure 2, Table 1).

   - Seven large, leaking, and predominantly empty PCB storage tanks were stored for disposal east of the south storage lagoon. An oil-impregnated area of approximately 40 feet by


GMC- NTRAL FOUNDRY DIVISION
CITY LIMIT
BEDFORD CITY LIMIT
N
GRAPHIC SCALE
TOOL & DIE SHOP
MELTING
DIE CASTING
DIE CASTING
PISTON
PROPERTY LINE
Mineral Processing Company
Railroad Yard
Trickling Spring
Kaiser Aluminum
3RD ST
4TH ST
LEGEND
GM PROPERTY
BUILDING LINES, ETC
RAILROADS
ROADS
EASEMENT
SANITARY SEWE
STORM SEWE
PROCESS SEWE

60 feet surrounded the storage tanks. Four PCB sediment samples collected from the oil-impregnated area showed 1,900 ppm to 100,000 ppm Aroclor 1242. A PCB sediment sample collected adjacent to the stained area (Sample Number 19) showed 420 ppm, Aroclor 1242.

- An area composite sediment sample was collected from the bank of a pond covering an area of about 1,260 square feet (40 feet diameter), and a PCB concentration of 97 ppm mixed Aroclors was detected (Figure 2, CDF-13).

- A sediment sample was collected from NPDES outfall 002 at the headwaters of Bailey's Branch, and a PCB concentration of 1,000 ppm Aroclor 1242 was detected. The extent of the PCB contamination could not be determined because the Central Foundry Division chain link property fence bordered the sampling location.

- A sludge sample was collected from the North Make 1 South Make 1 drainage sump, and a PCB concentration of 1,200 ppm Aroclor 1242 was detected. The sump contained roughly 40 cubic feet of sludge at the time of the inspection. Hydraulic and cooling fluids from die cast machines drain into this sump, then are pumped to the head of the Central Foundry Division wastewater treatment plant.

- A sediment sample was collected from the grit chamber at the head of the wastewater treatment plant, and a PCB concentration of 1,600 ppm Aroclor 1242 was detected. Grit was also noticed in an adjacent wheelbarrow. Neither the grit chamber nor the wheelbarrow was a totally enclosed device.

2. Improper use of two PCB transformers as defined by the Interim Measures Program, Appendix B (III)(B) and (C).

   - The facility did not keep written inspection records for their two PCB transformers between May 11, 1981, and April 28, 1982 (they missed three quarterly inspections).

   - The inspectors observed minor leakage on the bottom of a PCB transformer stored for reuse in the Electrical Storage Room. No mention of this leakage was indicated on the Central Foundry Division "Inspection of Electrical Transformers Containing PCB's" for the April 29, 1982 inspection (Attachment 7, page 3).

3. Improper marking as defined by 40 CFR 761.40(a)(10).

   Several areas where PCBs stored for disposal were not marked with M_L or M_S PCB labels were viewed by the inspectors.

- The grit chamber and a wheelbarrow filled with grit at the wastewater treatment plant.
- The old watershed lagoon.
- The North Make 1 South Make 1 sump.
- The north pond (Figure 2, CDF-13).
- The south storage lagoon and pumphouse.

4. Insufficient recordkeeping as defined by 40 CFR 761.80 (a), (a)(1).

   - The annual documents were prepared on a July 1 - June 30 reporting year basis and not on a calendar year basis.
   - The July 1, 1980 - June 30, 1981 and the July 1, 1979 - June 30, 1980, annual documents do not list the dates and quantities of PCB sludge transported for disposal to CECOS International Inc. for each individual shipment (Attachments 2 and 3).

5. Possible improper storage and disposal of PCBs as defined by 40 CFR 761.65(b) and 761.60(d).

   - The extent of the PCB contamination around NPDES outfall 001 could not be determined. A PCB core sediment sample collected adjacent to the discharge pipe showed 38 ppm, Aroclor 1242.
   - The extent of the PCB contamination below the water level in the old watershed lagoon could not be determined. The exposed banks of the lagoon showed PCB concentrations of up to 600,000 ppm Aroclor 1242.

According to the "PCB Inventory Performed by GM in 1976" which was obtained at the time of the previous PCB inspection conducted on September 16, 1980, the Central Foundry Division purchased 911,845 pounds of PCB hydraulic fluids in 1971 and 1972 (Attachment J). It has already been established that these PCB fluids were used in the die cast and trim press hydraulic systems at the Central Foundry Division. Decontamination of these systems commenced in 1976, and by the November 20, 1979 testing date, all of the hydraulic systems had PCB concentrations below 50 ppm. The "Die Cast Machines and Trim Presses Most Recent Checks" is shown as Attachment 1.

All hydraulic and cooling fluids that leak from the die cast and trim press machines drain into a series of trenches and collection sumps. The fluids are pumped from the collection sumps to the head of the wastewater treatment plant. The hydraulic fluids settle to the bottom of two clari-thickeners (the predominant hydralic fluid presently used at the Central Foundry Division is a phosphate ester, Houghton 1120, which has a specific gravity of 1.05). They are then pumped to the facility's east million gallon capacity PCB storage tank. Prior to 1978, this waste hydraulic fluid (it contained a higher concentration of PCBs at that time) was pumped to the south storage lagoon, which resulted in its contamination.

Besides the known PCB contamination of the south storage lagoon, the inspectors found other significant areas of improper PCB storage and disposal. These areas include the old watershed lagoon, the area around seven leaky PCB storage tanks, and the area near NPDES outfall 002 at the headwaters to Bailey's Branch. A schematic of the "GM Central Foundry Division Layout Depicting Sampling Points" is shown as Figure 2.

The inspectors viewed the south storage lagoon and noted that the fluid level had dropped a few feet since the September 16, 1980 PCB Inspection (Photograph 1). A sludge and an oil/water sample were collected from this lagoon, and PCB concentrations of 16,000 ppm and 24,000 ppm Arolcor 1242 were detected in these two samples, respectively (Table 1). Sludge from the south storage lagoon is dewatered, then placed into an approximately 20 cubic yard capacity steel dumpster lined with plastic. The dumpster was marked with an M_L PCB label at the time of the inspection (Photograph 2). The inspectors collected a sample of the filter cake from the dumpster, and a PCB concentration of 1,500 ppm Aroclor 1242 was detected (Table 1).

According to Mr. Ohl, Senior Engineer, sludge from the thickeners at the wastewater treatment plant is pumped through the dewatering operation and stored for disposal in the dumpster. This sludge is considered a PCB solid because of the prior flushing of PCBs through the wastewater treatment plant. According to Mr. Ohl, during the winter, all of the PCB

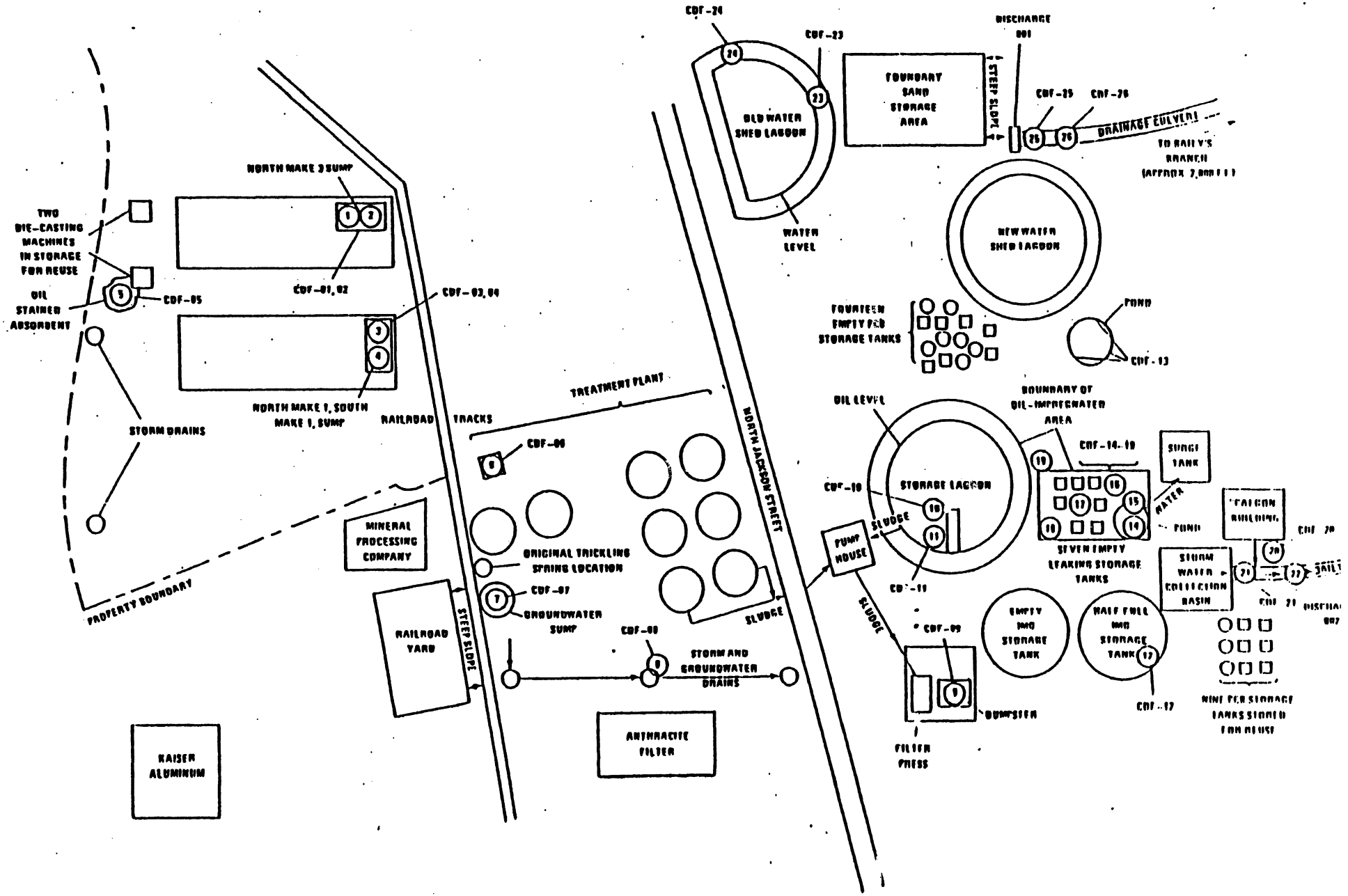


FIGURE 2: GM CENTRAL FOUNDRY DIVISION LAYOUT DEPICTING SAMPLING POINTS
(NOT TO SCALE)

TABLE 1. PCB ANALYTICAL RESULTS FOR SAMPLES COLLECTED AT THE CENTRAL FOUNDRY DIVISION ON MAY 19, 1982*

Sample Number	Description	PCB Concentration (ppm)**	Aroclor Type
1	Water: North Make 3 Sump	400 ppb	1242
2	Sludge: North Make 3 Sump	24	1242
3	Water: North and South Make 1 Sump	87 ppb	1242
4	Sludge: North and South Make 1 Sump	1,200	1242
5	Solids: Die Cast Machine at West Storage Yard	4	1242
6	Solids: Grit Chamber at Treatment Plant	1,600	1242
7	Water: Groundwater Sump	ND+	—
8	Water: Storm Sewer by Treatment Plant	4 ppb	1242
9	Solids: Filter Cake in the Dumpster	1,500	1242
10	Oil/Water: From Storage Lagoon	24,000	1242
11	Solids: Cake from Storage Lagoon	16,000	1242
12	Oil: East Million Gallon Storage Tank	580	1242
13	Sediment: Space Composite by North Pond	97	Mix
14	Oil/Water: From South Pond	33,000	1242
15	Sediment: SE Side of Seven Leaking Storage Tanks	1,900	1242
16	Sediment: NE Side of Seven Leaking Storage Tanks	2,100	1242
17	Sediment: Center of Seven Leaking Storage Tanks	23,000	1242
18	Sediment: SW Side of Seven Leaking Storage Tanks	100,000	1242
19	Sediment: NW Side of Seven Leaking Storage Tanks	420	1242
20	Water: Discharge 002	ND+	—
21	Water: Stormwater Runoff into Bailey's Branch	7 ppb	1242
22	Sediment: Discharge 002 into Bailey's Branch	1,000	1242
23	Sediment: NE Corner of Old Watershed Lagoon, 10 feet above water level	91,000	1242
24	Sediment: North Side of Old Watershed Lagoon near water surface	600,000	1242
25	Water: Discharge 001	6 ppb	1242
26	Sediment: Base of Discharge 001 (Core sample)	38	1242

* The facility collected two duplicates for each of the eight water samples and two splits on the remaining samples. One duplicate/split was collected in a bottle supplied by Versar personnel, the second duplicate/split was collected in a bottle supplied by the Central Foundry Division. All samples were collected by Versar inspectors.

** All water samples are reported in parts per billion.

\+ Not detected at 1 part per billion.

filter cake disposed of through the dumpster originates from the thickeners. During the rest of the year, the filter cake is approximately 65 percent thickened sludge and 35 percent south storage lagoon sludge. According to the "CFD Bedford PCB Recordkeeping Inventoried 7-1-81," the Central Foundry Division shipped 1,103,776 kilograms of dewatered PCB sludge to CECOS International Inc. in Williamson, Ohio, during the period from July 1, 1980, to June 30, 1981 (Attachment 2). Attachment 2 also indicates that the south storage lagoon contained 6,810,000 kilograms of PCB mixtures as of July 1, 1981. According to the "CFD Bedford PCB Recordkeeping Inventoried 7-1-80," the Central Foundry Division shipped 58,778 kilograms of PCB sludge to Cecos International Inc. during June 1980 (Attachment 3). No PCB sludge was disposed of by the Central Foundry Division prior to June 1980. A recent "Hazardous Waste Manifest" for the disposal of 12,636 kilograms of PCB filter cake to CECOS International Inc. dated May 12, 1982, is shown as Attachment 4.

The inspectors observed that the wall and floor adjacent to the dewatering operation in the PCB sludge processing building were splattered with sludge. The PCB content of the splattered sludge is probably similar to the 1,500 ppm Aroclor 1242 found in the dumpster.

As mentioned earlier, the Central Foundry Division decontaminated all of the hydraulic systems that used PCB fluids. The inspectors viewed the two main sumps in the die casting area where the PCB hydraulic fluids are collected before being pumped to the wastewater treatment plant (Photograph 3). The inspectors collected a sludge and a water sample from the North Make 3 sump, and PCB concentrations of 24 ppm and 400 ppb Aroclor 1242 were detected in the two samples, respectively (Table 1). The inspectors estimated that there were approximately 25 cubic feet of sludge in this sump at the time of the inspection. A sludge and a water sample were collected at the North Make 1 South Make 1 sump, and PCB concentrations of 1,200 ppm and 87 ppb Aroclor 1242 were detected, respectively (Table 1). Approximately 40 cubic feet of sludge were contained in this sump at the time of the inspection.

The inspectors toured the wastewater treatment plant and noted the additional treatment capabilities which were constructed since the previous PCB inspection dated September 16, 1980. A schematic of the "GM-Central Foundry Division Treatment Plant" is shown as Figure 3. A sample of solids was collected from the recently installed grit chamber (less than two years old) (Photograph 4). A PCB concentration of 1,600 ppm Aroclor 1242 was detected in this sample (Table 1). Mr. Ohl stated that not more than a few cubic yards of grit accumulate per year, and all is disposed of through CECOS International Inc. via the dumpster. A total of several cubic feet of sludge were observed in the grit chamber and in an adjacent wheelbarrow, and neither item was marked with the M_L or M_S PCB label.

The Central Foundry Division has an old watershed lagoon which was previously used to collect plant stormwater for discharge through NPDES outfall 001 (Photograph 5). Mr. Remmers, Environmental Project Engineer, stated that this lagoon was about 30 years old. In August 1981, a new watershed lagoon became operational (Photograph 6). This new lagoon collects stormwater from the plant then pumps it to the wastewater treatment plant. Since this new lagoon became operational, the old lagoon and NPDES outfall 001 have become obsolete.

The inspectors observed numerous areas of oil-impregnated soil along the banks of the old watershed lagoon (Photographs 7 and 8). Sediment samples were collected on the northeast bank about ten feet above the water level, and on the north bank at the water surface (Photographs 9 and 10). PCB concentrations of 91,000 ppm and 600,000 ppm Aroclor 1242 were detected in these two samples, respectively (Table 1). The total extent of the PCB contamination below the water surface could not be determined.

According to Mr. Trailer of the Indiana State Board of Health and EPA officials, the Central Foundry Division cut a breach in this lagoon several months prior to the inspection and drained out most of the water. The breach had been retrofilled by the time of the inspection. Sample Number 23 (91,000 ppm PCBs) was collected near the point where the breach was cut (Figure 2).

The outfall pipe for discharge 001 empties into a drainage culvert which meanders towards Bailey's Branch (Figure 2). This pipe is located several hundred yards to the east of the old watershed lagoon separated by a foundry sand storage area. The facility officials stated that the foundry sand was never used as cleanup material for PCB spillage.. According to Mr. Ohl and Mr. Schoomaker, Project Engineer, the NPDES outfall 001 previously discharged approximately 75,000 gpd. At the time of the inspection, a small trickle of water was discharging from this pipe, but the flow was probably due to groundwater seepage from the foundry sand storage area (Photograph 11). The inspectors collected a water sample from NPDES outfall 001 and a sediment core sample from the drainage culvert; PCB concentrations of 6 ppb and 38 ppm Aroclor 1242 were detected, respectively (Table 1). The extent of PCB contamination in and around the drainage culvert cannot be determined without more detailed sampling (Photographs 12 and 13).

Besides the stormwater drainage which collects in the watershed lagoon, much of the stormwater and some groundwater drain through a series of pipes to a stormwater collection basin adjacent to NPDES outfall 002. The water passes through a screen and then empties into Bailey's Branch. According to Mr. Remmers, the facility is planning to redirect this runoff to the wastewater treatment plant in the near future. The inspectors collected water samples at a storm sewer adjacent to the wastewater treatment plant and at the discharge point into Bailey's Branch (Photographs 14 and 15). PCB concentrations of 4 ppb and 7 ppb were detected in the storm sewer and at the discharge point, respectively (Table 1).

The inspectors viewed NPDES outfall 002 which discharges treated effluent that passes through the wastewater treatment plan. This outfall provides the source for the headwaters of Bailey's Branch (Photograph 15). According to Messrs. Ohl and Schoomaker, the flowrate through NPDES outfall 002 is about 300,000 gpd. The inspectors collected a water sample at outfall 002 and a sediment sample from the headwaters of Bailey's Branch; a PCB concentration of 1,000 ppm Aroclor 1242 was

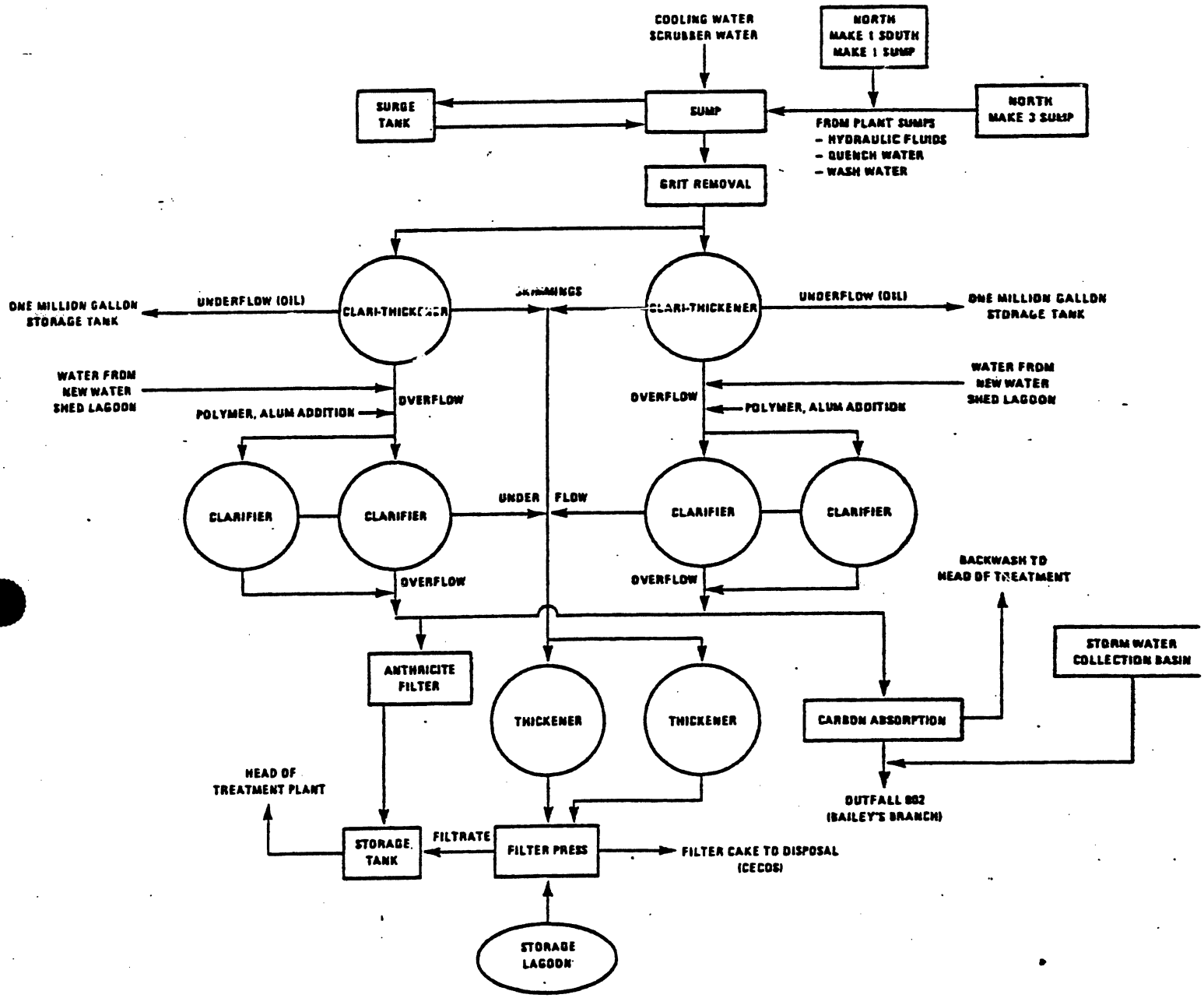


FIGURE 3. GM – CENTRAL FOUNDRY TREATMENT PLANT
(NOT TO SCALE)

detected in the sediment (Photograph 16). No PCBs were detected in the water sample (Table 1).

According to the "Oil Spill Prevention and Counter Measure Plan" for the Central Foundry Division, a spill of black material was observed flowing from NPDES outfall 002 on November 12, 1976 (Attachment 5, page 15). The facility tested this material and found ± 160 ppm PCBs. The inspectors noticed black discoloration in the sediment sample they collected (1,000 ppm, Aroclor 1242). The extent of the PCB contamination in Bailey's Branch could not be determined because the facility's chain link property fence was located adjacent to NPDES outfall 002 (Photograph 17).

Three separate outdoor areas of PCB storage tanks were observed by the inspectors (Figure 2). The northernmost storage area consisted of 14 empty 6,000 to 17,500-gallon capacity steel tanks all marked with M_L PCB labels (Photographs 18 and 19). According to Mr. Ohl, all fourteen tanks were stored for disposal. One tank had slight leakage around a drain valve while the rest showed no evidence of leakage. According to the PCB report dated September 16, 1980, these tanks previously contained oil with a PCB concentration of about 900 ppm. The tanks were then emptied into the east million gallon capacity PCB storage tank during the summer of 1980 (Attachment 2).

Adjacent and to the east of these PCB storage tanks was a shallow pond roughly 40 feet in diameter (Photograph 20). Mr. Calhoun of Versar stated that he believed that several PCB storage tanks had been at that location during the PCB inspection dated September 16, 1980. An area composite sediment sample was collected from the banks of this pond, and a PCB concentration of 97 ppm mixed Aroclors was detected. (Table 1).

The second area of PCB storage tanks consists of seven predominantly empty 15,000 and 20,000 gallon capacity steel tanks located east of the south storage lagoon (Attachments 2 and 3). These seven PCB tanks showed evidence of moderate leakage, and all were marked with M_L PCB labels (Photograph 21). Several of these tanks were open on top

(Photograph 22). According to Mr. Ohl, the contents of these tanks were emptied and placed into the east million gallon capacity PCB storage tank, and all seven tanks were stored for disposal. An area of approximately 40 feet by 60 feet encompassing the tanks was found to be heavily oil-impregnated (Photographs 23 and 24). The inspectors collected a grid of five sediment samples in this area in the shape of an "X" (Figure 2). PCB concentrations of 100,000 ppm, 23,000 ppm, 2,100 ppm, 1,900 ppm, and 420 ppm Aroclor 1242 were detected in these five samples (Figure 2 and Table 1). Sample Number 19 (420 ppm Aroclor 1242) was actually collected outside the oil-impregnated area. This may indicate lateral PCB migration during times of excessive precipitation.

A small pond (approximately ten feet in diameter) was located in the southeastern portion of the oil-impregnated area (Photograph 25). At the time of the inspection, water was being pumped from the pond into the surge basin to the east (Photographs 26 and 27). An oil/water sample collected from the pond showed 33,000 ppm Arolcor 1242 (Table 1).

The facility officials stated that no cleanup of this contaminated soil is planned until the south storage lagoon is decontaminated. The existence and/or extent of groundwater contamination resulting from this PCB storage area and/or the south storage lagoon is unknown. It is known that this geographical area is one of karst topography (highly permeable bedrock).

The third area of PCB storage tanks is located to the southeast of the south storage lagoon. It consists of nine 8,000 to 15,000-gallon capacity storage tanks, and two one-million gallon capacity storage tanks. According to Mr. Ohl and Attachment 2, the nine smaller tanks consist of five PCB tanks with various amounts of fluid, three empty PCB tanks, and one empty non-PCB tank. All nine tanks were stored for reuse. The inspectors viewed these PCB storage tanks and found all to be structurally sound with no leakage evident; all were marked with M_L PCB labels (Photograph 28).

According to facility officials, the west million gallon capacity storage tank was empty and had never been used. Mr. Ohl and the inspectors estimated that the east million gallon capacity PCB storage tank was about half full at the time of the inspection. According to facility officials, the fluid in this tank originated from fluid drained from the tanks in the three outdoor PCB tank storage areas, and from fluid which is periodically pumped from the underflow of the two clari-thickeners at the wastewater treatment plant (Figure 3). They further stated that the PCB fluid in this tank was stored for reuse. This PCB storage tank was marked with the M_L PCB label and showed no evidence of leakage (Photograph 29). The inspectors collected an oil sample from this tank, and a PCB concentration of 580 ppm Aroclor 1242 was detected (Table 1).

Concern was raised about the presence of a groundwater fed trickling spring located near the wastewater treatment plant being a source of PCB contamination. According to Mr. Remmers, the Central Foundry Division recently installed a concrete sump to collect this groundwater because it presented a serious contamination problem to NPDES outfall 002 (chlorides in this water average about 15,000 ppm). At the time of the inspection, the water level in the sump was static due to the constant groundwater pressure (Photographs 30 and 31). The inspectors collected a water sample from the sump, and no PCBs were detected (Table 1).

The inspectors viewed the west yard at the Central Foundry Division and observed two die cast machines stored for reuse. Mr. Ohl stated that these machines were decontaminated with the rest of the PCB hydraulic systems. Both units were covered with plastic, both were stored outdoors above asphalt, and one machine showed evidence of leakage (Photographs 32 and 33). A sample of oil-impregnated absorbent material was collected around the leaky machine, and a PCB concentration of 4 ppm Aroclor 1242 was detected (Table 1). Two storm sewers were located within 100 yards of these die cast machines in storage. Mr. Ohl stated that he believes that these storm sewers drain toward the stormwater collection basin and through NPDES outfall 002.

According to Mr. Trailor of the Indiana State Board of Health, the Central Foundry Division previously stored die cast fluid in a large tank at the west yard, and back-siphoned some of this fluid into drainage ditches near the western boundary of their property. At the time of the inspection, the drainage ditches were not observed and no evidence of their existence was apparent.

The Central Foundry Division prepared a "CFD Bedford PCB Recordkeeping Inventoried June 1, 1979" (Attachment 6). According to Mr. Ohl, Attachments 2, 3, and 6 are the Central Foundry Division annual documents for the reporting years ending July 1, 1981, July 1, 1980, and July 1, 1979, respectively. These three annual documents meet all the PCB recordkeeping requirements with the following exceptions:

1. Attachments 2 and 3 do not list the dates and quantities of PCB sludge transported for disposal to CECOS International Inc. for each individual shipment.

2. The annual documents were prepared on a July 1 - June 30 reporting year basis and not on a calendar year basis.

According to Messrs. Ohl and Schoomaker, the Central Foundry Division owned two PCB transformers at the time of the inspection. Both were viewed and found to be marked with M_L PCB labels (Photograph 34). An Allis-Chalmers PCB transformer stored for reuse showed evidence of minor leakage around its drain spout. This 397-gallon capacity PCB transformer was enclosed within a steel containment structure of approximate dimensions of six feet by seven feet by ten inches (capacity equal to about 66 percent of the PCB transformer fluid volume). A description of both PCB transformers viewed is presented in Table 2.

Messrs. Ohl and Schoomaker stated that the Central Foundry Division had not owned any other PCB transformers for at least the last five years and that they never serviced their PCB transformers. No Askarel fluid for topping-off these PCB transformers is retained by the Central Foundry Division.

TABLE 2. TRANSFORMERS AND CAPACITORS INSPECTED AT THE CENTRAL FOUNDRY DIVISION

A. Transformers

Manufacturer	Location	Quantity	kVA Rating	Fluid Capacity Gallons	Fluid Type	Label	Leakage*	Status
Westinghouse	Substation A	1	2,000	472	Inerteen	M_L	None	In-Service
Westinghouse	Substation A	1	2,000	-	Dry	None	N/A	In-Service
Allis-Chalmers	Electrical Storage Room	1	1,000	397	Chlorextol	M_L	Minor	Stored/Reuse
Westinghouse	Induction Melting	3	2,100	225	Mineral	None	None	In-Service
Ferranti-Packard	Induction Melting	2	2,100	300	Mineral	None	**	In-Service

B. Capacitors

Manufacturer	Location	Quantity	Size	Voltage	Fluid Type	Label	Status
General Electric	Treatment Plant Sub	40	Large	4,160	Pyranol	M_S	In-Service
Westinghouse	Die Casting	2	Large	480	Inerteen	None	In-Service
Westinghouse	Permanent Mold Machining	2	Large	480	Inerteen	None	In-Service

*As per Interim Measures Program definition
**One transformer (SN7-10121-01) showed evidence of moderate leakage and the second transformer had no leakage.

According to Mr. Ohl, the Central Foundry Division conducted periodic visual inspections of their PCB transformers since the inception of the Interim Measures Program. No written inspection record was kept for the first three 90-day periods after the May 11, 1981 effective date of these regulations. An "Inspection of Electrical Transformers Containing PCBs" was conducted April 29, 1982 (Attachment 7, page 3). Attachment 7 did not mention any leakage from the Allis-Chalmers PCB transformer stored for reuse. Three weeks after the Interim Measures Program inspection, minor leakage was noticed around the drain spout of this PCB transformer. The Central Foundry Division developed guidance procedures dated May 7, 1981, to comply with the Interim Measures Program (Attachment 7, pages 1 and 2). This document lists all the requirements of the Interim Measures Program, but it was not adhered to by plant personnel.

According to Mr. Breidenback, Electrical Engineer, the Central Foundry Division owns approximately ten mineral oil transformers, and all were purchased new since 1977. General Electric performs all servicing of these mineral oil transformers. Five of these transformers were viewed by the inspectors in the Induction Melting Substation, and they are described in Table 2. All five mineral oil transformers viewed were contained within concrete curbing. One of these transformers showed a small amount of moderate leakage (Westinghouse SN7-10121-01).

According to Attachment 2, the Central Foundry Division had 40 large, high voltage PCB capacitors and 280 large, low voltage PCB capacitors in service containing a total of 1,812.8 kilograms of PCB fluid. Mr. Ohl stated that no large PCB capacitors were stored for disposal at the time of the inspection. The 40 large, high voltage PCB capacitors were viewed at the treatment plant substation (Photograph 35). Each was marked with an M_S PCB label. Four large, low voltage PCB capacitors were viewed, and none were marked with M_L or M_S PCB labels. According to facility officials, all low voltage PCB capacitors are marked with M_S PCB labels when they are taken out of service. A description of the PCB capacitors viewed by the inspectors is shown in Table 2.

According to Attachment 1, one large, high voltage PCB capacitor containing 1.6 kilograms of PCB fluid was shipped to CECOS International Inc. on September 25, 1980. No other large PCB capacitors were disposed of by the Central Foundry Division since 1978. On April 26, 1982, the facility disposed of eight drums filled with small PCB capacitors (less than three pounds of PCBs each) to CECOS International Inc. The "Hazardous Waste Manifest" for this shipment is shown as Attachment 8.

The inspectors viewed the designated PCB storage area in the sludge processing building. The storage area was approximately 27 feet by 20 feet in area, had a concrete floor, and was contained within a three-foot high concrete dike which was marked with an M_L PCB label (Photograph 36). The storage area contained no PCB items at the time of the inspection, but it did contain a 5,750-gallon capacity ferric chloride tank. A small self-contained sump was located in the southeast corner of the storage area to capture any spillage from this tank (Photograph 37).

According to a "General Motors - Central Foundry Division (PCB Inventory performed by GM in 1976)," the Central Foundry Division purchased 6,670 pounds of pattern, utility, and shim wax (impregnated with PCBs) between 1971 and 1975 (Attachment J). When questioned, the facility officials demonstrated little knowledge about the disposition of these PCB products. In a letter from Mr. Butler, Superintendent of Plant Engineering, dated July 7, 1982, he stated that the use and disposal of PCB impregnated waxes at the Central Foundry Division "deals with items and events prior to the effective date of the Toxic Substances Control Act (TSCA)" (Attachment 9). The General Motors' Legal Staff has requested that Versar/EPA provide General Motors with the legal basis and authority on which the above requested information should be made available.

The following additional information was obtained from Messrs. Ohl and Schoomaker:

- No oil based heat transfer fluids or quench oils were used at the Central Foundry Division.
- Mineral Processing Company located south of the facility (Figure 1), recovers aluminum dross and sells it back to the Central Foundry Division.

- No other PCBs were used at the Central Foundry Division to the best of their knowledge.

V. Inspection Summary

On the morning of May 18, 1982, the inspectors, accompanied by Mr. David Homer of the U.S. Environmental Protection Agency, met with the receptionist for the Central Foundry Division. They were presented with a liability waiver which they signed to gain admittance to the facility. They then met with Messrs. Butler and Ohl of General Motors Corporation. The inspectors presented the EPA-authorized credentials, a "Notice of Inspection" and a "Confidentiality Notice" to the gentlemen. Mr. Butler signed the "Notice of Inspection" and returned it to the inspectors. He kept the "Confidentiality Notice" for further viewing. The inspectors summarized the intent and the scope of their inspection, then proceeded to a conference room to begin their audit.

The inspectors were joined in the conference room by Messrs. Ohl, Schoomaker, and Breidenback. Relevant information regarding PCB transformers, PCB capacitors, PCB storage areas, and the use of PCBs in hydraulic systems were discussed, and the PCB Annual Documents were reviewed. Information regarding the water treatment plant, the water and sludge storage lagoons, and NPDES outfalls 001 and 002 was discussed in detail.

The inspectors toured the Central Foundry Division accompanied by Mr. Homer, Mr. Trailor of the Indiana State board of Health, and Messrs. Ohl and Remmers of General Motors Corporation. The gentlemen viewed the die casting area, the west storage yard, two electrical substations, the water treatment facility, the area of groundwater seepage (old trickling spring), the PCB storage tanks, the watershed and storage lagoons, and NPDES outfalls 001 and 002. Photographs were taken as needed. At the conclusion of the tour, the inspectors developed a site sampling plan and left the facility.

The inspectors, accompanied by Mr. Homer, returned to the Central Foundry Division on the morning of May 19, 1982, to conduct their site

sampling. The General Motors Corporation personnel who accompanied the inspectors during the day were Messrs. Butler, Ohl, Remmers, Schoomaker, and Medved. The inspectors viewed two additional electrical substations but concentrated most of the day on site sampling. Numerous samples including several quality control samples were collected by the inspectors as shown in Figure 2. Photographs were collected, throughout the day of sampling locations, the electrical substations, and offsite locations as needed.

The inspectors returned to Mr. Butler's office for the closing conference and handed him a "Receipt for Samples and Documents." Mr. Butler signed the receipt, as well as the "Confidentiality Notice," and returned them to the inspectors. At this point, the inspectors left seven rolls of film and a list of Central Foundry Division documents, which they requested, with the facility officials. Mr. Butler asked the inspectors to submit a written request to him for the above information. On May 25, 1982, Mr. Murphy submitted the formal request to Mr. Butler (Attachment H). On July 13, 1982, the inspectors received all of the information they requested with the exception of the information related to PCB impregnated waxes. The facility believes that this information is not covered by TSCA (Attachment 9).

The inspectors summarized their findings and left Mr. Butler's office. The inspectors met Mr. Gerry Brent, Laboratory Supervisor for the Central Foundry Division, who requested information regarding the Versar Analytical Procedures. On June 4, 1982, Mr. Murphy sent Mr. Brent a copy of the "Standard Versar Quality Control Program" (Attachment G).

LIST OF ATTACHMENTS

GENERAL MOTORS CORPORATION
CENTRAL FOUNDRY DIVISION
NORTH JACKSON STREET
BEDFORD, INDIANA 47421

MAY 18-19, 1982

ATTACHMENTS

A. PCB Analytical Report
B. List of Photographs
C. Notice of Inspection
D. Confidentiality Notice
E. Receipts for Samples and Documents
F. Chain of Custody Records
G. PCB Inspection Checklist
H. Letter to Mr. Butler requesting documents and photographs dated May 25, 1982.
I. Letter to Mr. Brent enclosing the Standard Versar Quality Control Program dated June 4, 1982 (7 pages)
J. General Motors - Central Foundry Division (PCB Inventory performed by GM in 1976) (2 pages)

ATTACHMENTS OBTAINED FROM FACILITY

1. Die Cast Machines and Trim Presses Most Recent Checks, Dated November 20, 1979. (1 page)
2. CFD Bedford PCB Recordkeeping, Inventoried 7-1-81. (3 pages)
3. CFD Bedford PCB Recordkeeping, Inventoried 7-1-80. (3 pages)
4. Hazardous Waste Manifest, Dated May 12, 1982. (2 pages)
5. Oil Spill Prevention and Counter Measure Plan. (16 pages)
6. CFD Bedford PCB Recordkeeping, Inventoried 7-1-79. (3 pages)
7. Inspection of Electrical Transformers Containing PCBs. (3 pages)
8. Hazardous Waste Manifest, Dated April 26, 1982. (2 pages)
9. Letter from Mr. Butler, Dated July 7, 1982. (3 pages)

Versar Inc.

PCB ANALYTICAL REPORT

PREPARED FOR: Mr. Jon Byroade

REF. # 717.55

Facility Inspected GENERAL MOTORS CORPORATION

SAMPLE NO.	LAB NO.	CONCENTRATION PARTS/MILLION	AROCLOR	COMMENTS
CDF - 01	1693	400 ppb*	1242	Water
CDF - 02	1694	24	1242	Soil
CDF - 03	1695	87 ppb	1242	Water
CDF - 04	1697	1200	1242	Soil
CDF - 05	1698	4	1242	Soil
CDF - 06	1699	1600	1242	Soil
CDF - 07	1700	<1	——	Water
CDF - 08	1701	4 ppb	1242	Water
CDF - 09	1702	1500	1242	Soil
CDF - 10	1703	24,000	1242	Oil
CDF - 11	1704	16,000	1242	Soil
CDF - 12	1705	580	1242	Oil
CDF - 13	1707	97	1242 + 1254	Soil
CDF - 14	1708	33,000	1242	Oil
CDF - 15	1709	1900	1242	Soil
CDF - 16	1710	2100	1242	Soil
CDF - 17	1711	23,000	1242	Soil
CDF - 18	1712	100,000	1242	Soil
CDF - 19	1713	420	1242	Soil
CDF - 20	1714	<1 ppb	——	Water
CDF - 21	1715	7 ppb	1242	Water
CDF - 22	1716	1000	1242	Soil
CDF - 23	1717	91,000	1242	Soil
CDF - 24	1718	600,000	1242	Soil

*Water concentrations reported in parts per billion

Date: July 4, 1982

Mark T. Carkhuff

MARK T. CARKHUFF, CHIEF
APPLIED GC SECTION
APPLIED CHEMISTRY DIVISION

6621 ELECTRONIC DRIVE, SPRINGFIELD, VIRGINIA 22151 TELEPHONE: (703) 750-3000

Versar Inc.

PCB ANALYTICAL REPORT

PREPARED FOR: Mr. Jon Byroade

REF. # 717.55

Facility Inspected

SAMPLE No.	LAB No.	CONCENTRATION PARTS/MILLION	AROCLOR	COMMENTS
CDF - 25	1719	6 ppb	1242	Water
CDF - 26	1720	38	1242	Soil

July 1, 1982

Mark T. Carkhuff

MARK T. CARKHUFF, CHIEF
APPLIED GC SECTION
APPLIED CHEMISTRY DIVISION

5621 ELECTRONIC DRIVE, SPRINGFIELD, VIRGINIA 22151 TELEPHONE: (703) 750-3000

ATTACHMENT B

LIST OF PHOTOGRAPHS

GENERAL MOTORS CORPORATION
CENTRAL FOUNDRY DIVISION
NORTH JACKSON STREET
BEDFORD, INDIANA 47421

MAY 18-19, 1982

1. A view of the south storage lagoon. (Moran)
2. A view of the PCB filter cake dumpster. (Moran)
3. A view of a trench leading into the North Make 3 sump. (Murphy)
4. A view of the grit chamber at the wastewater treatment plant. (Murphy)
5. A view of the old watershed lagoon. (Moran)
6. A view of the new watershed lagoon. (Murphy)
7. A view of the northeast bank of the old watershed lagoon. Notice the oil impregnation along the top of the bank. (Murphy)
8. Oil impregnation along a bank of the old watershed lagoon. (Moran)
9. PCB sediment sample (number 23) location on the northeast bank of the old watershed lagoon. (Murphy)
10. A PCB sediment sample (number 24) location near the water surface on the north bank of the old watershed lagoon. (Murphy)
11. A view of the discharge pipe for NPDES outfall 001. (Murphy)
12. A view of the culvert near NPDES outfall 001. (Murphy)
13. A side view of the foundry sand storage area looking from NPDES outfall 001. (Murphy)
14. A view of the storm sewer at the water treatment plant. (Murphy)
15. A view of the headwaters of Bailey's Branch. The stormwater discharge is on the left, and NPDES outfall 002 is on the right. (Murphy)

LIST OF PHOTOGRAPHS (Continued)

16. The location where a PCB sediment sample was collected at the headwaters of Bailey's Branch. (Homer)

17. A view of Bailey's Branch looking downstream from NPDES outfall 002. (Murphy)

18. A view of 14 empty PCB storage tanks. (Murphy)

19. A view of 14 empty PCB storage tanks. (Moran)

20. A view of the pond adjacent to the 14 empty PCB storage tanks. (Moran)

21. A view of a pond adjacent to the seven leaky PCB storage tanks. (Murphy)

22. A view of seven leaky PCB storage tanks. Notice that several tanks have openings on top. (Moran)

23. Oil impregnation on the northeast side of the seven leaky PCB storage tanks. (Murphy)

24. Oil impregnation through the center of the seven leaky PCB storage tanks. (Homer)

25. Oil impregnation on the southeast side of the seven leaky PCB storage tanks. (Murphy)

26. A view of the hose which was draining water from the pond around the seven leaky PCB storage tanks into the surge basin. (Murphy)

27. A view of the surge basin. (Moran)

28. A view of several of the PCB storage tanks stored for reuse. (Murphy)

29. A view of the east million gallon capacity PCB storage tank. (Murphy)

30. A view of the recently installed groundwater sump near the water treatment plant. (Moran)

31. A view of the steep slope behind the old "trickling spring". (Murphy)

32. A view of a die cast machine in the west yard at the Central Foundry Division. (Murphy)

33. Absorbent material under a die cast machine stored for reuse in the west yard which was sampled for PCBs. (Murphy)

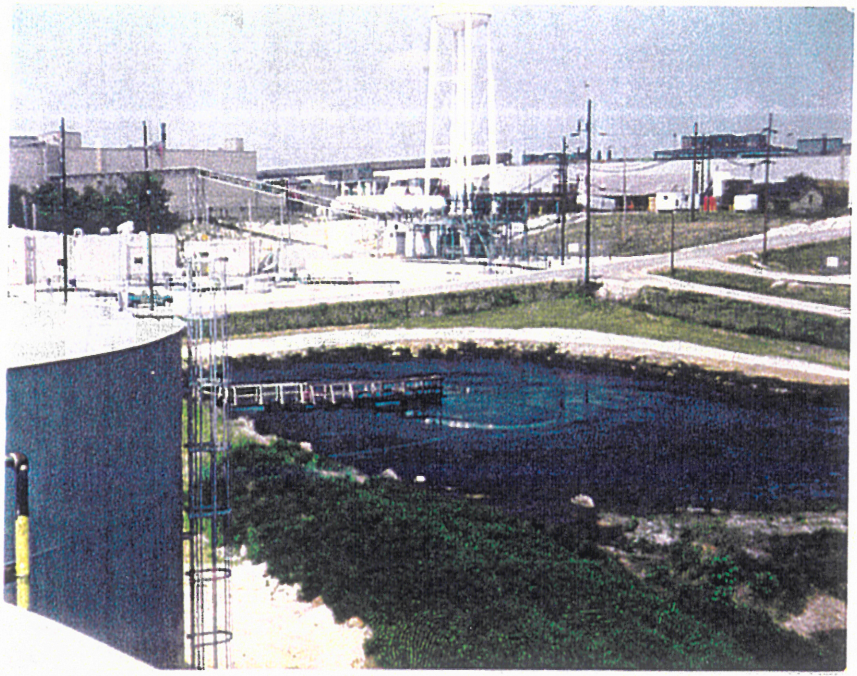
34. A view of a Westinghouse PCB transformer in Substation A. (Murphy)

35. A view of 40 large PCB capacitors at the treatment plant substation. (Murphy)

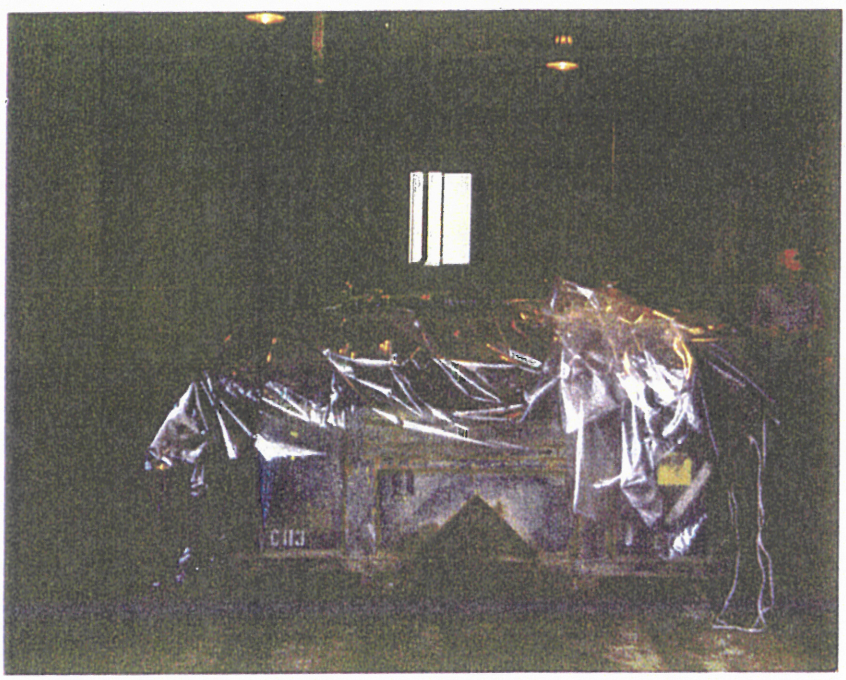
36. A view of the designated PCB storage area in the sludge processing building. (Murphy)

37. A view of a self-contained sump in the designated PCB storage area. (Murphy)

PHOTOGRAPHS
MAY 18-19, 1982

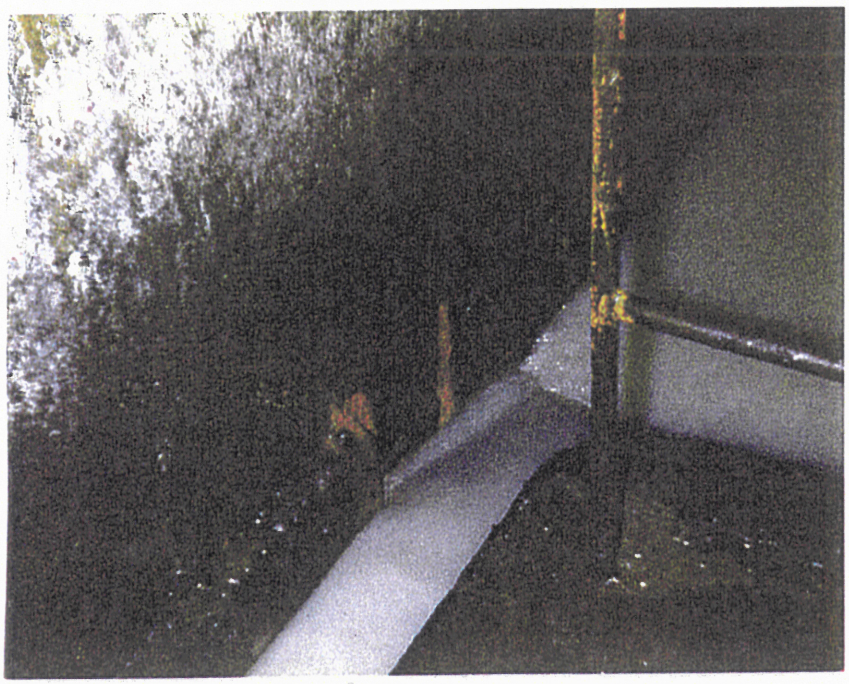


1. A view of the south storage lagoon. (Moran)

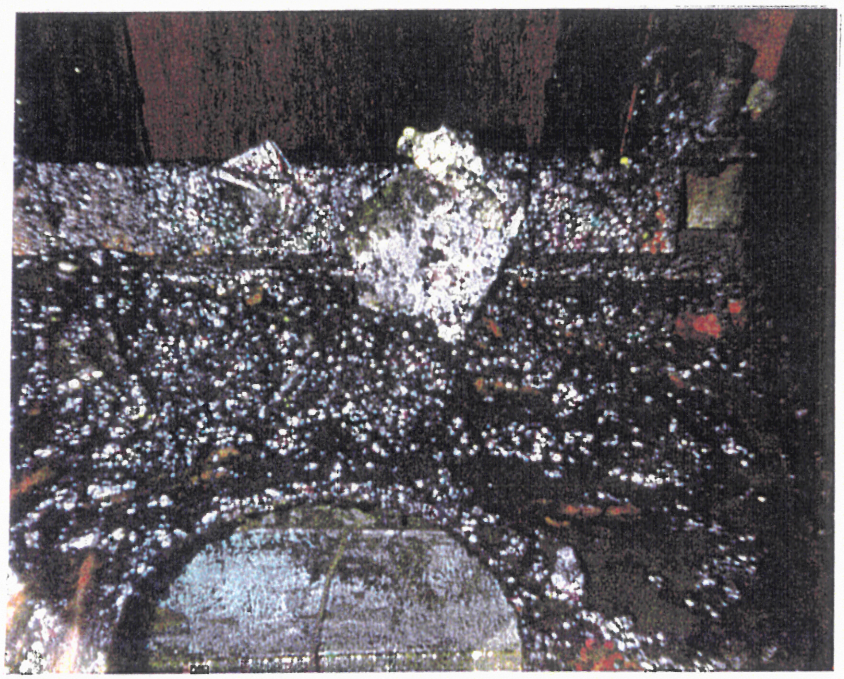


2. A view of the PCB filter cake dumster. (Moran)

PHOTOGRAPHS
MAY 18-19, 1982

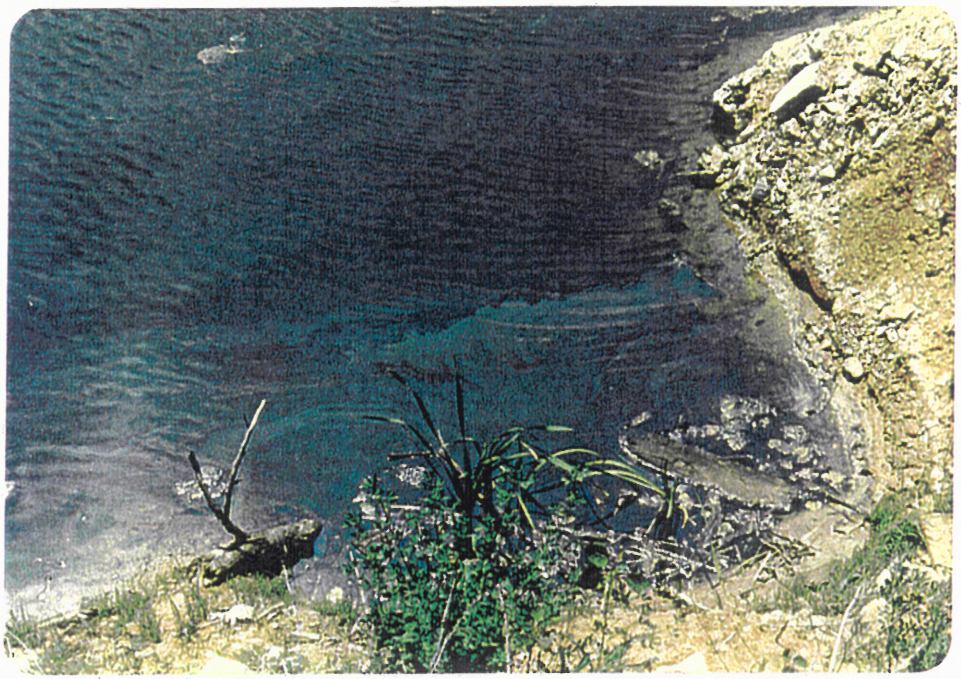


3. A view of a trench leading into the North Make 3 sump. (Murphy)

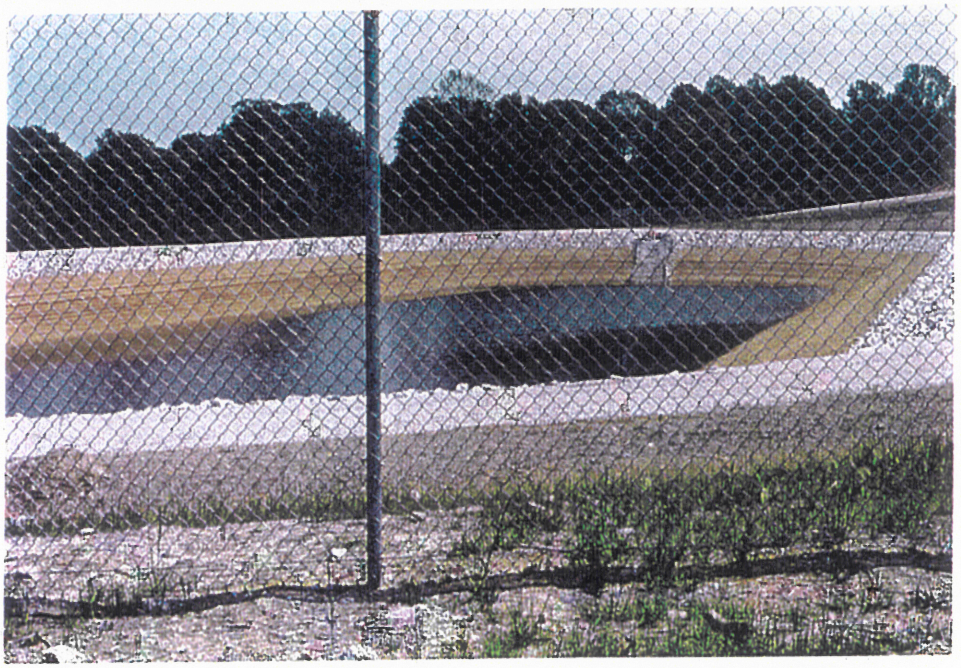


4. A view of the grit chamber at the wastewater treatment plant. (Murphy)

PHOTOGRAPHS
MAY 18-19, 1982



5. A view of the old watershed lagoon. (Moran)



6. A view of the new watershed lagoon. (Murphy)

PHOTOGRAPHS
MAY 18-19, 1982



7. A view of the northeast bank of the old watershed lagoon. Notice the oil impregnation along the top of the bank. (Murphy)



8. Oil impregnation along a bank of the old watershed lagoon. (Moran)

PHOTOGRAPHS
MAY 18-19, 1982



9. PCB sediment sample (number 23) location on the northeast bank of the old watershed lagoon. (Murphy)



10. PCB sediment sample (number 24) location near the water surface on the north bank of the old watershed lagoon. (Murphy)

PHOTOGRAPHS
MAY 18-19, 1982



11. A view of the culvert near NPDES outfall 001. (Murphy)



12. A view of the culvert near NPDES outfall 001. (Murphy)

PHOTOGRAPHS
MAY 18-19, 1982



13. A side view of the foundry sand storage area looking from NPDES outfall 001. (Murphy)



14. A view of the storm sewer at the water treatment plant. (Murphy)

PHOTOGRAPHS
MAY 18-19, 1982



15. A view of the headwaters of Bailey's Branch. The stormwater discharge is on the left, and NPDES outfall 002 is on the right. (Murphy)



16. The location where a PCB sediment sample was collected at the headwaters of Bailey's Branch. (Homer)

PHOTOGRAPHS
MAY 18-19, 1982



17. A view of Bailey's Branch looking downstream from NPDES outfall 002. (Murphy)



18. A view of 14 empty PCB storage tanks. (Murphy)

PHOTOGRAPHS
MAY 18-19, 1982



19. A view of 14 empty PCB storage tanks. (Moran)



20. A view of the pond adjacent to the 14 empty PCB storage tanks. (Moran)

PHOTOGRAPHS
MAY 18-19, 1982



21. A view of a pond adjacent to seven leaky PCB storage tanks. (Murphy)



22. A view of seven leaky PCB storage tanks. Notice that several tanks have openings on top. (Moran)

PHOTOGRAPHS
MAY 18-19, 1982



23. Oil impregnation on the northeast side of the seven leaky storage tanks. (Murphy)



24. Oil impregnation through the center of the seven leaky PCB storage tanks. (Homer)

PHOTOGRAPHS
MAY 18-19, 1982



25. Oil impregnation on the southeast side of the seven leaky PCB storage tanks. (Murphy)

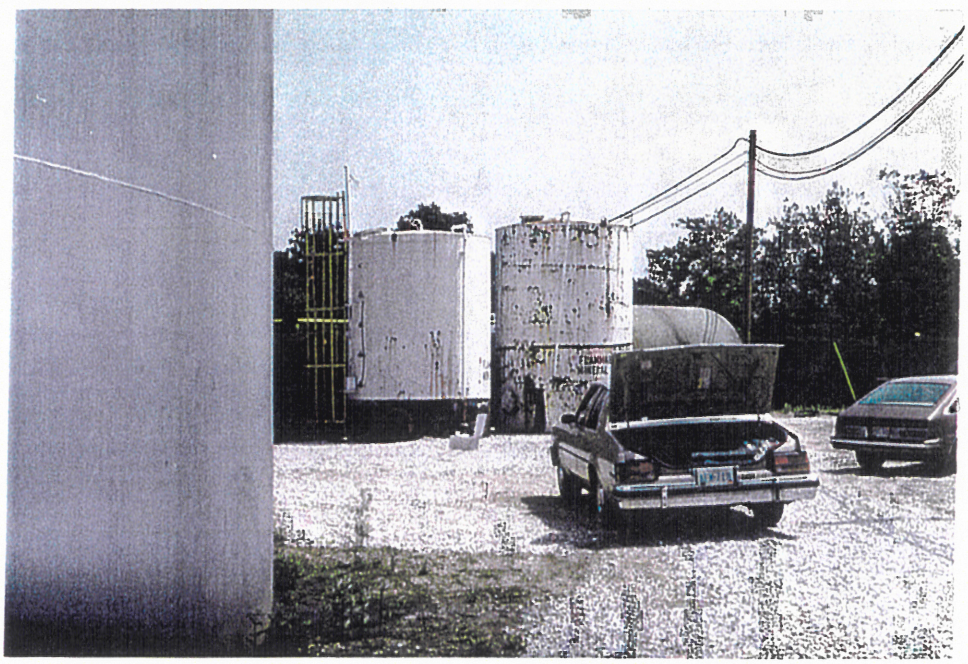


26. A view of the hose which was draining water from the pond around the seven leaky PCB storage tanks into the surge basin. (Murphy)

PHOTOGRAPHS
MAY 18-19, 1982

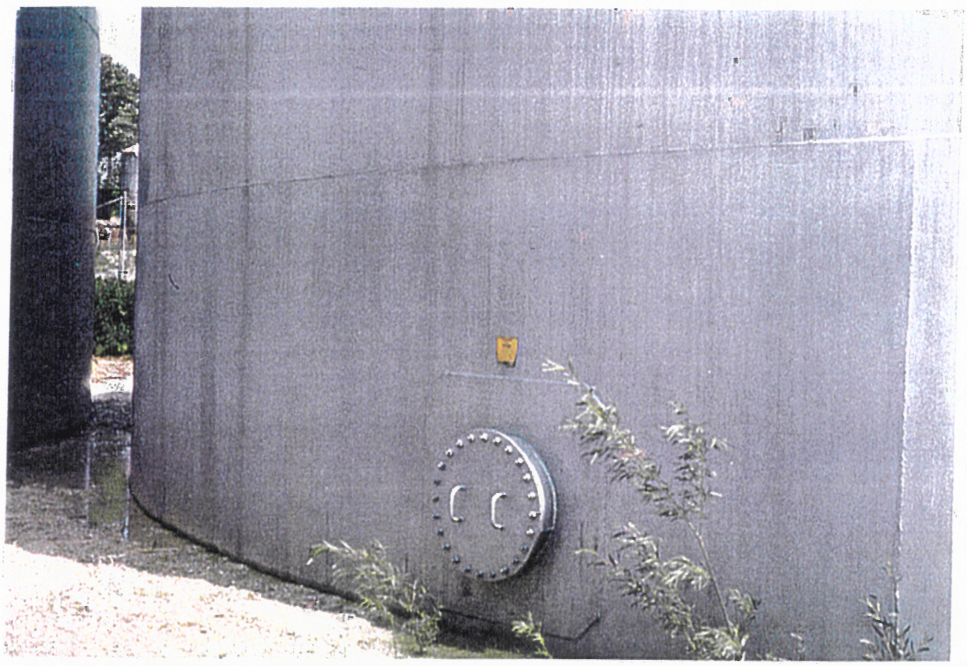


27. A view of the surge basin. (Moran)

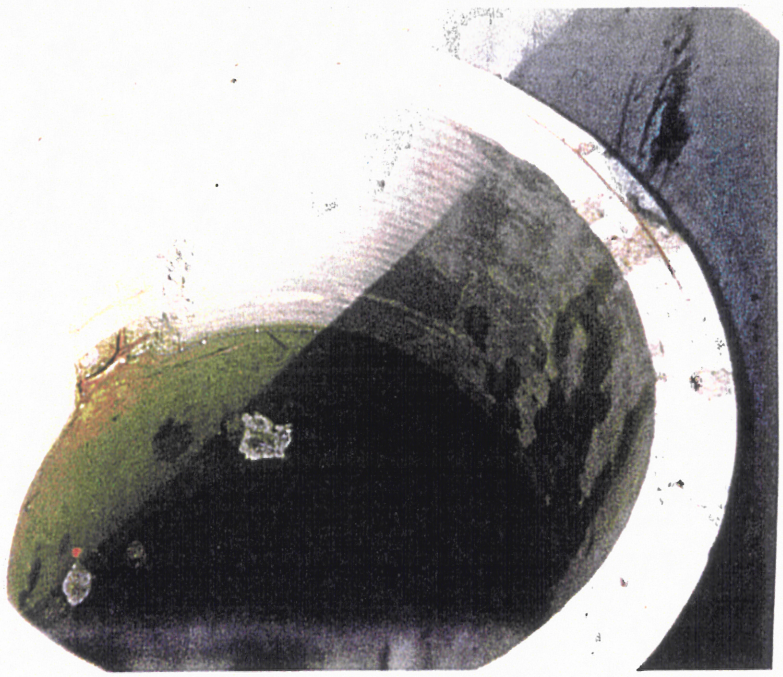


28. A view of several of the PCB storage tanks stored for reuse. (Murphy)

PHOTOGRAPHS
MAY 18-19, 1982



29. A view of the east million gallon capacity PCB storage tank. (Murphy)



30. A view of the recently installed groundwater sump near the water treatment plant. (Moran)

PHOTOGRAPHS
MAY 18-19, 1982



31. A view of the steep slope behind the old "trickling spring". (Murphy)



32. A view of a die cast machine in the west yard at the Central Foundry Division. (Murphy)

PHOTOGRAPHS
MAY 18-19, 1982



33. Absorbent material under a die cast machine stored for reuse in the west yard which was sampled for PCBs. (Murphy)



34. A view of a Westinghouse PCB transformer in substation A. (Murphy)

PHOTOGRAPHS
MAY 18-19, 1982

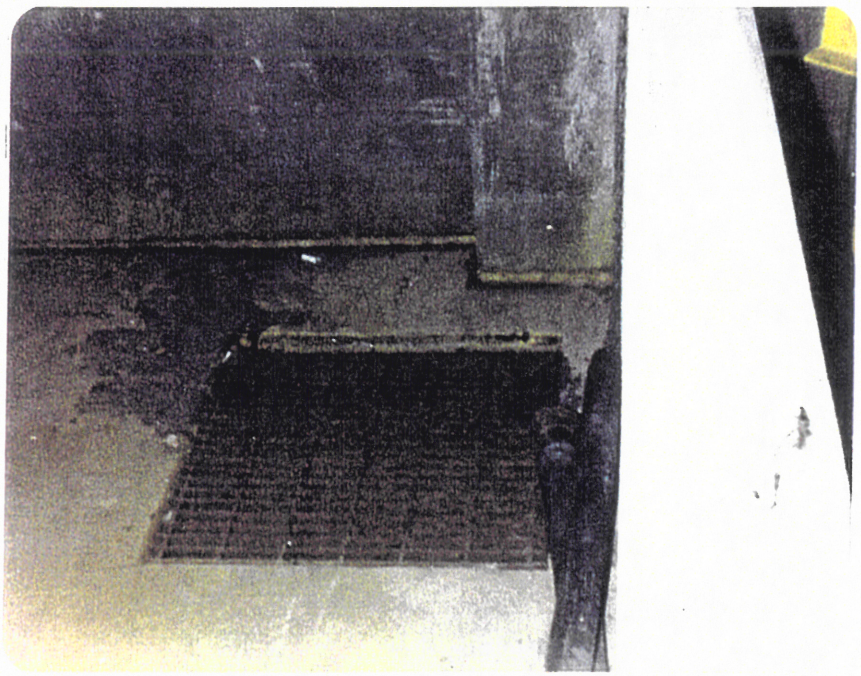


35. A view of 40 large PCB capacitors at the treatment plant substation. (Murphy)



36. A view of the designated PCB storage area in the sludge processing building. (Murphy)

PHOTOGRAPHS
MAY 18-19, 1982



37. A view of a self-contained sump in the designated PCB storage area. (Murphy)

APPENDIX G.19

ISBH LETTER DATED SEPTEMBER 22, 1971

STATE OF INDIANA

INDIANAPOLIS

STATE BOARD OF HEALTH

Address Reply to:
Indiana State Board of Health
1330 West Michigan Street
Indianapolis, Indiana 46206

(317) 633-4273

September 22, 1971

Mr. Raymond Jarrard
Personnel Manager
Central Foundry Division
General Motors Corporation
Bedford, Indiana 47421

Dear Mr. Jarrard:

Re: Air Pollution Emissions, Central Foundry

This is to confirm the visit of our staff representatives and the Lawrence County Sanitarian, Paul McBride, to your operations on September 9. At that time they discussed process emissions from the foundry and violations at the Company's open dump. Also observed was a problem of liquid wastes leaching from the dump into a drainage ditch which feeds a nearby stream. You were informed that the stream pollution, open burning and dumping observed by our staff are in violation of State Laws, Regulation APC 2, and the Refuse Disposal Act.

1. Open burning must be terminated immediately and the contracts you are presently discussing for refuse hauling should be consummated as soon as possible. As the County Sanitarian advised you, the dumping of combustible material such as cardboard, paper, and liquid wastes must be terminated immediately, as well as the dumping of garbage and trash from the cafeteria. We concur with Mr. McBride that a trench be dug as soon as possible to halt stream pollution as an interim step (a representative from the Water Pollution Control Division will contact you regarding this matter).

2. As far as process operations in the foundry are concerned, it appears that you are well on the way to controlling the chip handling processes as well as the dross handling operation. However, as was discussed, consideration must be given to the numerous melting furnaces, particularly during the fluxing periods. We request that you evaluate all your furnaces for particulate and fluoride emissions, particularly during fluxing and submit appropriate plans for air pollution emission controls to this office.

We understand you plan to dispose of dross in a new facility to be constructed by others. As you were advised, it must be approved before it will be allowed to go into operation.

We thank you for your cooperation and request that you contact us at your convenience should you require further information or assistance.

Very truly yours,

Harry D. Williams

Harry D. Williams, Director
Division of Air Pollution Control

GLE/fht
cc: Paul McBride, Lawrence County Health Department
O. H. Hert, Water Pollution Control

MAY 25, 2001

APPENDIX G.20

CAUSE NO. B-802

P. Municipality
Fort [illegible]

STATE OF INDIANA

STREAM POLLUTION CONTROL BOARD

INDIANAPOLIS

1330 West Michigan
P. O. Box 1964

Copy sent by Mailed on 3/25/83

March 16, 1983

VIA CERTIFIED MAIL

Mr. Robert W. Herr, Plant Manager
General Motors Corporation
Central Foundry Division
Bedford Plant
P.O. Box 271
Bedford, IN 47421

Dear Mr. Herr:

Re: Adoption of Consent Decree and
Issuance of Final Order
Stream Pollution Control Board
of the State of Indiana
vs.
General Motors Corporation
Central Foundry Division
Bedford, Indiana
Cause No. B-802

This is to inform you that the Indiana Stream Pollution Control Board, at its regularly scheduled meeting of March 15, 1983, approved the Consent Decree negotiated between you or your representatives and members of our staff and has issued same as its own Final Order. A copy of the executed Final Order is enclosed.

As to civil penalties provided for in the document, please forward a check made payable to the Indiana Environmental Management Special Fund to this office within thirty (30) days of receipt of this correspondence. You are no doubt familiar with the other terms of the Consent Decree necessary to ensure future compliance.

Very truly yours,

Earl A. Bohner
Technical Secretary

Enclosure
cc: Hearing Officer
Mr. Ron Mustard, Region V, U.S. EPA
Office of the Attorney General
Attention: Mrs. Debra Albright
Mr. Otis M. Smith, General Counsel
Attention: Mr. Paul Zavala, Attorney
Ronald G. Blankenbaker, M.D.
Mr. Ralph C. Pickard
Lawrence County Health Department

STATE OF INDIANA)
) SS.
COUNTY OF MARION)

BEFORE THE STREAM POLLUTION CONTROL BOARD OF THE STATE OF INDIANA

IN THE MATTER OF THE:

STREAM POLLUTION CONTROL BOARD OF THE STATE OF INDIANA,

Petitioner,

v.

CENTRAL FOUNDRY DIVISION, GENERAL MOTORS CORPORATION, BEDFORD, INDIANA,

Respondent.

CAUSE NO. B-802

STIPULATED FINDINGS AND CONSENT ORDER

A Notice of Hearing having been filed herein on July 7, 1981, and Petitioner and Respondent being desirous of settling and compromising this action and having consented, without hearing or adjudication of any issue of fact or law herein, to the entry of this Stipulated Findings and Consent Order, and without this Stipulated Findings and Consent Order constituting any evidence or admission by either party with respect to any issue of fact or law herein, the parties do hereby stipulate as follows:

STIPULATED FINDINGS

1. The Stream Pollution Control Board of the State of Indiana ("Board") is an agency of the State of Indiana, duly empowered to hold administrative hearings to

determine whether there are possible violations of the Environmental Management Act (I.C. 13-7), the Stream Pollution Control Law (I.C. 13-1-3), and the regulations duly promulgated thereunder, and to enter an order requiring the taking of such action as is indicated by the circumstances to cause the abatement of such condition.

2. Respondent owns and operates a foundry in Bedford, Lawrence County, Indiana.

3. The Board has jurisdiction over both the subject matter and the parties to the action.

4. Pursuant to the provisions of I.C. 13-7 and I.C. 4-22-1, Notice of Hearing was issued and served upon Respondent.

5. Respondent has on its property a lagoon containing storm water and non-contact cooling water, hereafter referred to as the "north lagoon." Said north lagoon was used prior to the construction of a new lagoon and wastewater treatment system. The overflow from the north lagoon was discharged (through Outfall 001) to Pleasant Run Creek. In 1974, Respondent was issued a National Pollutant Discharge Elimination System (NPDES) permit which authorized it to discharge water in the north lagoon through Outfall 001. The permit did not address allowable PCB concentrations in the discharge. In 1976 the Board served notice on Respondent that the NPDES permit would be modified to include a limitation for PCB's. The Board's efforts to modify the permit culminated in an Agreed Order in Cause #B-416. In said Order, Respondent was to eliminate dry-weather discharge from Outfall 001 by October 21, 1981, and to thereafter discharge only when necessary due to storm water conditions, in which case the storm water and non-contact overflow could be drained as long as its PCB concentration was at or less than 50 ppb. The Order also provided for the construction of a new storm water lagoon, and final treatment of the discharge from the new lagoon was to be instituted if needed by December 31,

1983, so that it would contain no more than 1 ppb of PCB's. Previous sampling of the discharge from the north lagoon had a reported PCB level under 50 ppb.

6. On March 26, 1981, a complaint call from the Lawrence County sanitarian notified the Board of a water discharge which was ongoing at Respondent's facility. Board staff responding to the call on March 26, 1981 discovered that the contents of the north lagoon were being allowed to drain through a cut which had been opened in the north lagoon approximately 25 feet south of the overflow pipe. Earth-moving equipment used for the construction of the new lagoon was bringing dug material from the area of the new lagoon into the north lagoon basin. A bulldozer hastened the drainage process by pushing the material into what was left of the liquid in the north lagoon. The action of the construction equipment had stirred up the sludges and residues at the bottom of the north lagoon and mixed them with the discharging water. The water itself traveled down a trench to a depression where it was allowed to soak into the ground and then out Outfall 001. The trench and depression were constructed in a foundry sand storage area approximately two acres in size consisting largely of aluminum casting sand.

Upon contacting Company officials, Board staff was informed that the cut had been made to allow the release of the contents of the north lagoon in order to provide a site for placing dug material from the construction of the new State-approved lagoon. Visual observation of the north lagoon contents revealed it to be of poor quality. Staff requested that the filling operation be discontinued and the trench opening be closed, and this was done.

7. Pictures as well as soil and water samples were taken on March 26, 1981 and during a second investigation conducted on March 31, 1981. The follow-up investigation showed no visible surface flow from the location of the trench cut into the north lagoon. Sampling results showed that the north lagoon water had a PCB level of 660 ppb on the inside of the north lagoon and 190 ppb in the

depression to which it had discharged. A water seep from the toe of the foundry sand area of Outfall 001 was also tested and was found to contain PCB's at a concentration of 7 ppb.

8. Respondent was complying with the terms and conditions of the Agreed Order in Cause No. B-416 which called for the building of a new storm water lagoon when the discharge was discovered. In order to construct the new storm water lagoon it was discussed with the staff that drainage and closure of the north lagoon was necessary. However, Respondent did not formally request nor explicitly receive permission from the Board to modify the operation of its north lagoon, to change the strength or quality of its discharge therefrom, nor to change its point of discharge, prior to the events described above.

9. During the course of negotiating this Order, Respondent proposed to Board staff that it be allowed to pump the remaining water from the north lagoon and treat it in Respondent's water treatment system. Respondent also proposed to continue filling the drained north lagoon with construction spoil from the nearby construction area and, when the north lagoon is completely filled, cap the area of the north lagoon with clay of a specified degree of impermeability to prevent any potential leaching of PCB's from the north lagoon area. This proposal is being reviewed by U.S. EPA, Region V, to determine if Federal regulations governing the disposal of PCB's apply.

10. It is the contention of the Board that Respondent is in violation of the Environmental Management Act at I.C. 13-7-4-1(c) for the actions described in (6), (7) and (8) above. It is the Respondent's contention that no violation of the Environmental Management Act occurred because the Board's staff was informed of such action and Respondent was acting pursuant to the terms and conditions of the Agreed Order in Cause B-416.

CONSENT ORDER

NOW, THEREFORE, upon the consent of the parties hereto, it is hereby ORDERED, ADJUDGED AND DECREED as follows:

1. The provisions of this Order shall apply to the Respondent, its directors, officers, agents, servants, employees, successors, and assigns, and to all persons, firms, and corporations acting through or for them.

2. Respondent shall monitor the PCB concentrations in the water seeping from the northeast toe of its foundry sand storage area by taking two (2) grab samples per month for six months from the date of acceptance by the Board of this Order. Samples shall be taken at the northeast toe of the foundry sand storage area. The results shall be reported to the Board on a monthly basis, separately from Respondent's regular monitoring reports. Within 60 days of the last monthly report, Respondent shall submit to the Board an analysis of its data, together with a proposal for treating the seepage, if necessary, which is technologically feasible, economically reasonable and ecologically sound if the data shows that there is a significant level of PCB concentration in the discharge.

3. The foundry sand storage area shall not be a subject of this Order. Any permits, approvals, variances, or other requirements for the continued operation of this area shall be obtained from the Environmental Management Board.

4. Respondent shall pay a civil penalty of $2,500.00 in settlement of this cause. Said penalty shall be paid to the Environmental Management Special Fund within 30 days of notice of Board approval of this Order.

5. Full and timely compliance with the terms of this Order shall constitute a final adjudication of this action.

6. This Consent Order shall not be effective unless and until it is approved by the Board. Provided Respondent complies herewith the Board shall not initiate any further administrative or civil judicial action arising from the alleged incident which is the basis of this cause.

CENTRAL FOUNDRY DIVISION
GENERAL MOTORS CORPORATION

By: Robert W. Herr

Title: Plant Manager

Date: January 25, 1983

STREAM POLLUTION CONTROL BOARD
OF THE STATE OF INDIANA

By: Earl A. Bohner

Title: Technical Secretary

Date: March 15, 1983

Recommended by:

Earl A. Bohner

Earl A. Bohner, Director
Division of Water
Pollution Control

Approved as to form
and legality:
Linley E. Pearson
Attorney General of Indiana
by:

Deborah E. Albright
Deputy Attorney General

RECOMMENDATION FOR ADOPTION

Wayne E. Penrod

Wayne E. Penrod
Hearing Officer

DATE: February 7, 1983

APPENDIX G.21

IDEM LETTER DATED JUNE 22, 1987

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
NANCY A. MALOLEY, Commissioner

June 22, 1987

105 South Meridian Street
P.O. Box 6015
Indianapolis 46206-6015
Telephone 317-232-8603

VIA CERTIFIED MAIL P 395 653 280

Mr. William Schoonmaker, Senior Engineer
GMC - Central Foundry Division
P.O. Box 271
Bedford, IN 47421

Re: Open Dumping of Foundry Sand
GMC - Central Foundry Division Property
North Jackson Street
Lawrence County

Dear Mr. Schoonmaker:

On June 2, 1987, staff of this office inspected the above-referenced site. The inspection revealed that open dumping of foundry sand is taking place on this property, which is in violation of the Indiana Solid Waste Permit Rule, 330 IAC 4, and the Environmental Management Act, IC 13-7. The site also is in violation of federal criteria promulgated under the Resource Conservation and Recovery Act (RCRA) of 1976.

Efforts must begin immediately to obtain approval for the proper disposal of this foundry sand. An outline of the special waste approval procedures is enclosed. Pending staff review of the analytical data, you are permitted to stock pile the foundry sand on the property. Furthermore, depending on the analytical results, the foundry sand presently on-site shall be:

1. Collected and approved to an approved sanitary landfill; or

2. Compacted and covered with a minimum of two feet of suitable cover soil, graded to prevent ponding of water, and seeded to provide vegetation.

A follow-up inspection will be made in approximately 30 days to monitor compliance. A final compliance period of 60 days is set for completion. Failure to comply with the provisions of this notice will subject you to legal action by the State of Indiana.

If you have any questions about this action or about your obligation concerning this matter, please contact Mr. Hotz or me at AC 317/243-5086.

Very truly yours,

C. Steven Poe, Chief
Facility Inspection Section-South
Solid Waste Management Branch
Solid and Hazardous Waste Management

TH/rmw
Enclosures
cc: Lawrence County Health Department
Mr. George Oliver

APPENDIX G.22

IDEM LETTER DATED APRIL 27, 1988

Central Foundry Division
General Motors Corporation
Bedford Plant
North Jackson Street
Bedford, Indiana 47421-0271

April 27, 1988

Mr. Tim Hotz, Environmental Scientist
Facility Inspection Section
Solid Waste Management Branch
Indiana Department of Environmental Management
P.O. Box 6015
Indianapolis, IN 46206

Dear Mr. Hotz:

In response to your request to discontinue dumping of foundry sand at the Bedford Plant and begin closure of the existing fill area, the Bedford Plant has been complying with these terms since June, 1987. The foundry sand has been analyzed and found to contain no hazardous constituents and is presently being disposed of at Rumpke Landfill in Jackson County as a special waste.

Due to a major construction project at the Bedford Plant, excavated soils and solid fill have been placed in this area for the past year. Due to the completion of the construction, the fill area has been scheduled for closure within the next two months.

The closure of the fill area will entail grading all side slopes to a minimum of 3:1, cover entire site with two feet of clean clay and top soil, sloping to prevent ponding of water and seeding to provide vegetation.

As we discussed in our telephone conversation of April 26, 1988, I will notify you upon completion of this project to schedule a site visit for your final inspection of the site. If any questions arise regarding these matters, please contact me at AC812/279-7310.

Sincerely,

Gregory Etzel, P.E.
Environmental Engineer

Lets Get It Together
SAFETY BELTS SAVE LIVES

APPENDIX G.23

IDEM LETTER DATED NOVEMBER 18, 1988

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
NANCY A. MALOLEY, Commissioner

November 18, 1988

105 South Meridian Street
P.O. Box 6015
Indianapolis 46206-6015
Telephone 317-232-8603

Mr. Greg Etzel
GMC - Central Foundry Division
P O Box 271
Bedford, Indiana 47421

Re: Notice of Compliance
Closure of Open Dump
Lawrence County

Dear Mr. Etzel:

Previously, a Violation Letter was mailed to Mr. William Schoonmaker concerning the open dumping of solid waste on General Motors' property, located on North Jackson Street, Bedford, Indiana.

This open dump violation required your efforts to have the site brought into compliance with State statutes.

This open dump was inspected by a member of our staff on October 24, 1988, and was found to have been corrected. Thank you for your attention in having this matter resolved.

Very truly yours,

Steven Poe

C. Steven Poe, Chief
Facility Inspection Section-South
Solid Waste Management Branch
Solid and Hazardous Waste Management

TH/rmw

cc: Lawrence County Health Department
Mr. Steven H. Poe, Special Projects Section

APPENDIX G.24

U.S.EPA INSPECTION REPORT SEPTEMBER 16, 1980

REPORT ON INSPECTION TO DETERMINE COMPLIANCE WITH THE PCB DISPOSAL AND MARKING REGULATIONS

GENERAL MOTORS CORPORATION - CENTRAL FOUNDRY DIVISION
NORTH JACKSON STREET
BEDFORD, INDIANA 47421

September 16, 1980

OCT 4 11 35 AM '85
DIVISION OF LAND POLLUTION CONTROL
STATE BOARD OF HEALTH

Performed for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
TOXICS SUBSTANCES OFFICE
230 SOUTH DEARBORN STREET
CHICAGO, ILLINOIS 60604

Performed by:

VERSAR INC.
6621 ELECTRONIC DRIVE
SPRINGFIELD, VIRGINIA 22151

Objective

The objective of this inspection was to inspect and document General Motors Corporations, Central Foundry Division's compliance with Federal PCB Disposal and Marking Regulations (30 CFR 761) published in Part VI of the Federal Register on May 31, 1979.

The Central Foundry Division of General Motors uses a vast number of hydraulic casting and trim press machines in the production of various automotive components. The primary objective of this inspection was to ascertain the quantities of PCBs contained within these hydraulic systems and in transformers and capacitors owned by General Motors. Also an evaluation of the management, documentation, storage, and disposal of such PCB fluids was a secondary objective.

I. Facility and Responsible Official Identification

General Motors Corporation - Central Foundry Division
North Jackson Street
Bedford, Indiana 47421

Glen R. Ohl,
Senior Engineer

(812) 279-7000

II. Inspection Date and Participants

September 16, 1980

General Motors - Glen R. Ohl, Senior Engineer, Central Foundry Division
William J. Collinson, Environmental Engineer, Detroit, Michigan
Richard W. Shuman, Central Foundry, Saginaw, Michigan
Gary L. Bowman, Plant Engineer, Central Foundry Division

Versar Inc. - Michael C. Calhoun, Environmental Scientist
Eric D. Juergens, Environmental Scientist

U.S. EPA, Region V - Sheldon Simon, Chemical Engineer

III. Findings and Conclusions

General Motors Corporation - Central Foundry Division, Bedford, Indiana Plant, was found to be in non-compliance with the PCB regulations and requirements listed below.

1. The storage of PCB contaminated waste oils and solids in an old process waste lagoon that does not comply with storage for disposal requirements in Section 761.42.

2. The improper storage and disposal of spilled PCB contaminated hydraulic fluid from oil storage tanks just east of the old process waste lagoon as stated in Sections 761.42 and 761.10.

Handling and storage practices of waste oils and sludges generated by the Bedford Plant have undergone several changes. Prior to the establishment of the Federal PCB regulations, sludges were either buried on GM property or hauled to a landfill (location of neither the sludge burial site nor landfill site was determined). Additional waste oil from clari-thickeners' underflow was placed in a storage lagoon. Contents of this lagoon are currently being dewatered and disposed of by CECOS International, Williamsburg, Ohio, an Annex II landfill.

Sampling and analysis of bank sediment from the old process waste lagoon showed a PCB concentration of 3100 ppm (see Figure 1 and attached lagoon photograph). The lagoon was properly marked but it does not meet the storage for disposal requirements of Section 761.42 (rainfall protection and floor and curbing) intended to prevent PCB environmental contamination.

Upon finalization of the Federal PCB regulations, GM began obtaining tanks, now totalling 29, for temporary storage until 2 one-million gallon storage tanks could be constructed. Transfer of the oils from the 29 smaller storage tanks to the one-million gallon tanks took place from August 22, 1980 to September 12, 1980, just prior to the inspection. Based on GM's calculations of volumes of the 29 temporary storage tanks, the one-million gallon tank that was filled currently contains 385,000 gallons of oil with an estimated PCB concentration of 900 ppm. This estimate was based on random sampling and analysis by GM of the 29 tanks prior to

transfer of the oil to the one-million gallon tanks. All 29 temporary storage tanks and the partially filled one-million gallon tank were properly marked.

Visual inspection of the temporary tank storage areas (See Figure 1 and attached lagoon photograph) indicated that some leakage or spillage has occurred from some of the 29 tanks as indicated by discolored soil to a depth of two inches in the vicinity of eight tanks just east of the old process waste lagoon. Versar's sampling and analysis of surface soil between two of the temporary storage tanks (located within the above mentioned area) revealed a PCB concentration of 11,000 ppm. This constitutes improper storage and disposal because, as stated in Sections 761.42 and 761.10, "spills and other uncontrolled discharges of PCBs constitute the disposal of PCBs." Results of PCB analysis of areas of non-compliance are detailed in Table 1.

IV. Facility Description

The Central Foundry Division of General Motors produces various aluminum automotive components including piston heads, transmission housings and intake manifolds as well as turbine blades made of various heat resistant alloys. This facility uses 48 large (2,000-3,000 ton) and 21 small (800 ton) casting machines, with a trim press associated with each.

Cooling water from heat exchangers, wash water, scrubber water, quench water, and hydraulic fluid leakage from casting and trim press machines all enter a common sump at the head of the treatment system as shown in Figure 2. The wastewaters and captured hydraulic fluids enter two parallel clari-thickeners followed by two parallel clarifiers (alum and polymer addition). Both clarifier overflows go to a concrete basin and through a carbon adsorption system (Calgon Unit) prior to discharge at NPDES permitted outfall 002. A portion of the clarifier overflow is filereed and reused by the plant. The clari-thickeners' underflow, which is primarily an oil/sludge generated from hydraulic fluid, is pumped to one of two 1.0 million gallon storage tanks. Versar sampling and analysis of a clari-thickener underflow revealed a PCB concentration of 790 ppm (see Table 2). Clari-thickener skimmings and clarifier underflow (settled and precipitated

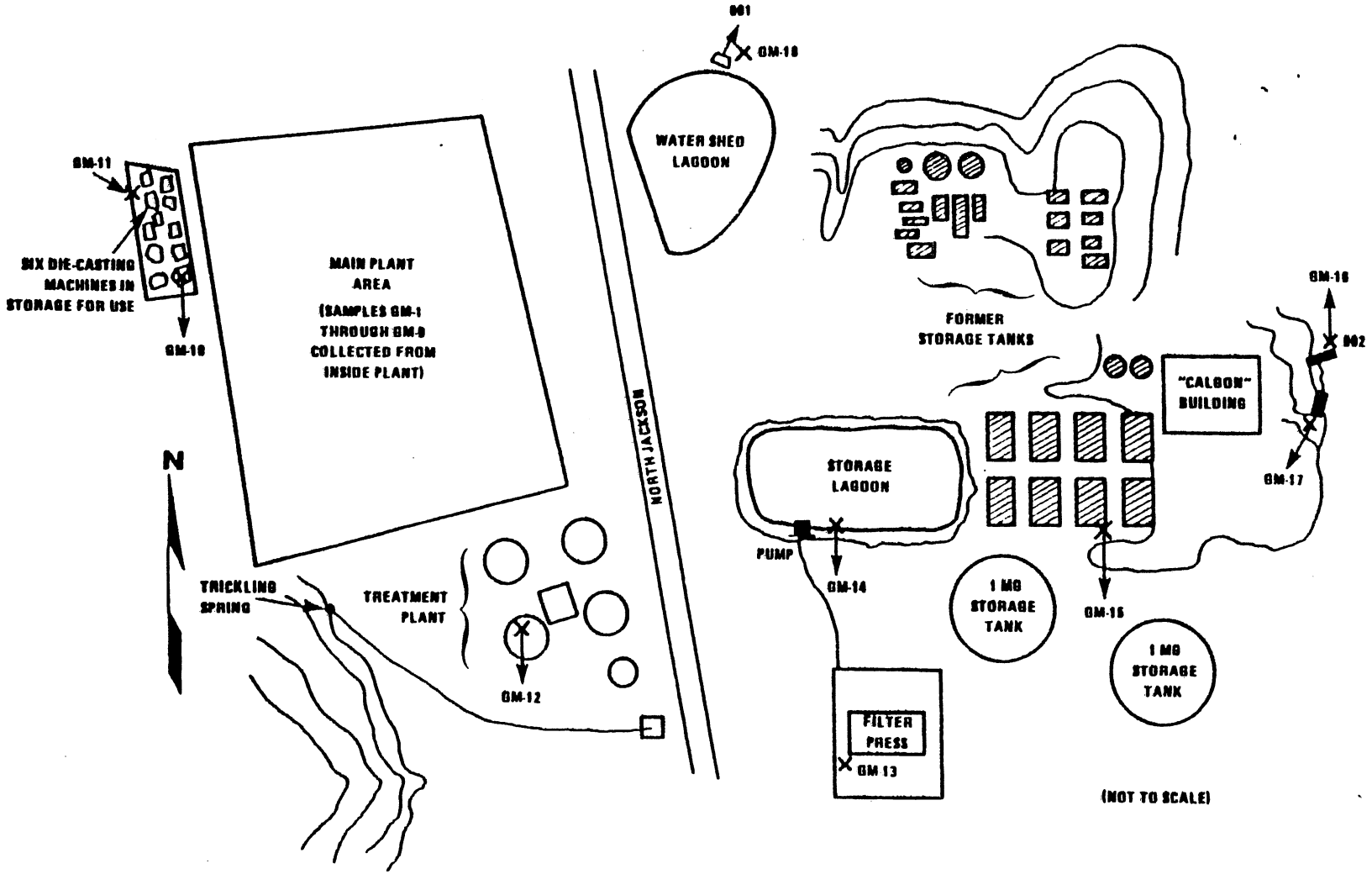


FIGURE 1 GM CENTRAL FOUNDRY PLANT LAYOUT DEPICTING SAMPLING POINTS

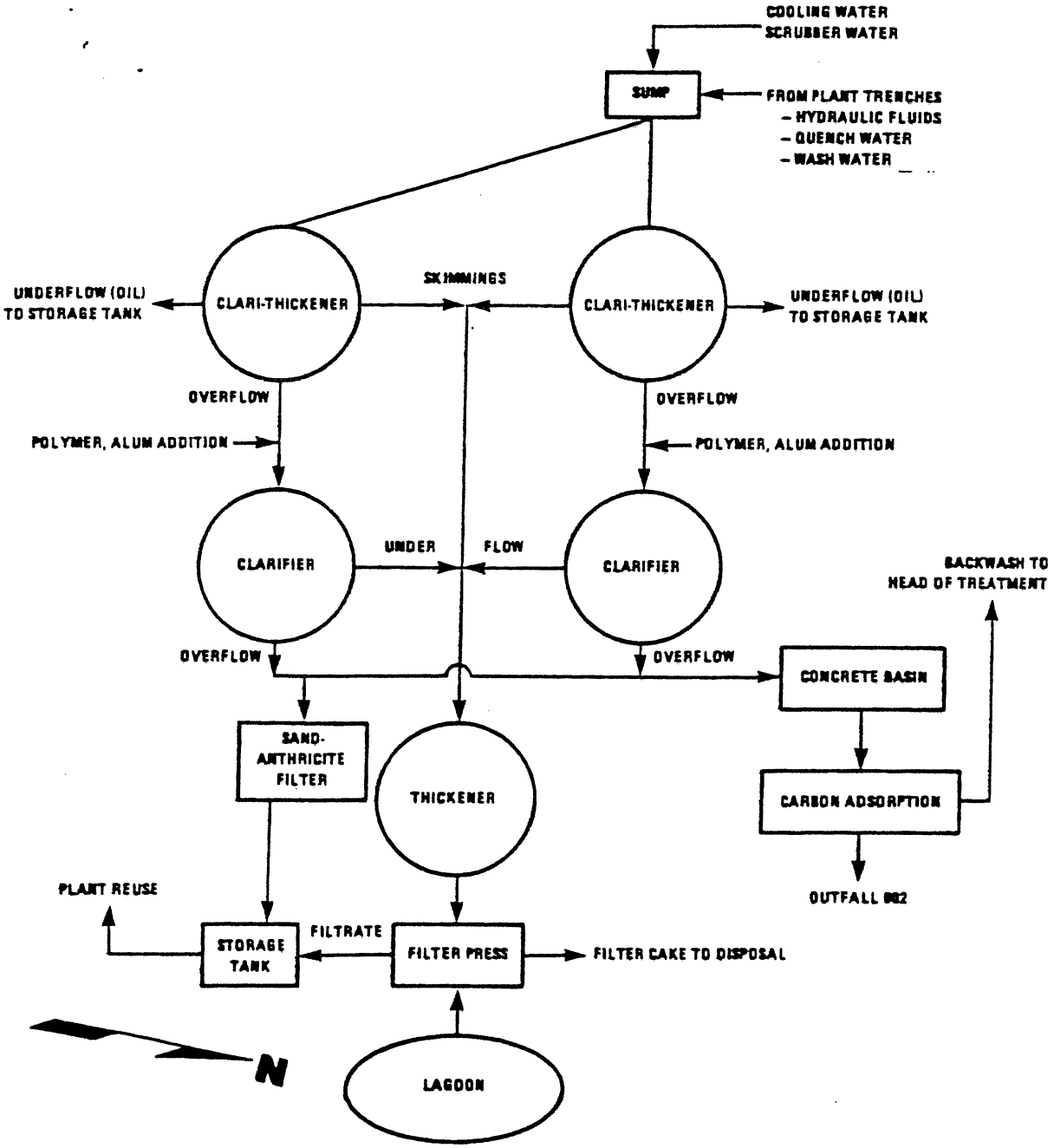


FIGURE 2 GM – CENTRAL FOUNDRY TREATMENT PLANT

TABLE 1. PCB SAMPLE RESULTS ASSOCIATED WITH AREAS OF NON-COMPLIANCE, NPDES PERMITTED DISCHARGES, AND GM AREA RUNOFF

Sample Number	Description	PCB Concentration ppm (1242)
14	Solid material from bank of old process lagoon	3,100
15	Surface soil sample taken from between 2 (old) temporary storage tanks	11,000
16	NPDES Discharge 002	<0.5 **
17	GM and non-GM runoff oil sample from culvert near NPDES Discharge Point 002	300,000
18	NPDES Discharge 001	<0.5 **

** Water Samples report in ppb

TABLE 2. PCB SAMPLE RESULTS ASSOCIATED WITH THE TREATMENT PROCESS

Sample Number	Description	PCB Concentration ppm (1242)
5	Solid sample from floor trench between die cast machines #1 and #2	270
6	Oil/solid sample from floor collection system located at die cast machine #142	<1
9	Oil/water sample from die cast machine area prior to entering main collection sump	<0.5 **
12	Oil sample from bottom of one clari-thickener	790
13	Solid sample of filter cake being sent to CECOS International	1,000

** Water Samples Reported in ppb

material) is settled in a thickener and dewatered to a filter cake which goes to CECOS International, Williamsburg, Ohio landfill. The filtrate is stored and reused by the plant. Versar's sampling and analysis of this filter cake revealed a PCB concentration of 1,000 ppm. Additional water inputs to outfall 002 include runoff from the west and south end of the treatment plant, a natural spring originating from the hillside just west of the treatment plant, and runoff from the adjacent railroad yard (not GM property). This runoff is directed under North Jackson Street via a corregated steel culvert and joins the 002 discharge just prior to GM's self-monitoring NPDES station.

Versar's sampling and analysis of a small pocket of oil observed at the end of this culvert revealed a PCB concentration of 300,000 ppm. It must be repeated that this sample consists of runoff from GM and non-GM property.

Runoff from the north side of the plant is diverted to a pond referred to as the water shed lagoon and subsequently discharged through an underflow weir designated as NPDES outfall 001.

GM facility representatives indicated that GM has made plans which will significantly alter the current situation to include:

- Diversion of all storm runoff for reuse or treatment thus eliminating NPDES outfall 001 (water shed lagoon or pond).
- Continued pumping out of the old lagoon for disposal of its contents and subsequently dispose of discolored soil around the lagoon.
- Disposal of 29 temporary storage tanks.
- Employment of a private contractor (Battelle) to optimize a process which will be used to remove PCBs from waste oil. If successful, this "cleaned" oil will be stored in the second one-million gallon storage tank and subsequently reused.
- Employement of a private contractor (Battelle) to determine the source of persistent PCBs in recovered oil in light of extensive clean-up of die casting and trim press machines and collection trenches.

V. Inspection Summary

The inspectors met with Glen R. Ohl, William J. Collinson, Richard W. Shuman, and Gary L. Bowman on the morning of September 16, 1980. Glen R. Ohl was presented the "Notice of Inspection" which he signed and the "Confidentiality Notice" which he noted as received.

General Motors initiated a draining and flushing program of hydraulic die casting machines, trim press machines, and collection trenches in 1976. A phosphate ester hydraulic fluid (Houghton 1120) was chosen as the replacement fluid for PCB containing Pydrauls and is now used exclusively throughout the Bedford Plant. A periodic sampling and analysis program was also initiated at that time. The most recent sampling and analysis occurred in November of 1979 and indicated PCB concentrations in all hydraulic systems to be under 50 ppm. Versar's sampling and analysis also confirmed this point (see Versar Table 3 for die casting and trim press hydraulic fluid analytical results).

This facility has two PCB transformers containing a total of 6,303 kilograms of PCB dielectric fluid. All other plant transformers are gas-filled. In addition, 40 large high voltage and 280 large low voltage PCB containing capacitors are in service. These were observed to be properly marked.

Five 55-gallon drums containing capacitors ready for disposal were observed on the loading dock area. Inspection of GM records indicated that they were awaiting pick-up by CECOS International for disposal. Both the annual report entry and shipping manifest showed proper documentation of this disposal.

TABLE 3. PCB SAMPLE RESULTS OF DIE CAST MACHINE AND TRIM PRESS HYDRAULIC FLUID

Sample Number	Description	PCB Concentration ppm (1242)
1	Die Cast Machine #2	1
2	Trim Press Machine #2	1
3	Die Cast Machine #8	11
4	Trim Press #8	17
7	Die Cast Machine #102	1
8	Die Cast Machine #107	1
10	Die Cast Machine in storage (west end of plant)	7
11	Adsorbent material near sample point #10	8

* Unable to determine

VERSAR Inc.

PCB ANALYTICAL REPORT

REF. # 701

PREPARED FOR: Sheldon Simon
etc.

Facility Inspected: General Motors Redford Township

SAMPLE NO.	LAB NO.	CONCENTRATION PARTS/MILLION	AROCLOR	COMMENTS
GM-1	5980	<1	—	Hydraulic Fluid
GM-2	5981	<1	—	Hydraulic Fluid
GM-3	5982	11	1242	Hydraulic Fluid
GM-4	5983	17	1242	Sludge-Floor
GM-5	5984	270	1242	Sludge Collection Sump
GM-6	5985	<1	—	Hydraulic Fluid
GM-7	5986	<1	—	Hydraulic Fluid
GM-8	5987	<1	—	

DATE: _____

MARK T. CARKHUFF, CHEMIST
APPLIED CHEMISTRY DIVISION

Weiss & Klein Inc.

PCB ANALYTICAL REPORT

REF. # 701

PREPARED FOR: Shelda Simon
US EPA
230 So. Dearborn
Chicago, Illinois 60604

Facility: Inland Steel Indiana Harbor Indiana

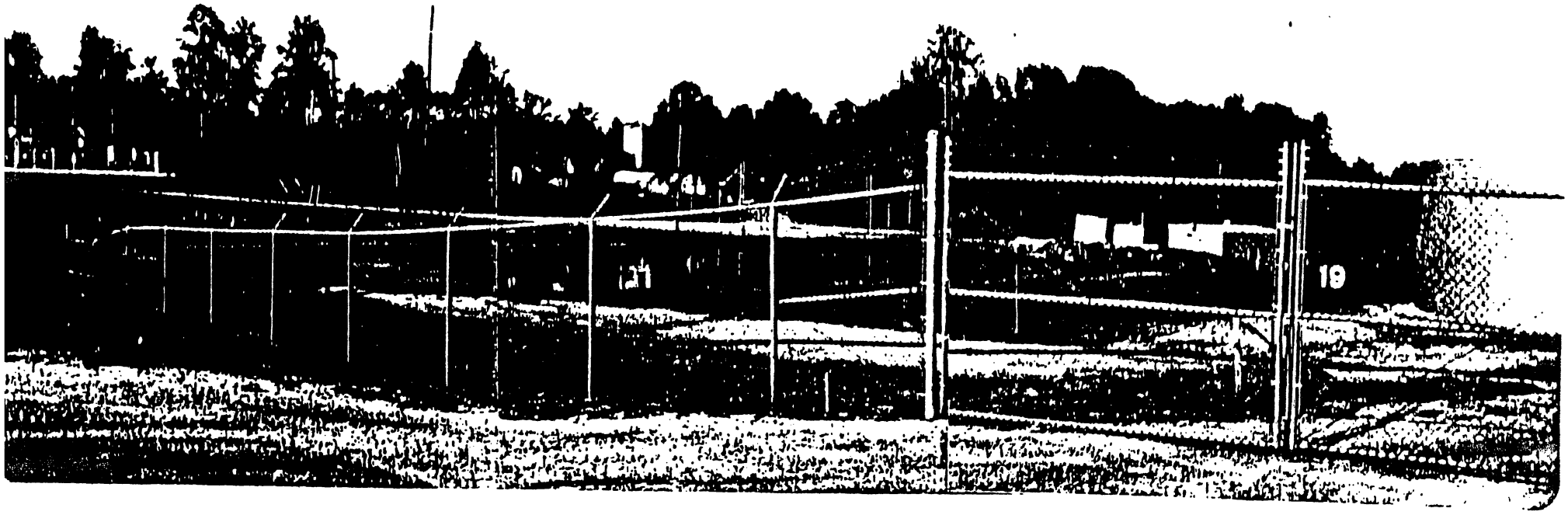
SAMPLE NO.	LAB NO.	CONCENTRATION PARTS/MILLION	AROCLOR	COMMENTS
GW-9	5988	*<0.5		Oil water mixture
GW-10	5989	7	1242	Hydraulic Fluid Absorbent Mat
GW-11	5990	**Could not Quantitate		Oil from Hydraulic
GW-12	5991	790	1242	Filter Cake
GW-13	5992	1,000	1242	Soil Storage Area
GW-14	5993	3,100	1242	Soil from between Storage Tanks
GW-15	5994	11,000	1242	
GW-16	5995	*<0.5	—	Water Discharge
GW-17	5996	**300,000	1242	Oil water mixture
GW-18	5997	*<0.5		Water Discharge

DATE: * Water Samples reported in ppb

** Undocumented Interference, oil emulsified sample

MARK T. CARKHUFF, CHEMIST
APPLIED CHEMISTRY DIVISION

GENERAL MOTORS CORPORATION - CENTRAL FOUNDRY DIVISION - BEDFORD, INDIANA PLANT 9/16/80



OLD PCB WASTE LAGOON AND PCB STORAGE TANKS IN THE BACKGROUND.

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Simon, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL X WATER _____ SEDIMENT _____ SOIL _____

OTHER _____

SAMPLE DESCRIPTION: Die Casting Machine Number 2 - 400 gallon capacity

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: pinch tube

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-1	<1	1242

COMMENTS:

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Simon, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL X WATER _____ SEDIMENT _____ SOIL _____

OTHER _____

SAMPLE DESCRIPTION: Traim Press Number 2 - 90 gallon capacity

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: pinch tube

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-2	<1	1242

COMMENTS:

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Simon, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL X WATER _____ SEDIMENT _____ SOIL _____

OTHER _____

SAMPLE DESCRIPTION: Die Casting Machine Number 8 - 500-550 gallon capacity

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: pinch tube

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM- 3	11	1242

COMMENTS: _____

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Sisco, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL X WATER _____ SEDIMENT _____ SOIL _____

OTHER _____

SAMPLE DESCRIPTION: Trim Press Number 8 - 90 gallon capacity

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: pinch tube

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-4	17	1242

COMMENTS:

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Sisco, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL _____ WATER _____ SEDIMENT X SOIL _____

OTHER _____

SAMPLE DESCRIPTION: Floor trench perpendicular from main trench located between die casting machine numbers 1 and 2

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: scoop

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-5	270	1242

COMMENTS: _____

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Simon, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL _____ WATER _____ SEDIMENT X SOIL _____

OTHER _____

SAMPLE DESCRIPTION: Trench convergence in basement collection system nearest die casting machine number 142

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: scoop

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-6	<1	1242

COMMENTS: _____

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Sisco, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL X WATER _____ SEDIMENT _____ SOIL _____

OTHER _____

SAMPLE DESCRIPTION: Backend of Die Casting Machine Number 102 - 500 gallon capacity

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: pinch tube

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-7	<1	1242

COMMENTS: Duplicate samples taken

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Simon, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL X WATER _____ SEDIMENT _____ SOIL _____

OTHER _____

SAMPLE DESCRIPTION: Backend of Die Casting Machine Number 107 - 500 gallon capacity

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: pinch tube

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-8	<1	1242

COMMENTS: _____

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Sisco, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL _____ WATER _____ SEDIMENT _____ SOIL _____

OTHER X Water-Oil Mixture

SAMPLE DESCRIPTION: Co-mingled waste stream from basement collection system just prior to entering main sump basket

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: direct grab

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-9	<0.5 *	1242

COMMENTS: *ppb

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Sisco, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL X WATER _____ SEDIMENT _____ SOIL _____

OTHER _____

SAMPLE DESCRIPTION: Die Casting Machine (one of six) in storage for use at west end of building

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: pinch tube

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-10	7	1242

COMMENTS: _____

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Sisco, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL _____ WATER _____ SEDIMENT _____ SOIL _____

OTHER X Sorbent material

SAMPLE DESCRIPTION: Sorbent material from spill area near Die Casting Machines in storage at west end of building

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: scoop

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-11	32	1242

COMMENTS:

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Simon, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL _____ WATER _____ SEDIMENT X SOIL _____

OTHER _____

SAMPLE DESCRIPTION: Thickened oil from bottom of one of two clari-thickeners.

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: GM's grab sampler

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-12	790	1242

COMMENTS: _____

INDIVIDUAL SAMPLE ANALYSIS REPORT

VEPSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Sisco, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL _____ WATER _____ SEDIMENT _____ SOIL _____

OTHER X Filter Cake

SAMPLE DESCRIPTION: Filter Cake in "Dumpster" dewatered sludge from treatment system.

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: Direct Grab

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-13	1,000	1242

COMMENTS:

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Sisco, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL _____ WATER _____ SEDIMENT _____ SOIL X

OTHER _____

SAMPLE DESCRIPTION: Four-inch core from perimeter of old storage lagoon

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: direct grab

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-14	3,100	1242

COMMENTS:

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Sisco, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL _____ WATER _____ SEDIMENT _____ SOIL X

OTHER _____

SAMPLE DESCRIPTION: From between two of eight tanks on south side of tank storage area.

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: scoop

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-15	11,000	1242

COMMENTS: _____

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Sisco, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL _____ WATER X SEDIMENT _____ SOIL _____

OTHER _____

SAMPLE DESCRIPTION: Permitted Discharge 002

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: _____

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-16	<0.5 *	1242

COMMENTS: *ppb

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Sinon, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL _____ WATER _____ SEDIMENT _____ SOIL _____

OTHER X Oil-water Mix

SAMPLE DESCRIPTION: 48-inch pipe diverting GM and non-GM runoff to point after 002 discharge

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: direct grab

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-17	300,000	1242

COMMENTS: Advisory sample - water contained by pipe includes spring water and runoff from GM and non-GM property

INDIVIDUAL SAMPLE ANALYSIS REPORT

VERSAR ANALYTICAL REPORT NUMBER: 701

TO: Sheldon Simon, EPA Region V

FACILITY: General Motors Corporation - Central Foundry Division, Bedford, Indiana

SAMPLE DATE: September 16, 1980

SAMPLE TYPE: OIL _____ WATER X SEDIMENT _____ SOIL _____

OTHER _____

SAMPLE DESCRIPTION: Permitted Discharge 001

COLLECTED BY: Michael C. Calhoun - Environmental Scientist

COLLECTION METHOD: direct grab

SAMPLE CODE	PCB CONCENTRATION (ppm)	AROCLOR TYPE
GM-18	<0.5 *	1242

COMMENTS: *ppb

Runoff pond containing runoff from north and east sides of plant

U.S. Environmental Protection Agency

NOTICE OF INSPECTION

Name of Firm	
Firm Address	
Inspector Name and Address: M. E. Calhoun & Eric Jurgens	Date: 9/16/80 Time: 8:20
Inspector's Signature: [signature]	Name of Recipient: B. F. [illegible]
Title: Field Engineer	Title: Senior Engineer

REASON FOR INSPECTION

Under the authority of Section 11 of the Toxic Substances Control Act

☒ For the purpose of inspecting (including taking samples, photographs, statements, and other inspection activities) an establishment, facility, or other premises in which chemical substances or mixtures or articles containing same are manufactured, processed or stored, or held before or after their distribution in commerce (including records, files, papers, processes, controls, and facilities) and any conveyance being used to transport chemical substances, mixtures, or articles containing same in connection with their distribution in commerce (including records, files, papers, processes, controls and facilities) bearing on whether the requirements of the Act applicable to the chemical substances, mixtures, or articles within or associated with such premises or conveyance have been complied with.

☐ In addition, this inspection extends to (circle appropriate letters):

(A) Financial data
(B) Sales data
(C) Pricing data
(D) Personnel data
(E) Research data

The nature and extent of inspection of such data specified in A through E above is as follows:

U.S. Environmental Protection Agency

TSCA INSPECTION

CONFIDENTIALITY NOTICE

Facility General Motors.

Facility Address

Inspector Name
MIKE CALHOUN/ERIC TURGEON

Inspector Address
VERSAR INC
6621 ELECTRONIC DRIVE.
SPRINGFIELD, VA 22151

Chief Executive Officer of Firm

Title

Address

ame of Individual to Whom Notice Given

Title

Date 9/16/80

t is possible that EPA will receive public requests for release of the information obtained uring inspection of the facility above. Such requests will be handled by EPA in accordance ith provisions of the Freedom of Information Act (FOIA), 5 U.S.C. 552; EPA regulations issued hereunder, 40 CFR Part 2; and the Toxic Substances Control Act, Section 14. EPA is required o make inspection data available in response to FOIA requests unless the Administrator of he Agency determines that the data contains information entitled to confidential treatment.

ny or all of the information collected by EPA during the inspection may be claimed confidential if it relates to trade secrets or commercial or financial matters that you consider to confidential. If you make claims of confidentiality, EPA will disclose the information nly to the extent, and by means of the procedures, set forth in the regulations (cited abo overning EPA's treatment of confidential information. Among other things, the regulations equire that EPA notify you in advance of publicly disclosing any information you have claimed nd certified confidential.

o claim information confidential, you must certify that each claimed item meets all of the ollowing criteria:

1

Your company has taken measures to protect the confidentiality of the information, and it intends to continue to take such measures.

The information is not, and has not been, reasonably obtainable without your company's consent by other persons (other than governmental bodies) by use of legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding).

The information is not publicly available elsewhere.

Disclosure of the information would cause substantial harm to your company's competitive position.

the completion of the inspection, you will be given a receipt for all documents, samples, d other materials collected. At that time, you may make claims that some or all of the formation is confidential and meets the four criteria listed above.

you are not authorized by your company to make confidentiality claims, this notice will sent by certified mail, along with the receipt for documents, samples, and other materials, the Chief Executive Officer of your firm within two days of this date. The Chief Executive ficer must return a statement specifying any information which should receive confidential eatment.

(continued)

Facility

e statement from the Chief Executive Officer should be addressed to:

d reach the address shown here within seven (7) calendar days after receipt of the notice.
e statement should be sent by registered, return receipt requested mail.

ilure by your firm to submit a written request that information be treated as confidential, ther at the completion of the inspection or by the Chief Executive Officer within the ven-day period, will be treated by EPA as a waiver by your company of any claims for nfidentiality regarding the inspection data a nd the data will be available to the public thout any further notice to you.

be filled out by the facility official ceiving this notice if he DOES have the thority to make confidentiality claims:	To be filled out by the facility official receiving this notice if he DOES NOT have the authority to make confidentiality claims:
ıave received and read this statement. ıereby certify that I am authorized make confidentiality claims for company.	I have received and read this statement. I hereby certify that I am not authorized to make confidentiality claims for my company.
;nature	signature
:e	date

9-16-80

I HAVE RECEIVED THIS CONFIDENTIALITY NOTICE ON THIS DATE 9-16-80.

Glen R. Ohl
SENIOR ENGINEER
CFO - GM

RECEIPT FOR DOCUMENTS, SAMPLES, AND PHOTOGRAPHS

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGIONAL ADDRESS: _____

COMPANY NAME AND ADDRESS: GENERAL MOTORS - BEDFORD IND.

NAME AND TITLE OF RESPONSIBLE OFFICIAL: G.R. OHL
SENIOR ENGINEER

ARTICLES

ARTICLE NUMBER	DATE & TIME	DESCRIPTION	REQUESTED & PROVIDED	NOT REQUESTED	SAMPLE	PHOTO	DOCUMENT
1. GM-6	9/16/1112	SLUDGE FROM COLLECTION SYSTEM D/C #2	X		X		
2. GM-7A&B	9/16/1121	FLUID FROM BE or D/C #102	X		X		
3. GM-8	9/16/1129	FLUID FROM BE OR D/C #107	X		X		
4. GM-9	9/16/1150	WATER/OIL AT MAIN COLLECTION SUMP	X		X		
5. GM-10	9/16/1200	FLUID FROM STORED D/C [illegible]	X		X		
6. GM-11	9/16 1409	SORBENT MATERIAL SAMPLE	X		X		
7. GM-12	9/16 1435	OIL FROM BOTTOM OF CHARI-THICKENER	X		X		
8. GM-13	9/16 1455	FILTER CAKE	X		X		
9. GM-14	9/16 1505	STORAGE LAGOON	X		X		
10. GM-15	9/16 1520	SOIL SAMPLE / TANK STORAGE AREA	X		X		

ACKNOWLEDGMENT OF RESPONSIBLE OFFICIAL

THE UNDERSIGNED ACKNOWLEDGES THAT THE ARTICLES DESCRIBED ABOVE HAVE BEEN RECEIVED AND AN OFFER TO COPY THE ARTICLE WITH THE ABOVE MENTIONED COMPANY WAS MADE AND IF A COPY WAS REQUESTED, THE COMPANY RECEIVED DUPLICATE ARTICLES.

SIGNATURE OF RESPONSIBLE OFFICIAL: G.R. Ohl

TITLE OF OFFICIAL: SENIOR ENGINEER

NAME OF PERSON WHO RECEIVED ARTICLE: ERIC D JUERGENS

SIGNATURE OF RECEIVER : [signature]

TITLE OF RECEIVER : INSPECTOR

ALL SAMPLES SPLIT WITH FACILITY

RECEIPT FOR DOCUMENTS, SAMPLES, AND PHOTOGRAPHS

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGIONAL ADDRESS: _____

COMPANY NAME AND ADDRESS: General Motors - Bedford, Ind.

NAME AND TITLE OF RESPONSIBLE OFFICIAL: G.R. Ohl
Senior Engineer

ARTICLES

ARTICLE NUMBER	DATE & TIME	DESCRIPTION	REQUESTED & PROVIDED	NOT REQUESTED	SAMPLE	PHOTO	DOCUMENT
1. A1	9/16/80 0738	Participant List	x				x
2. A2	9/16/80 0936	Flow Diagram - Plant		x			x
3. A3	9/16/80 0945	D/C Machines; Trim Presses Analysis	x				x
4. A4	9/16/80 0951	Plant Layout	x				x
5. A5	9/16/80 0955	CFD Bedford PCB Record	x				x
6. GM-1	9/16 1030	Sample - Fluid from D/C #2	x		x		
7. GM-2	9/16/ 1036	Sample - Fluid From TP #2	x		x		
8. GM-3	9/16/ 1046	Sample - Fluid from D/C #8	x		x		
9. GM-4	9/16/ 1051	Sample - Fluid From TP #8	x		x		
10. GM-5	9/16/ 1100	Sample - Sludge Floor drain	x		x		

ACKNOWLEDGMENT OF RESPONSIBLE OFFICIAL

THE UNDERSIGNED ACKNOWLEDGES THAT THE ARTICLES DESCRIBED ABOVE HAVE BEEN RECEIVED AND AN OFFER TO COPY THE ARTICLE WITH THE ABOVE MENTIONED COMPANY WAS MADE AND IF A COPY WAS REQUESTED, THE COMPANY RECEIVED DUPLICATE ARTICLES.

SIGNATURE OF RESPONSIBLE OFFICIAL: G.R. Ohl

TITLE OF OFFICIAL: Senior Engineer

NAME OF PERSON WHO RECEIVED ARTICLE: Eric D. Jurgens

SIGNATURE OF RECEIVER: Eric D Jurgens

TITLE OF RECEIVER: Inspector OZA

ALL SAMPLES SPLIT WITH FACILITY

RECEIPT FOR DOCUMENTS, SAMPLES, AND PHOTOGRAPHS

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGIONAL ADDRESS: _____

COMPANY NAME AND ADDRESS: GENERAL MOTORS, - BEDFORD, IND.

NAME AND TITLE OF RESPONSIBLE OFFICIAL: G.R. OHL
SENIOR ENGINEER

ARTICLES

ARTICLE NUMBER	DATE & TIME	DESCRIPTION	REQUESTED & PROVIDED	NOT REQUESTED	SAMPLE	PHOTO	DOCUMENT
1. GM-16	9/16/1525	002 DISCHARGE	X		X		
2. GM-17	9/16/1536	48 INCH RUNOFF SEWER	X		X		
3. GM-18	9/16 1605	001 DISCHARGE					
4.							
5.							
6.							
7.							
8.							
9.							
10.							

ACKNOWLEDGMENT OF RESPONSIBLE OFFICIAL

THE UNDERSIGNED ACKNOWLEDGES THAT THE ARTICLES DESCRIBED ABOVE HAVE BEEN RECEIVED AND AN OFFER TO COPY THE ARTICLE WITH THE ABOVE MENTIONED COMPANY WAS MADE AND IF A COPY WAS REQUESTED, THE COMPANY RECEIVED DUPLICATE ARTICLES.

SIGNATURE OF RESPONSIBLE OFFICIAL: G. R. Ohl

TITLE OF OFFICIAL: SENIOR ENGINEER

NAME OF PERSON WHO RECEIVED ARTICLE: ERIC D. JUERGENS

SIGNATURE OF RECEIVER: E. D. Juergens

TITLE OF RECEIVER: INSPECTOR

ALL SAMPLES SPLIT WITH FACILITY

APPENDIX G.25

CONSENT AGREEMENT TSCA-V-C-138-87

GM Legal Staff

Inter-Organizatio

Date: July 6, 1987

To: William Schoonmaker
Environmental Engineer
Central Foundry Division
Bedford, IN

From: Michael G. Cooke MGC

Subject: Central Foundry - Bedford
North Lagoon Closure

Enclosed for Bedford's files is a copy of the executed and adopted Consent Agreement and Final Order (CAFO) for closure of the North Lagoon. The effective date of the order is June 25, 1987. Thus, the time periods outlined on page 6 of the CAFO for completing work commenced June 25. If you experience difficulty meeting these time-frames or if you have any questions on this matter, please contact me.

MGC:sb

Enclosure

c: Gary Toth
Joseph Chu
Denise Leduc

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

IN RE:

GENERAL MOTORS CORPORATION
CENTRAL FOUNDRY DIVISION
BEDFORD, INDIANA

Respondent.

TSCA-V-C- TSCA-V-C- 138-'87

CONSENT AGREEMENT
AND
FINAL ORDER

RECEIVED
JUN 29 1987
REGIONAL HEARING CLERK
U.S. ENVIRONMENTAL
PROTECTION AGENCY

CONSENT AGREEMENT

1. This civil administrative proceeding for the assessment of a penalty was initiated pursuant to Section 16(a) of the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2615.

2. A Complaint and Notice of Opportunity for Hearing was filed by Complainant on June 29, 1987 charging that Respondent violated Section 15 of TSCA, 15 U.S.C. § 2614 by failure to comply with federal regulations regarding the storage and disposal of polychlorinated biphenyls (PCBs), 40 C.F.R. Part 761, promulgated under Section 6 of TSCA.

3. Count I of the Complaint alleged a violation of Section 15 of TSCA, 15 U.S.C. § 2614 and 40 C.F.R. § 761.65(b) in that an open, unlined lagoon located on Respondent's property in Bedford, Indiana (hereafter referred to as "North Lagoon") containing PCBs at concentrations greater than 50 parts per million (ppm), did not meet the physical requirements set forth in the aforesaid regulation for a PCB storage area, for which Complainant sought a civil penalty of $15,000.00.

4. Count II of the Complaint alleged a violation of 15 U.S.C. § 2614 and 40 C.F.R. § 761.65(a) in that Respondent failed to remove and dispose of the PCBs which had been stored in the North Lagoon since 1980, prior to January 1, 1984, for which Complainant sought a civil penalty of $15,000.

5. Count III of the Complaint alleged a violation of 15 U.S.C. § 2614 and 40 C.F.R. § 761.60(a) in that in March 1981, Respondent drained part of the contents from the North Lagoon, which constituted an uncontrolled discharge of PCBs in concentrations greater than 50 ppm, for which Complainant sought a civil penalty of $25,000.

6. Respondent admits the jurisdictional allegations in the Complaint.

7. Respondent neither admits nor denies the factual allegations of the Complaint.

8. Respondent contends that the PCBs in the North Lagoon were placed there prior to February 17, 1978, the "grandfathered" disposal date of the TSCA regulations, or are otherwise unregulated because they resulted from influent water containing less than 50 ppm PCBs. Respondent also contends that the North Lagoon is not a PCB storage site within the meaning of 40 C.F.R. § 761.65, and that, in any event, the materials entering and leaving the North Lagoon were not PCBs within the meaning of 40 C.F.R. § 761.

9. Respondent further contends that its actions in March 1981 were in full compliance with TSCA in that backfilling the North Lagoon

was not disposal under 40 C.F.R. § 761.60 and the water drained from the North Lagoon was unregulated material (less than 50 ppm PCBs). Respondent, however, acceded to the request of state and federal agencies to suspend further action on the North Lagoon pending review.

10. Complainant does not acquiesce in the interpretation of the PCB regulations advocated by Respondent; however, Complainant has determined that settlement of this matter in accordance with the terms set forth herein is in the public interest.

NOW, THEREFORE, solely for purposes of this proceeding without trial or other litigation of the issues or any adjudication of the facts, the parties stipulate and agree as follows:

1. Respondent, General Motors Corporation, at its Central Foundry Plant, Bedford, Indiana, owns and operated a storm water retention lagoon located on the north end of the plant property off Jackson Road (the North Lagoon). The North Lagoon was built in the early 1950's and used primarily as a water reservoir and then later as a retention lagoon for storm water and noncontact cooling water.

2. As a result of construction of a new storm water retention lagoon, the Central Foundry Plant terminated the use of the North Lagoon and blocked the inlet and discharge pipe on March 9, 1981. On March 13, 1981, General Motors began to drain the water in the North Lagoon and to backfill the North Lagoon with soil. Closure operations continued until representatives of the Indiana State Board of Health (ISBH) requested that General Motors discontinue its activities until

the matter could be reviewed by ISBH and U.S. EPA Region V. Other than periodic draining of the lagoon, General Motors has not resumed closure of the North Lagoon pending the resolution of this matter.

3. Samples of the lagoon sediment taken in 1981 and 1982 revealed the presence of PCBs in the sediment in concentrations greater than 50 ppm.

4. Respondent agrees to excavate, sample, remove, transport and dispose of waste and PCB-contaminated soil from the North Lagoon pursuant to the terms of the following final Order.

5. In consideration of Respondent's agreement to expeditiously undertake and complete the removal and disposal of the PCB-contaminated wastes and soil in its North Lagoon in accordance with this Consent Agreement and Final Order, Complainant agrees to mitigate the civil penalty proposed in the Complaint to $0.00.

6. Respondent expressly waives its right to an adjudicatory hearing on the allegations of the Complaint.

7. Respondent consents to the terms and conditions of the following final Order.

For Respondent, General Motors Corporation

Dated: 6/9/87 Robert W. Herr

STATE OF INDIANA

COUNTY OF LAWRENCE

On this 9th day of June, 1987, before me personally came Robert W. Herr, to me known, who being duly sworn did depose and say that he resides in Lawrence County, that he is Plant Manager of the Corporation described in and which executed the foregoing instrument, and that he signed his name as authorized by said Corporation.

T. Leanne Tyler
Notary Public

For Complainant, U.S. Environmental Protection Agency,

Dated: 6/24/81

WILLIAM H. SANDERS, III, P.E.
Director
Environmental Services Division
U.S. Environmental Protection
Agency, Region V
230 South Dearborn Street
Chicago, Illinois 60604

FINAL ORDER

1. Respondent shall excavate and remove all waste and contaminated soil from the North Lagoon to the level of the earthen liner of the lagoon. Beginning at the level of the earthen liner, Respondent shall excavate and remove soil from the side walls and bottom of the lagoon until samples from the remaining soil show the PCB concentration to be 3 ppm or less, or until a maximum of four feet of soil beyond the level of the earthen liner at the side walls and the bottom of the lagoon has been excavated.

2. If the PCB concentration of the remaining soil in the Lagoon is over 3 ppm after four feet of excavation beyond the earthen liner, Respondent shall install an underdrain system to cover the bottom of the excavated area to collect any future water infiltration. The collected water shall be treated at the Respondent's on-site wastewater treatment plant.

3. The excavated area shall be backfilled within eight inches of grade with clean burrow (less than 2 ppm PCBs) and the burrow capped with eight inches of clean clay soil (less than 2 ppm PCBs).

4. Respondent shall dispose of the PCB-contaminated wastes and soils removed from the North Lagoon in accordance with 40 C.F.R. § 761.60 and all other applicable state and federal laws and regulations.

5. Respondent shall undertake the actions required by Paragraphs 1 through 4 of this Order in accordance with the Work Plan which is attached hereto and which is hereby incorporated into this Order, no later than the dates set forth in the following schedule:

	SCHEDULE INCREMENTS	DATE
A.	Commence waste and contaminated soil excavation	Within 90 days of the effective date of this Final Order.
B.	Submit sample analyses demonstrating PCB concentrations in remaining soil at 3 ppm or less, or commence underdrain installation	Within six months of the effective date of this Final Order.
C.	Complete all soil excavation and underdrain installation if required	Within seven months of the effective date of this Final Order.
D.	Dispose of PCB-contaminated waste and soil in accordance with 40 C.F.R. § 761.60	Within 18 months of the effective date of this Final Order.

6. Within 15 days of the compliance date for each of the schedule increments in Paragraph 5A, B and C, Respondent shall notify Complainant in writing of its compliance or noncompliance with such schedule increment.

7. General Motors shall submit the final report called for in the Work Plan under Part II, Task 9.B, to U.S. EPA Region V within 30 days after receipt from the contractor.

8. Respondent shall perform the requirements under this Order within the time limits set forth herein, unless the performance is prevented or delayed solely by events which constitute a force majeure. A force majeure is defined as any event arising from causes not reasonably foreseeable and beyond the control of the Respondent including, but not limited to, action of a national or local government, body or court, an act of God, war, strike, riot or catastrophe, as to any of which the negligence or willful misconduct of the Respondent was not the proximate cause, and which delays or prevents performance by a date required by this Consent Order.

Respondent must notify EPA in writing within 15 working days after it becomes aware of events which it believes constitute a force majeure. Such notice shall estimate the anticipated length of delay, including necessary demobilization and remobilization, its cause, measures taken or to be taken to minimize the delay, and an estimated timetable for implementation of these measures. Respondent shall adopt reasonable measures to avoid and minimize the delay.

If Respondent demonstrates to EPA that a delay or nonperformance is caused solely by a force majeure, the time for performance of that task shall be extended for a period equal to the delay resulting from such circumstances. Such an extension does not alter the schedule for performance of any other requirement of this Consent Order unless these are also specifically altered by amendment of the Consent Order or underlying plan. In the event EPA does not accept Respondent's

demonstration of a force majeure, EPA must notify Respondent in writing within 15 working days. If agreement cannot be reached, EPA and Respondent reserve their respective rights to undertake appropriate action as provided by law.

9. All submissions and notifications required by this Order shall be sent to:

Chief
Toxic Substances Section (5SPT)
U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

10. Respondent's failure to comply with the terms and conditions of this Order by the dates contained therein will render the full proposed civil penalty of $55,000 due and payable within 15 days of written demand by U.S. EPA. Payment shall be made as specified in said demand.

11. Interest shall accrue on any amounts overdue under the terms of this Consent Agreement and Final Order at the rate established by the Secretary of the Treasury pursuant to 31 U.S.C. § 3717. A late payment handling charge of $20.00 will be imposed after thirty (30) days with an additional charge of $10.00 for each subsequent 30-day period an unpaid balance remains. In addition, a six percent per annum penalty will be applied on any principal amount not paid within ninety (90) days of the date that this Consent Agreement and Final Order is signed by the Regional Administrator.

12. The effective date of this Consent Agreement and Final Order is the date of signature by the Regional Administrator.

13. The failure to comply with the terms of this Consent Agreement and Final Order will result in a referral of this matter to the United States Attorney for enforcement.

14. Nothing in this Consent Agreement and Final Order shall relieve Respondent of its duty to comply with all applicable provisions of TSCA, 15 U.S.C. § 2601, et. seq.

15. Nothing in this Consent Agreement and Final Order shall relieve Respondent from any liability under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601, et. seq.

IT IS SO ORDERED.

Dated: 6/25/87

Francis M. Covington

VALDAS V. ADAMKUS
for Regional Administrator
U.S. Environmental Protection
Agency, Region V

WORK PLAN FOR NORTH LAGOON CLOSURE

The following describes the Work Plan for the closure of the North Lagoon of the General Motors Corporation, Central Foundry Division - Bedford plant.

I. Background

1. The North Lagoon that is addressed by this plan is shown on Figure 1. The North Lagoon is located on the plant property immediately east of North Jackson Street and the plants manufacturing facility. The lagoon was constructed in the early 1950's and was used primarily as a water reservoir and storm water retention lagoon until 1981. It is oval in shape and is approximately 310 feet long, 250 feet wide, and 22 feet deep at its maximum outline. The lagoon is no longer needed because a new larger storm water retention lagoon was constructed in 1981 as part of an overall wastewater treatment project.

2. The objectives of this plan are to:

A. Excavate, remove, transport, and dispose of waste and contaminated soil from the North Lagoon. The North Lagoon area included in this project is described in "1" above.

B. Sample and analyze the excavated waste and contaminated soil to meet all applicable disposal facility permit and Department of Transportation requirements.

C. Sample and analyze the remaining soil in the excavated area. If any of the samples show the soil to be contaminated with 3 ppm or more of PCBs, an underdrain system will be installed at the bottom of the excavated area to collect any future water infiltration. The collected water will be treated at the Central Foundry on-site wastewater treatment plant. The plant's NPDES permit requires the effluent to meet a PCB limitation of 1 ppb.

D. Backfill the excavated areas to provide and maintain adequate drainage and runoff control.

E. Cover the back-filled area with top soil and seed to provide appropriate groundcover.

II. Tasks

The major tasks in the work plan are described below. The Project Time Schedule for implementing the work plan is shown in Figure 2. All tasks in the work plan are planned to be completed within 180 working days. Since the contractor for implementing the Work Plan has not been selected, the schedule may be revised after the contractor has been selected and given an opportunity to review the Work Plan.

Task 1. Mobilization and Site Preparation

The first task will be for the contractor to mobilize equipment to the site and prepare the site for waste and soil handling operations. Site preparation will include:

A. Designation of three basic work zones:

a. Exclusion Zone - the North Lagoon area as identified in Figure 1.

b. Contamination Reduction Zone - the area where vehicles and equipment are cleaned off prior to leaving the project site.

c. Support Zone - the area, outside of Exclusion and Contamination Reduction Zones, where support services are located.

B. Installation of Support Zone and Contamination Reduction Zone facilities that may include, as necessary:

a. Office trailer.

b. Laboratory trailer.

c. Personnel decontamination trailer.

d. Equipment storage trailer.

e. Equipment/vehicle decontamination pad.

f. Utilities - water, electricity and telephone service.

C. Provision of adequate construction drainage controls to contain storm water runoff from the North Lagoon work area as shown in Figure 1 for removal and treatment (see Task 2).

D. Construction, as necessary, of site access roads, equipment decontamination pad and waste staging facilities. The contractor may use any existing appropriate facilities.

Task 2. Lagoon Water and Storm Water Removal/Treatment

Existing lagoon water and storm water that is retained by the drainage control for the North Lagoon work area will be pumped to the plant's wastewater treatment plant for treatment, including activated carbon adsorption. The PCB limitation for the treated effluent in the NPDES permit for this wastewater treatment plant is 1 ppb.

Task 3. Waste and Contaminated Soil Excavation

The contractor shall properly excavate and remove (and stage within the Exclusion Zone, as necessary) waste and contaminated soils from within the North Lagoon to the level of the earthen liner of the Lagoon. Beginning at the level of the earthen liner, soil will be excavated and removed from the bottom and side walls of the North Lagoon until samples from the remaining soil show PCB concentration to be 3 ppm or less (see Task 4 for sampling and analysis). In no event, however, will GM be required to remove more than a

maximum of four feet of soil beyond the level of the earthen liner at the side walls and the bottom of the North Lagoon. All excavated materials shall be transported and disposed as described in Task 5.

Task 4. Sampling and Analysis

The contractor will sample and analyze the waste materials and contaminated soil removed from the North Lagoon for meeting disposal facility permit and Department of Transportation requirements.

After removal of contaminated soils, the contractor will sample and analyze the remaining soil for PCB concentration using Method 8080, "Test Methods for Evaluating Soil Waste - Physical/Chemical Methods", SW-846, 2nd. Ed., U.S. EPA, July 1982. The soil borings will be six inches in depth located at the grid point of each of the 50-foot by 50-foot grids established for the bottom and each 50-foot horizontal location at the side walls of the excavated area, resulting in more than 30 borings which will be analyzed. Each boring will be throughly mixed for analysis. The Central Foundry on-site laboratory may be used for PCB analysis.

Task 5. Loading, Transportation, and Disposal

The contractor will load all waste and contaminated soil properly on vehicles. Each vehicle will be lined with an impermeable, flexible material prior to loading with sufficient areal dimensions to allow the loaded materials to be fully enveloped with the lining material. A tarpaulin cover will be placed over the loaded materials.

The contractor will transport all wastes and contaminated soils off-site to an appropriate federal and state approved disposal facility. Transportation vehicles will meet applicable state and federal laws, including applicable DOT requirements. All vehicles will be weighed prior to and after loading at the on-site scale to certify that the tonnage of materials transported by each vehicle is correctly stated on the waste manifest or shipping paper.

GM Central Foundry is investigating the feasibility of on-site treatment for the removal/destruction of PCBs in the waste and contaminated soils. Treatment methods such as the Detox Industries' biological process for PCB degradation and disposal, as permitted by EPA Region VI, will be investigated. If GM Central Foundry determines that use of a PCB destruction process in lieu of off-site disposal is preferred, EPA approval

will be requested prior to utilization of such an option.

Task 6. Underdrain Installation

Upon completion of the analysis of the soil borings described in Task 4, if any one of the more than 30 borings is shown to contain PCBs in excess of 3 ppm (mg/kg), an underdrain system will be installed to cover the total bottom of the excavated area to collect any future water infiltration. The underdrain tile will be spaced in a 50-foot by 50-foot grid sloped to one collection point. The collected water will be treated at the Central Foundry on-site wastewater treatment plant. The plant's NPDES permit requires the effluent to meet a PCB limitation of 1 ppb.

Task 7. Backfill and Cover

The excavated area will be back-filled with local off-site borrow material. After backfilling, a six-inch top-soil layer will be placed over the back-filled area, and seeded. The cover will be sloped and maintained to prevent rainwater accumulation.

Task 8. Equipment Decontamination and Demobilization

The contractor will decontaminate all equipment prior to leaving the site at the completion of the project. Vehicles for transporting waste and contaminated soils from the North Lagoon area will be pressure washed to remove exterior contamination prior to leaving the Contamination Reduction Zone. All decontamination water and liquids from washing of vehicles and from decontamination of staff personnel safety equipment shall be collected for treatment through the on-site wastewater treatment plant.

Task 9. Administration and Support

A. Safety Plan

Prior to initiation of site work, the contractor must develop a satisfactory site safety plan for GM Central Foundry's approval. Failure to follow the plan may be a basis for termination of the work. All trailers, decontamination units and other safety equipment required in the plan shall be provided by the contractor. Site activities may require modification of the plan.

B. Final Report

Within 30 days after completion of the Tasks delineated in this Work Plan, the contractor shall prepare a final report delineating the results of the remedial action. All the information generated during the closure should be included as appendices to the document. The report should include maps drawn to scale indicating waste excavation areas, depths of excavations, all sample locations and analytical results, and all other data collected during the remedial action.

Attached Figure 1 & Figure 2

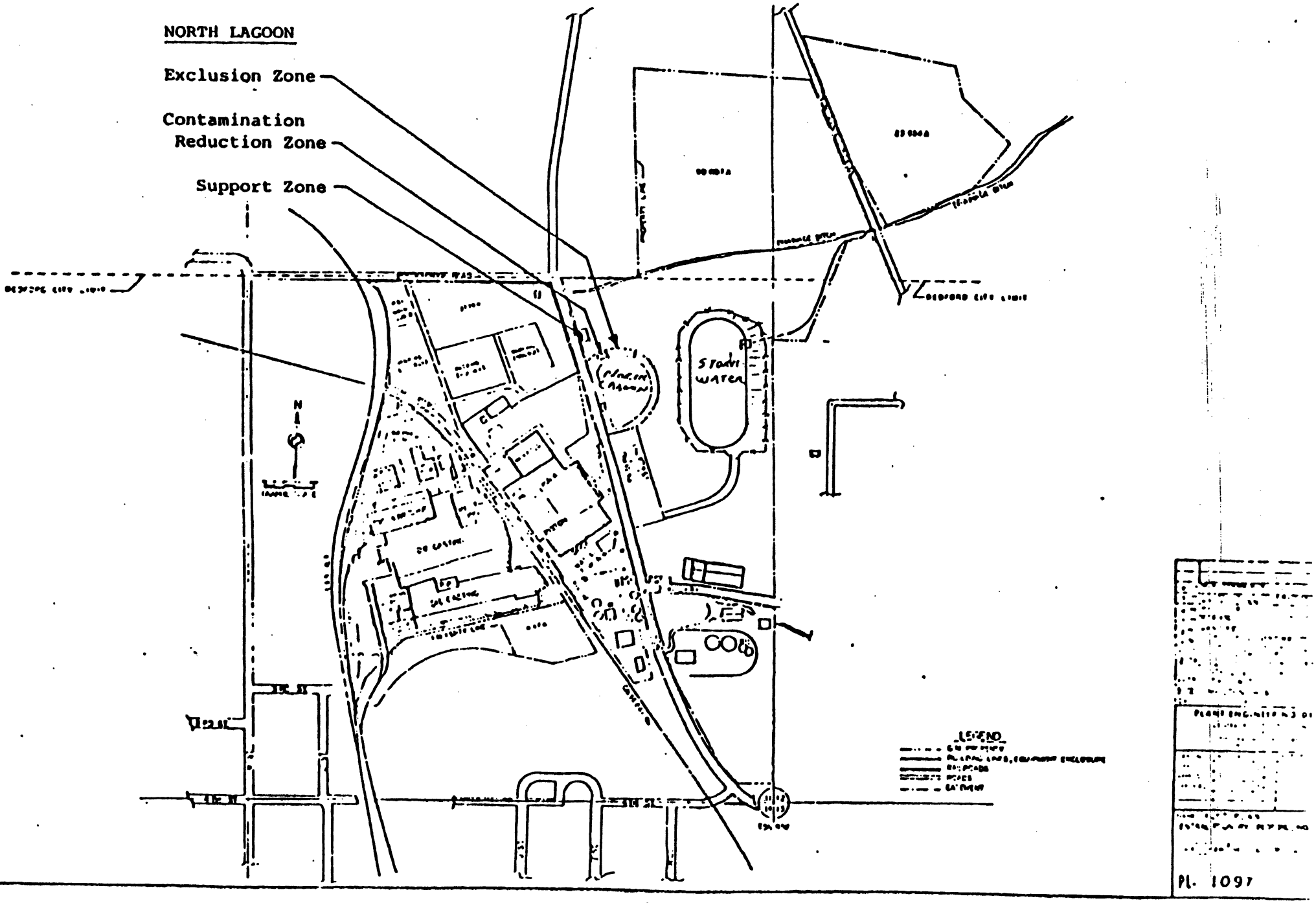
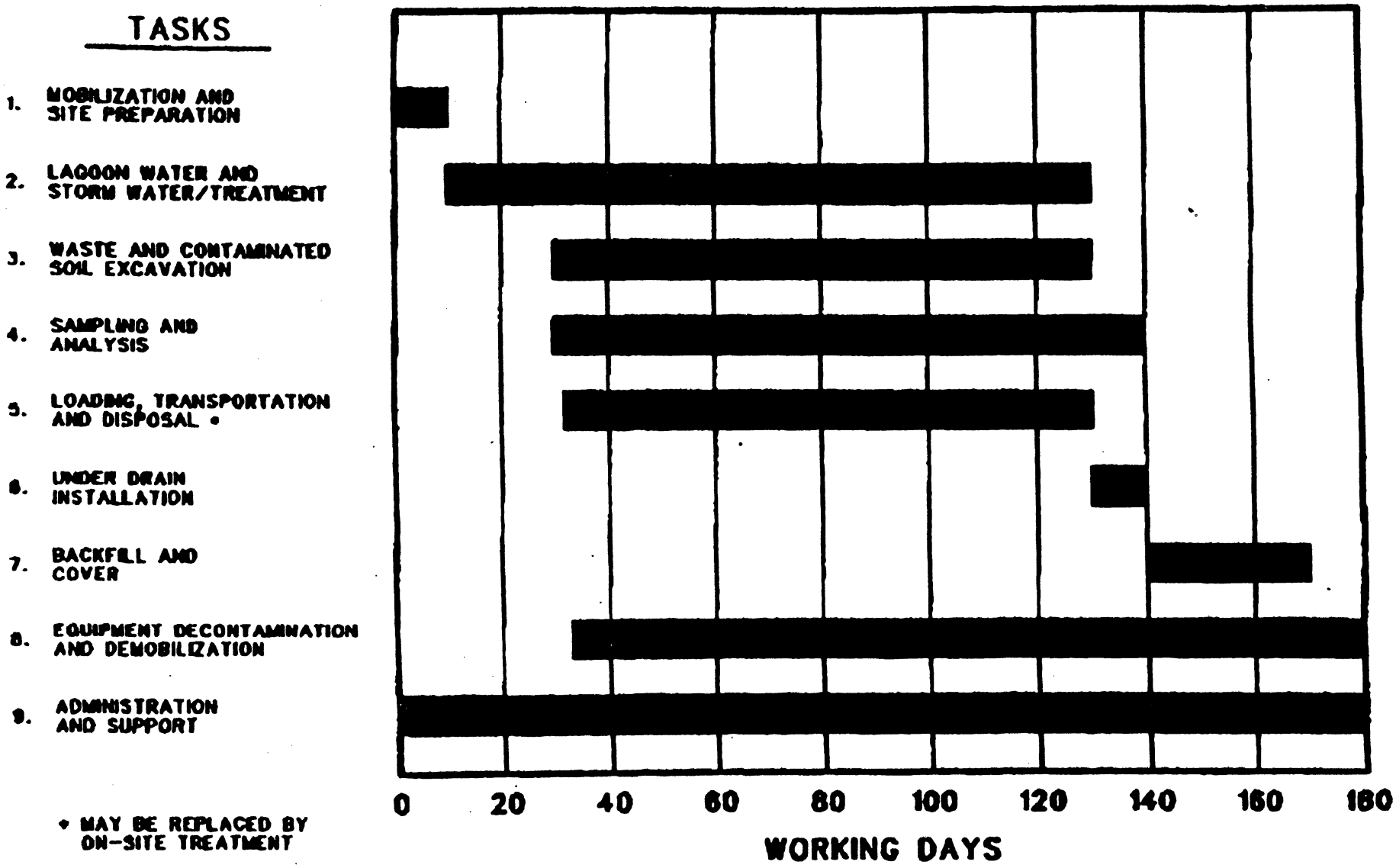


FIGURE 1. NORTH LAGOON LOCATION

FIGURE 2. PROJECT TIME SCHEDULE



MAY 25, 2001

APPENDIX G.26

NORTH LAGOON CLOSURE REPORT

Central Foundry Division
General Motors Corporation
Bedford Plant
North Jackson Street
Bedford, Indiana 47421-0271

September 20, 1988

CERTIFIED MAIL
RETURN RECEIPT

Chief Toxic Substances Section - 5SPT
U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, IL 60604

Gentlemen:

Paragraph 7 of the Consent Agreement and Final Order for the Central Foundry-Bedford North Lagoon requires General Motors Corporation to submit a final report detailing the results of the remedial action to the U.S. Environmental Protection Agency within 30 days of receipt from the contractor. Enclosed please find the report which satisfies the final task of the Consent Agreement and signifies the completion of the remediation.

If you have any questions regarding this matter, please contact Greg Etzel at 812/279-7310.

Very truly yours,

R.W. Herr

Bob Herr
Plant Manager

bc: Joseph Medved
Michael Cooke
Denise Leduc

Lets Get It Together
SAFETY BELTS SAVE LIVES

Final Report

Closure Activities on the North Lagoon

for Central Foundry Division

General Motors Corporation

Bedford, Indiana

Pursuant to USEPA (V)

Consent Agreement

and

Final Order

TSCA-V-C-138-87

The North Lagoon at the Bedford Central Foundry Plant had accumulated approximately 750,000 gallons of sediment during its 30 years of operation. In order to accomplish the removal of the material in the most efficient manner a filter press contractor was retained to dewater the sediments. IFAD Division of O. H. Materials of Lafayette, Louisiana was contracted to dewater the sediments, Fort Transfer of Morton, Illinois was contracted to transport the dewatered filter cake in bulk semi loads and National Electric of Coffeyville, Kansas was contracted to incinerate the filter cake.

On June 6, 1987, the trailer mounted plate and frame filter press was mobilized to the site along with the small dredge which was used to remove the sediments from the lagoon. The sediments were conditioned using ferric chloride and lime prior to dewatering in the press. The effluent from the press was pumped to the Central Foundry Wastewater Treatment Plant as required in the Consent Agreement. A total of 1,411.11 tons of filter cake was produced including the 60 tons of additives used to condition the sludge. The filter cake was loaded onto semi dump trailers with plastic-lined beds for transport to Coffeyville, Kansas. Upon arrival in Coffeyville, the filter cake was packaged in drums and incinerated. The final drum of material was incinerated on December 24, 1987. The entire dewatering operation was completed in two months from June 6, 1987, to August 4, 1987. No significant equipment failures or accidents occurred during this phase of the project, only minor pieces of equipment experienced problems during the two month project.

Concurrent with the dewatering operation, Chemical Waste Management began mobilization to the site and subsequent excavation operations on July 6, 1987. Both contractors worked together for approximately one month with no adverse affects to the project. Upon completion of the IFAD portion of the project they demobilized and the site was turned over to Chemical Waste Management. The remainder of the Final Report details the events during the excavation phase of the project.

Chemical Waste Management, Inc.
Environmental Remedial Action Division
4300 West 123rd Street
Alsip, Illinois 60658
312/396-2710

August 31, 1988

Mr. Greg Etzel
Project Manager
General Motors Corporation
Central Foundry Division
Bedford Plant, Box 271
Bedford, Indiana 47421

REFERENCE: Closure Document for
North Lagoon, Bedford, Indiana
CWM-ENRAC Control No. 87-02-087

Dear Mr. Etzel:

The Environmental Remedial Action Division (ENRAC) of Chemical Waste Management, Inc. (CWM) is pleased to present the attached closure document for work completed at the Central Foundry, Bedford, Indiana.

The closure plan is presented in five major components consisting of the following items:

- Remedial Investigation
- General REmedial Activities
- Sampling Plan
- Transportation and Disposal
- Leachate Collection System

Provided under separate cover are the sampling and analytical data generated during closure activities.

CWM-ENRAC trusts that the attached documents will meet with the satisfaction of General Motors. We have appreciated the opportunity to have served General Motors and look forward to assisting in your needs as they arise.

Very truly yours,

CHEMICAL WASTE MANAGEMENT, INC.
ENVIRONMENTAL REMEDIAL ACTION DIVISION

M. Cooley

Michael C. Cooley
Project Manager

MCC/jes
Enclosures

Final Report
Closure Activities on the North Lagoon for Central Foundry Division General Motors Corporation Bedford, Indiana

Pursuant to USEPA (V)
Consent Agreement
and
Final Order
TSCA-V-C-138-87

CWM-ENRAC Control No. 87-02-087

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EXECUTIVE OVERVIEW

Executive Overview

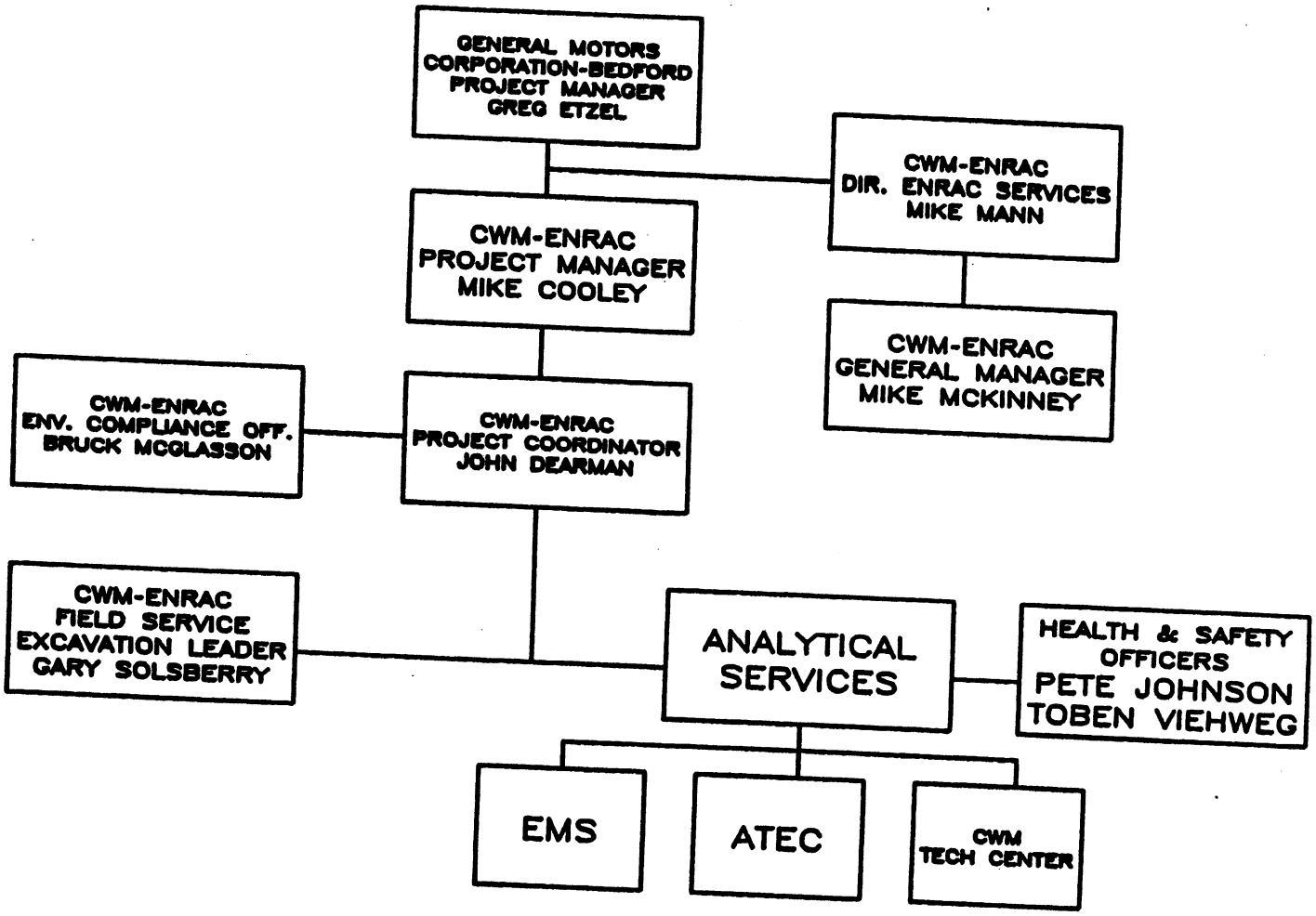
Pursuant to USEPA (V) Consent Agreement and Final order TSCA-V-C-138-87, Central Foundry Division General Motors Corporation (CFD-GMC) Bedford, Indiana contracted Chemical Waste Management - Environmental Remedial Action Division (CWM-ENRAC) to provide on-site services, transportation and disposal as part of the general closure plan for the North Lagoon. The North Lagoon was used primarily as a storm water retention lagoon. Lagoon capacity was about 12-13 million gallons. The project organizational hierarchy is provided in Figure 1, page 3.

On July 6, 1987 CWM-ENRAC mobilized to the site to begin remedial activities as required by the closure plan. During the period from 7/17/87-10/16/87 approximately 55,400 tons of PCB contaminated soils and miscellaneous debris were transported to the Chemical Waste Management - Emelle, Alabama disposal facility.

The sampling program commenced after the overburden and visual contamination was removed. A total of 43 quadrants were sampled based upon a 50 foot by 50 foot grid system. Sample results are provided under separate cover in the "Analytical Report for the Sampling program at General Motors Central Foundry Bedford, Indiana". The leachate collection system was installed with the leachate to be treated at the General Motors wastewater treatment plant in accordance with the requirements of the consent agreement. Installation was completed during the week of 10/18/87.

The final lift of common backfill, top soil, finish grading and seeding was completed the week of 4/18/88. Backfilling of the pond was delayed until spring by rain and sub-zero temperatures. However, 90 to 95% of the backfill was complete before the delays were encountered. Due to the high clay content of the common fill (_ 60%), the cap was an integral part of the final lifts placed.

GENERAL MOTORS CORPORATION
BEDFORD, INDIANA
NORTH LAGOON SITE



INTRODUCTION

Introduction

The Bedford Plant of General Motors Corporation, Central Foundry Division (GMCFD) located at Bedford, Indiana, Fig. 2, page 6 is an aluminum casting facility which began operations in the 1950's. During the mid-1950's, an impoundment was created northeast of the foundry through construction of a natural berm across a clay lined ravine. This impoundment, commonly referred to as the North Lagoon, served as the primary retention area for plant process water.

The North Lagoon is located on the plant property immediately east of North Jackson Street and the plants manufacturing facility. The lagoon was used primarily as a water reservoir and storm water retention lagoon until 1981. It was oval in shape and approximately 350 feet long, 300 feet wide, and 32 feet deep at its maximum outline, Fig. 3, page 7. The lagoon is no longer needed because a new larger storm water retention lagoon was constructed in 1981 as part of an overall wastewater treatment project.

On 12 March 1987, GMCFD issued a Request for Quotation (F7318G) to remove and dispose of PCB contaminated materials in the North Lagoon and close the same North Lagoon. The lagoon closure was to comply with the terms of the Consent Agreement and Final Order, dated 29 June 1987, between U.S. Environmental Protection Agency Region V and GMCFD-Bedford, see Appendix 1.

Chemical Waste Management, Inc. - ENRAC Division (ENRAC) was awarded Agreement No. 5444 by GMCFD to perform the closure activities per CWM proposal 87-02-087, Rev. 4-21-87, Alt. 3A.

Remedial Investigation

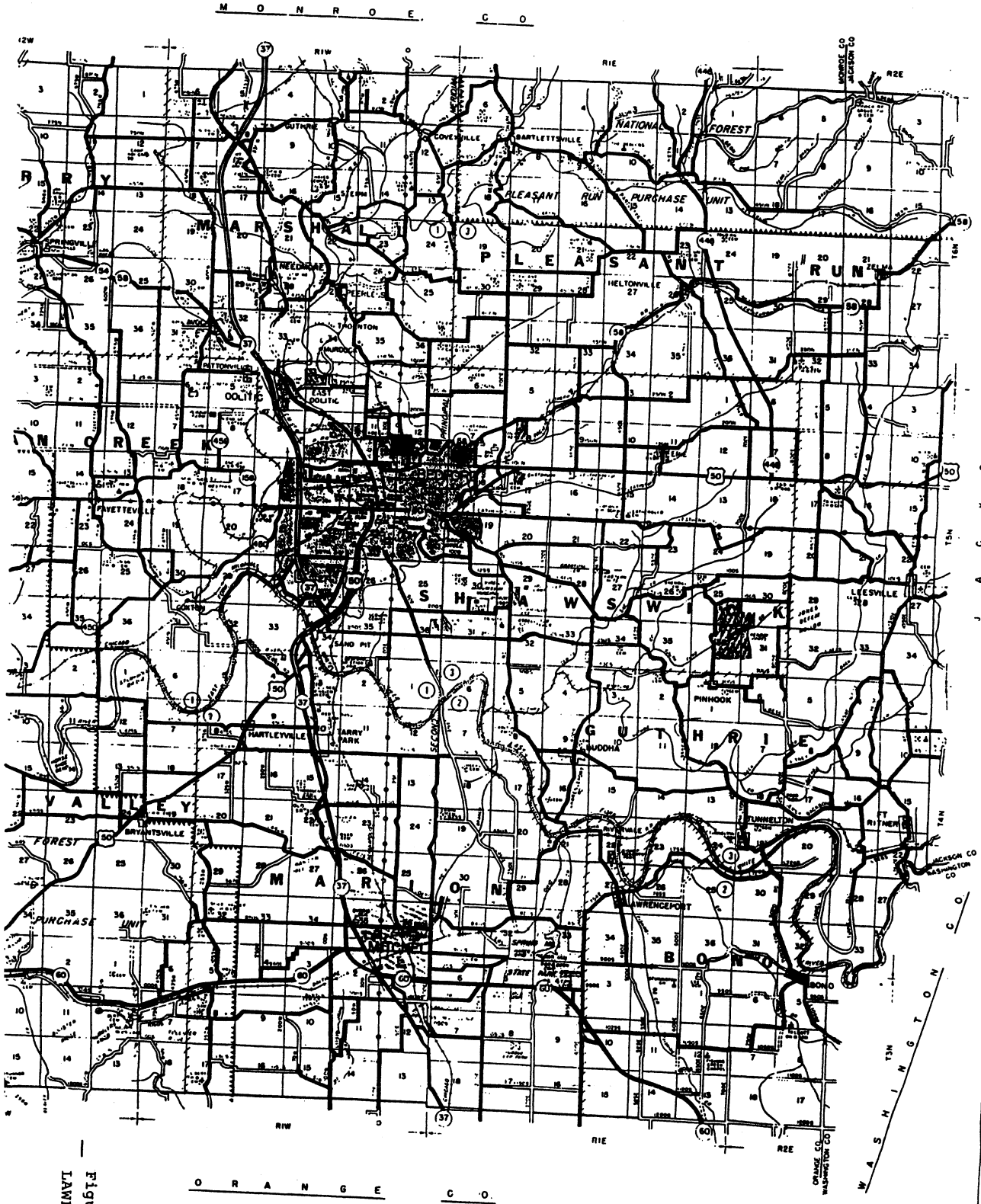
In order to determine credible volumetric units for bidding estimates, an engineering study was performed by CWM-ENRAC. Under the direction of W. J. Seno, C.P.G., (CWM-ENRAC), outside resources were utilized to generate the necessary data. Bateman Engineering, Seymour, Indiana and Alt. & Witzig Engineering, Indianapolis, Indiana provided surveying and soil boring data. All data collected was assembled at CWM-ENRAC, Oak Brook, Illinois for introduction into the Computer Aided Design System (CAD) for cut and fill estimates, see Appendix 2.

On 3/10/87 an ENRAC sampling team consisting of Jim Darin, Kevin Staton and Jim McInytre sampled the North Lagoon from randomly selected points in the sludge and fill areas of the lagoon. Four sludge samples were taken from the actual pond area. These samples were identified as "A", "B", "C", and "D".

Five sample points were located on the fill area and one sampling point was located on the south slope of the pond wall. The fill samples were identified as "E", "F", "G", "H", "M" and "O". Sample points "M" and "P" were not sampled but identified for use in surveying and boring operations to be performed later.

Drilling and Surveying

On 3/30/87 representatives from Bateman and Alt & Witzig conducted a survey. One objective of the survey was to define exact surface elevations of the



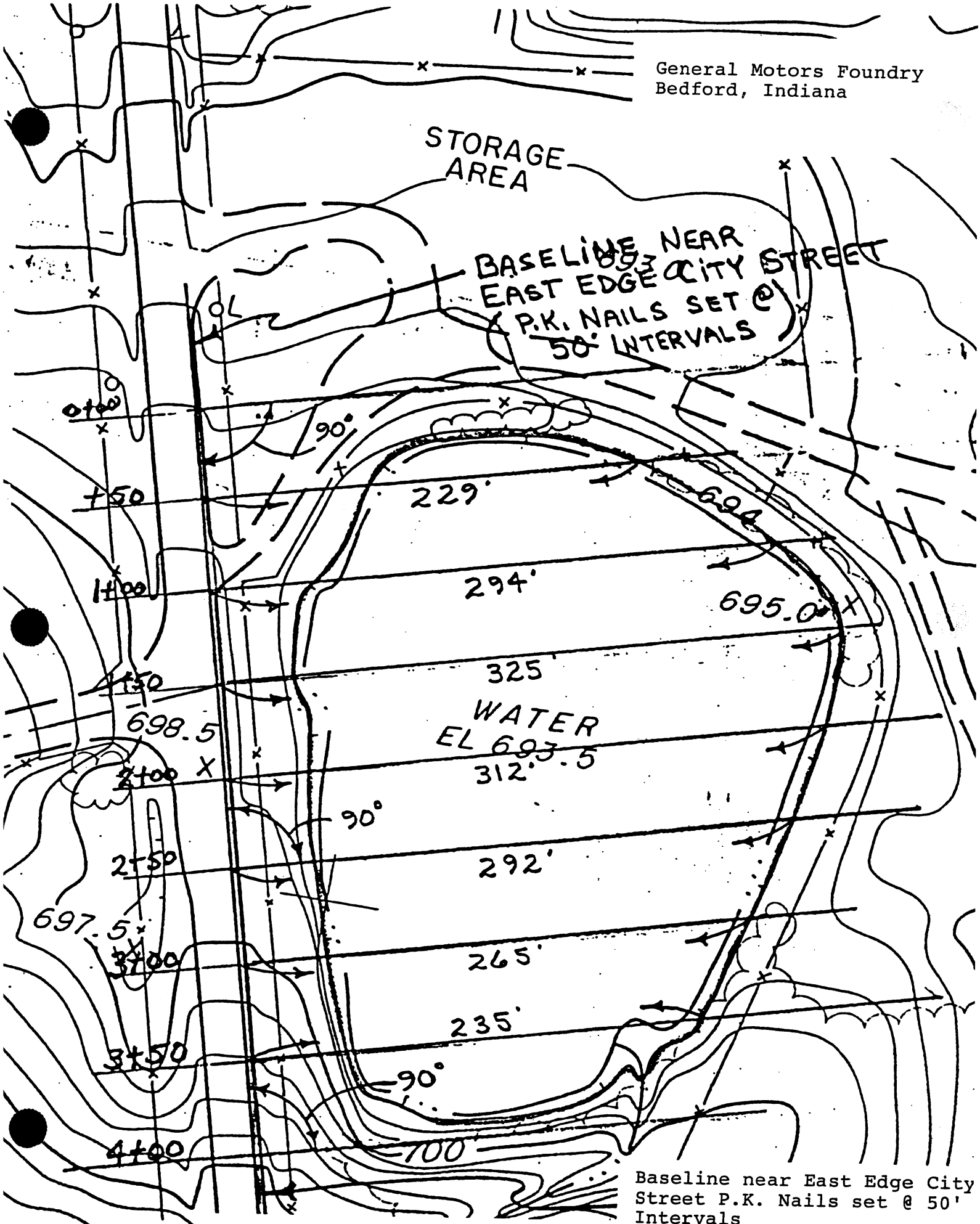
ROAD MAP OF LAWRENCE COUNTY, INDIANA

ADOPTED

SHOWING
ROAD INTERSECTIONS AND THEIR NUMBERS & NAMES, STATE & COUNTY ROADS TOWNSHIPS — SECTIONS — CITIES — TOWNS — CREEKS — RIVERS — RAILROADS — RURAL SUBDIVISIONS — STATE PROPERTY — FEDERAL PROPERTY CHURCHES — CEMETERYS SCHOOLS — COMMISSIONER DISTRICTS — HISTORICAL POINTS

LEGEND

Figure 2
LAWRENCE COUNTY, INDIANA



Baseline near East Edge City Street P.K. Nails set @ 50' Intervals

Figure 3

NORTH LAGOON BOUNDARY

bore hole locations. In addition to the bore hole elevations the surveyor accumulated several other elevations to assist the CAD-MOSS system in evaluation of the field data. The sampling points previously identified were set by Bateman using existing topographical drawings and benchmarks provided by Central Foundry personnel. Elevations were then established at the sampling locations. See Fig. 4, page 9 and Table 1.

Alt & Witzig set up a portable drilling rig and began boring operations to determine a lower elevation of the fill materials in the pond and to define the top of the earthen clay liner. Sample points "F" and "M" were bored and completed on 3/30. Sample points "G", "H", and "O" were bored and completed on 3/31. This drilling revealed that the earthen clay liner was encountered at different depths within the Lagoon. Samples of the material were retrieved at one foot intervals and logged by the CWM-ENRAC Certified Professional Geologist. During the drilling of the five holes it was apparent that in bore hole "G", what may have been a cement block was encountered. The hole was off-set four feet and a second attempt was made and completed. Results from previous borings performed in 1984 are also included. See Appendix 3 for the boring logs of the points.

TABLE 1. PROGRESSIVE ELEVATIONS AT BORING LOCATIONS

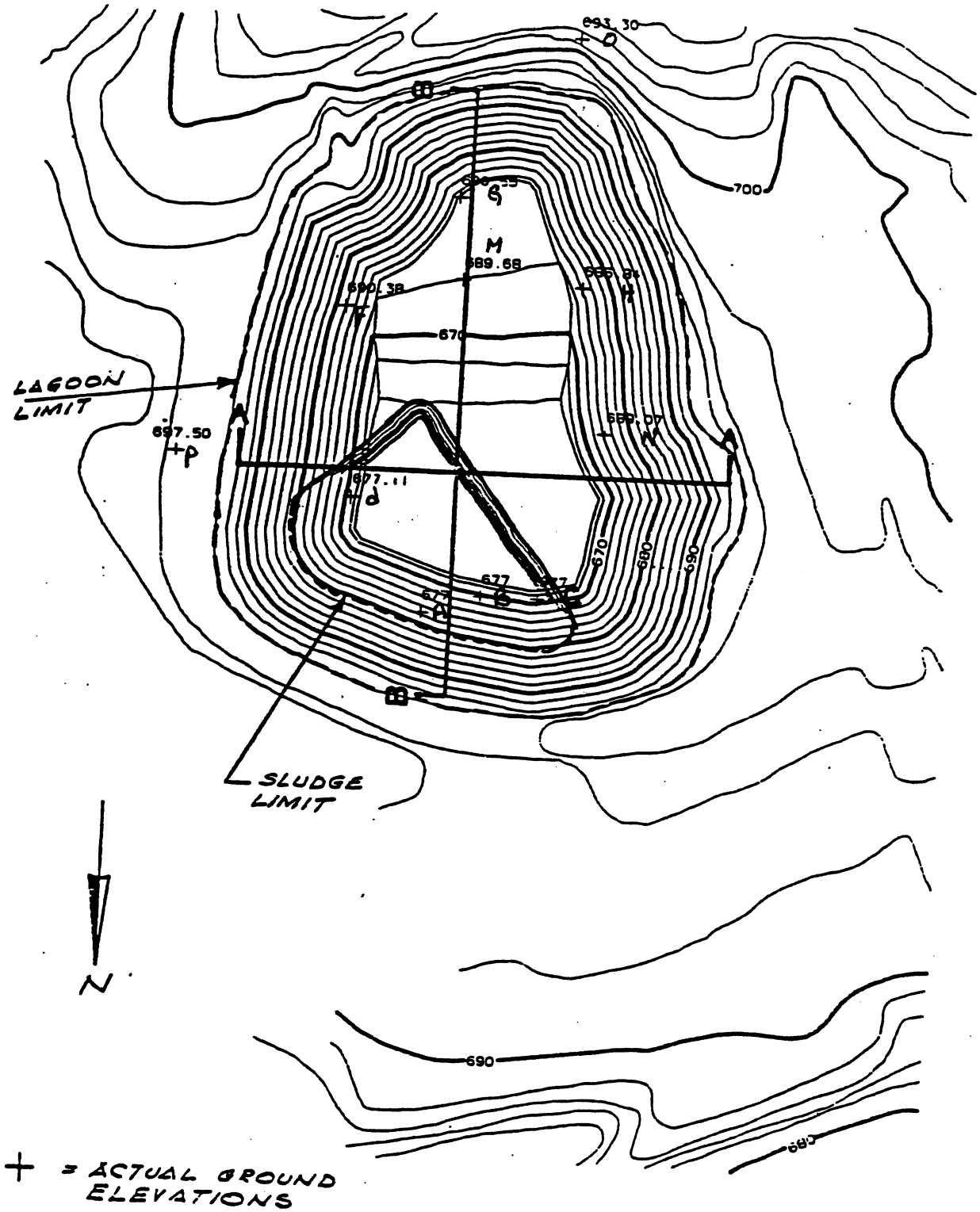
GENERAL MOTORS CORPORATION
CENTRAL FOUNDRY DIVISION
BEDFORD, INDIANA

SAMPLE POINTS	3/30/87	7/31/87	10/12/87
P	697.50	693.18	
F	690.40	687.25	678.70
M	689.70	683.88	669.50
G	690.50	686.86	673.20
O	693.30	694.27	690.90
H	685.80	681.59	670.80
N	689.10	677.14	671.70

Computer Aided Design (CAD) Mapping and Volumetric Estimates

The results of the drilling and the field surveying form the empirical basis for the volumetric estimates of soils and sludges.

The remedial topographic map was designed using CWM's in-house CAD system. Two sections were created on that map. Invert elevations (depths) were then input into the diagram in order to prepare the composite 3-dimensional model. The sectional views, elevations and supporting data are presented in Appendix 2. With this model in place, a successive end-area approximation model was used to determine the volumes of soils and sludges. One of the difficulties in estimating volumes is the varying contour of the lagoon bottom and the



PLAN VIEW

GM-BEDFORD NORTH LAGOON

Figure 4

NORTH LAGOON SAMPLING POINTS

actual sludge depth. In order to determine sludge depth, we attempted to measure the sludge by physical "sticking". A maximum depth of 13 feet was measured near the Southeast corner of the sludge pond. At other locations, 10 feet of sludge was measured. The calculations for soils and sludges are shown in the Appendix. Some physical features of the lagoon were difficult to model using this approach. Side slopes of the lagoon vary significantly and "outcrops" of soil complicated the assessment.

For the purposes of this closure report only the activities associated with the excavation of the pond fill materials, contaminated clay liners, and pond sediments will be detailed as the sludges were removed under another contract.

GENERAL REMEDIAL ACTIVITIES

After final approval of the closure plan submitted by GMCFD, ENRAC began mobilization on July 6, 1987. The site layout is shown in figure 5, page 11.

In order to complete the project under the terms of the closure agreement, a work plan was developed to minimize material handling, assure a smooth flow of waste transport vehicles through the site and provide for a timely start to the pond sampling program to determine further remediation requirements.

To complete mobilization approximately 10 days onsite were required. During this time the following equipment was mobilized:

CAT 215 Excavator	CAT 977 Loader
KOM WA400 Loader	CAT D-8 Dozer
Office Trailer	Decon Trailer
Emer. Resp. Trailer	40 Kw Generator
Personnel Vehicles (6)	Water Truck
Scaffolding	Masstron Weigh Scale (MP 750)

As the support facilities were being set-up, work was begun on the truck loading area. This entailed construction of a post-tensioned concrete loading pad for the weigh scales. This post-tensioning is the same technique as applied to nuclear containment structures. The tensioning cables through the pad allow the structure to flex when loaded to eliminate the development of cracks or fissures in the concrete. This in turn eliminates the possibility of contaminant migration through the loading pad. Once these pads were formed the approach ramp to the loading pad was constructed of shot rock and unwashed Grade No. 53 crushed limestone. The shot rock was used as a base course to provide a wide bridge of support for the smaller No. 53's which were used to bind the road surface together. A total of 746 tons of both grades were used for the roadwork.

The next phase involved the construction of the loading ramp where the contaminated material was staged for eventual loading, transport and disposal. Timbers were used to construct a retaining wall 5' in height and about 120' in length. This retaining wall enabled the operators to see inside the bed of the dump trailers thereby providing greater loading accuracy. Concurrent with this activity two large mounds of material abutting the loading area were cut back to facilitate efficient loading operation.

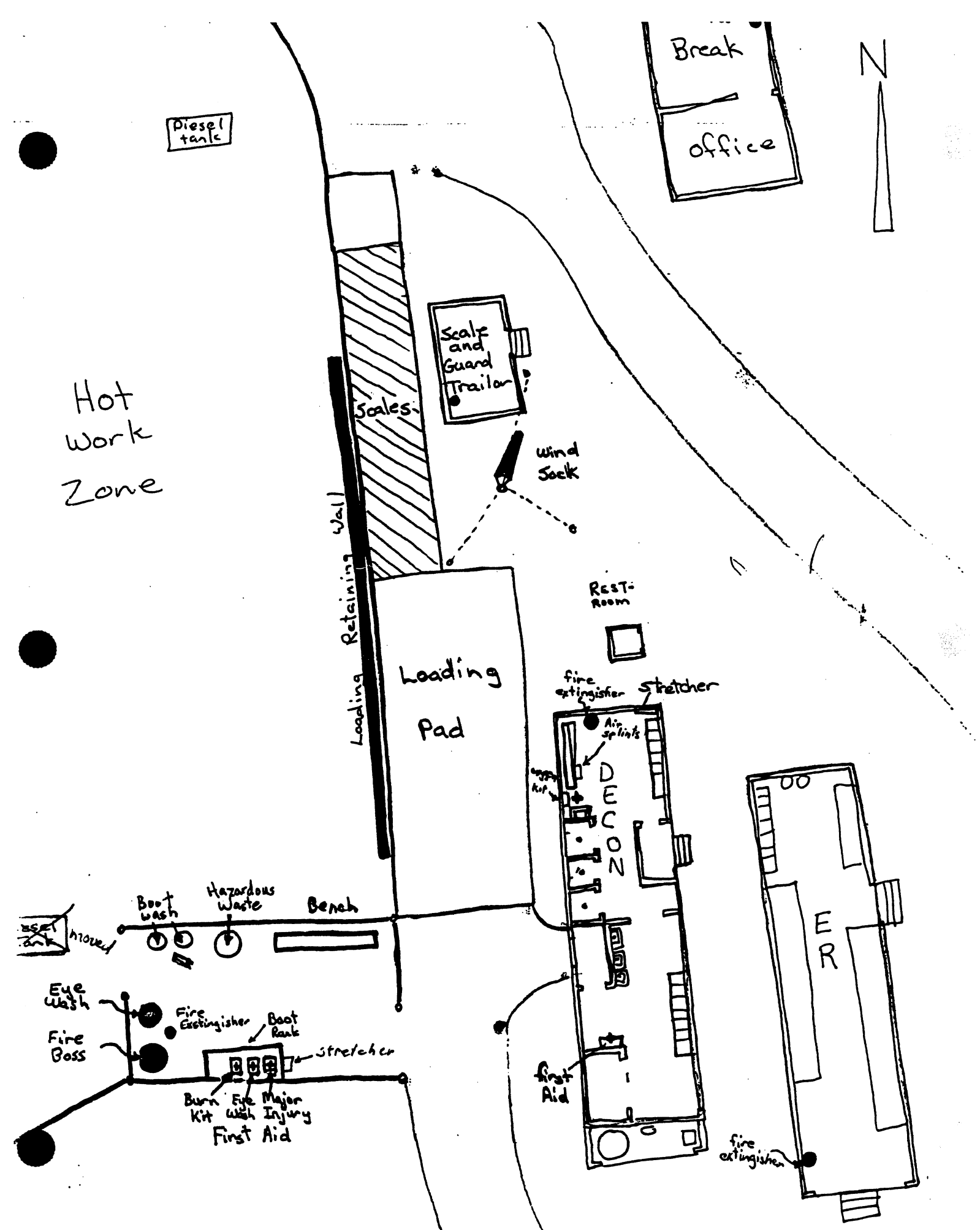


FIGURE 5. SITE OPERATIONAL AREAS

Site Work

The D-8 dozer was used to begin movement of the fill material placed in the pond. With the goal of providing areas to sample to determine further remediation needs, the material was moved from the north end of the "peninsula" in the pond to the loading area. All material movement was from the northwest corner of the pond to the southeast corner for staging and removal. During this movement a number of large (8-10 ton) to medium sized (2-4 ton) limestone rocks were uncovered. All such rock was moved to the south bank of the pond.

On 7/22/87 a Komatsu D-53P wide track dozer was mobilized in an effort to begin pushing in the borders of the sludge remaining in the northeast corner of the pond. This expedited the sludge dewatering operations being performed by IFAD concurrent with ENRAC's excavation activities.

Material handling required a larger effort than anticipated. The greater effort was attributed to two significant factors. First, the large amount of rock buried with the material required excessive machine handling. In some instances two machines were required to move a single rock. The second factor contributing to delays was the change in the nature of the material being moved.

Initially the material consisted of a mixture of local soils and clays covered by an uncultivated vegetative growth. As this overburden layer was removed a more sand-like material was encountered. This material had a greater moisture content than its cover. Because of the entrapment of water within the sand zone and the depth of the material, wide tracked equipment was needed to efficiently operate.

Between 7/22 - 8/11 additional wide-tracked equipment was mobilized to the site as availability permitted. The following equipment was involved:

Kom D-53P Dozer	Case 1150C Dozer
Kom P220 Excavator	Cat D-5 Dozer

Through the use of these smaller dozers and the excavator, site work was able to progress as projected. Material movement followed the same NW to SE direction. The additional equipment enabled work in other areas in the pond concurrent with the work in the fill material peninsula. The west wall from the NW corner to the SW corner was cleared of any overburden and visual contamination. This material was then moved to the staging/loading area for shipment.

On 7/31/87 Bateman engineering was recalled to the site to provide progress elevations. Using the same bench mark new elevations were established at each boring location, see Table 1, page 8. Also on this date the eastern portion of the original pond was established using a topographical map supplied by GM. See Figure 3, page 7. The eastern edge of Jackson Street was used as a Base Line. The center line consisted of an existing drive West of Jackson Street near the center of the pond. It was used to establish Station 1 + 50. The Base Line was established at 50 foot intervals using PK nails from Station 0 + 00 to Station 4 + 00. This was done so that the Base

Line could be kept for future use in laying the sampling grid. Using electronic distance measuring equipment, from Station 1 + 00 through Station 3 + 50 a 90° angle was turned and field measurements taken across the pond to determine the eastern edge.

On 8/4/87 the sludge pond area controlled by IFAD was completed and released to ENRAC. At this time the pond bottom and sidewalls were included in the excavation activities proceeding in the fill area, West and North walls of the pond.

On 8/17/87 preparations for sampling began. See the Sampling Plan section for a detailed discussion of sampling activities. While excavation was nearing completion on the North and West walls an apparent "vein" of contaminated material was uncovered. This west vein was approximately 20 feet in height and 120 feet in width and 5 feet in depth. It was located in the lower quarter of the wall. The vein in the North wall was confined to the northeast corner with dimensions of 20 feet width, 48 feet in height and 25 feet in depth. The west vein was excavated to a visually clean standard. Sampling in this area revealed only surface contaminants in three grids. The northeast vein was excavated also. Both veins were excavated to "not detected" for PCB.

Two days later on 8/19/87 core samples were obtained from grid area A-1 through A-8. Excavation continued through out the pond with the goal of preparing grids B-1, C-1, D-1, B-8, and C-8 for the next sampling round. At this point site activities consisted primarily of excavation, material handling and sampling.

During the week of 8/30/87, concurrent with excavation, the washing and demolition of large stones, steel and concrete construction debris began. The steel was cut into transportable lengths using an oxygen-acetylene cutting torch. The concrete was demolished with a Komatsu P150 backhoe fitted with a hydraulic breaker attachment. Seven working days were required to complete this task. The large stones were piled at the south end of the lagoon. Verbal authorization was obtained from USEPA(V) to decontaminate the stone with a 20% penetone solution, remove it to a clean area and backfill in place. After the washing was completed the stones were relocated to the southwest quadrant of the pond.

As excavation continued on the lagoon bottom a substantial amount of bedrock was uncovered. The bedrock was in fact part of the liner system. All material covering the bedrock was removed and the bedrock broom swept prior to securing chips of the bedrock as representative sample in any affected sample quadrants.

During the week of 9/6/87 Bateman Engineering returned to establish a grid system on property which was used as a source of backfill material. The property, located 3/4 mile west on Breckenridge road was gridded on 50 foot intervals to establish the base for later removal quantities. Demolition of the concrete and steel was completed this week.

During the week of 9/27/87 the bedrock sweeping was completed. On 9/30/87 with 94% of the excavation completed an aerial photograph of the lagoon was taken by Accu-Air Surveys, Seymour, Indiana, see Figure 6, page 15. The

remaining quadrants to be sampled(F-4-6) were completed. Bateman Engineering completed a final pond cross section. Also obtained were the elevations of all grid sample points, grid sample corners and the final elevations of the seven original boring points see Appendix 4.0. These elevations were used to obtain an estimate on the amount of backfill required. A plan drawing showing these elevations is provided as Figure 7, page 16.

During the week of 10/4/87 work was begun on the installation of the leachate collection system. Based upon an earlier visit by James Stenborg, Waste Management, Inc. Oak Brook, Illinois, the installation proceeded according to standardized landfill construction parameters. See Leachate Collection System for a more detailed discussion.

During the week of 10/11/87 all loading of PCB contaminated material was completed. Work continued on the leachate collection piping system. Decontamination of equipment and demobilization of both men and equipment was continued as the level of activity decreased.

During the week of 10/18/87 the piping and sump of the leachate system were installed. At this time backfilling was begun by Hancock Excavators of Mitchell, In. Most CWM-ENRAC personnel and equipment were demobilized. From this point on all collected leachate was pumped from the sump to Central Foundry Wastewater treatment plant. A field office and ENRAC supervisor remained on-site to supervise subcontractors completing the non-hazardous portions of the closure project.

The terms of the final order required that all fill be clean (less than 2 ppm PCB's). After placement of the general fill, six (6) inches of clean (less than 2 ppm PCB's) topsoil was placed in preparation for seeding of the groundcover. The backfill material placed in the lagoon was analyzed by Alt & Witzig for % clay content, and permeability. Test results (See Appendix 4.1) indicated two grades of clay were available for backfilling. The majority of the general fill placed contained not less than 30% clay. The final one foot of clay contained not less than 60% clay.

All layers were compacted using a vibrating roller. A final compaction of 90-95% was obtained.

During the week of 4/18/88 the spreading of topsoil and final contour grading was completed. Craig Landscaping Bedford, Indiana performed seeding, fertilizing and mulching to provide the groundcover. Craig used a seed mixture of 40% fescue, 30% Annual Rye, and 30% Pre-Annual Rye at a rate of 100 lbs seed/acre. Tri-12 (NPK) fertilizer was applied at a rate of 500 lbs/acre. Seeding and fertilization were applied by a Finn Hydroseeder. An erosion control cover of straw was applied as a final cover with a mulch blower at a rate of 2 tons/acre.



FIGURE 6. AERIAL PHOTOGRAPH OF

Figure 7
NORTH LAGOON FINAL ELEVATIONS

SAMPLING PLAN

SAMPLING PLAN

Introduction

The purpose of the sampling program was to minimize waste sent to the disposal site and to determine if all contamination was removed.

A grid system was set up in the lagoon to identify sampling locations. Each quadrant of the grid was 50 foot by 50 foot square and each sample point was located approximately in the center of the square. A 50 foot chain was used to find the corners of each quadrants and a stake was driven into the soil at each corner. The quadrants were named with a letter/number code to identify its location. Letters, A to F, were used from West to East and numbers, 1 to 8, were used from North to South, see Figure 8, page 19.

Sampling Methodology

Samples were taken of the clay liner after all soil, sludge and visible contamination was excavated. The liner was reported to be four feet thick but GM and CWM agreed that approximately 1 foot of liner was removed during the initial excavation. Split spoon sampling tubes were pushed into the liner, to a depth of 3 feet, at the center of each quadrant. The cores obtained were divided into individual samples from the 2, 3 and 4 foot levels, assigned an unique sample number, and placed in a new sample jar. If the spoon encountered bedrock, the core was stopped there. If there was no clay over bedrock, the bedrock was chipped and placed in a new sample jar.

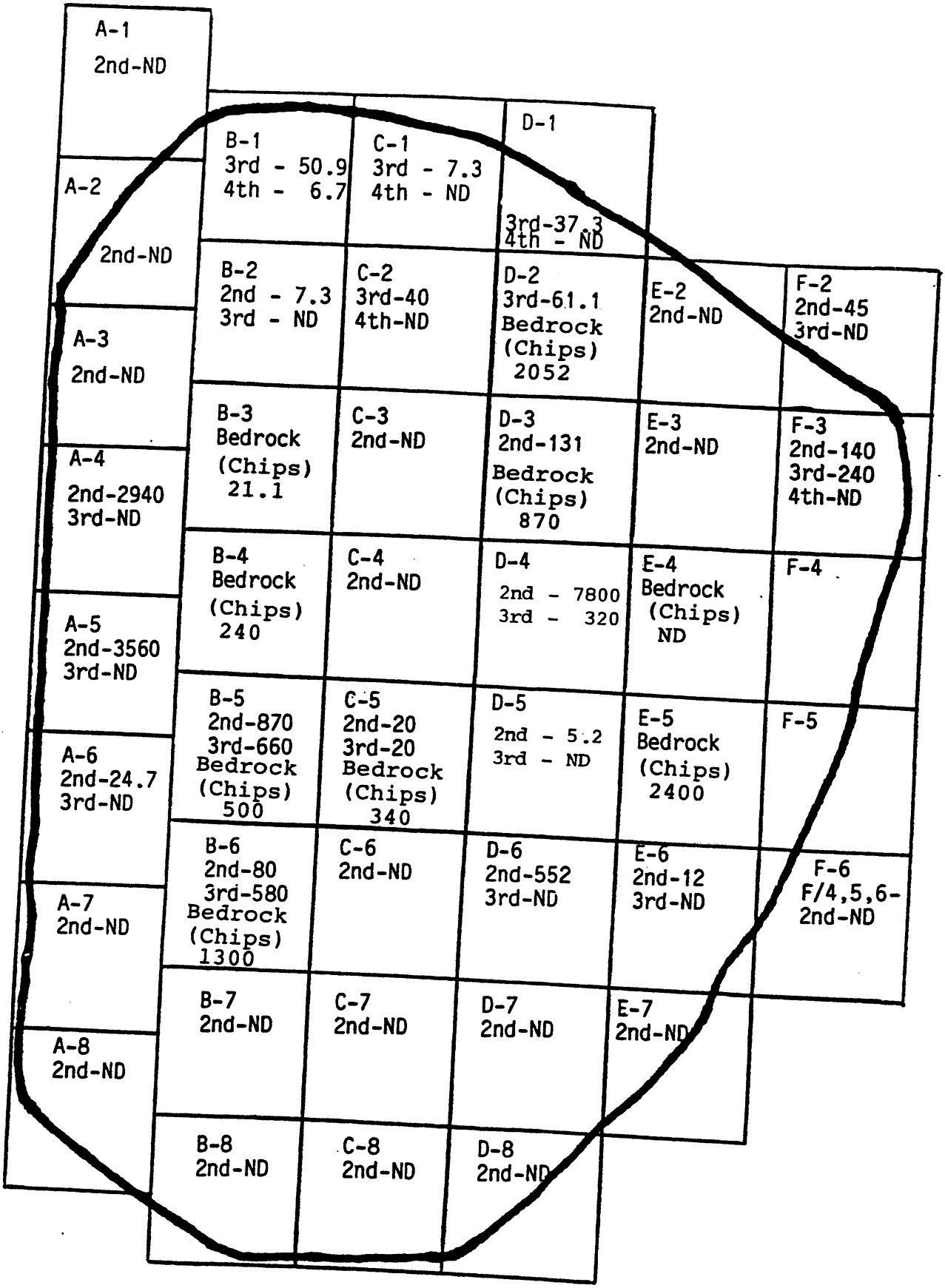
The split spoon sample tubes were cleaned prior to and after each use. The cleaning procedure was: an initial cleaning in penetone/water to remove all visible dirt, a second cleaning in penetone/water, and finally a water rinse. The penetone/water solution concentration was 1:5. Wipe samples were taken to determine if the cleaning procedure was effective. Negative results indicated effective decon procedures.

A chain of custody and a certificate of representative sample was filled out for each sample.

The samples were submitted to one of three labs for analysis. The labs were: EMS Laboratories Inc., ATEC Associates Inc. of Indianapolis, Indiana and also CWM Technical Center of Riverdale, Illinois. Analysis was for PCB per method SW846-8080 see Appendix 5. Only the centers of the core samples were analyzed. The second foot layer was analyzed first. If the PCB concentrations was greater than 3ppm, the successive layers below it were analyzed until concentrations of less than 3 ppm were found in a layer or all three levels were analyzed.

Several third and fourth foot samples were analyzed. For an overview of analytical results see Figure 8, page 19. Quadrants F-4, 5, and 6 were combined due to the small amount of sampling area in each quadrant.

All sampling documentation is provided for review in the "Analytical Report for The Sampling Program at General Motors/Central Foundry Bedford, Indiana October 1987". A summarized table of analytical results by grid and level is provided in Table 2.



All results are in ppm.
ND=Not Detected or <3ppm

Figure 8 NORTH LAGOON
SAMPLING GRIDS AND RESULTS

TABLE 2. SUMMARY OF ANALYTICAL RESULTS BY GRID AND LEVEL

QUADRANT	DATE SAMPLED	DEPTH LEVEL (FT)	RESULT/PPM
A-1	8/17	2	N/D
		3	N/D
A-2	8/17	2	N/D
		3	N/D
A-3	8/17	2	N/D
		3	N/D
A-4	8/17	2	2940
		3	N/D
A-5	8/17	2	3560
		3	N/D
A-6	8/17	2	24.7
		3	N/D
A-7	8/17	2	N/D
		3	N/D
A-8	8/17	2	N/D
		3	N/D
B-1	8/21	3	50.9
		4	6.7
C-1	8/21	3	7.3
		4	N/D
E-2	8/21	2	3
		3	N/D
D-1	8/21	3	37.3
		4	N/D
F-2	8/21	2	45.0
		3	N/D
B-2	8/24	2	7.3
		3	N/D
C-2	8/24	3	40
		4	N/D
D-2	8/24	3	59.1
		Bedrock	2052
B-7	8/24	2	N/D

QUADRANT	DATE SAMPLED	DEPTH LEVEL (FT)	RESULT/PPM
B-3	8/24	Bedrock	21.1
B-4	8/24	Bedrock	240
C-3	8/26	2	ND
D-3	8/26	2 Bedrock	130 870
E-3	8/26	2	ND
F-3	8/26	2 3 4	140 240 ND
B-7	8/26	2	ND
C-8	8/26	2	ND
B-6	9/01	2 3 Bedrock	80 580 1300
B-5	9/01	2 3 Bedrock	870 660 500
C-7	9/01	2	ND
C-6	9/01	2	ND
C-5	9/01	3 Bedrock	20 340
C-4	9/01	2	ND
D-8	9/16	2	ND
D-7	9/16	2	ND
D-5	9/16	2 3	5.2 ND
D-4	9/16	2 3	7800 320
E-4	9/16	Bedrock	ND
E-5	9/16	Bedrock	2400

QUADRANT	DATE SAMPLED	DEPTH LEVEL (FT)	RESULT/PPM
D-6	9/18	2	552
		3	ND
E-7	9/18	2	ND
E-6	9/23	2	12
		3	ND
F-4/5/6	10/3	2	ND

TRANSPORTATION AND DISPOSAL

TRANSPORTATION AND DISPOSAL

Transportation and disposal arrangements were provided and managed by CWM-ENRAC. Approximately 210 semi-dump trailers were dedicated to the project. To assure a rapid turnaround arrangements were made with the Emelle disposal facility to avoid delays and minimize truck congestion at the disposal site.

As shown in Table 3 shipments ranged from 2 to 74 trucks per day. Tonnages varied accordingly. A total of 2,433 loads were shipped during a 72-day period ending 10/16/87.

Transportation

Jack Gray Transport, Gary, Indiana was utilized as the sole transporter, see Appendix 6.0 for applicable permits. In addition to hauling Gray provided complete support services for its vehicles, (i.e. on-site movement, daily scheduling, lining and tarping).

A primary vehicle route was developed to insure minimal disruption to the local community and assure a readily traceable route from generator to disposer should emergency response be required. All traffic to and from the site was routed from Route 37 to North Jackson St. Once a vehicle was ready for departure the route from Bedford to the disposal site at Emelle, Alabama was,

1. Rt. 37 - South to Rt. 60
2. Rt. 60 - East to I-65
3. I-65 - South to I-20 & I-59
4. I-20 & I-59 - West to Rt. 28
5. Rt. 28 - West To Rt. 17
6. Rt. 17 - North to disposal facility.

Loading and Dispatch

Once a vehicle arrived on-site it proceeded to a lining station where a 6-mil polyethylene liner was placed in the dump trailer. The vehicle then entered the loading queue. Adjacent to the decon pad was a set of Toledo Masstron MP750 weighing scales. The loaded vehicle was pulled onto the scales 1 axle set at a time to obtain a gross load weight. The empty weight was then subtracted from the gross weight to obtain a net load weight which was then entered into the hazardous waste manifest. Using pre-determined empty weights, all vehicles were pre-loaded while on a bermed concrete decontamination pad.

Upon completion of the required manifest documents the loaded vehicle entered the tarping area where the load was secured. At this time the vehicle was dispatched to the disposal facility.

During the site preparation stage, CWM-ENRAC designed and built a clean road system. When trucks were dispatched to the site and cleared for entry, they proceeded to the loading area on the clean road and remained in a clean area while being loaded. Because the trucks remained on uncontaminated surfaces during the entire sequence, decontamination was minimized.

SUMMARY OF TRANSPORTATION AND DISPOSAL ACTIVITIES
DAILY TRANSPORTATION AND DISPOSAL VOLUMES

TABLE No. 3

DATE	# LOADS	TONS	TONS/TRCK	TONS TO DATE	TOTAL LOADS
7/17/87	42	968.28	23.05	968.28	42
7/18/87	51	1138.88	22.33	2107.16	93
7/20/87	36	821.97	22.83	2929.13	129
7/21/87	41	929.53	22.67	3858.66	170
7/22/87	45	1028.05	22.85	4886.71	215
7/23/87	25	570.93	22.84	5457.64	240
7/24/87	28	630.98	22.54	6088.62	268
7/25/87	24	550.35	22.93	6638.97	292
7/27/87	44	995.49	22.62	7634.46	336
7/28/87	54	1219.22	22.58	8853.68	390
7/29/87	51	1149.21	22.53	10002.89	441
7/30/87	53	1198.26	22.61	11201.15	494
7/31/87	55	1237.44	22.50	12438.59	549
8/1/87	48	1071.84	22.33	13510.43	597
8/3/87	67	1520.61	22.70	15031.04	664
8/4/85	61	1379.43	22.61	16410.47	725
8/5/87	70	1582.28	22.60	17992.75	795
8/6/87	60	1357.46	22.62	19350.21	855
8/7/87	67	1532.1	22.87	20882.31	922
8/8/87	54	1222.8	22.64	22105.11	976
8/10/87	70	1587.7	22.68	23692.81	1046
8/11/87	67	1519.36	22.68	25212.17	1113
8/12/87	74	1664.58	22.49	26876.75	1187
8/13/87	63	1445.23	22.94	28321.98	1250
8/14/87	71	1628.5	22.94	29950.48	1321
8/15/87	65	1492.37	22.96	31442.85	1386
8/17/87	59	1340.67	22.72	32783.52	1445
8/18/87	53	1217.3	22.97	34000.82	1498
8/19/87	40	889.09	22.23	34889.91	1538
8/20/87	46	1057.19	22.98	35947.1	1584
8/21/87	37	844.44	22.82	36791.54	1621
8/22/87	2	44.24	22.12	36835.78	1623
8/24/87	30	690.6	23.02	37526.38	1653
8/25/87	28	637.7	22.78	38164.08	1681
8/26/87	28	646.87	23.10	38810.95	1709
8/27/87	28	644.16	23.01	39455.11	1737
8/28/87	29	666.34	22.98	40121.45	1766
8/29/87	19	436.9	22.99	40558.35	1785
8/31/87	2	46.16	23.08	40604.51	1787
9/1/87	27	626.15	23.19	41230.66	1814
9/2/87	37	840.5	22.72	42071.16	1851
9/3/87	25	577.29	23.09	42648.45	1876
9/4/87	0	0	ERR	42648.45	1876
9/8/87	0	0	ERR	42648.45	1876
9/9/87	28	637.53	22.77	43285.98	1904
9/10/87	32	732.71	22.90	44018.69	1936
9/11/87	20	466.93	23.35	44485.62	1956
9/12/87	0	0	ERR	44485.62	1956
9/14/87	30	695.66	23.19	45181.28	1986
9/15/87	30	686.52	22.88	45867.8	2016
9/16/87	32	743.26	23.23	46611.06	2048
9/17/87	25	575.35	23.01	47186.41	2073
9/18/87	30	691.9	23.06	47878.31	2103
9/19/87	24	548.58	22.86	48426.89	2127
9/21/87	6	133.26	22.21	48560.15	2133
9/22/87	29	670.25	23.11	49230.4	2162
9/23/87	23	531.53	23.11	49761.93	2185
9/24/87	24	553.24	23.05	50315.17	2209
9/25/87	4	89.79	22.45	50404.96	2213
9/26/87	0	0	ERR	50404.96	2213
9/28/87	28	645.59	23.06	51050.55	2241
9/29/87	20	454.89	22.74	51505.44	2261
9/30/87	26	586.82	22.57	52092.26	2287
10/01/87	correct	-8.75	ERR	52083.51	2287
10/01/87	20	459.48	22.97	52542.99	2307
10/02/87	10	229.85	22.99	52772.84	2317
10/03/87	8	187.54	23.44	52960.38	2325
10/05/87	6	136.15	22.69	53096.53	2331
10/05/87	correct	0.58	ERR	53097.11	2331
10/06/87	8	182	22.75	53279.11	2339
10/07/87	7	159.15	22.74	53438.26	2346
10/08/87	16	374.07	23.38	53812.33	2362
10/09/87	15	340.36	22.69	54152.69	2377
10/12/87	13	291.86	22.45	54444.55	2390
10/13/87	16	365.94	22.87	54810.49	2406
10/14/87	13	292.8	22.52	55103.29	2419
10/15/87	8	183.51	22.94	55286.8	2427
10/16/87	6	139.23	23.21	55426.03	2433

Disposal

EMELLE TREATMENT FACILITY - EMELLE, ALABAMA

The Emelle facility is located in the Demopolis Chalk, a geological formation, in Sumter County, Alabama. The formation is a homogenous clay-chalk mixture approximately 700 feet thick from the surface to the first aquifer, with a permeability coefficient in the range of 10^{-7} to 10^{-8} cm/sec. Groundwater is 900 feet deep. The 350 acre operational area is secured by 6 foot chain link fence. The address of the facility is:

Chemical Waste Management, Inc.
Emelle Treatment Facility
P.O. Box 55
Emelle, Alabama 35459

The Emelle Treatment Facility is a fully permitted hazardous waste facility. The site covers approximately 2,400 acres, of which about 350 are dedicated to hazardous waste management. It is fully permitted to treat and dispose of a broad range of hazardous and PCB wastes.

The Emelle Treatment Facility holds a Hazardous Waste Permit and Air Quality Permit from the Alabama Department of Environmental Management, and is also licensed by the USEPA, permit #ALD 000622464.

The hazardous waste management facility presently consists of secure landfill cells, a complete analytical laboratory, vehicle maintenance facilities, a groundwater monitoring system, and an office complex. For further discussion of the Emelle facility site data see Appendix 6.1.

Disposal Volumes

All PCB-contaminated materials removed under the excavation phase of the project were shipped to Emelle, Alabama. Shipping tonnages ranged from 44.24 tons to 1,664.58 tons over the 72-day loading period.

No waste discrepancies were reported by the disposal site. A total weight of 55,426.03 tons was disposed. The material was disposed in Trench 21A in levels 10 through 13.

LEACHATE COLLECTION SYSTEM

Leachate Collection System

Based on the analytical results from the sampling phase, it was determined that the leachate collection system would be required. Due to the varied elevations and outcropping of bedrock, the piping system was installed as shown in the as-built drawing, Figure 9, page 29.

On October 7, 1987 installation of the leachate collection was begun. Due to the natural slope of the pond bottom, the collection system was installed with the sump and pumping system located in the bedrock at the north end of the pond. To achieve the desired slope for drainage a 4.5' diameter by 2.5' deep basin was created by chipping away bedrock. Upon completion of this task a 48" diameter pre-cast concrete culvert was set in the basin to act as the sump/riser for the collection system. The culvert houses the pump for the system as well.

The following procedure was used to install the collection system:

1. Determine existing/required slopes for proper drainage to sump;
2. Place 6" bed of No. 7 gravel for leachate piping (440 tons);
3. Install 477' of 6" Sch. 80 PVC perforated pipe;
4. Place 2.5" of No. 7 gravel over pipe system (2,146 tons);
5. Install geotextile fabric to overlap a minimum of 2.5' for bedrock and soil areas at the edge of pipe system; and
6. Begin clay backfill over the geotextile adding sections of culvert as the clay fill progressed incrementally with elevation changes. See Figure 10 and 10a, pages 30 and 31 notes for a detailed discussion of system installation requirements.

During the week of 12/28/87 final connection of the leachate collection system to the GM water treatment facility was completed. The collection system sump pump was installed, a Flygt pump Model No. CP3127. At 10 hp the pump is rated at a flow of 50 gpm at 83 feet and 1750 rpm. It was wired for 3 phase 460 volts. A 4 inch schedule 80 PVC line was connected from the pump to the manhole and then tied in to a 4 inch ductile iron discharge line to GM.

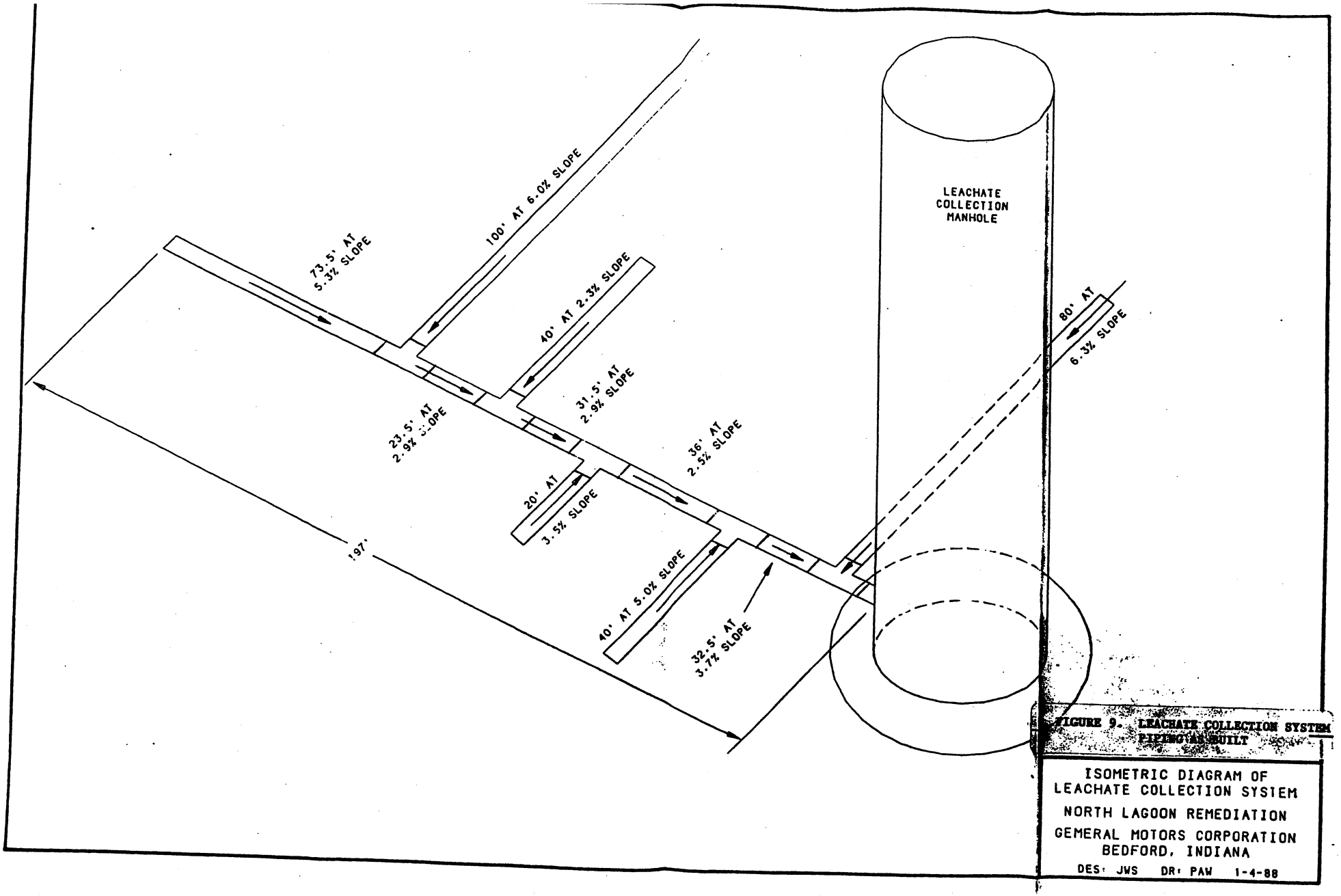
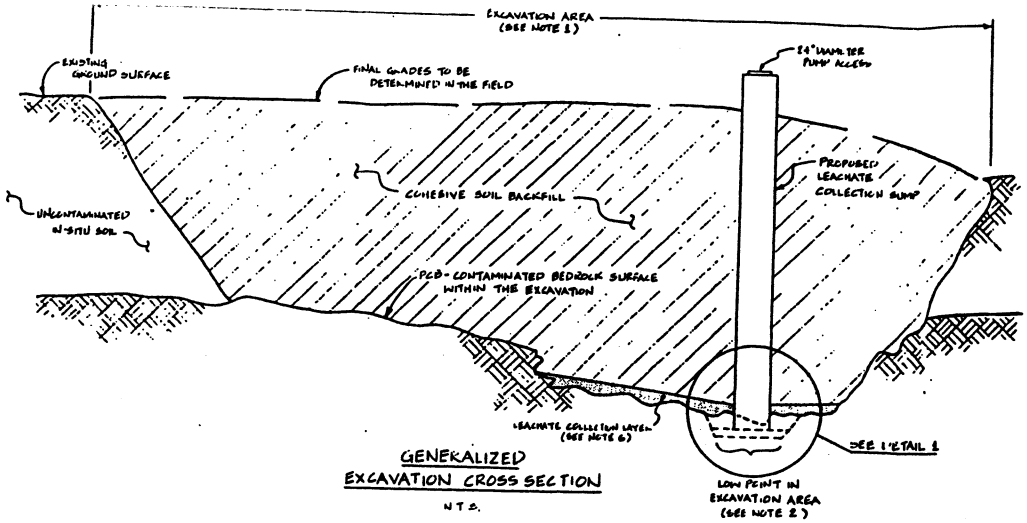


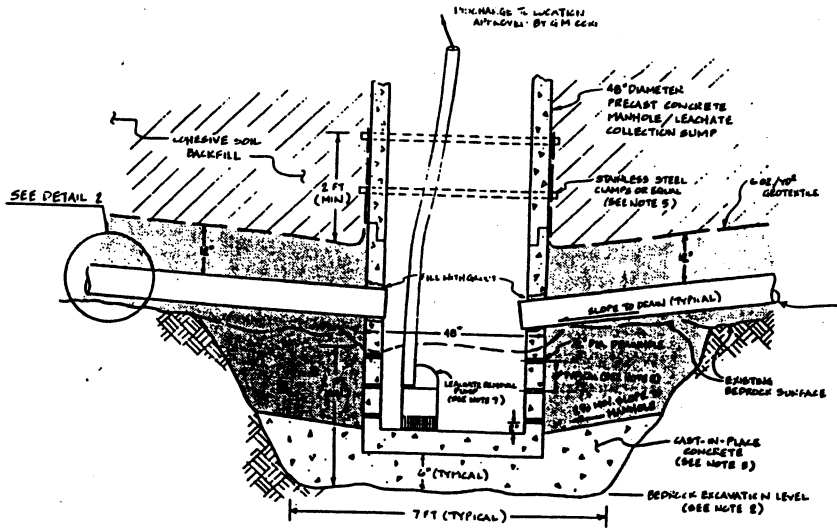
FIGURE 9. LEACHATE COLLECTION SYSTEM PIPING AS BUILT

ISOMETRIC DIAGRAM OF
LEACHATE COLLECTION SYSTEM
NORTH LAGOON REMEDIATION
GEMERAL MOTORS CORPORATION
BEDFORD, INDIANA
DES: JWS DR: PAW 1-4-88



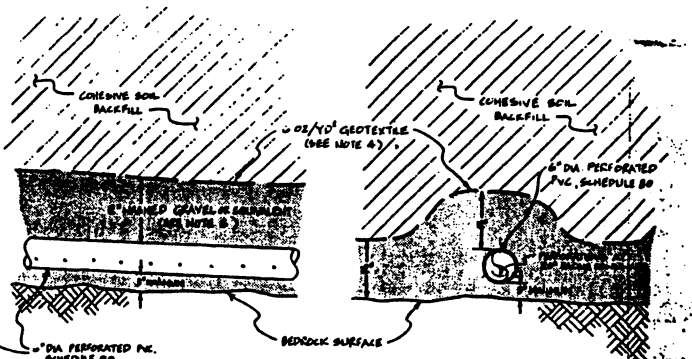
GENERALIZED
EXCAVATION CROSS SECTION

N.T.S.



DETAIL 1
TYPICAL LEACHATE COLLECTION SUMP

N.T.S.



DETAIL 2
TYPICAL LEACHATE COLLECTION PIPE

N.T.S

(1) THE GENERALIZED CROSS-SECTION WAS PREPARED BASED ON A SITE VISIT MADE ON 10 SEPTEMBER 1987. AN EXCAVATION AS GENERALLY SHOWN IN CROSS-SECTION WAS OBSERVED WHICH RESULTED FROM THE NORTH LAGOON REMEDIATION.

(2) THE LEACHATE COLLECTION SUMP SHOULD BE PLACED IN THE LOW POINT OF THE EXCAVATION. THE LOW POINT WAS APPARENT IN THE NORTH END OF THE EXCAVATION BASED ON LOCALIZED PONDING OF WATER. THE SUMP AREA SHOULD BE EXCAVATED INTO BEDROCK SO THAT IT IS ABOUT TWO FEET BELOW THE GRADE ELEVATION ADJACENT TO THE SUMP AREA. THE SUMP SHOULD THEN BE CONSTRUCTED AS SHOWN ON DETAIL 1.

(3) THE BASE SECTION OF THE SUMP SHOULD BE POURED IN THE FIELD, CAST-IN-PLACE CONCRETE. THE CONCRETE SHOULD HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. THE CONCRETE SHOULD BE ALLOWED TO CURE FOR AT LEAST THREE DAYS PRIOR TO PLACING GRAVEL BACKFILL AND AT LEAST SEVEN DAYS PRIOR TO PLACING ADDITIONAL MANHOLE SECTIONS ON THE BASE SECTION.

(4) A GEOTEXTILE SHOULD BE PLACED BETWEEN THE GRAVEL LAYER AND THE COHESIVE SOIL BACKFILL AS SHOWN. THE GEOTEXTILE SHOULD BE A 6 OZ/YD² OR HEAVIER, NON-WOVEN, NEEDLE-PUNCHED FABRIC, SUCH AS TREVIRA SPUNBOND 1130 OR EQUIVALENT. ADJACENT GEOTEXTILE PANELS SHOULD BE OVERLAPPED BY AT LEAST 6 INCHES. ALL SEAMS SHOULD BE JOINED BY SEWING OR HEAT BONDING THE PANELS TOGETHER AT THEIR EDGES AND ENDS.

(5) THE GEOTEXTILE ADJOINING THE PRECAST CONCRETE MANHOLE SHOULD BE HELD SECURELY TO THE MANHOLE WITH STAINLESS STEEL CLAMPS DURING CONSTRUCTION OF THE COHESIVE SOIL BACKFILL. A MINIMUM OF TWO CLAMPS SHOULD BE INSTALLED WHICH PROVIDE CONTINUOUS CONTACT OF THE GEOTEXTILE WITH THE MANHOLE.

(6) A CLEAN, WASHED GRAVEL OR EQUIVALENT SHOULD BE USED AS THE LEACHATE COLLECTION LAYER. THE LEACHATE COLLECTION LAYER SHOULD BE PLACED IN AREAS WHERE SEEPAGE WATER IS OBSERVED TO BE PONDED OR FLOWING; AROUND THE LEACHATE COLLECTION PIPES AND SUMP, AND AS REQUIRED BY FIELD CONDITIONS. A MINIMUM OF 12 INCHES OF GRAVEL COVER SHOULD BE PLACED OVER THE LEACHATE COLLECTION PIPES. THE SURFACE OF THE LEACHATE COLLECTION LAYER SHOULD BE COVERED WITH A GEOTEXTILE AS DESCRIBED IN NOTE 4 ABOVE.

(7) BASED ON VISUAL OBSERVATIONS MADE ON 10 SEPTEMBER 1987, THE LEACHATE REMOVAL PUMP SHOULD BE CAPABLE OF PUMPING AT A RATE OF ABOUT 5 TO 10 GPM. THE HEIGHT OF LIFT REQUIRED OF THE PUMP AND A MORE ACCURATE MEASUREMENT OF PUMPING RATE REQUIREMENTS SHOULD BE DETERMINED IN THE FIELD.

(8) THE LEACHATE COLLECTION MANHOLE SHOULD BE A 48-INCH DIAMETER PRECAST CONCRETE MANHOLE. A 36-INCH DIAMETER MANHOLE IS ALSO ACCEPTABLE DEPENDING ON AVAILABILITY OF MATERIALS. DRAIN HOLES SHOULD BE DRILLED IN THE BASE SECTION OF THE SUMP BELOW THE PIPE INLET TO ALLOW INFLOW BELOW THE LEACHATE COLLECTION PIPE AS SHOWN ON DETAIL 1. THE DRAIN HOLES SHOULD BE ABOUT 1/2 INCH DIAMETER OR SMALLER THAN THE 90% SIZE (D90) OF THE WASHED GRAVEL. THE DRAIN HOLE SPACING AROUND THE PERIMETER OF THE BASE SECTION OF THE MANHOLE SHOULD BE ABOUT 12 INCHES.

(9) THE LEACHATE COLLECTION PIPE NETWORK SHOULD CONSIST OF PRIMARY AND SECONDARY PIPES. THE PRIMARY AND SECONDARY LEACHATE COLLECTION PIPES SHOULD BE 6 INCH DIAMETER, SCHEDULE 80, PERFORATED PVC PIPE. THE PRIMARY PIPES SHOULD DRAIN INTO THE MANHOLE AND EXTEND ACROSS THE BASE OF THE EXCAVATION AT PLAN LOCATIONS DETERMINED IN THE FIELD. THE SECONDARY PIPE SHOULD DRAIN INTO AND EXTEND AWAY FROM THE PRIMARY PIPE AT 50 FOOT INTERVALS IN ALL AREAS WHERE GRAVEL IS PLACED. THE PERFORATIONS ON THE LEACHATE COLLECTION PIPES SHOULD FACE DOWNWARD, EXCEPT WITHIN 10 FEET OF THE MANHOLE. PRIMARY LEACHATE COLLECTION PIPES WITHIN 10 FEET OF THE MANHOLE SHOULD FACE UPWARD TO PROMOTE DRAINAGE INTO THE MANHOLE THROUGH THE PIPE RATHER THAN THE DRAIN HOLES BELOW THE LEACHATE COLLECTION PIPE INLETS.

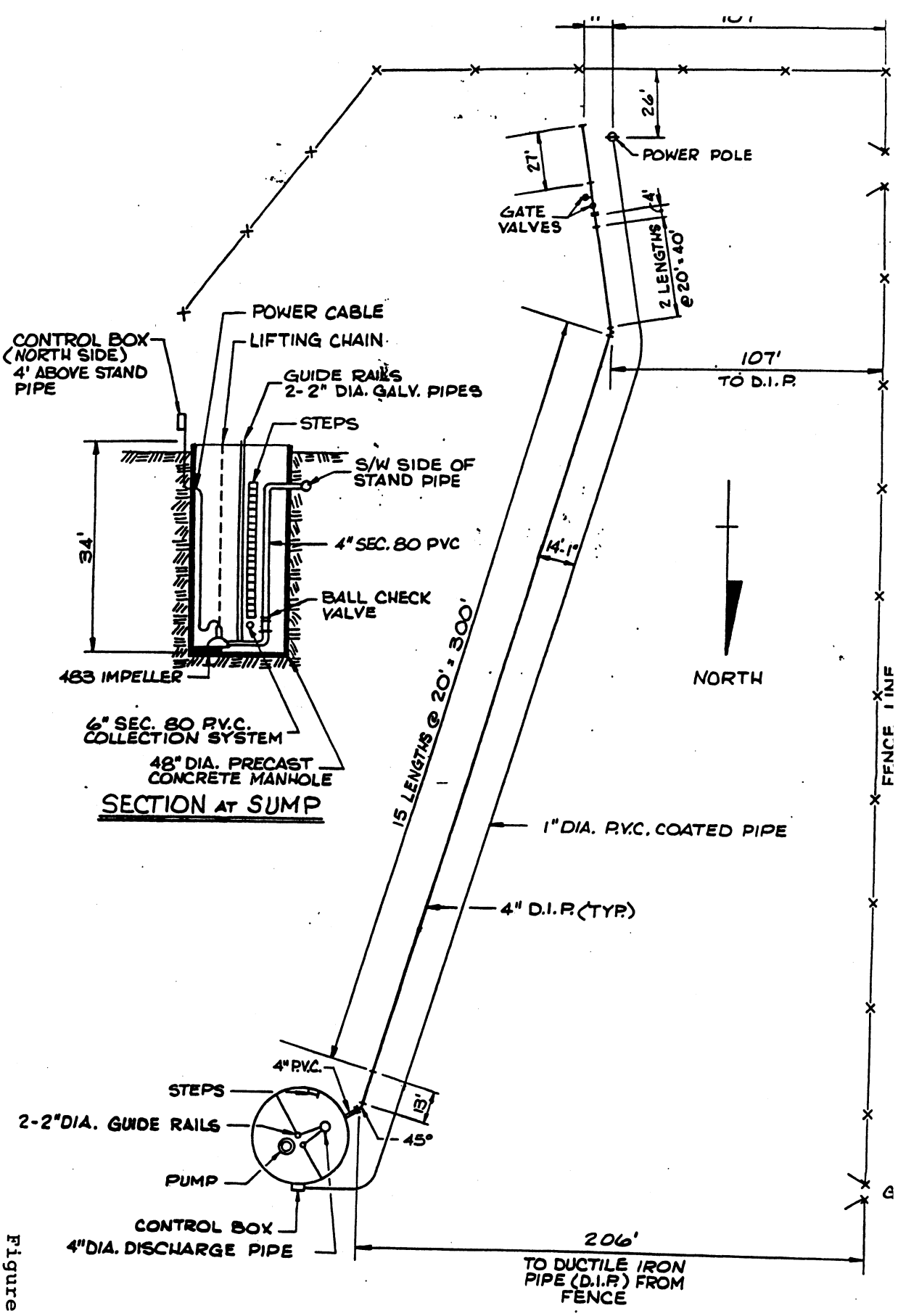
FIGURE 10. LEACHATE COLLECTIONS SYSTEM DESIGN SPECIFICATIONS

REV.	DATE	DESCRIPTION	DES BY	APP BY
B	9-87	FOR FINAL REVIEW	JPD	JWS
A	4-87	FOR ENRAC REVIEW	JPD	JWS

SCALE: N.T.S.
PROJECT NO.
PROJECT: NORTH LAGOON REMEDIATION
ARSENAL HYDRO CORPORATION BELLWOOD, PENNSYLVANIA
DES BY: J.N.S.
DR BY: J.P.D.
CHK BY:
APP BY: J.N.S.
SHEET TITLE: LEACHATE COLLECTION SYSTEM SECTION AND DETAILS

Waste Management, Inc.
Oak Brook, Illinois 60521

SHEET 1 OF 1
DRAWING NO.
GM-1



PLAN VIEW

LEACHATE DISCHARGE PIPING SYSTEM
GM - NORTH LAGOON REMEDIATION
BEDFORD, INDIANA

Figure 10A
LEACHATE DISCHARGE PI
SYSTEM

APPENDIX 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

IN RE: GENERAL MOTORS CORPORATION CENTRAL FOUNDRY DIVISION BEDFORD, INDIANA Respondent.	)	TSCA-V-C- TSCA-V-C- 138-87 CONSENT AGREEMENT AND FINAL ORDER

FILED
JUN 29 1987
REGIONAL HEARING CLERK
U.S. ENVIRONMENTAL
PROTECTION AGENCY

CONSENT AGREEMENT

1. This civil administrative proceeding for the assessment of a penalty was initiated pursuant to Section 16(a) of the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2615.

2. A Complaint and Notice of Opportunity for Hearing was filed by Complainant on June 29, 1987 charging that Respondent violated Section 15 of TSCA, 15 U.S.C. § 2614 by failure to comply with federal regulations regarding the storage and disposal of polychlorinated biphenyls (PCBs), 40 C.F.R. Part 761, promulgated under Section 6 of TSCA.

3. Count I of the Complaint alleged a violation of Section 15 of TSCA, 15 U.S.C. § 2614 and 40 C.F.R. § 761.65(b) in that an open, unlined lagoon located on Respondent's property in Bedford, Indiana (hereafter referred to as "North Lagoon") containing PCBs at concentrations greater than 50 parts per million (ppm), did not meet the physical requirements set forth in the aforesaid regulation for a PCB storage area, for which Complainant sought a civil penalty of $15,000.00.

4. Count II of the Complaint alleged a violation of 15 U.S.C. § 2614 and 40 C.F.R. § 761.65(a) in that Respondent failed to remove and dispose of the PCBs which had been stored in the North Lagoon since 1980, prior to January 1, 1984, for which Complainant sought a civil penalty of $15,000.

5. Count III of the Complaint alleged a violation of 15 U.S.C. § 2614 and 40 C.F.R. § 761.60(a) in that in March 1981, Respondent drained part of the contents from the North Lagoon, which constituted an uncontrolled discharge of PCBs in concentrations greater than 50 ppm, for which Complainant sought a civil penalty of $25,000.

6. Respondent admits the jurisdictional allegations in the Complaint.

7. Respondent neither admits nor denies the factual allegations of the Complaint.

8. Respondent contends that the PCBs in the North Lagoon were placed there prior to February 17, 1978, the "grandfathered" disposal date of the TSCA regulations, or are otherwise unregulated because they resulted from influent water containing less than 50 ppm PCBs. Respondent also contends that the North Lagoon is not a PCB storage site within the meaning of 40 C.F.R. § 761.65, and that, in any event, the materials entering and leaving the North Lagoon were not PCBs within the meaning of 40 C.F.R. § 761.

9. Respondent further contends that its actions in March 1981 were in full compliance with TSCA in that backfilling the North Lagoon

was not disposal under 40 C.F.R. § 761.60 and the water drained from the North Lagoon was unregulated material (less than 50 ppm PCBs). Respondent, however, acceded to the request of state and federal agencies to suspend further action on the North Lagoon pending review.

10. Complainant does not acquiesce in the interpretation of the PCB regulations advocated by Respondent; however, Complainant has determined that settlement of this matter in accordance with the terms set forth herein is in the public interest.

NOW, THEREFORE, solely for purposes of this proceeding without trial or other litigation of the issues or any adjudication of the facts, the parties stipulate and agree as follows:

1. Respondent, General Motors Corporation, at its Central Foundry Plant, Bedford, Indiana, owns and operated a storm water retention lagoon located on the north end of the plant property off Jackson Road (the North Lagoon). The North Lagoon was built in the early 1950's and used primarily as a water reservoir and then later as a retention lagoon for storm water and noncontact cooling water.

2. As a result of construction of a new storm water retention lagoon, the Central Foundry Plant terminated the use of the North Lagoon and blocked the inlet and discharge pipe on March 9, 1981. On March 13, 1981, General Motors began to drain the water in the North Lagoon and to backfill the North Lagoon with soil. Closure operations continued until representatives of the Indiana State Board of Health (ISBH) requested that General Motors discontinue its activities until

the matter could be reviewed by ISBH and U.S. EPA Region V. Other than periodic draining of the lagoon, General Motors has not resumed closure of the North Lagoon pending the resolution of this matter.

3. Samples of the lagoon sediment taken in 1981 and 1982 revealed the presence of PCBs in the sediment in concentrations greater than 50 ppm.

4. Respondent agrees to excavate, sample, remove, transport and dispose of waste and PCB-contaminated soil from the North Lagoon pursuant to the terms of the following final Order.

5. In consideration of Respondent's agreement to expeditiously undertake and complete the removal and disposal of the PCB-contaminated wastes and soil in its North Lagoon in accordance with this Consent Agreement and Final Order, Complainant agrees to mitigate the civil penalty proposed in the Complaint to $0.00.

6. Respondent expressly waives its right to an adjudicatory hearing on the allegations of the Complaint.

7. Respondent consents to the terms and conditions of the following final Order.

For Respondent, General Motors Corporation

Dated: 6/9/87 Robert W. Herr

For Complainant, U.S. Environmental Protection Agency,

Dated: 6/24/81

WILLIAM H. SANDERS, III, P.E.
Director
Environmental Services Division
U.S. Environmental Protection Agency, Region V
230 South Dearborn Street
Chicago, Illinois 60604

FINAL ORDER

1. Respondent shall excavate and remove all waste and contaminated soil from the North Lagoon to the level of the earthen liner of the lagoon. Beginning at the level of the earthen liner, Respondent shall excavate and remove soil from the side walls and bottom of the lagoon until samples from the remaining soil show the PCB concentration to be 3 ppm or less, or until a maximum of four feet of soil beyond the level of the earthen liner at the side walls and the bottom of the lagoon has been excavated.

2. If the PCB concentration of the remaining soil in the Lagoon is over 3 ppm after four feet of excavation beyond the earthen liner, Respondent shall install an underdrain system to cover the bottom of the excavated area to collect any future water infiltration. The collected water shall be treated at the Respondent's on-site wastewater treatment plant.

3. The excavated area shall be backfilled within eight inches of grade with clean burrow (less than 2 ppm PCBs) and the burrow capped with eight inches of clean clay soil (less than 2 ppm PCBs).

4. Respondent shall dispose of the PCB-contaminated wastes and soils removed from the North Lagoon in accordance with 40 C.F.R. § 761.60 and all other applicable state and federal laws and regulations.

5. Respondent shall undertake the actions required by Paragraphs 1 through 4 of this Order in accordance with the Work Plan which is attached hereto and which is hereby incorporated into this Order, no later than the dates set forth in the following schedule:

	SCHEDULE INCREMENTS	DATE
A.	Commence waste and contaminated soil excavation	Within 90 days of the effective date of this Final Order.
B.	Submit sample analyses demonstrating PCB concentrations in remaining soil at 3 ppm or less, or commence underdrain installation	Within six months of the effective date of this Final Order.
C.	Complete all soil excavation and underdrain installation if required	Within seven months of the effective date of this Final Order.
D.	Dispose of PCB-contaminated waste and soil in accordance with 40 C.F.R. § 761.60	Within 18 months of the effective date of this Final Order.

6. Within 15 days of the compliance date for each of the schedule increments in Paragraph 5A, B and C, Respondent shall notify Complainant in writing of its compliance or noncompliance with such schedule increment.

7. General Motors shall submit the final report called for in the Work Plan under Part II, Task 9.B, to U.S. EPA Region V within 30 days after receipt from the contractor.

8. Respondent shall perform the requirements under this Order within the time limits set forth herein, unless the performance is prevented or delayed solely by events which constitute a force majeure. A force majeure is defined as any event arising from causes not reasonably foreseeable and beyond the control of the Respondent including, but not limited to, action of a national or local government, body or court, an act of God, war, strike, riot or catastrophe, as to any of which the negligence or willful misconduct of the Respondent was not the proximate cause, and which delays or prevents performance by a date required by this Consent Order.

Respondent must notify EPA in writing within 15 working days after it becomes aware of events which it believes constitute a force majeure. Such notice shall estimate the anticipated length of delay, including necessary demobilization and remobilization, its cause, measures taken or to be taken to minimize the delay, and an estimated timetable for implementation of these measures. Respondent shall adopt reasonable measures to avoid and minimize the delay.

If Respondent demonstrates to EPA that a delay or nonperformance is caused solely by a force majeure, the time for performance of that task shall be extended for a period equal to the delay resulting from such circumstances. Such an extension does not alter the schedule for performance of any other requirement of this Consent Order unless these are also specifically altered by amendment of the Consent Order or underlying plan. In the event EPA does not accept Respondent's

demonstration of a force majeure, EPA must notify Respondent in writing within 15 working days. If agreement cannot be reached, EPA and Respondent reserve their respective rights to undertake appropriate action as provided by law.

9. All submissions and notifications required by this Order shall be sent to:

Chief
Toxic Substances Section (5SPT)
U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

10. Respondent's failure to comply with the terms and conditions of this Order by the dates contained therein will render the full proposed civil penalty of $55,000 due and payable within 15 days of written demand by U.S. EPA. Payment shall be made as specified in said demand.

11. Interest shall accrue on any amounts overdue under the terms of this Consent Agreement and Final Order at the rate established by the Secretary of the Treasury pursuant to 31 U.S.C. § 3717. A late payment handling charge of $20.00 will be imposed after thirty (30) days with an additional charge of $10.00 for each subsequent 30-day period an unpaid balance remains. In addition, a six percent per annum penalty will be applied on any principal amount not paid within ninety (90) days of the date that this Consent Agreement and Final Order is signed by the Regional Administrator.

12. The effective date of this Consent Agreement and Final Order is the date of signature by the Regional Administrator.

13. The failure to comply with the terms of this Consent Agreement and Final Order will result in a referral of this matter to the United States Attorney for enforcement.

14. Nothing in this Consent Agreement and Final Order shall relieve Respondent of its duty to comply with all applicable provisions of TSCA, 15 U.S.C. § 2601, et. seq.

15. Nothing in this Consent Agreement and Final Order shall relieve Respondent from any liability under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601, et. seq.

IT IS SO ORDERED.

Dated: 6/25/87

Francis M. Covington

VALDAS V. ADAMKUS
for Regional Administrator
U.S. Environmental Protection
Agency, Region V

STATE OF INDIANA

COUNTY OF LAWRENCE

On this 9th day of June, 1987, before me personally came Robert W. Herr, to me known, who being duly sworn did depose and say that he resides in Lawrence County, that he is Plant Manager of the Corporation described in and which executed the foregoing instrument, and that he signed his name as authorized by said Corporation.

L. Jeannine Tipes
Notary Public

WORK PLAN FOR NORTH LAGOON CLOSURE

The following describes the Work Plan for the closure of the North Lagoon of the General Motors Corporation, Central Foundry Division - Bedford plant.

I. Background

1. The North Lagoon that is addressed by this plan is shown on Figure 1. The North Lagoon is located on the plant property immediately east of North Jackson Street and the plants manufacturing facility. The lagoon was constructed in the early 1950's and was used primarily as a water reservoir and storm water retention lagoon until 1981. It is oval in shape and is approximately 310 feet long, 250 feet wide, and 22 feet deep at its maximum outline. The lagoon is no longer needed because a new larger storm water retention lagoon was constructed in 1981 as part of an overall wastewater treatment project.

2. The objectives of this plan are to:

A. Excavate, remove, transport, and dispose of waste and contaminated soil from the North Lagoon. The North Lagoon area included in this project is described in "1" above.

B. Sample and analyze the excavated waste and contaminated soil to meet all applicable disposal facility permit and Department of Transportation requirements.

C. Sample and analyze the remaining soil in the excavated area. If any of the samples show the soil to be contaminated with 3 ppm or more of PCBs, an underdrain system will be installed at the bottom of the excavated area to collect any future water infiltration. The collected water will be treated at the Central Foundry on-site wastewater treatment plant. The plant's NPDES permit requires the effluent to meet a PCB limitation of 1 ppb.

D. Backfill the excavated areas to provide and maintain adequate drainage and runoff control.

E. Cover the back-filled area with top soil and seed to provide appropriate groundcover.

II. Tasks

The major tasks in the work plan are described below. The Project Time Schedule for implementing the work plan is shown in Figure 2. All tasks in the work plan are planned to be completed within 180 working days. Since the contractor for implementing the Work Plan has not been selected, the schedule may be revised after the contractor has been selected and given an opportunity to review the Work Plan.

Task 1. Mobilization and Site Preparation

The first task will be for the contractor to mobilize equipment to the site and prepare the site for waste and soil handling operations. Site preparation will include:

A. Designation of three basic work zones:

a. Exclusion Zone - the North Lagoon area as identified in Figure 1.

b. Contamination Reduction Zone - the area where vehicles and equipment are cleaned off prior to leaving the project site.

c. Support Zone - the area, outside of Exclusion and Contamination Reduction Zones, where support services are located.

B. Installation of Support Zone and Contamination Reduction Zone facilities that may include, as necessary:

a. Office trailer.

b. Laboratory trailer.

c. Personnel decontamination trailer.

d. Equipment storage trailer.

e. Equipment/vehicle decontamination pad.

f. Utilities - water, electricity and telephone service.

C. Provision of adequate construction drainage controls to contain storm water runoff from the North Lagoon work area as shown in Figure 1 for removal and treatment (see Task 2).

D. Construction, as necessary, of site access roads, equipment decontamination pad and waste staging facilities. The contractor may use any existing appropriate facilities.

Task 2. Lagoon Water and Storm Water Removal/Treatment

Existing lagoon water and storm water that is retained by the drainage control for the North Lagoon work area will be pumped to the plant's wastewater treatment plant for treatment, including activated carbon adsorption. The PCB limitation for the treated effluent in the NPDES permit for this wastewater treatment plant is 1 ppb.

Task 3. Waste and Contaminated Soil Excavation

The contractor shall properly excavate and remove (and stage within the Exclusion Zone, as necessary) waste and contaminated soils from within the North Lagoon to the level of the earthen liner of the Lagoon. Beginning at the level of the earthen liner, soil will be excavated and removed from the bottom and side walls of the North Lagoon until samples from the remaining soil show PCB concentration to be 3 ppm or less (see Task 4 for sampling and analysis). In no event, however, will GM be required to remove more than a

maximum of four feet of soil beyond the level of the earthen liner at the side walls and the bottom of the North Lagoon. All excavated materials shall be transported and disposed as described in Task 5.

Task 4. Sampling and Analysis

The contractor will sample and analyze the waste materials and contaminated soil removed from the North Lagoon for meeting disposal facility permit and Department of Transportation requirements.

After removal of contaminated soils, the contractor will sample and analyze the remaining soil for PCB concentration using Method 8080, "Test Methods for Evaluating Soil Waste - Physical/Chemical Methods", SW-846, 2nd. Ed., U.S. EPA, July 1982. The soil borings will be six inches in depth located at the grid point of each of the 50-foot by 50-foot grids established for the bottom and each 50-foot horizontal location at the side walls of the excavated area, resulting in more than 30 borings which will be analyzed. Each boring will be throughly mixed for analysis. The Central Foundry on-site laboratory may be used for PCB analysis.

Task 5. Loading, Transportation, and Disposal

The contractor will load all waste and contaminated soil properly on vehicles. Each vehicle will be lined with an impermeable, flexible material prior to loading with sufficient areal dimensions to allow the loaded materials to be fully enveloped with the lining material. A tarpaulin cover will be placed over the loaded materials.

The contractor will transport all wastes and contaminated soils off-site to an appropriate federal and state approved disposal facility. Transportation vehicles will meet applicable state and federal laws, including applicable DOT requirements. All vehicles will be weighed prior to and after loading at the on-site scale to certify that the tonnage of materials transported by each vehicle is correctly stated on the waste manifest or shipping paper.

GM Central Foundry is investigating the feasibility of on-site treatment for the removal/destruction of PCBs in the waste and contaminated soils. Treatment methods such as the Detox Industries' biological process for PCB degradation and disposal, as permitted by EPA Region VI, will be investigated. If GM Central Foundry determines that use of a PCB destruction process in lieu of off-site disposal is preferred, EPA approval

will be requested prior to utilization of such an option.

Task 6. Underdrain Installation

Upon completion of the analysis of the soil borings described in Task 4, if any one of the more than 30 borings is shown to contain PCBs in excess of 3 ppm (mg/kg), an underdrain system will be installed to cover the total bottom of the excavated area to collect any future water infiltration. The underdrain tile will be spaced in a 50-foot by 50-foot grid sloped to one collection point. The collected water will be treated at the Central Foundry on-site wastewater treatment plant. The plant's NPDES permit requires the effluent to meet a PCB limitation of 1 ppb.

Task 7. Backfill and Cover

The excavated area will be back-filled with local off-site borrow material. After backfilling, a six-inch top-soil layer will be placed over the back-filled area, and seeded. The cover will be sloped and maintained to prevent rainwater accumulation.

Task 8. Equipment Decontamination and Demobilization

The contractor will decontaminate all equipment prior to leaving the site at the completion of the project. Vehicles for transporting waste and contaminated soils from the North Lagoon area will be pressure washed to remove exterior contamination prior to leaving the Contamination Reduction Zone. All decontamination water and liquids from washing of vehicles and from decontamination of staff personnel safety equipment shall be collected for treatment through the on-site wastewater treatment plant.

Task 9. Administration and Support

A. Safety Plan

Prior to initiation of site work, the contractor must develop a satisfactory site safety plan for GM Central Foundry's approval. Failure to follow the plan may be a basis for termination of the work. All trailers, decontamination units and other safety equipment required in the plan shall be provided by the contractor. Site activities may require modification of the plan.

B. Final Report

Within 30 days after completion of the Tasks delineated in this Work Plan, the contractor shall prepare a final report delineating the results of the remedial action. All the information generated during the closure should be included as appendices to the document. The report should include maps drawn to scale indicating waste excavation areas, depths of excavations, all sample locations and analytical results, and all other data collected during the remedial action.

Attached Figure 1 & Figure 2

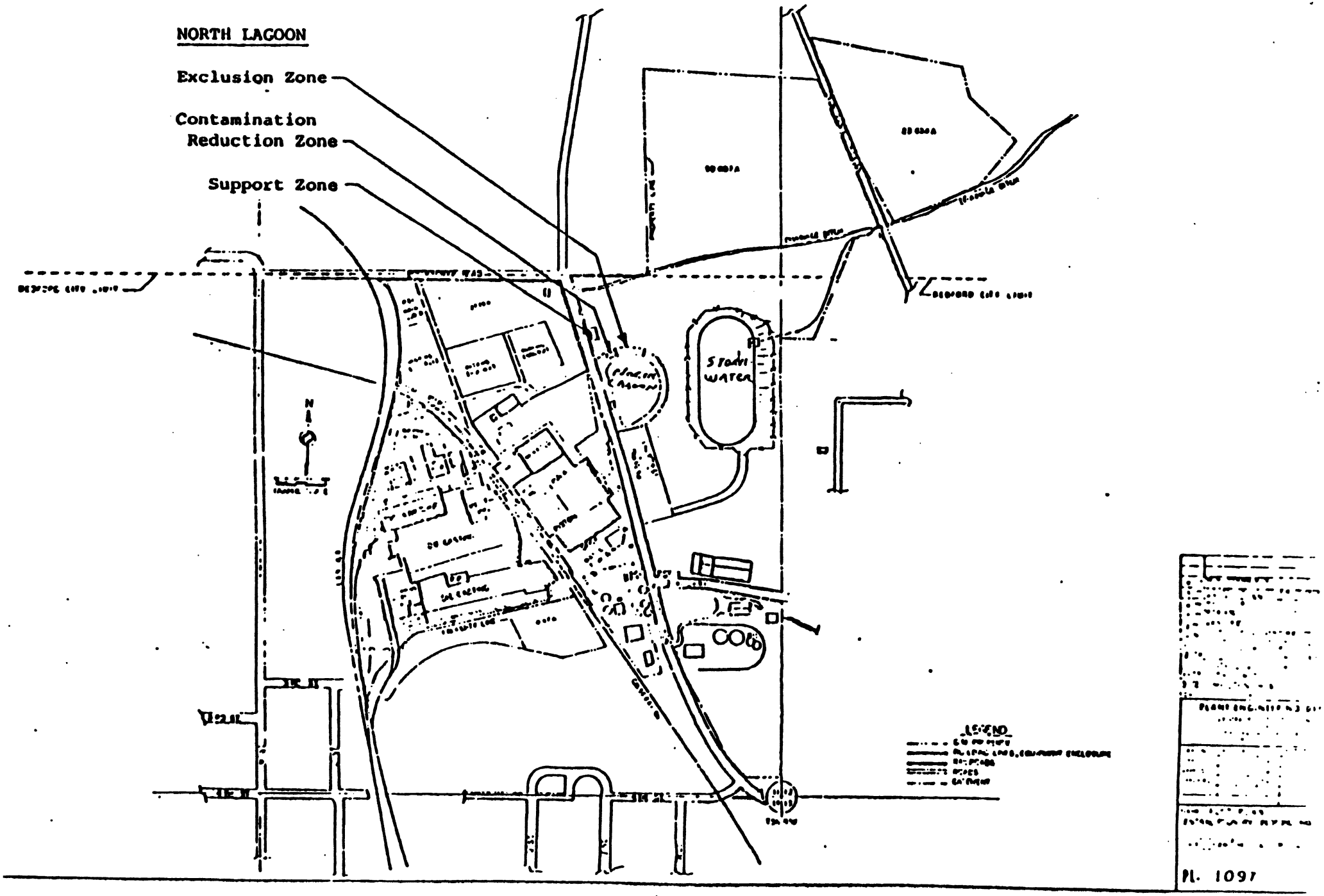


FIGURE 1. NORTH LAGOON LOCATION

FIGURE 2. PROJECT TIME SCHEDULE

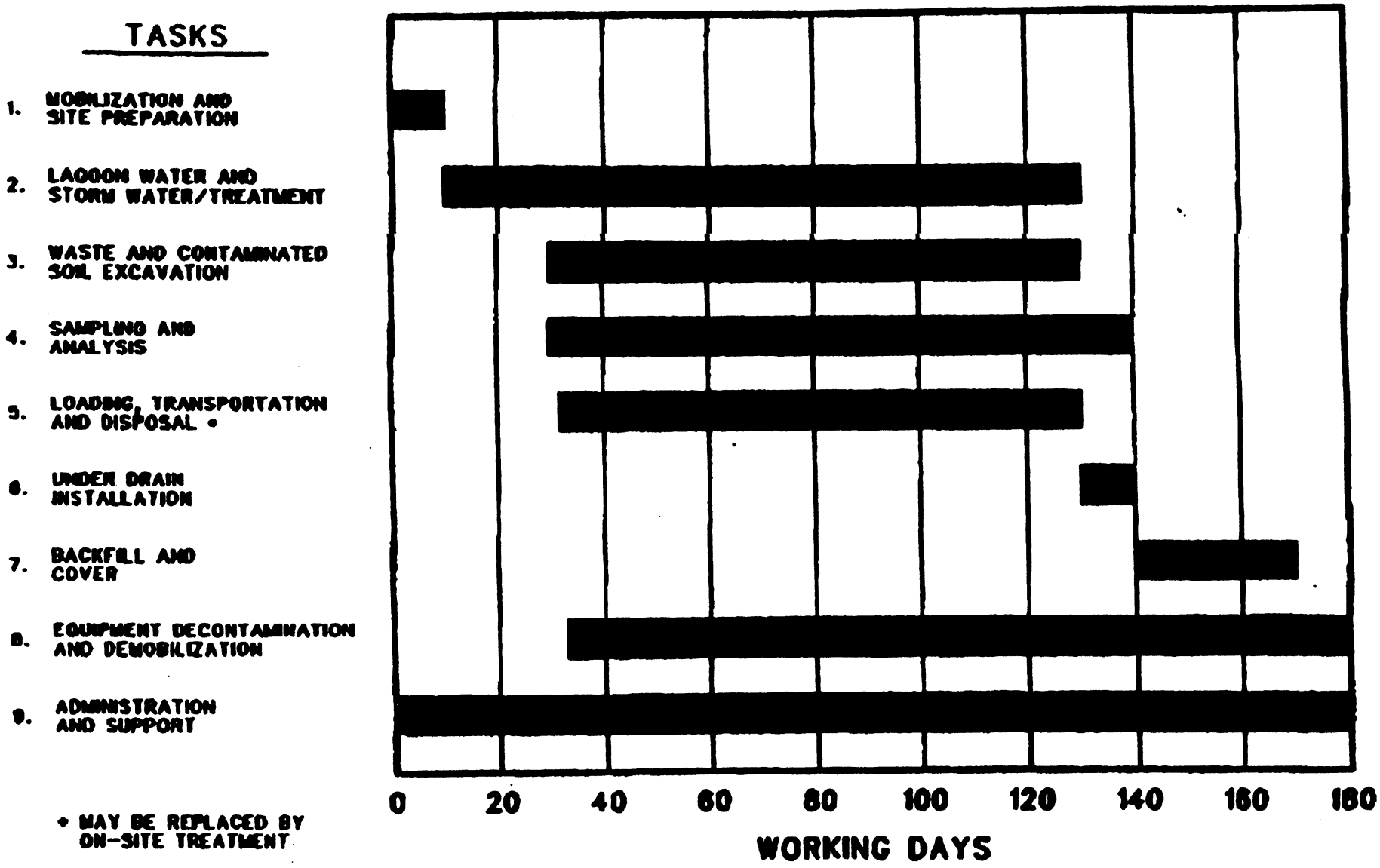
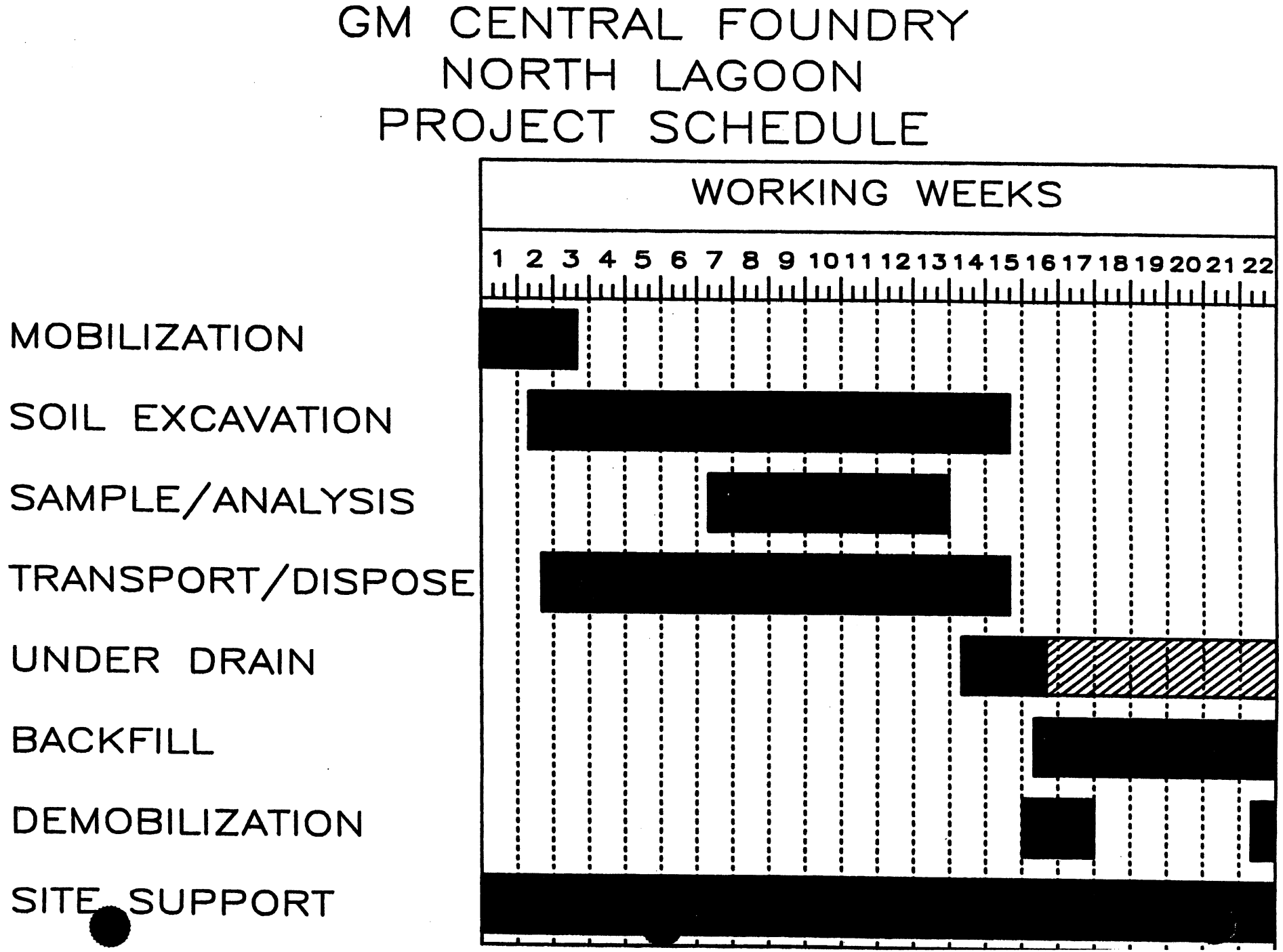
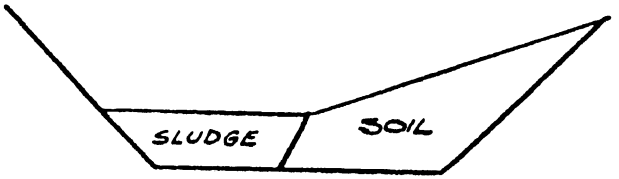


Figure 11

NORTH LAGOON PROJECT SCHEDULE

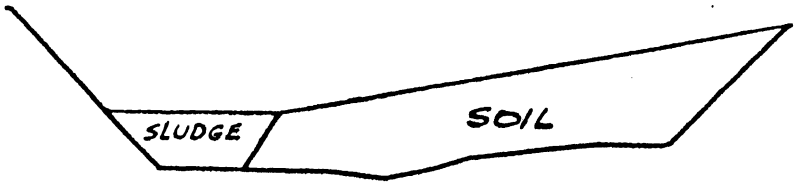


APPENDIX 2



EXISTING GRADE	690.000 677.000 677.000 670.000
MAIN BORDER	690.000 686.000 682.000 678.000 674.000 670.000 667.000 667.000 670.000 674.000 678.000 682.000 686.000 690.000 694.000
SLUDGE POND	677.000 667.000 667.000 672.000 677.000
DISTANCE (FT)	15.156 20.183 30.194 40.409 50.623 60.746 68.261 116.338 132.364 196.467 205.318 216.008 226.698 237.388 248.078 258.768 269.458

SECTION A-A



EXISTING GRADE	MAIN BORDER	SLUDGE POND	DISTANCE (FT)
690.000	690.000		12.018
686.000	686.000		22.172
677.000	682.000		32.226
	676.000		42.280
	674.000		52.334
	670.000		62.536
	667.000		70.182
677.000	667.000	672.000	112.564
		676.000	124.270
		677.000	135.976
	667.000		147.423
	667.000		159.432
	666.500		171.441
	666.000		182.735
	667.000		194.030
	668.000		208.735
	670.000		227.369
	671.000		244.427
689.680	672.000		255.737
	672.500		266.890
	673.000		280.748
690.550	675.000		294.606
	673.000		305.225
	676.000		315.271
	680.000		325.317
	684.000		335.364
	688.000		345.282
	692.000		

SECTION B-B

APPENDIX 2.1

Print file "VOLUME_OF_MAIN_BOUNDARY" (1)

VOLUME WITHIN BOUNDARY DESIGNATED 'D015'

BASELINE DETAILS :
START POINT 278.3540 433.8340 FINISH POINT 278.3540 786.2470
MAXIMUM LEFT OFFSET 0.0000 MAXIMUM RIGHT OFFSET 273.5870
NUMBER OF SECTIONS - 19 AT 20.000 INTERVAL, PERPENDICULAR TO A LINE AT AN ANGLE OF 0.0000 DEGREES

-CHAINAGE- /DISTANCE-	——SECTIONAL AREAS—— —CUT—	—FILL—	-INTERMEDIATE VOLUMES- —CUT—	—FILL—	-ACCUMULATIVE VOLUMES- —CUT—	—FILL—
0.000	0.000	0.000			0.000	0.000
			-7617.261	0.000		
20.000	-781.726	0.000			-7617.261	0.000
			-29603.754	0.000		
40.000	-2198.649	0.000			-37221.015	0.000
			-60095.950	0.000		
60.000	-3810.946	0.000			-97316.965	0.000
			-88034.587	0.000		
80.000	-4992.513	0.000			-185351.552	0.000
			-103252.445	0.000		
100.000	-5332.731	0.000			-288603.997	0.000
			-107361.125	0.000		
120.000	-5403.381	0.000			-395965.122	0.000
			-105646.895	0.000		
140.000	-5181.308	0.000			-501612.017	0.000
			-100489.289	0.000		
160.000	-4887.620	0.000			-602101.306	0.000
			-96043.508	0.000		
180.000	-4716.730	0.000			-698144.814	0.000
			-90968.810	0.000		
200.000	-4380.151	0.000			-789113.625	0.000
			-83455.056	0.000		
220.000	-3985.355	0.000			-872568.681	0.000
			-75980.620	0.000		
240.000	-3632.707	0.000			-948549.301	0.000
			-67322.584	0.000		
260.000	-3099.551	0.000			-1015871.884	0.000
			-54868.576	0.000		
280.000	-2387.306	0.000			-1070740.460	0.000
			-42802.125	0.000		
300.000	-1892.906	0.000			-1113542.585	0.000
			-30368.019	0.000		
320.000	-1143.896	0.000			-1143910.604	0.000
			-14514.650	0.000		
340.000	-307.569	0.000			-1158425.254	0.000
			-1908.930	0.000		
352.413	0.000	0.000			-1160334.184	0.000

(1) This "Volume of Main Boundary" represents the total volume of sludge and soil in the North Lagoon.

NOTE:
ACCUMULATED CUT VOLUMES ARE STATED IN CUBIC FEET.

The volume, converted to cubic yards = 42,975 yd^3.

Print file "VOLUME_OF_INTERIOR_LAGOON" (1)

VOLUME WITHIN BOUNDARY DESIGNATED 'SL02'

BASELINE DETAILS :
START POINT 296.9570 455.0860 FINISH POINT 296.9570 608.0940
MAXIMUM LEFT OFFSET 0.0000 MAXIMUM RIGHT OFFSET 176.5120
NUMBER OF SECTIONS - 9 AT 20.000 INTERVAL, PERPENDICULAR TO A LINE AT AN ANGLE OF 0.0000 DEGREES

-CHAINAGE- /DISTANCE-	——SECTIONAL AREAS—— —CUT—	—FILL—	-INTERMEDIATE VOLUMES- —CUT—	—FILL—	-ACCUMULATIVE VOLUMES- —CUT—	—FILL—
0.000	0.000	0.000			0.000	0.000
			-10382.055	0.000		
20.000	-1038.205	0.000			-10382.055	0.000
			-23915.470	0.000		
40.000	-1353.341	0.000			-34297.525	0.000
			-27757.180	0.000		
60.000	-1422.376	0.000			-62054.705	0.000
			-26893.495	0.000		
80.000	-1286.973	0.000			-88948.200	0.000
			-21779.000	0.000		
100.000	-910.927	0.000			-110727.200	0.000
			-14344.205	0.000		
120.000	-523.493	0.000			-125071.405	0.000
			-7058.490	0.000		
140.000	-182.355	0.000			-132129.895	0.000
			-1186.040	0.000		
153.008	0.000	0.000			-133315.935	0.000

(1) This "Volume of Interior Lagoon" represents a sludge volume relating to a continuous depth of 13 feet. This is expected to be a maximum sludge volume.

NOTE:
ACCUMULATED CUT VOLUMES ARE STATED IN CUBIC FEET.

The volume, converted to cubic yards = 4,397 yd^3.

Print file "SLVOLNEW" (2)

VOLUME WITHIN BOUNDARY DESIGNATED 'SL02'

BASELINE DETAILS :
START POINT 296.9570 455.0860 FINISH POINT 296.9570 608.0940
MAXIMUM LEFT OFFSET 0.0000 MAXIMUM RIGHT OFFSET 176.5120
NUMBER OF SECTIONS - 9 AT 20.000 INTERVAL, PERPENDICULAR TO A LINE AT AN ANGLE OF 0.0000 DEGREES

-CHAINAGE- /DISTANCE-	——SECTIONAL AREAS—— —CUT—	—FILL—	-INTERMEDIATE VOLUMES- —CUT—	—FILL—	-ACCUMULATIVE VOLUMES- —CUT—	—FILL—
0.000	0.000	0.000			0.000	0.000
			0.000	0.000		
20.000	0.000	0.000			0.000	0.000
			-4423.463	0.000		
40.000	-442.346	0.000			-4423.463	0.000
			-13925.466	0.000		
60.000	-950.200	0.000			-18348.929	0.000
			-19213.580	0.000		
80.000	-971.158	0.000			-37562.509	0.000
			-17692.017	0.000		
100.000	-798.044	0.000			-55254.526	0.000
			-13433.905	0.000		
120.000	-545.346	0.000			-68688.431	0.000
			-7277.020	0.000		
140.000	-182.355	0.000			-75965.451	0.000
			-1186.040	0.000		
153.008	0.000	0.000			-77151.491	0.000

(2) This "Volume of Interior Lagoon" represents a sludge volume relating to a continuous depth of 10 feet. This is expected to be a conservative volume estimate.

NOTE:
ACCUMULATED CUT VOLUMES ARE STATED IN CUBIC FEET.

The volume, converted to cubic yards = 2,857 yd^3

APPENDIX 3

4W/ PROJECT GM FOUNDRY BORING POINT M DATE 3/30/87

DRILLERS RON - STEVE WEATHER COLD - CLOUDY

WATER: RODS _____ COMPLETION _____ 24 HOURS _____ OTHER _____

STATION _____ ELEVATION 689.68

ELEV.	DESCRIPTION	DEPTH	SAMPLE	6	6	6	N	≈	Cu	Qu	Ht
.2	TOP SOIL										
7.2	BLK SiCl w/ SA AND Org.	13.5									
	LIMESTONE	15.5									
	* AUGER REFUSAL @ 17.2	17.5									

AW PROJECT GM FOUNDARY BORING POINT F. DATE 3/30/87

DRILLERS RON - STEVE WEATHER COLD - CLOUDY

R: RODS _____ COMPLETION _____ 24 HOURS _____ OTHER _____

ATION _____ ELEVATION 690.38

FV.	DESCRIPTION	DEPTH	SAMPLE	6	6	6	N	=	Qu	Qp	Hc
2	TOP SOIL										
7.5	BLK. SiCL w/ SAND AND ORG.	7.0									
		9.0									
18.0	LT BR/GRY HARD SiCl	11.0									
		13.0									
		14.0									
	BTH - 18.0	16.0									

AWW PROJECT GM-BEDFORD BORING POINT G DATE 3/31/87

DRILLERS RON/STEVE WEATHER COLD-CLEAR

WATER: RODS _____ COMPLETION _____ 24 HOURS _____ OTHER _____

STATION _____ ELEVATION 690.55

L.F.V.	DESCRIPTION	DEPTH
2	TOP SOIL	
14.9	BLK Si Sa CL w/ORGANIC	13.5
		15.5
	AUGER REFUSAL 14.9'	17.5
	HOLE OFF-SET 4'	

SAMPLE	6	6	6	N	≈	Qu	Qp	Hr:
SAMPLE TAKEN BUT NOT RETRV.								

PROJECT GM-BEDFORD BORING POINT H DATE 3/31/87

DRILLERS RON/STEVE WEATHER

WATER: RODS COMPLETION 24 HOURS OTHER

LOCATION ELEVATION 685.84

V.	DESCRIPTION	DEPTH	SAMPLE	6	6	6	N				
0.2	TOP SOIL										
2 3.8	BLK S. Sa. Cl w/org.	9.0									
		11.0									
3.8 5.0	CLAY LINER BN/RED SiCl	13.0									
	BTH - 15.0'										

AW PROJECT GM-BEDFORD BORING POINT O DATE 3/31/87

DRILLERS RON/STEVE WEATHER COLD-CLEAR

WATER: RODS _____ COMPLETION _____ 24 HOURS _____ OTHER _____

LOCATION _____ ELEVATION 693.30'

FV.	DESCRIPTION	DEPTH	SAMPLE	6	6	6	N	≈	Qu	Qp	Hc
	TOP SOIL										
5	BLK S. Sa CL	4.0	6.0								
	CLAY LINER BR/RED SCL										

RECORD OF SUESURFACE EXPLORATION

Boring B-1

Project Name: G.M. Fill Investigation Date of Boring 8/28/8[illegible]

Site: Bedford, Indiana Project No.: S4190

DESCRIPTION	DEPTH	SAMPLE	N	Q_u	Q_p	M_c	REMARKS
SURFACE							
Miscellaneous Fill Material		1SS	12				
		2SS	16				
	5	3SS	21				
		4SS	15				
		5SS	24				
	10	6SS	18				
		7SS	6				
	15	8SS	9				
		9SS	4				

Boring terminated at 18.0 feet.

Brown Silty CLAY (natural) was encountered at 18.0 feet.

Boring Dry on Completion.

SLUDGE
14 18'

N. END of PENINSULA

AW

RECORD OF SUBSURFACE EXPLORATION

Boring B-2

A W A Engineering Inc

Project Name: G.M. Fill Investigation Date of Boring: [illegible]

Site: Bedford, Indiana Project No.: S4190

DESCRIPTION	DEPTH	SAMPLE	N	Q_u	Q_p	M_c	REMARKS
SURFACE							
Miscellaneous Fill Material		1SS	7				
		2SS	15				
	5	3SS	36				
		4SS	24				
		5SS	21				
	10	6SS	16				
		7SS	8				
	15	8SS	56/5	[illegible]			
		9SS	12				
Boring terminated at 18.0 feet.							
Brown Silty CLAY (natural) was encountered at 18.0 feet.							
Boring Dry on Completion.							

SLUDGE
16-18'

1/2 way up Penn

AW

RECORD OF SUBSURFACE EXPLORATION

Boring B-3

Engineering Inc

Project Name: G.M. Fill Investigation Date of Boring: [illegible]

Site: Bedford, Indiana Project No.: S4190

DESCRIPTION	DEPTH	SAMPLE	N	Q_u	Q_p	M_c	REMARKS
SURFACE							
Miscellaneous Fill Material		1SS	7				
		2SS	50/4				
	5	3SS	31				
		4SS	7				
		5SS	3				
	10	6SS	6				
		7SS	16				
	15	8SS	50/4				
Boring terminated at 16.0 feet.							
Brown Silty CLAY (natural) was encountered at 16.0 feet.							

No noticible Sludge Odor was present.

South side of Lagoon

APPENDIX 4

VOLUME OF FILL FOR CLEANED OUT LAGOON

Job # 87-2

STATION	DIST.	END AREA	AVE. END AREA	CU. YDS.			
0+25		0					ZERO SECTION
	25		621.9	575.9			
0+50		1243.85					
	50		2966.0	5492.6			
1+00		4688.18					
	50		5350.4	9908.2			
1+50		6012.63					
	50		5861.6	10854.8			
2+00		5710.60					
	50		5603.7	10377.2			
2+50		5496.80					
	50		4710.2	8722.6			
3+00		3923.58					
	50		3481.0	6446.3			
3+50		3038.38					
	50		2042.6	3782.6			
4+00		1046.85					
	30		523.4	581.6			
4+30		0					ZERO SECTION
				56741.8	Cu.	Yds.	Fill
			+10%	5674.2			
				62,416	Cu.	Yds.	Fill Total

K.P.

Alt & Witzig Engineering, Inc.

2405 A. 96th STREET
INDIANAPOLIS, INDIANA 46268
(317) 875-7900

November 20, 1987

Chemical Waste Management
401 North Jackson
Bedford, Indiana
ATTN: Mr. Gary Salsbury

RE: Tests on Fill Soils
G.M. Central Foundry
Bedford, Indiana
Alt & Witzig File: S7327

Gentlemen:

In compliance with your request, laboratory tests were performed on two samples of fill materials.

The results of our laboratory tests indicate these soils are both cohesive materials with large percentages of clay particles. The results of grain size analysis and Atterburg Limit tests are presented on Figures 1 and 2. The results of laboratory permeability tests are presented on Figure 3.

If you have further questions regarding the soils or materials on this project, please contact us at your convenience.

Very truly yours,

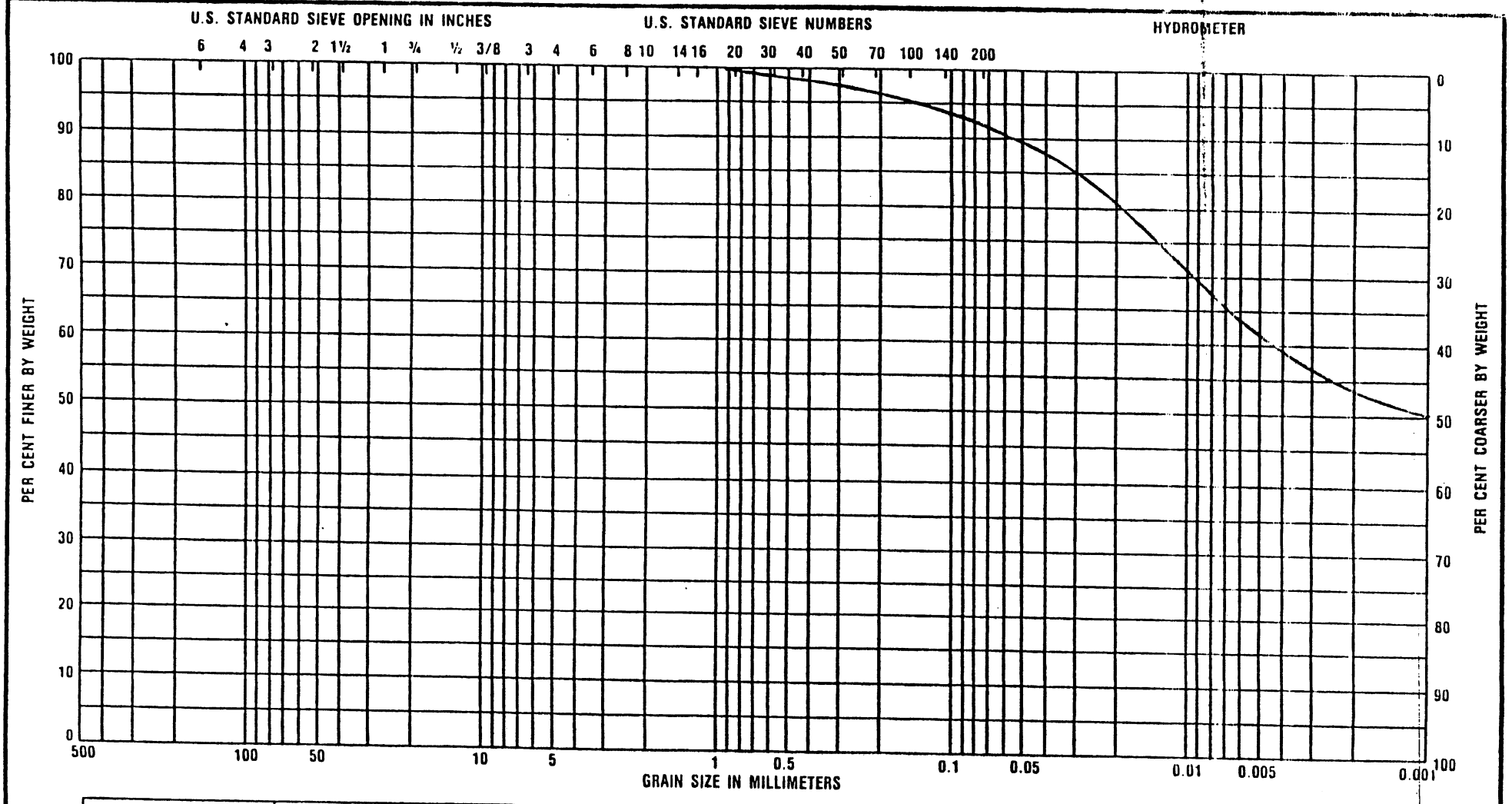
ALT & WITZIG ENGINEERING, INC.

William E. Witzig

William E. Witzig, P.E.

WEW:kdc

REPORT OF SOIL ANALYSIS



Boring No.	Sample No.	Elev. or Depth	Classification	Nat w %	LL	PL	PI
1			Reddish Brown CLAY		60	22	28

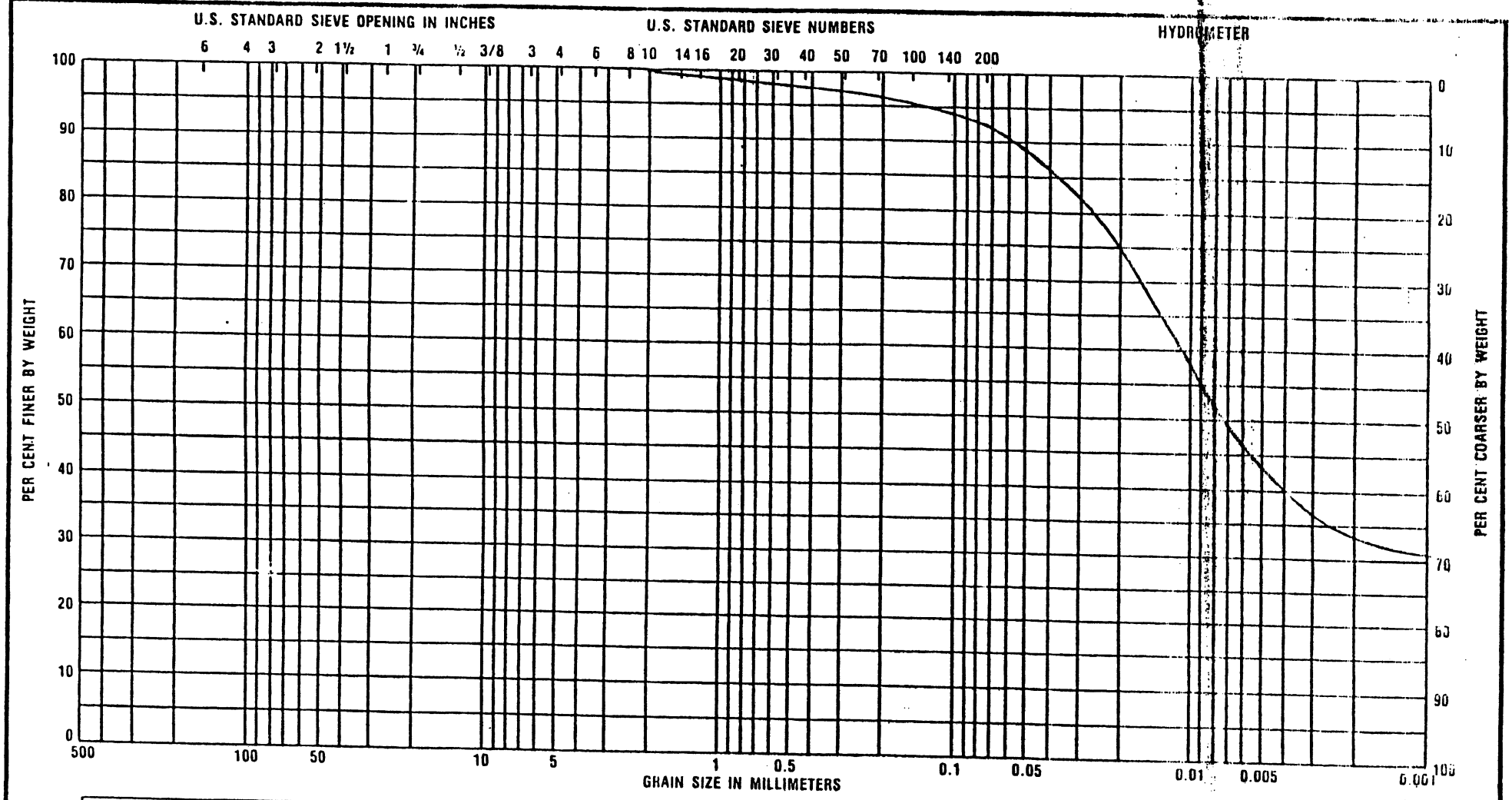
Project: GM Central Foundry
Bedford, Indiana
S7327

Date: 11/87

AW

Figure 1

REPORT OF SOIL ANALYSIS



boring No	Sample No.	Elev. or Depth	Classification	Nat w %	LL	PL	PI	Project
2			Brown SILTY CLAY		38	18	20	GM Central Foundry Bedford, Indiana S7327
								Date 11/87

Figure 2

Results of
LABORATORY PERMEABILITY TESTS

Sample No: 1

Sample Description: Reddish Brown CLAY

Permeability Rate: 8.4×10^{-8} cm/sec

Sample No: 2

Sample Description: Light Brown SILTY CLAY

Permeability Rate: 1.3×10^{-7} cm/sec

Prepared For: Chemical Waste Management Bedford, Indiana	Figure 3	Prepared By: Alt & Witzig Engineering, Inc. Indianapolis, Indiana	
PROJECT NAME GM Central Foundry Bedford, Indiana		PROJECT NO S7327	DATE 11/87

APPENDIX 5

ORGANOCHLORINE PESTICIDES AND PCB'S

1.0 Scope and Application

1.1 Method 8080 is used to determine the concentration of certain organochlorine pesticides and polychlorinated biphenyls (PCB's) in groundwater, liquid, and solid sample matrices. Specifically, Method 8080 may be used to detect the following substances:

Aldrin	Endrin aldehyde
a-BHC	Heptachlor
B-BHC	Heptachlor epoxide
w-BHC	Kepone
g-BHC (Lindane)	Methoxychlor
Chlordane	Toxaphene
4,4'-DDD	PCB-1016
4,4'-DDE	PCB-1221
4,4'-DDT	PCB-1232
Dieldrin	PCB-1242
Endosulfan I	PCB-1248
Endosulfan II	PCB-1254
Endosulfan sulfate	PCB-1260
Endrin	

1.2 Method 8080 is recommended for use only by, or under the close supervision of, experienced residue analysts.

2.0 Summary of Method

2.1 Method 8080 provides cleanup and chromatographic conditions for the detection of ppb levels of organochlorine pesticides and PCB's. Prior to the use of this method, appropriate sample extraction techniques must be used. Groundwater and other aqueous samples are extracted at a neutral pH with methylene chloride as a solvent using a separatory funnel (Method 3510) or a continuous liquid-liquid extractor (Method 3520). Both neat and diluted organic liquids may be analyzed by direct injection. Solid samples are extracted with hexane:acetone (1:1) using either the Soxhlet extraction (Method 3540) or sonication (Method 3550) procedures. A 2- to 5-µl sample is injected into a gas chromatograph (GC) using the solvent flush technique, and compounds in the GC effluent are detected by an electron capture detector (ECD) or another halogen-specific detector. An aliquot of each sample will be spiked with standards to determine the spike recovery and the limits of detection for that particular sample. It is recommended that the analyst carefully select the compounds used in sample spiking to avoid coelution under the GC conditions given in Table 1. Aroclor 1221 will give minimal interference with the single component pesticides listed in Table 1. Chlordane and toxaphene may require individual spiked sample analysis to yield valid recovery data.

TABLE 1. GAS CHROMATOGRAPHY OF PESTICIDES AND PCB's[a]

Parameter	Retention time (min)		Detection limit[b] (µg/l)
	Column 1[c]	Column 2[d]	
Aldrin	2.40	4.10	0.004
a-BHC	1.35	1.82	0.004
B-BHC	1.90	1.97	0.006
w-BHC	2.15	2.20	0.009
q-BHC (Lindane)	0.70	2.13	0.004
Chlordane	e	e	0.014
4,4'-DDD	7.83	9.08	0.012
4,4'-DDE	5.13	7.15	0.004
4,4'-DDT	9.40	11.75	0.012
Dieldrin	5.45	7.23	0.002
Endosulfan I	4.50	6.20	0.014
Endosulfan II	8.00	8.28	0.004
Endosulfan sulfate	14.22	10.70	0.066
Endrin	6.55	8.10	0.006
Endrin aldehyde	11.82	9.30	0.023
Heptachlor	2.00	3.35	0.004
Heptachlor epoxide	3.50	5.00	0.083
Methoxychlor	18.20	26.60	0.176
PCB-1016	e	e	ND
PCB-1221	e	e	ND
PCB-1232	e	e	ND
PCB-1242	e	e	0.065
PCB-1248	e	e	ND
PCB-1254	e	e	ND
PCB-1260	e	e	ND

ND = not determined.

[a]Taken from reference 6.

[b]Detection limit is calculated from the minimum detectable GC response being equal to five times the GC background noise, assuming a 10-ml final volume of a 1-liter liquid extract, and assuming a GC injection of 5 µl.

[c]Column 1 conditions: Supelcoport 100/120 mesh coated with 1.5% SP-2250/1.95% SP-2401 packed in a 180-cm long x 4-mm I.D. glass column with 5% Methane/95% Argon carrier gas at 60 ml/min flow rate. Column temperature is 200° C.

[d]Column 2 conditions: Supelcoport 100/200 mesh coated with 3% OV-1 in a 180-cm long x 4-mm I.D. glass column with 5% Methane/95% Argon carrier gas at 60 ml/min flow rate. Column temperature is 200° C.

[e]Multiple peak response.

2.2 The sensitivity of Method 8080 usually depends on the level of interferences rather than on instrumental limitations. Table 1 lists the limits of detection that can be obtained in wastewaters in the absence of interferences. Detection limits for a typical waste sample may be significantly higher.

3.0 Interferences

3.1 Solvents, reagents, glassware, and other sample processing hardware may yield discrete artifacts and/or elevated baselines causing misinterpretation of gas chromatograms. All these materials must therefore be demonstrated to be free from interferences under the conditions of the analysis by running method blanks. Specific selection of reagents and purification of solvents by distillation in all-glass systems may be required.

3.2 Interferences coextracted from the samples will vary considerably from waste to waste. While general cleanup techniques are provided as part of this method, unique samples may require additional cleanup approaches to achieve desired sensitivities.

3.3 Glassware must be scrupulously clean. Clean all glassware as soon as possible after use by rinsing with the last solvent used. This should be followed by detergent washing in hot water. Rinse with tap water, distilled water, acetone, and finally pesticide-quality hexane. Heavily contaminated glassware may require treatment in a muffle furnace at 400° C for 15 to 30 min. Some high boiling materials, such as PCB's, may not be eliminated by this treatment. Volumetric ware should not be heated in a muffle furnace. Glassware should be sealed/stored in a clean environment immediately after drying or cooling to prevent any accumulation of dust or other contaminants. Store inverted or capped with aluminum foil.

3.4 Interferences by phthalate esters can pose a major problem in pesticide analysis. These materials elute in the 15% and 50% fractions of the Florisil cleanup. They usually can be minimized by avoiding contact with any plastic materials. The contamination from phthalate esters can be completely eliminated with a microcoulometric or electrolytic conductivity detector.

3.5 Before processing any samples, the analyst should demonstrate daily through the analysis of an organic-free water or solvent blank that the entire analytical system is interference-free. Standard quality assurance practices should be used with this method. Field replicates should be collected to validate the precision of the sampling technique. Laboratory replicates should be analyzed to validate the precision of the analysis. Fortified samples should be analyzed to validate the accuracy of the analyses. Where doubt exists over the identification of a peak on the gas chromatogram, confirmatory techniques such as mass spectroscopy should

be used. Detection limits for groundwater and EP extracts are given in Table 1. Detection limits for these compounds in wastes should be set at 1 µg/g.

4.0 Apparatus and Materials

4.1 Drying column: 20-mm I.D. pyrex chromatographic column with coarse frit.

4.2 Kuderna-Danish (K-D) apparatus

4.2.1 Concentrator tube: 10 ml, graduated. Calibration must be checked at 1.0- and 10.0-ml level. Ground glass stopper (size 19/22 joint) is used to prevent evaporation of extracts.

4.2.2 Evaporative flask: 500 ml. Attach to concentrator tube with springs.

4.2.3 Snyder column: Three-ball macro (Kontes K503000-0121 or equivalent).

4.2.4 Boiling chips: Extracted, approximately 10/40 mesh.

4.3 Water bath: Heated, with concentric ring cover, capable of temperature control (±2° C). The bath should be used in a hood.

4.4 Gas chromatograph: Analytical system complete with gas chromatograph suitable for on-column injection and all required accessories including electron-capture or halogen-specific detector, column supplies, recorder, gases, syringes. A data system for measuring peak areas is recommended.

4.5 Chromatographic column: Pyrex, 400 mm x 25 mm O.D., with coarse fritted plate and Teflon stopcock (Kontes K-42054-213 or equivalent).

5.0 Reagents

5.1 Preservatives

5.1.1 Sodium hydroxide: (ACS) 10 N in distilled water.

5.1.2 Sulfuric acid (1+1): (ACS) Mix equal volumes of conc. H_2SO_4 with distilled water.

5.2 Methylene chloride: Pesticide quality or equivalent.

5.3 Sodium sulfate: (ACS) Granular, anhydrous (purified by heating at 400° C for 4 hr in a shallow tray).

5.4 Stock standards: Prepare stock standard solutions at a concentration of 1.00 µg/µl by dissolving 0.100 g of assayed reference material in pesticide quality isooctane or other appropriate solvent and diluting to volume in a 100-ml ground-glass-stoppered volumetric flask. The stock solution is transferred to ground-glass-stoppered reagent bottles, stored in a refrigerator, and checked frequently for signs of degradation or evaporation, especially just prior to preparing working standards from them.

5.5 Mercury: Triple distilled.

5.6 Hexane: Pesticide residue analysis grade.

5.7 Isooctane (2,2,4-trimethyl pentane): Pesticide residue analysis grade.

5.8 Acetone: Pesticide residue analysis grade.

5.9 Diethyl ether: Nanograde, redistilled in glass if necessary.

5.9.1 Must be free of peroxides as indicated by EM Quant test strips (Test strips are available from EM Laboratories, Inc., 500 Executive Blvd., Elmsford, N.Y. 10523).

5.9.2 Procedures recommended for removal of peroxides are provided with the test strips. After cleanup, 20 ml ethyl alcohol preservative must be added to each liter of ether.

5.10 Florisil: PR grade (60/100 mesh); purchase activated at 1250° F; store in glass containers with glass stoppers or foil-lined screw caps. Before use, activate each batch at least 16 hr at 130° C in a foil-covered glass container.

6.0 Sample Collection, Preservation, and Handling

6.1 Grab samples must be collected in appropriately cleaned glass containers and the sampling bottle must not be prewashed with the sample before collection. Composite samples should be collected in refrigerated glass containers in accordance with the requirements of the program. Automatic sampling equipment must be free of tygon and other potential sources of contamination.

6.2 The samples must be iced or refrigerated from the time of collection until extraction. Chemical preservatives should not be used in the field unless more than 24 hr will elapse before delivery to the laboratory. If the samples will not be extracted within 48 hours of collection, the sample should be adjusted to a pH range of 6.0-8.0 with sodium hydroxide or sulfuric acid.

6.3 All samples must be extracted within 7 days and completely analyzed within 30 days of collection.

7.0 Procedures

7.1 Sample preparation

7.1.1 Extraction - Extract water samples at a neutral pH with methylene chloride as a solvent using a separatory funnel (Method 3510) or a continuous liquid-liquid extractor (3520). Extract solid samples with hexane:acetone (1:1) using either the Soxhlet extraction (Method 3540) or sonication procedures (Method 3550). Spiked samples are used to verify the applicability of the chosen extraction technique to each new sample type. Each sample must be spiked to determine the % recovery and the limit of detection for that sample.

7.1.2 Florisil column cleanup

7.1.2.1: Add a weight of Florisil (nominally 21 g), predetermined by calibration (Section 7.3) to a chromatographic column. Settle the Florisil by tapping the column. Add sodium sulfate to the top of the Florisil to form a layer 1-2 cm deep. Add 60 ml of hexane to wet and rinse the sodium sulfate and Florisil. Packing the Florisil in a hexane slurry is an alternative method which has proven effective. Just prior to exposure of the sodium sulfate to air, stop the elution of the hexane by closing the stopcock on the chromatography column. Discard the eluate. Adjust the sample extract volume to 10 ml and transfer it from the K-D concentrator tube to the Florisil column. Rinse the tube twice with 1-2 ml hexane, adding each rinse to the column.

7.1.2.2 Place a 500-ml K-D flask and clean concentrator tube under the chromatography column. Drain the column into the flask until the sodium sulfate layer is nearly exposed. Elute the column with 200 ml of 6% ethyl ether in hexane (Fraction 1) using a drip rate of about 5 ml/min. Remove the K-D flask and set aside for later concentration. Elute the column again, using 200 ml of 15% ethyl ether in hexane (Fraction 2), into a second K-D flask. Perform the third elution using 200 ml of 50% ethyl ether in hexane (Fraction 3). The elution patterns for the pesticides and PCB's are shown in Table 2.

7.1.2.3 Concentrate the eluates by standard K-D techniques, as described in the referenced extraction procedures, substituting hexane for the glassware rinses and using the water bath at about 85° C. Adjust final volume to 10 ml with hexane. Analyze by gas chromatography.

TABLE 2. DISTRIBUTION AND RECOVERY OF CHLORINATED PESTICIDES AND PCB's USING FLORISIL COLUMN CHROMATOGRAPHY[a]

Parameter	Percent recovery by fraction[b]		
	1(6%)	2(15%)	3(50%)
Aldrin	100		
a-BHC	100		
ß-BHC	97		
w-BHC	98		
q-BHC (Lindane)	100		
Chlordane	100		
4,4'-DDD	99		
4,4'-DDE	98		
4,4'-DDT	100		
Dieldrin	0	100	
Endosulfan I	37	64	
Endosulfan II	0	7	91
Endosulfan sulfate	0	0	106
Endrin	4	96	
Endrin aldehyde	0	68	26
Heptachlor	100		
Heptachlor epoxide	100		
Methoxychlor	100		
Toxaphene	96		
PCB-1016	97		
PCB-1221	97		
PCB-1232	95	4	
PCB-1242	97		
PCB-1248	103		
PCB-1254	90		
PCB-1260	95		

[a]Taken from reference 1.

[b]Eluting solvent composition given in Section 7.1.2.2.

7.2 Gas chromatography conditions. The recommended gas chromatographic columns and operating conditions for the instrument are:

Column 1 conditions: Supelcoport 100/120 mesh coated with 1.5% SP-2250/ 1.95% SP-2401 packed in a 180-cm long x 4-mm I.D. glass column with 5% Methane/95% Argon carrier gas at 60 ml/min flow rate. Column temperature is 200° C.

Column 2 conditions: Supelcoport 100/120 mesh coated with 3% OV-1 in a 180-cm long x 4-mm I.D. glass column with 5% Methane/95% Argon carrier gas at 60 ml/min flow rate. Column temperature is 200° C.

7.3 Calibration

7.3.1 Establish gas chromatographic operating parameters equivalent to those indicated in Table 1. The gas chromatographic system can be calibrated using the external standard technique (Section 7.3.2) or the internal standard technique (Section 7.3.3).

7.3.2 External standard calibration procedure

7.3.2.1 For each parameter of interest, prepare calibration standards at a minimum of three concentration levels by adding volumes of one or more stock standards to a volumetric flask and diluting to volume with isooctane. One of the external standards should be at a concentration near, but above, the method detection limit. The other concentrations should correspond to the expected range of concentrations found in real samples or should define the working range of the detector.

7.3.2.2 Using injections of 2 to 5 µl of each calibration standard, tabulate peak height or area responses against the mass injected. The results can be used to prepare a calibration curve for each parameter. Alternatively, the ratio of the response to the mass injected, defined as the calibration factor (CF), can be calculated for each parameter at each standard concentration. If the relative standard deviation of the calibration factor is less than 10% over the working range, linearity through the origin can be assumed and the average calibration factor can be used in place of a calibration curve.

7.3.2.3 The working calibration curve or calibration factor must be verified on each working day by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve or calibration factor may be prepared for that parameter.

7.3.3 Internal standard calibration procedure. To use this approach, the analyst must select one or more internal standards similar in analytical behavior to the compounds of interest. The analyst must further demonstrate that the measurement of the internal standard is not affected by method or matrix interferences. Due to these limitations, no internal standard applicable to all samples can be suggested.

7.3.3.1 Prepare calibration standards at a minimum of three concentration levels for each parameter of interest by adding volume of one or more stock standards to a volumetric flask. To each calibration standard, add a known constant amount of one or more internal standards, and dilute to volume with isooctane. One of the standards should be at a concentration near, but above, the method detection limit. The other concentrations should correspond to the expected range of concentrations found in real samples, or should define the working range of the detector.

7.3.3.2 Using injections of 2 to 5 µl of each calibration standard, tabulate the peak height or area responses against the concentration for each compound and internal standard. Calculate response factors (RF) for each compound as follows:

$$RF = (A_s C_{is})/(A_{is} C_s)$$

where:

A_s = Response for the parameter to be measured.

A_{is} = Response for the internal standard.

C_{is} = Concentration of the internal standard in µg/l.

C_s = Concentration of the parameter to be measured in µg/l.

If the RF value over the working range is constant, less than 10% relative standard deviation, the RF can be assumed to be invariant and the average RF can be used for calculations. Alternatively, the results can be used to plot a calibration curve of response ratios, A_s/A_{is} against RF.

7.3.3.3 The working calibration curve or RF must be verified on each working day by the measurement of one or more calibration standards. If the response for any parameter varies from the predicted response by more than ±10%, the test must be repeated using a fresh calibration standard. Alternatively, a new calibration curve must be prepared for that compound.

7.3.4 Florisil standardization. The cleanup procedure described in Section 7.1.2 utilizes Florisil chromatography. Florisil from

different batches or sources may vary in absorption capacity. To determine the amount of Florisil to be used, the absorption capacity of each separate batch of Florisil is measured using lauric acid values (2). The referenced procedure determines the adsorption from hexane solution of lauric acid (mg) per g Florisil. The amount of Florisil to be used for each column is calculated by dividing this factor into 110 and multiplying by 20 g.

[redacted]

technique. Smaller (1.0 µl) volumes can be injected if automatic devices are employed. Record the volume injected to the nearest 0.05 µl, and the resulting peak size, in area units.

7.4.2 If the peak areas exceed the linear range of the system, dilute the extract and reanalyze.

7.4.3 If peak detection is prevented by the presence of interferences, further cleanup is required. Before using any cleanup procedure, the analyst must process a series of calibration standards through the procedure to validate elution patterns and the absence of interferences from the reagents.

7.4.4 Examples of chromatograms for organochlorine pesticides are shown in Figures 1-5.

8.0 Quality Control

8.1 Before processing any samples, the analyst should demonstrate through the analysis of a distilled water method blank that all glassware and reagents are interference-free. Each time a set of samples is extracted or there is a change in reagents, a method blank should be processed as a safeguard against chronic laboratory contamination. The blank samples should be carried through all stages of the sample preparation and measurement steps.

8.2 Standard quality assurance practices should be used with this method. Field replicates should be collected to validate the precision of the sampling technique. Laboratory replicates should be analyzed to validate the precision of the analysis. Fortified samples should be analyzed to validate the sensitivity and accuracy of the analysis. If the fortified waste samples do not indicate sufficient sensitivity to detect less than or equal to 1 µg/g of sample, then the sensitivity of the instrument should be increased or the extract subjected to additional cleanup. Detection limits to be used for groundwater samples are indicated in Table 1. The fortified samples should be carried through all stages of the sample preparation and measurement steps. Where doubt exists over the identification of a peak on the chromatograph, confirmatory techniques such as mass spectroscopy should be used.

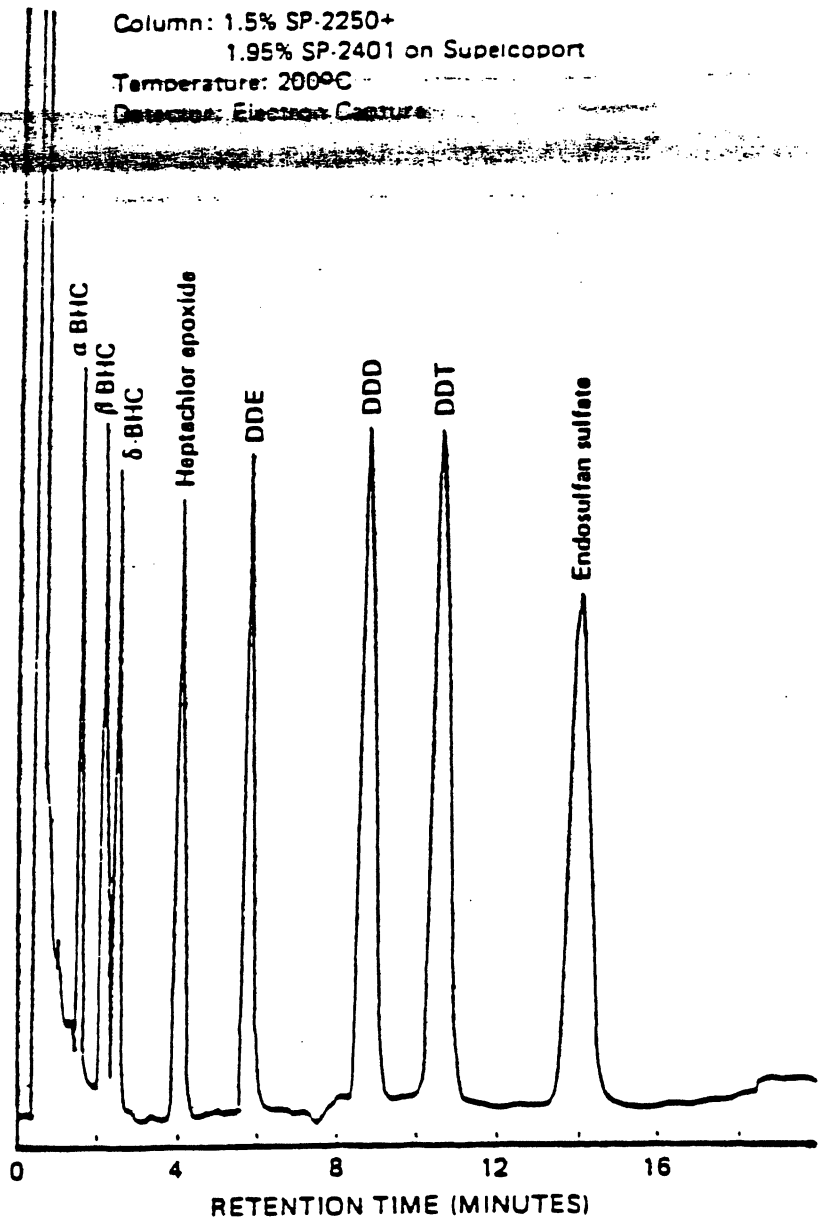


Figure 1. Gas chromatogram of pesticides.

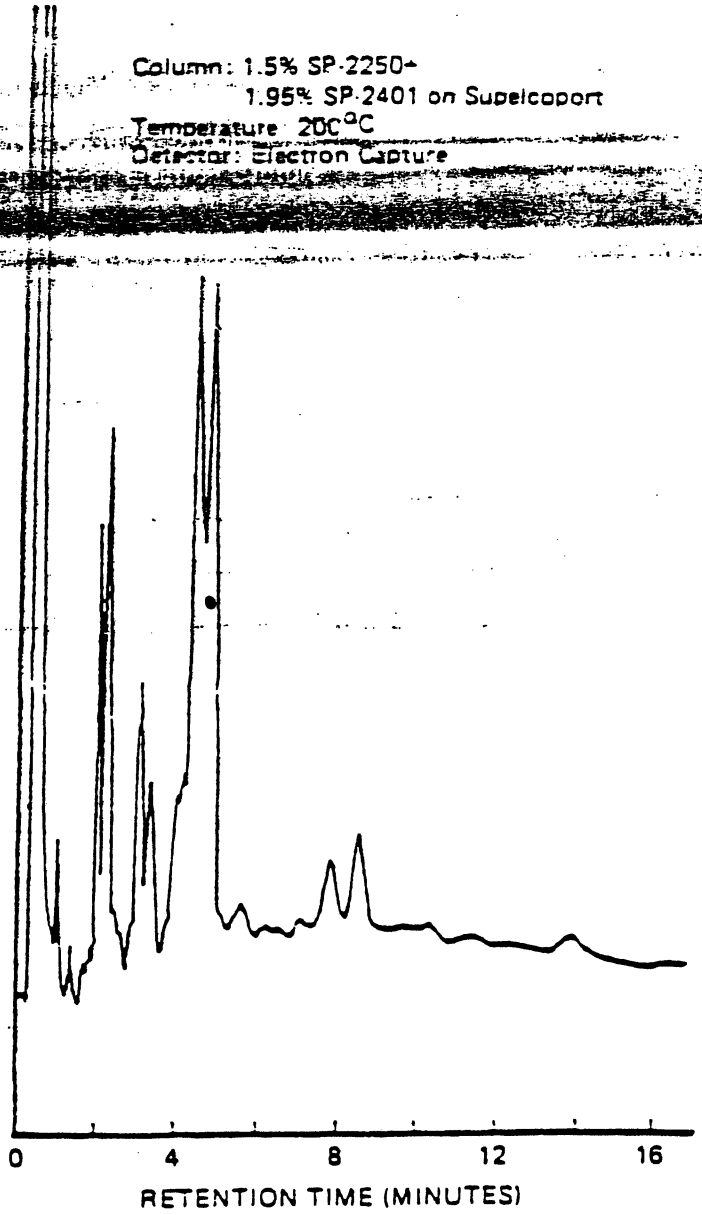


Figure 2. Gas chromatogram of chlordane.

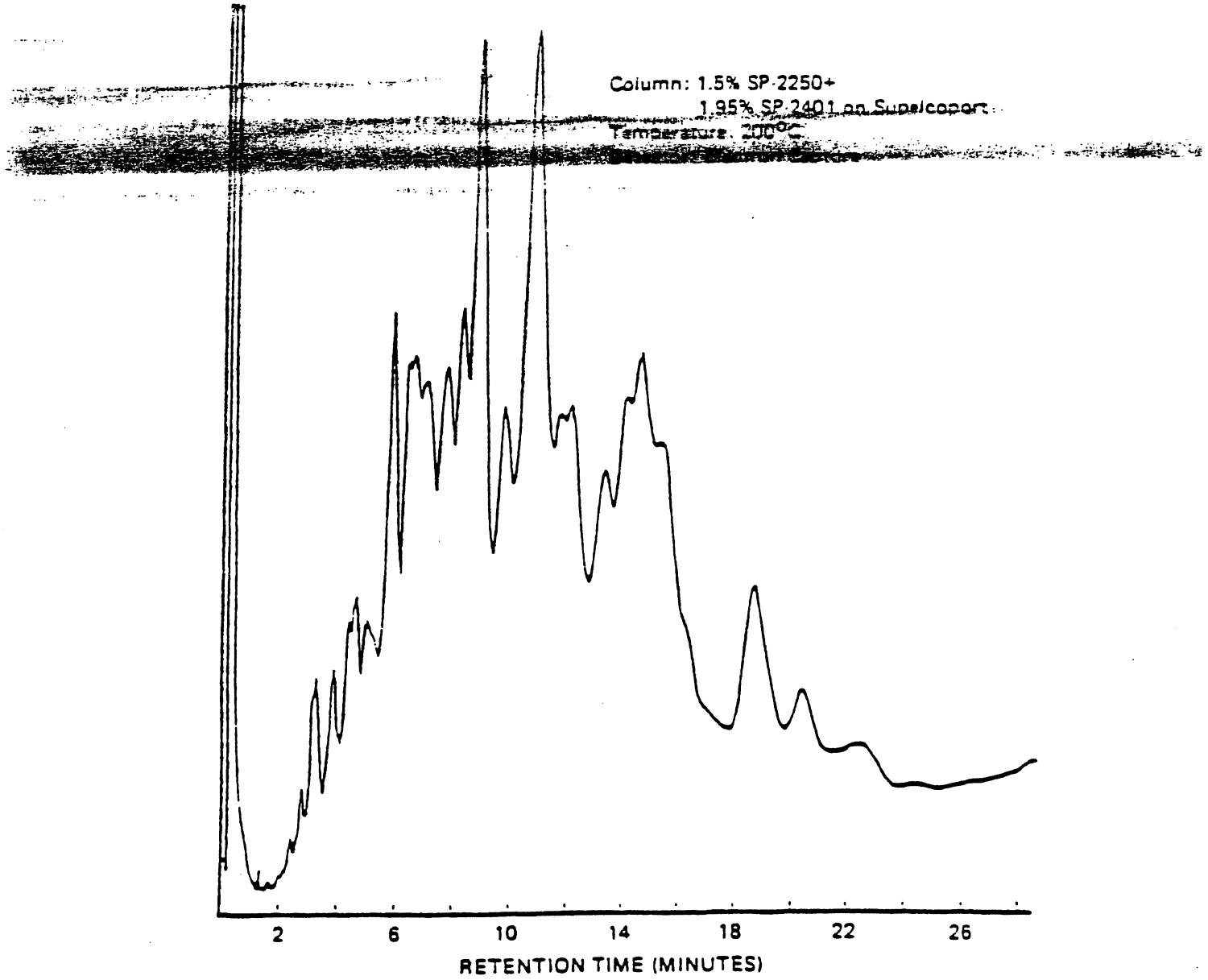


Figure 3. Gas chromatogram of toxaphene.

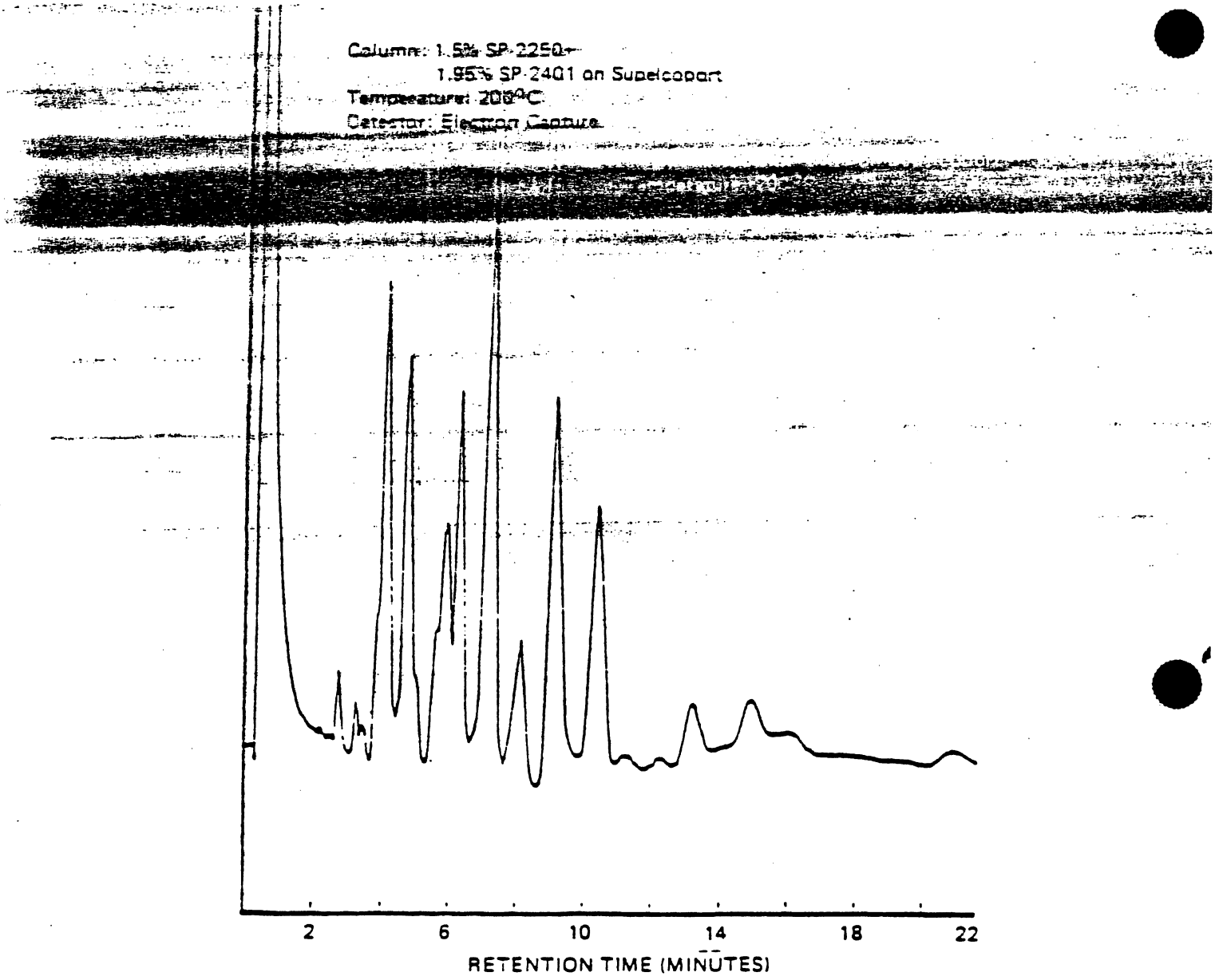


Figure 4. Gas chromatogram of PCB-1254.

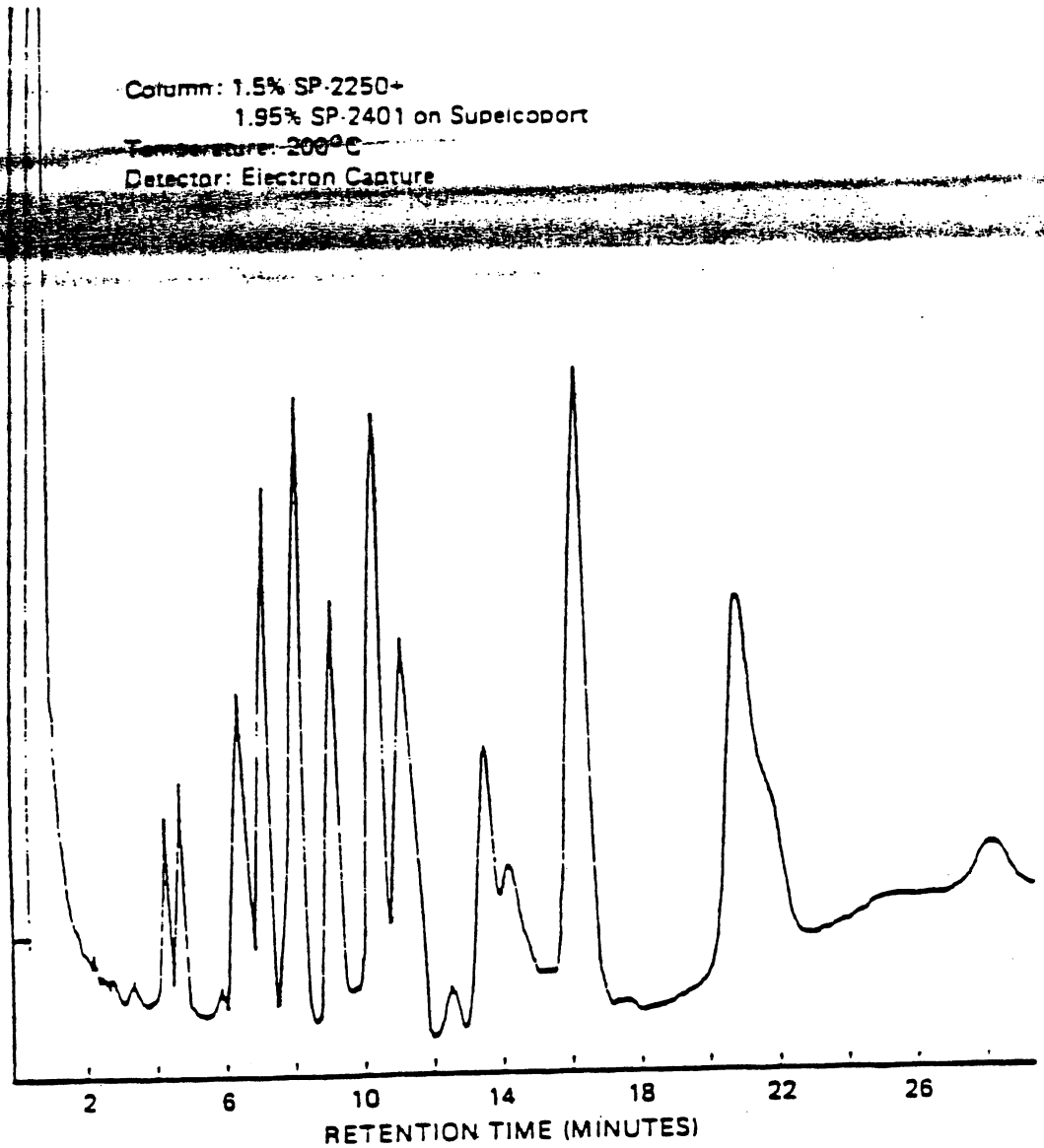


Figure 5. Gas chromatogram of PCB-1260.

8.3 The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero. The MDL concentrations listed in Table 1 were obtained using reagent water. Similar results were achieved using representative wastewaters. The MDL actually achieved in a given analysis will vary depending on instrument sensitivity and matrix effects.

8.4 In a single laboratory, using reagent water and wastewaters spiked at

[illegible]

TABLE 3. SINGLE OPERATOR ACCURACY AND PRECISION

Parameter	Average percent recovery	Standard deviation (%)	Spike range (µg/l)	Number of analyses	Matrix types
Aldrin	89	2.5	2.0	15	3
a-BHC	89	2.0	1.0	15	3
b-BHC	88	1.3	2.0	15	3
w-BHC	86	3.4	2.0	15	3
g-BHC (Lindane)	97	3.3	1.0	15	3
Chlordane	93	4.1	20	21	4
4,4'-DDD	92	1.9	6.0	15	3
4,4'-DDE	89	2.2	3.0	15	3
4,4'-DDT	92	3.2	8.0	15	3
Dieldrin	95	2.8	3.0	15	2
Endosulfan I	96	2.9	3.0	12	2
Endosulfan II	97	2.4	5.0	14	3
Endosulfan sulfate	99	4.1	15	15	3
Endrin	95	2.1	5.0	12	2
Endrin aldehyde	87	2.1	12	11	2
Heptachlor	88	3.3	1.0	12	2
Heptachlor epoxide	93	1.4	2.0	15	3
Toxaphene	95	3.8	200	18	3
PCB-1016	94	1.8	25	12	2
PCB-1221	96	4.2	55-100	12	2
PCB-1232	88	2.4	110	12	2
PCB-1242	92	2.0	28-56	12	2
PCB-1248	90	1.6	40	12	2
PCB-1254	92	3.3	40	18	3
PCB-1260	91	5.5	80	18	3

9.0 References

1. Development and application of test procedures for specific organic toxic substances in wastewaters. Category 10 - Pesticides and PCB's. Report for EPA Contract 68-03-2606.

2. Mills, P.A. 1968. Variation of florisil activity: simple method for measuring absorbent capacity and its use in standardizing florisil columns. J. Assoc. Official Anal. Chem. 51 (29).

3. U.S. EPA. 1980. Interim methods for the sampling and analysis of priority pollutants in sediments and fish tissue. October 1980. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

4. Bellar, T., J. Lichtenburg, and S. Lonnesman. 1980. Recovery of organic compounds from environmentally contaminated bottom materials. In Contaminants and sediments, Volume 2, ed. R. Baker, Ann Arbor Science Publ., Inc., Ann Arbor, Michigan.

5. Rodriguez, C., W. McMahon, and K. Thomas. 1980. Method development for determination of polychlorinated hydrocarbons in municipal sludge. EPA Report-600/2-80-029.

6. U.S. EPA. Method 617. Organochlorine pesticides and PCB's. Environmental Monitoring and Support Laboratory, Cincinnati, OH.

APPENDIX 6

STATE OF INDIANA

DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT

INDIANAPOLIS, 46225

105 South Meridian Street

October 28, 1986

Ms. Lois Rhea
Jack Gray Transport, Inc.
4600 E. 15th Avenue
Gary, IN 46403

Re: Liquid Industrial Waste Hauler Permit

Dear Ms. Rhea:

Your Liquid Industrial Waste Hauler Permit is due to expire February 28, 1987.

It will not be necessary to submit an application to renew your permit for 1987. This letter will serve as your Liquid Industrial Waste Hauler permit for 1987. This permit will become effective on March 1, 1987, and this permit shall expire on February 28, 1988.

The $100 fee provided for by 330 IAC 4 (the Liquid Industrial Waste Hauler Rule) to defray the expenses of processing applications will be waived because no applications for renewal are being processed.

Vehicle decals will continue to be required in 1987. The decals that were issued with your 1986 permit will be valid in 1987. It will be necessary to obtain decals for any vehicles which are not already permitted, and to replace lost or damaged decals. The fee for additional decals is $10 per vehicle.

The reporting requirements of 330 IAC 4-10 are also still in effect. It is requested that all delinquent reports be submitted to this office within fifteen (15) days of receipt of this letter and that all future reports be submitted by the 15th day of the month following the reporting period. On the following list, all received reports have been designated with an "X". If you have previously submitted a report that is not indicated on this list, please submit a copy of the report to insure that your records are complete.

Month	Received
January	X
February	X
March	X
April	X
May	X
June	X
July	X
August	X
September	

If you have any questions, please contact Ms. Pat Carrasquero at AC 317-232-8401.

Very truly yours,

David D. Lamm
Assistant Commissioner for
Solid and Hazardous Waste Management

PEC/drc

Control 02551

State Of Indiana
Environmental Management Board
Liquid Industrial Waste Hauler
Permit

Operation Permit No. IN 4542-0000-11
Page 1 of 6

Money Receipt No. L 61557
Fee $ 100.00

In compliance with the provisions of the Indiana Environmental Management Board Rule 320 IAC 5-10-1 et. seq.,

Jack Gray Transport, Inc.
4600 East 15th Avenue
Gary, IN 46403

is authorized to remove and transport liquid industrial waste in accordance with requirements and conditions set forth in this permit.

This permit shall become effective on March 1, 1986

This permit and the authorization to remove and transport liquid industrial waste shall expire at midnight, February 28, 1987. In order to receive authorization to continue operation beyond this date of expiration, the Permittee shall submit such information and forms as are required by the Indiana Environmental Management Board no later than 60 days prior to the date of expiration.

Signed this 20th day of January 1986 for the Indiana Environmental Management Board

SEAL OF THE STATE OF INDIANA 1816

Joseph O. Tristano

Technical Secretary

State Form 30035 R
STH 66-019

Approved By State Board of Accounts for State Board of Health -1980

State of Tennessee
Department of Health and Environment
Division of Solid Waste Management
Customs House, Fourth Floor
701 Broadway
Nashville, Tennessee 37219-5403

PERMIT TO TRANSPORT HAZARDOUS WASTES

Tennessee permit number and EPA identification number

IND 04-253-4875

Issued to:

JACK GRAY TRANSPORT, INC.
4600 EAST 15TH AVE.
GARY, IN 46403

This certifies that the above identified transporter has been granted a permit to transport hazardous wastes in the state and has paid the Hazardous Waste Transporter Maintenance Fees due for the period beginning upon issuance and terminating on March 1, 1988.

This permit expires on the date listed above. No hazardous wastes may be transported by the above named company after that date unless this permit is renewed by paying the next year's fee.

Persons who renew prior to the expiration date above may do so by paying only the current permit fee. However, if the permit is not renewed prior to the expiration date above, the current permit fee plus a $100.00 application fee must be paid to renew the permit.

A copy of this permit must be kept in each truck used by the above named company to transport hazardous wastes which are shipped from or received by any facility, terminal or location in Tennessee, regardless of where the hazardous wastes were generated.

Issued: March 3, 1987 by Prabhakar Paddapalli

Payment receipt number: 2573

Tom Tiesler

Tom Tiesler, Director
Division of Solid Waste Management

00253

ADEM

ALABAMA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

HAZARDOUS WASTE

TRANSPORT PERMIT

PERMITTEE: JACK GRAY TRANSPORT, INCORPORATED

ADDRESS: 4600 East 15th Avenue
Gary, Indiana 46403

PERMIT NUMBER: IND 042 534 875A

HAZARDOUS WASTES APPROVED: All hazardous wastes identified by Sections 4-233 through 4-236, inclusive, of the Alabama Hazardous Waste Management Regulations.

TRANSPORTATION MODE: Highway

In accordance with and subject to the provisions of the Hazardous Wastes Management Act of 1978, as amended, Code of Alabama 1975, §§ 22-30-1 to 22-30-24 ("HWMA"), the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§ 22-22A-1 to 22-22A-15, and rules and regulations adopted thereunder, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to transport the above-described hazardous wastes by the above-described transportation mode.

ISSUANCE DATE: November 1, 1985

EFFECTIVE DATE: November 1, 1985

EXPIRATION DATE: November 1, 1988

Alabama Department of Environmental Management

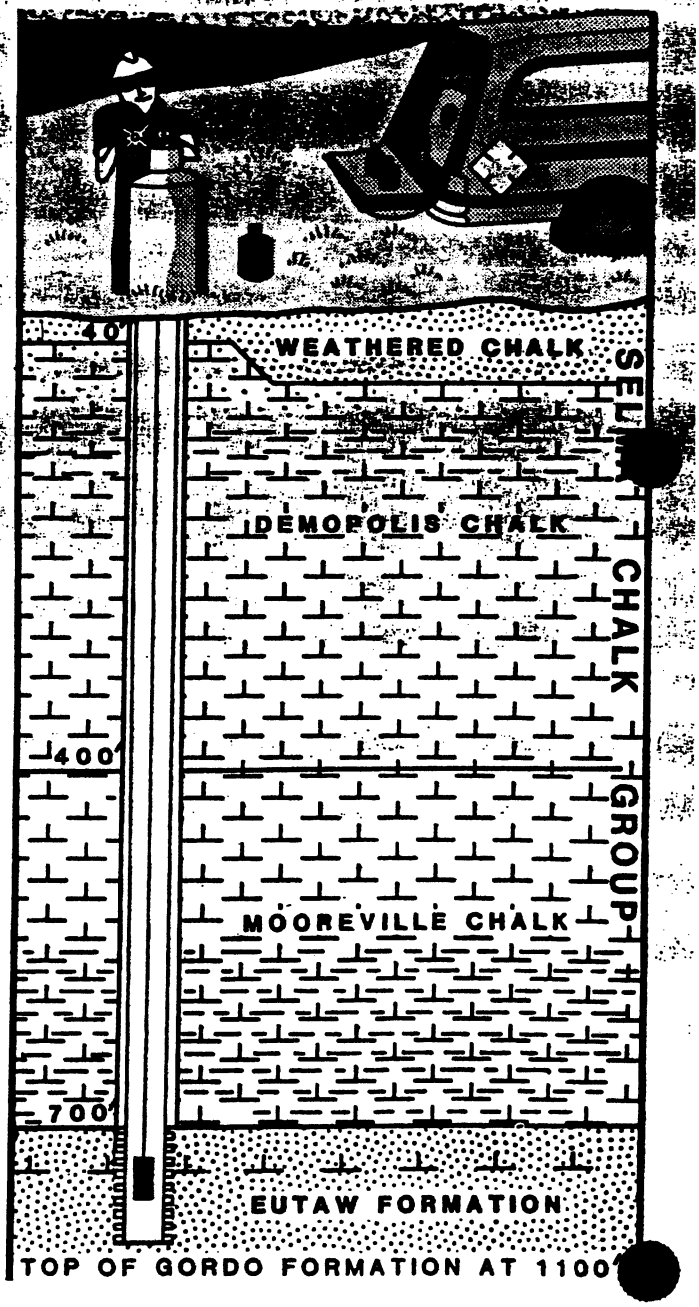
EMELLE FACTS

Siting and Geology

The Emelle facility is located in Sumter County, Alabama primarily because of the geology of the area described by a 1973 EPA Office of Solid Waste Report to Congress. Largely on the strength of the information in that report, a group of investors acquired the land and developed the site. In 1978 the facility was acquired by Waste Management, Inc.

The inherent soundness and integrity of the geology is Emelle's best-known characteristic. The facility is located atop the Selma Chalk, a massive and stable homogeneous geologic unit stretching across central Alabama and Mississippi. The physical character and thickness of the Selma far exceeds the requirements of conventional industry and regulatory standards and conservative projections estimate 10,000-year security against negative environmental impact on groundwater resources.

There are few places in the world with a geologic setting so favorable for containment of wastes. The Emelle facility is located in one band of the chalk beds that extend across eastern Mississippi and western Alabama. Other such chalk formations include the London basin which is known for the white cliffs of Dover, the formations beneath the Paris basin, and the chalk under the western desert of the Sahara.



CHEMICAL WASTE MANAGEMENT, INC.
P.O. BOX 1496, LIVINGSTON, AL 35470 TEL. (205) 652-6721

Some general criteria to be considered in selecting a suitable landfill site for potentially hazardous wastes are:

1. Low population density and low alternative land use.

2. An absence of flood plains, depressions, and excessive slopes.

3. High clay or chalk content to provide low permeability and adsorptive potential.

4. Good transportation access.

5. Minimum, if any, leachate movement to aquifers; low groundwater contamination potential.

6. Minimum, if any, hydraulic connection with surface water.

CWM's Emelle site is naturally suited for favorable disposal of wastes and was selected on the basis of all these criteria.

Beneath Emelle there is about 700 to 900 feet of the Selma Chalk Group. This unit was deposited 60 million years ago on the bottom of an ocean that extended far north of the present Emelle site. In that ocean, billions of little particles and shells settled to the bottom to form layer after layer of relatively impermeable chalk, marl, and limestone.

The chalk at Emelle is relatively homogeneous throughout, even though it is layered and contains individual beds of chalk and limestone. The chalk is fine-grained and the pore space between the grains is small, so that moisture entrapped in these sediments is held stationary by adhesive and cohesive molecular forces. The chalk beds act as aquitards--they do not let water flow easily through them--rather than aquifers, which permit easy groundwater flow. Water wells cannot be developed in these beds because they are tight and virtually impermeable to the movement of liquids.

The first water-bearing formation occurs at a depth of about 700 to 900 feet below the surface of beneath the very thick aquitard of chalk, clay, and mark. This water-bearing zone is in the sand of the Eutaw formation, which is also 60 million years old. Monitor wells at Emelle penetrate this water-bearing zone. Chemical analysis of this water shows that it is high in total dissolved solids and chloride content.

From the surface to a depth of about 20 feet, the chalk beds are weathered with minor fracturing. This weathered material is stripped prior to emplacement of waste. Trenches are cut in the chalk, and a liner system is installed. Waste is then placed in the lined trenches.

CWM maintains about 50 shallow monitoring wells between 50-200 feet in the upper zone of the chalk formation. Since these wells are not in an aquifer, they are low-yield wells that produce very little water. These wells are monitored regularly and serve as an early detection system to indicate contaminant migration. Many of these wells are very close to disposal trenches (some within 5 feet), but no waste migration has ever been confirmed in any of these wells.

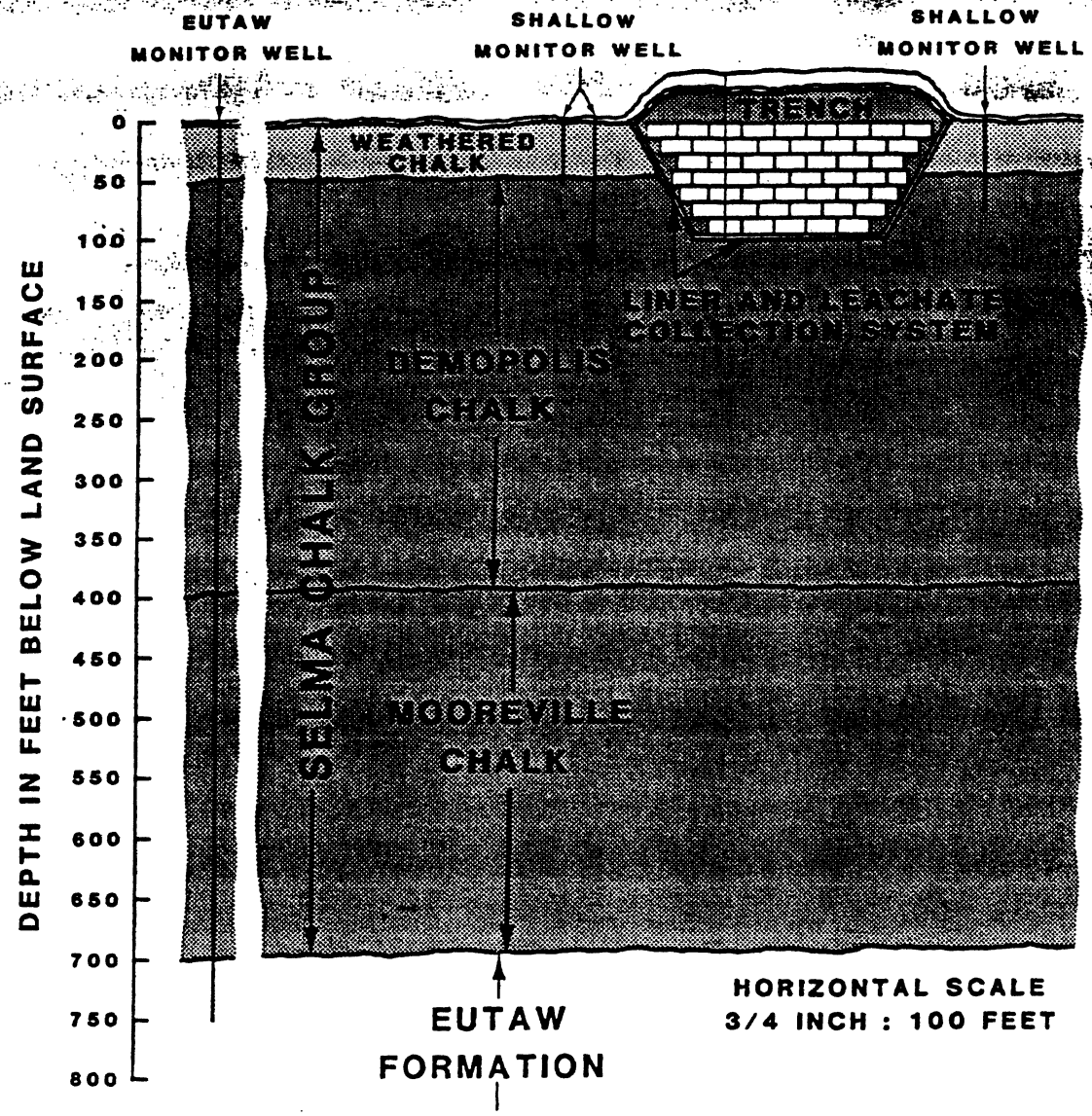
There is also a select set of monitoring wells that are completed in the Eutaw formation to determine if there is any degradation of the Eutaw Aquifer. The Eutaw is also relatively non-transmissive and is unsuitable for public drinking water supplies because of the high concentration of sodium chloride and other natural minerals. Beneath the Eutaw is the Coker Formation, also considered generally unsuitable for drinking. The Gordo Formation at a depth of about 2,000 feet contains good quality drinking water.

Interpretation of the analyses is much more important than the raw data. Many compounds that may be harmful at higher concentrations have no known effect on health or environment at the lower limits of detection.

At the Emelle plant, environmental monitoring is an ongoing part of the task. Some samples are analyzed at our on-site lab which is equipped with a gas chromatograph mass spectrometer (GCMS) for analyzing unknown compounds. Samples used for record and regulatory purposes, however, are usually sent to an EPA-approved lab that specializes in such work.

All environmental data collected and evaluated to date indicates that there has been no adverse environmental impact from waste handling activities. There will always be abberations in data and errors in analysis, sampling, and handling, but with patience, and an understanding of the procedures followed, the environmental monitoring record is convincing evidence that proper and safe handling of the waste has prevented negative impact of the environment.

SHALLOW MONITOR WELL SYSTEM



THE TOP OF THE GORDO FORMATION IS APPROXIMATELY 400 FEET BELOW THE TOP OF THE EUTAW FORMATION

EMELLE FACTS

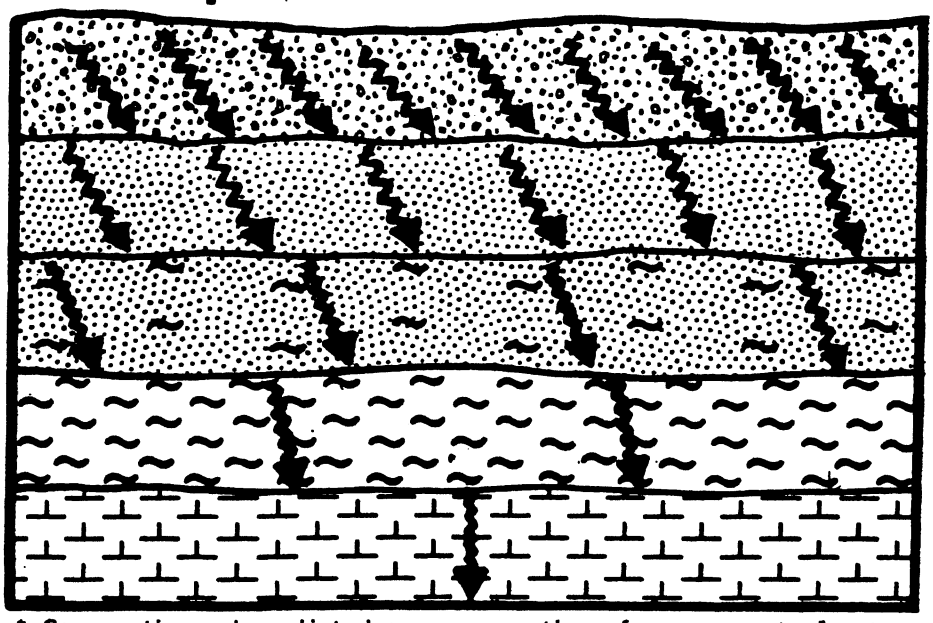
Natural and Man-Made Protection

The waste treatment, storage, and disposal facility operated by Chemical Waste Management, Inc., located at Emelle in Sumter County, Alabama, provides a unique and ideal location for the safe and effective management of hazardous wastes. Some 700 feet of Selma Chalk with a permeability of 10^{-8} cm/sec. isolate the facility from the nearest groundwater-producing aquifer in the Eutaw. The aquifer in the upper part of the Eutaw contains water high in chloride content that limits its use.

This geologic setting, combined with the hydrogeologic conditions of the area, is recognized as one of the best locations in the nation for proper and safe management of hazardous waste materials. The natural, "in-situ" chalk occurring in north Sumter County is massive, stable, homogeneous and essentially impermeable.

The thickness and extremely low transmissivity of the chalk provides many centuries of environmental protection, but in addition to the natural security features of cell engineering and design provide additional protection that exceed regulatory requirements. The cells are constructed with double synthetic liners and leachate collection systems for removal of liquids. Design and construction of the cells ensures that the environment is protected.

Comparative Time for Movement of Water



GRAVEL
(.00013 DAY)*

CLEAN SAND
(.07 DAY)*

SILTY SAND
(71 DAYS)*

SILT
(710 DAYS)*

SELMA CHALK
(14,900 DAYS)*

* Comparative values listed are average times for movement of water through 6 feet of saturated homogeneous media. A hydraulic gradient of one is assumed.

CHEMICAL WASTE MANAGEMENT, INC.
P.O. BOX 1496, LIVINGSTON, AL 35470 TEL. (205) 652-6721

Landfill Design

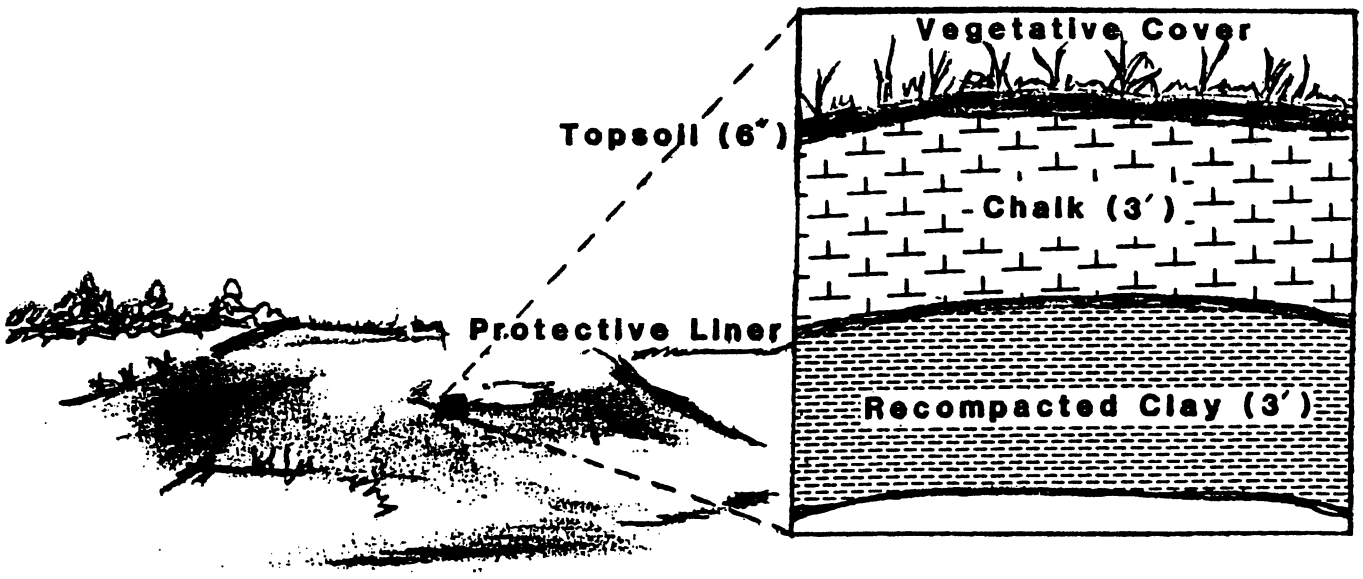
Chemical Waste Management, Inc. has selected a 60 mil, high density, polyethylene (HDPE), geomembrane liner material, based on extensive review of manufacturers' test data, prior operating experience, and the company's on-going testing program. This testing program is extensive and is designed to ensure the compatibility of liner materials with the type of wastes that are managed at the facility. HDPE liner materials are generally accepted by the industry as the most suitable and chemically resistant materials for use as landfill liners.

When the landfill reaches its maximum designed capacity, a protective cover is built. This cover, constructed in accordance with EPA guidelines, includes compacted chalk and high-density polyethylene liners. The topsoil will be sown with natural vegetation to minimize erosion and the surface sloped at approximately ten percent (10%) in order to promote drainage of rainwater away from the landfill unit.

The double liner systems must meet both state and federal requirements for design and construction. Prior to construction, the engineering designs are reviewed by the Alabama Department of Environmental Management and the United States Environmental Protection Agency (EPA). The purpose of this review is to ensure that the liner systems meet regulatory requirements and will protect the environment.

Installation of state-of-the-art composite double synthetic liner systems, coupled with the geologic setting, hydrogeologic conditions, and Chemical Waste Management, Inc.'s groundwater and environmental monitoring programs, provide added assurances that operations at the Emelle, Alabama facility are protecting public health and the environment while providing an indispensable service to the public and industry.

Final Protective Cover

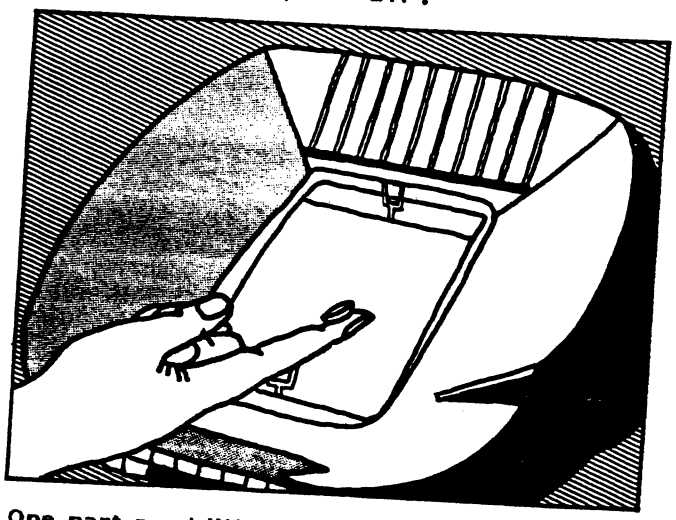


EMELLE FACTS

Environmental Monitoring

The most convincing evidence of environmental integrity and security is data obtained by comprehensive monitoring. Environmental monitoring, however, is a difficult and demanding task that requires a high degree of precision, and a good understanding of the issues in order to interpret results.

The CWM operations at Emelle have three full-time environmental scientists to perform monitoring operations. In addition, samples are often "split" with representatives from ADEM and EPA. Regulatory authorities may also collect samples independently. Samples may be collected from on-site or off-site locations, and depending on the need, samples may include water, soil, sediment, or air.



One part per billion is a measure which can be represented by the following equivalents:

1 contact lens ⟶ area of 55 football fields
1 second ⟶ 32 years
1 hard-boiled egg ⟶ 83,333,334 dozens raw eggs

In order to get valid results, there are carefully prescribed methods that must be followed and procedures for documenting proper handling and transfer of samples. However, because of the highly sensitive analytical instruments, even "clean" samples sometimes show low levels of "contamination." With instrumentation that can detect compounds in the low part per billion range, samples can become "contaminated" by merely opening a sample bottle in the laboratory or some other action.

In the case of a monitoring well, for example, misleading results may come from such sources as: solvents used to clean augers prior to drilling, pipes, tools, and pumps used to construct the well, vehicles passing by while the well is open, colognes, soaps, gloves, rainwear, etc., worn by the sampler, and air or contact with foreign matter in the laboratory or analyzer.

Because of the possibility of contamination from outside sources, samples frequently must be checked on several different occasions to be sure that the results are accurate. In addition, while samples are expected to be "clean" and have no contamination, many samples show "background" levels of compounds. These may be present because of naturally occurring materials such as lead, chromium, and other metals, or because of various activities such as auto traffic, farming, construction, and other common activities.

CHEMICAL WASTE MANAGEMENT, INC.
P.O. BOX 1496, LIVINGSTON, AL 35470 TEL

EMELLE FACTS

Landfill Construction

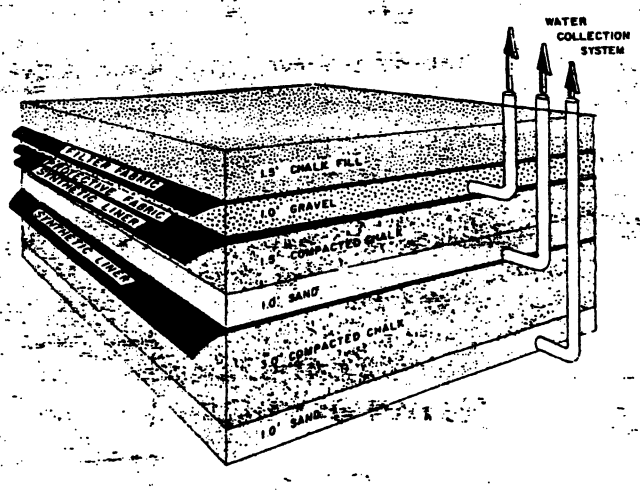
The secure landfills at the Emelle, Alabama facility are carefully engineered and constructed for secure containment of waste materials which have been approved for disposal. The landfill liner system utilized at the Emelle, Alabama facility consists of two (2) separate composite liners and two (2) leachate collection systems, with an underlying pressure relief system. This provides for state-of-the-art secure containment for waste materials placed in the landfill units. Leachate, which is primarily rainwater that becomes contaminated as it passes through waste in the landfill, is collected for treatment and disposal by the leachate collection systems. No liquid waste materials are placed in the secure landfill units.

After excavation of the landfill unit, a system consisting of gravel, slot drains, and a sand blanket is installed in order to extract any ground water before it can reach the landfill. A secondary, composite liner/leachate collection system is installed above the sand blanket.

The composite liner consists of 3 feet of compacted chalk with a permeability of 10^{-8} cm/sec., which is overlain by a 60 mil. high-density, polyethylene, synthetic liner. The secondary leachate collection system is installed above the synthetic liner and consists of 1 foot of sand, in which is installed slot drains, a sump, and a leachate collection riser pipe.

A primary liner is installed above the secondary leachate collection system and consists of 1.5 feet of compacted chalk overlain by a 60 mil. high-density, polyethylene, synthetic liner, which is overlain by a protective synthetic fabric. The primary leachate collection system is installed above the protective fabric and consists of 1 foot of gravel, in which is installed slot drains, a sump, and a leachate collection riser pipe.

Above the primary leachate collection system is a filter fabric which is overlain by 1.5 feet of chalk fill. A secondary leachate collection system, located between the primary and secondary composite liner systems, serves as a backup.



Facility Liner Schematic

CHEMICAL WASTE MANAGEMENT, INC.
P.O. BOX 1496, LIVINGSTON, AL 35470 TEL. (205) 652-6721

APPENDIX G.27

U.S.EPA LETTER DATED OCTOBER 10, 1983

Central Foundry Division
General Motors Corporation
Bedford Plant
P. O. Box 271
Bedford, Indiana 47421

October 10, 1983

U.S. Environmental Protection Agency
Region V, Enforcement Division
Attn: Chief, Compliance Section
1 North Wacker Drive
Chicago, Illinois 60606

Subject: National Response Center Notification
NPDES Permit No. IN0003573

Dear Sir:

The purpose of this letter is to notify your agency that the National Response Center (contact: Miss Bowman) and the Indiana State Board of Health (contact: Mr. Frost) were contacted on October 5, 1983 by the General Motors Corporation, Central Foundry Division, Bedford, Indiana Plant. This telephone call was made to inform these agencies that there may have been a release of water containing PCB's into a lagoon that was being dredged and excavated on the plant's property. The water was observed the week of September 19, 1983 during the excavation of the lagoon and was thought to be water that had been held in the lagoon. However, when the lagoon was completely excavated it was observed that a small amount of water continued to flow into the bottom of the lagoon at the base of the lagoon wall. All of the water was captured and collected. A leacheate collection pipe and well has been installed to collect any water that might continue to flow after the filling in of this lagoon is completed.

General Motors does not believe that the reporting was necessary, but elected to report in an abundance of caution. General Motors, also believes that it did not exceed any reportable quantity of PCB's.

If there are further questions on the above, please contact me.

Yours truly,

Central Foundry Division
General Motors Corporation

W. A. Butler

W. A. Butler
Superintendent
Plant Engineering

cc: R. Herr
W. Cheek

APPENDIX G.28

U.S.EPA LETTER DATED JANUARY 11, 1984

Central Foundry Division
General Motors Corporation

P. O. Box 271
Bedford, Indiana 47421

bcc: R. Herr
P. Murphy
W. Cheek
J. Medved
J. Chu - GM-EAS
P. Gerwert - GM-EAS
P. Zavala - GM-Legal
G. Ohl

January 11, 1984

Mr. V. Adamkus, Administrator
U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, IL 60604

Subject: General Motors - Central Foundry Division
Bedford Plant, Sludge Storage Lagoon

Dear Sir:

The purpose of this letter is to inform the U.S. EPA that General Motors, Central Foundry Division has completed the cleanup of the PCB contaminated materials in the subject sludge storage lagoon.

General Motors contracted with CECOS International for the total "turnkey" cleanup and disposal of the contaminated lagoon sludge and soil and the backfilling of the cleaned lagoon.

The project report from CECOS International is enclosed for your information.

Central Foundry Division would like to express its appreciation to your staff for their recommendations which were given in joint meetings when the discussion concerned the subject lagoon. This spirit of cooperation has assisted General Motors' in meeting its commitment to the U.S. EPA to complete the cleanup of the subject lagoon by December 31, 1983.

Sincerely,

W. A. Butler

W. A. Butler
Superintendent
Plant Engineering

WAB/sc
Enclosure

Central Foundry Division
General Motors Corporation
Bedford Plant
P. O. Box 271
Bedford, Indiana 47421

January 11, 1984

Mr. J. Stallsmith
Chief, Operations Branch
Stream Pollution Control
Indiana State Board of Health
1330 West Michigan Street
Indianapolis, Indiana 46202

Subject: NPDES Permit No. IN0003573

Dear Sir:

The General Motors Central Foundry Division-Bedford Plant has completed the cleanup of a sludge storage lagoon. The excavated area was backfilled and graded to direct all surface runoff water to the storm water collection system and storm water collection lagoon. The area was seeded to minimize erosion of soils. Prior to backfilling the cleaned lagoon, a leacheate collection system was installed in the bottom of the excavated lagoon area. The leacheate is discharged into the plant's wastewater treatment system where it is treated along with the plant's process water and storm water prior to being recycled in the plant or being discharged. The treatment of the surface water and leacheate has not caused any violations of the effluent limitations of the subject permit.

If there are further questions on above, please contact me.

Sincerely,

W. A. Butler

W. A. Butler
Superintendent
Plant Engineering

WAB/sc

bcc: R. Herr
P. Murphy
W. Cheek
J. Medved
P. Gerwert - GM-EAS
J. Chu - GM-EAS
P. Zavala
G. Ohl

700-SAND-84011-LRS

APPENDIX G.29

NRC LETTER DATED FEBRUARY 3, 1986

Central Foundry Division
General Motors Corporation
Bedford Plant
North Jackson Street
Bedford, Indiana 47421-0271

February 3, 1986

Duty Officer, U.S. Coast Guard
National Response Center, Room 2611
2100 Second Street, S.W.
Washington, D.C. 20593

Re: Confirmation of Telephone Contact
on January 11, 1986

Dear Sir:

The purpose of this letter is to confirm the telephone call from the General Motors, Central Foundry Division-Bedford, Indiana Plant to the National Response Center and the State of Indiana Emergency Response Center at approximately 12:45 a.m. on January 11, 1986. The contacts were Ensign Middlebrooks at the National Response Center and Messrs. Hatfield and Mauck at the State of Indiana. The telephone call was made to report the breakage of an underground stormwater pipeline that resulted in the loss of storm and process water to the Bailey's Branch of Pleasant Run Creek. The broken line was discovered at approximately 10:00 p.m. on January 10, 1986, and immediate action was taken to shut off the pumps and valves to isolate the broken section of pipe, shut off water flow and to dike and contain the water. These efforts were completed at approximately 11:20 p.m. 1-10-86.

The McIntyre Construction Company was contacted at 12:15 a.m. January 11, 1986, and arrived at the job site the morning of January 11, 1986. Excavation of the 8-inch pipe under the pump building showed that a 90^{0} elbow had moved and separated from a vertical run under the building. The problem necessitated rerouting approximately 40 feet of pipe from under the building. Pipe tie rods were used to tie the sections of pipe together in order to minimize the possibility of the pipe separating in the future. Concrete thrust blocks were also poured at the pipe turns to further reduce the possibility of pipe movement. The repair work continued through January 11, 12, and 13, 1986. The stormwater pumping system was returned to normal operation at approximately 1:00 p.m. January 13, 1986. Further corrective

Lets Get It Together
SAFETY BELTS SAVE LIVES

action included the addition of a check valve in the stormwater line to prevent process water from backflowing into the stormwater line if the storm line failed in the future.

Sincerely,

P. J. Murphy
Manager Plant Engineering
and Maintenance

HD4/DOC22/sc

cc: Emergency Center
Indiana State Board of Health

bcc: R. Herr
W. Cheek
J. Medved
M. Cooke - GM Legal
P. Gerwert - GM Legal
G. Ohl

APPENDIX G.30

IDEM LETTER DATED NOVEMBER 8, 1988

Central Foundry Division
General Motors Corporation
Bedford Plant
North Jackson Street
Bedford, Indiana 47421-0271

November 8, 1988

CERTIFIED MAIL

Mr. Paul Cluxton
Office of Water Management
Indiana Department of Environmental Management
105 South Meridian Street
Indianapolis, IN 46206

Dear Mr. Cluxton:

This is to confirm our conversation of November 7, 1988, regarding the Central Foundry, Bedford 003 NPDES discharge.

On November 5, 1988, beginning at approximately 8 a.m. and ending on November 6, at approximately 4 a.m., a discharge occurred from the Storm Lagoon labeled 003 outfall in Central Foundry's NPDES Permit No. IN 0003573. Approximately 360,000 gallons of water was discharged. Samples were collected and have been sent to an independent laboratory for analysis of oil and grease and PCB's. The pH of the discharge was measured at Central Foundry's laboratory and was 7.9.

The events which led to this discharge were a combination of rainfall and equipment failure which began on September 28, 1988. On that date, failure of a pump in the surge basins in the water treatment plant caused a combination of wastewater and filter backwash to flow into the stormwater collection system. Immediate efforts to repair the pump were begun, but due to the untimely death of the plant's pump repairman and delays in ordering parts, a new pump had to be ordered. The pump was replaced on October 25, 1988, and efforts were begun immediately to pump the water from the storm lagoon. The removal was hampered by high flows from the production facility and filamentus bacteria in the activated sludge system. Additionally, the Raw Waste Pump Station capacity has deteriorated due to age and excess water which is diverted to the surge basins, has slowed removal of the water from the storm lagoon. These events, accompanied by the rainfall received on November 4 and 5, 1988, caused the combination of stormwater and wastewater to be discharged from 003 outfall. The certified operator notified the IDEM receptionist on November 5, 1988, and

Lets Get It Together
SAFETY BELTS SAVE LIVES

this letter confirms your notification on November 7, 1988. The U.S. Coast Guard was not notified as you indicated it was not required.

Efforts to replace the pumps have been expedited and an emergency pump has been ordered and will be installed today.
Attempts to control the filamentus floc through chlorination and nutrient control have been partially successful. High flows from the production facility have been investigated and efforts are underway to eliminate them. Every effort is being made to remove the water from the lagoon and to prevent recurrence of the overflow.

If you have any questions regarding these matters please contact me at AC 812/279-7310.

Sincerely,

Gregory Etzel
Environmental Engineer

bc: Joe Medved, CFD
Bernie Scherschel, CFB
Bill Schoonmaker, CFB
John Takle, EAS
Don Schiemann, Legal Staff

APPENDIX G.31

GM LETTER DATED OCTOBER 15, 1982

Brent

Central Foundry Division
General Motors Corporation
Bedford Plant
P. O. Box 271
Bedford, Indiana 47421

October 15, 1982

Mr. Paul Zavala
Office of General Counsel
General Motors Corporation
3044 West Grand Boulevard
Detroit, Michigan 48202

RE: Versar Samples - PCB Inspection

Dear Mr. Zavala:

The samples collected by the U.S. EPA's contractor, Versar, Inc., during their inspection of the Central Foundry Division - Bedford Plant on May 19, 1982 have been analyzed for their PCB level.

The analyses of these samples were performed by G. Brent, Supervisor of the Wastewater Treatment Laboratory. The results are listed below.

Versar Sample No.	Location and Description	PCB Level
CDF 01	Die Cast North Make 3 Sump, H_2O (water)	9 PPB
CDF 02	Die Cast North Make 3 Sump, sediment (solids)	121 PPM
CDF 03	Die Cast South Make 1, North Make 1 Sump, H_2O (water)	18 PPB
CDF 04	Die Cast South Make 1, North Make 1 Sump, sediment (solids)	12 PPM
CDF 05	Die Cast Machine Storage Yard, soil (oil dry on concrete slab)	7 PPM
CDF 06	Grit chamber, soil, (solids) (Bar screen ahead of Water Treatment Plant)	253 PPM
CDF 07	Groundwater Sump, H_2O (water) (Sump near "spring" location west of Water Treatment Plant)	< 1 PPB

Versar Sample No.	Location and Description	PCB Level
CDF 08	Storm Sewer by Treatment Plant, H_2O (water) (Catch basin by loading dock)	< 1 PPB
CDF 09	Filter Press, solids (dewatered sludge)	59 PPM
CDF 10	Waste Lagoon, multi media (South sludge storage lagoon)	876 PPM
CDF 11	Cake from Lagoon, solids (South sludge lagoon)	694 PPM
CDF 12	Million gallon storage tank, oil (hydraulic fluid)	156 PPM
CDF 13	Upper Pond by 14 storage tanks, sediment space composite (Diked area no longer used)	6 PPM
CDF 14	Water from pond near 7 storage tanks (Small sump in diked area that CECOS removed in conjunction with cleanup and disposal of the 7 tanks and PCB tainted soils)	9 PPM Total Sample 346 PPM Oil phase of sample
CDF 15	7 Tank area - SE Sample (soil)	90 PPM
CDF 16	7 Tank area - NE Sample (soil)	110 PPM
CDF 17	7 Tank area - Center Sample (soil)	60 PPM
CDF 18	7 Tank area - SW Sample (soil)	388 PPM
CDF 19	7 Tank area - NW Sample (soil)	N.D.
CDF 20	Discharge 002 (H_2O) (Calgon carbon discharge pipe)	< 1 PPB
CDF 21	Run off and stormwater near discharge 002 (From 48" diameter storm sewer ahead of lift station)	< 1 PPB
CDF 22	Soil at base of discharge 002 (at property fence line)	10 PPM
CDF 23	Soil from North Lagoon 10 feet above water line on bank	2376 PPM
CDF 24	Soil from North Lagoon just below water level	3068 PPM

Versar Sample No.	Location and Description	PCB Level
CDF 25	Discharge 001 (H_2O) (This is the old 001 corrugated pipe from the North Lagoon)	< 1 PPB
CDF 26	Soil at base of discharge 001 (This is below the outlet of the corrugated pipe at old 001 outfall)	7.2 PPB

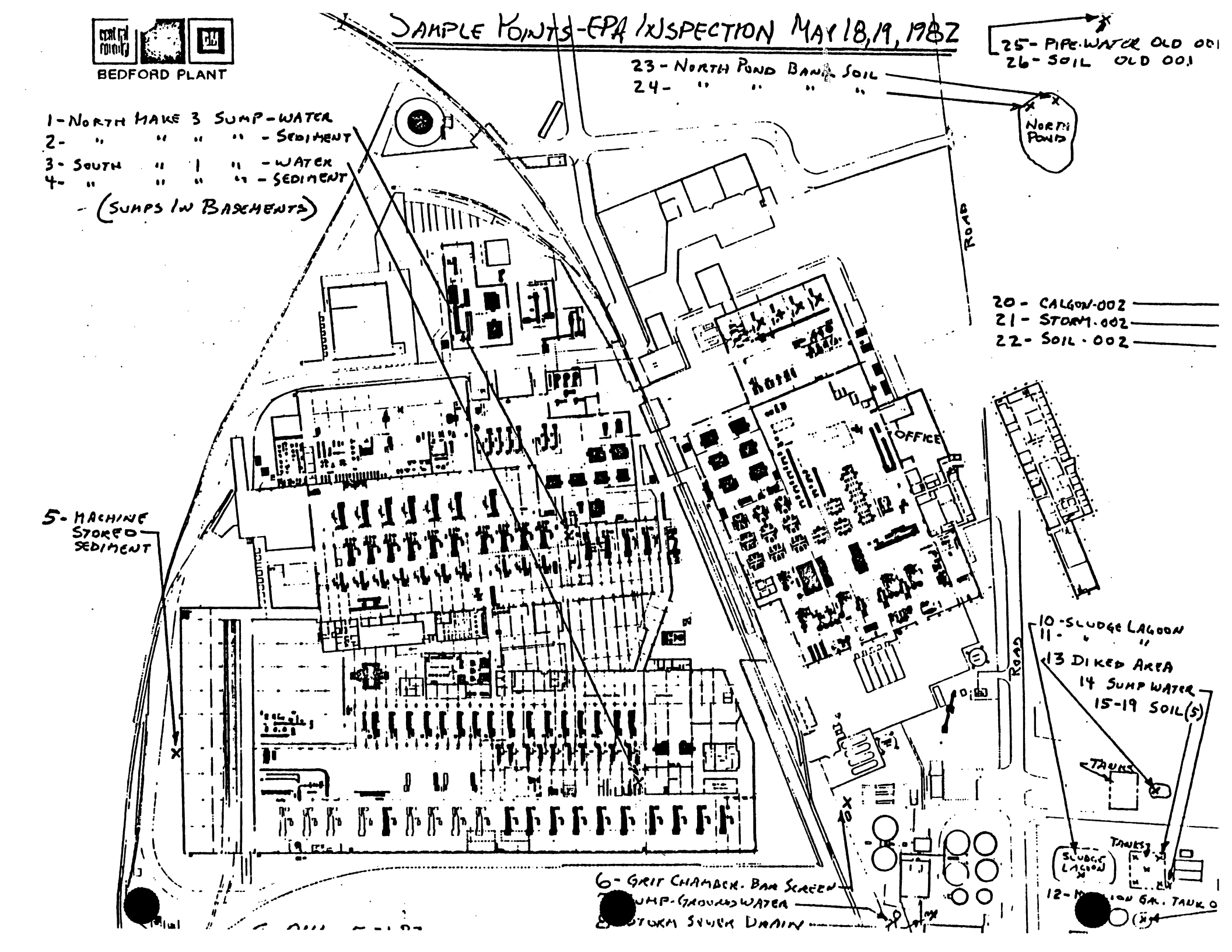
If there are any questions, please contact me.

Glen R. Ohl
Environmental Coordinator

GRO/sc

Attachments

cc: W. Butler
J. Medved
J. Chu


BEDFORD PLANT
SAMPLE POINTS-EPA INSPECTION MAY 18,19, 1982
1-NORTH MAKE 3 SUMP-WATER
2- " " " " - SEDIMENT
3- SOUTH " 1 " - WATER
4- " " " " - SEDIMENT
- (SUMPS IN BASEMENTS)
23 - NORTH POND BANK SOIL
24- " " " "
25- PIPE-WATER OLD 001
26- SOIL OLD 001
NORTH POND
ROAD
20 - CALGON-002
21 - STORM-002
22 - SOIL-002
OFFICE
5- MACHINE STORED SEDIMENT
10 - SLUDGE LAGOON
11- "
13 DIKED AREA
14 SUMP WATER
15-19 SOIL(S)
TANKS
SLUDGE LAGOON
6- GRIT CHAMBER. BAR SCREEN
SUMP-GROUNDWATER
STORM SEWER DRAIN

EPA United States Environmental Protection Agency

NOTICE OF INSPECTION

GMC Bedford PLANT

Firm Address: CENTRAL FOUNDRY DIVISION NORTH 34th St. Bedford, INDIANA

Inspector Name and Address: M. CALHOUN / B. MURPHY / B. MORAN VERSAR INC 6621 Electronic Dr Springfield VA 22151

Date: 5/18/82

Time: ~9 AM

Inspector's Signature: Michael C Calhoun

Name and Title of Recipient: WILLIAM A. BUTLER - PLANT ENGINEER SUPERINTENDENT

Title: Compliance Auditor

Signature of Recipient: William A. Butler

REASON FOR INSPECTION

Under the authority of Section 11 of the Toxic Substances Control Act

PCBS

☒ For the purpose of inspecting (including taking samples, photographs, statements, and other inspection activities) an establishment, facility, or other premises in which chemical substances or mixtures or articles containing same are manufactured, processed or stored, or held before or after their distribution in commerce (including records, files, papers, processes, controls, and facilities) and any conveyance being used to transport chemical substances, mixtures, or articles containing same in connection with their distribution in commerce (including records, files, papers, processes, controls and facilities) bearing on whether the requirements of the Act applicable to the chemical substances, mixtures, or articles within or associated with such premises or conveyance have been compiled with.

☐ In addition, this inspection extends to (circle appropriate letters):

(A) Financial data
(B) Sales data
(C) Pricing data
(D) Personnel data
(E) Reserach data

The nature and extent of inspection of such data specified in A through E above as follows:

EPA United States Environmental Protection Agency

TSCA Inspection Confidentiality Notice

Central Foundry Division

Facility Address: North Jackson St. Bedford, Ind. 4742

Inspector Name: B Murphy / B Moran / M Calhoun

Inspector Address: Versar Inc 6621 Electronic Drive. Springfield, VA 22151

Chief Executive Officer of Firm: R. W. Hett

Title: Plant Manager

Name of Individual to Whom Notice Given: William A. Butler

Title: Superintendent - Plant Engineering

It is possible that EPA will receive public requests for release of the information obtained during inspection of the facility above. Such requests will be handled by EPA in accordance with provisions of the Freedom of Information Act (FOIA), 5 U.S.C. 552; EPA regulations issued thereunder, 40 CFR Part 2; and the Toxic Substances Control Act, Section 14. EPA is required to make inspection data available in response to FOIA requests unless the Administrator of the Agency determines that the data contains information entitled to confidential treatment.

Any or all the information collected by EPA during the inspection may be claimed confidential if it relates to trade secrets or commercial or financial matters that you consider to be confidential. If you make claims of confidentiality, EPA will disclose the information only to the extent, and by means of the procedures, set forth in the regulations (cited above) governing EPA's treatment of confidential information. Among other things, the regulations require that EPA notify you in advance of publicly disclosing any information you have claimed and certified confidential.

To Claim Confidential Information

To claim information confidential, you must certify that each claimed item meets all of the following criteria:

1. Your company has taken measures to protect the confidentiality of the information, and it intends to continue to take such measures.
2. The information is not, and has not been, reasonably obtainable without your company's consent by other persons (other than governmental bodies) by use of legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding).
3. The information is not publicly available elsewhere.
4. Disclosure of the information would cause substantial harm to your company's competitive position.

At the completion of the inspection, you will be given a receipt for all documents, samples, and other materials collected. At that time, you may make claims that some or all of the information is confidential and meets the four criteria listed above.

If you are not authorized by your company to make confidentiality claims, this notice will be sent by certified mail, along with the receipt for documents, samples, and other materials to the Chief Executive Officer of your firm within two days of this date. The Chief Executive Officer must return a statement specifying any information which should receive confidential treatment.

The statement from the Chief Executive Officer should be addressed to:

and mailed by registered, return-receipt-requested mail within seven (7) calendar days of receipt of this Notice.

Failure by your firm to submit a written request that information be treated as confidential, either at the completion of the inspection or by the Chief Executive Officer within the seven-day period, will be treated by EPA as a waiver by your company of any claims for confidentiality regarding the inspection data.

To be completed by facility official receiving this notice

I have received and read this Notice.

If there is no one on the premises of the facility who is authorized to make business confidentiality claims for the firm, a copy of this Notice and other inspection materials will be sent to the company's chief executive officer. If there is another company official who should also receive this information, please designate below.

Name: William A. Butler

Title: Superintendent - Plant Engineering

Signature: William A. Butler

Date: May 19 1982

Name:

Title:

Address:

EPA Agency

GMC - Bedford Ind

RECEIPT FOR SAMPLES AND DOCUMENTS

Firm Address
N. JACKSON ST.
Bedford, Ind

Inspector Name
BOB MURPHY, MIKE CALHOUN, BILL MORAN

Inspector Address
VERSAR, INC
6621 ELECTRONIC DRIVE
SPRINGFIELD, VA

Name of Individual
William Butler

Title
Superintendent - Plant Engineer

Date Collected	Duplicate Samples Requested and Received	Sample Numbers
5/19/82	(X) Yes ( ) No	CDF 01 - CDF 13

The documents and samples of chemical substances and/or mixtures described below were collected in connection with the administration and enforcement of the Toxic Substances Control Act.

Receipt for the document(s) and/or sample(s) described is hereby acknowledged:

SAMPLES # CDF

(1) NORTH MAKE 3 SUMP, H_2O, CDF 01
(2) NORTH MAKE 3 SUMP, SEDIMENT, CDF 02
(3) SOUTH MAKE 1, NORTH MAKE 1, H_2O; DUPLICATE, CDF 03
(4) SOUTH MAKE 1, NORTH MAKE 2, Soil, CDF 04
(5) DIE CAST MACHINE STORAGE YARD, Soil, CDF 05
(6) GRIT CHAMBER, Soil CDF 06
(7) GROUND WATER SUMP, H_2O, CDF 07
(8) STORM SEWER BY TREATMENT PLANT, H_2O, CDF 08
(9) FILTER PRESS, Solids, CDF 09
(10) WASTE LAGOON, MULTI MEDIA, CDF 10
(11) CAKE FROM LAGOON, SOLIDS, CDF 11
(12) MILLION GALLON STORAGE TANK, OIL; DUPLICATE, CDF 12
(13) Upper Pond by 14 STORAGE TANKS, SEDIMENT SPACE COMPOSITE, CDF 13

PHOTOGRAPHS (TO BE PROVIDED BY CFI WHEN DEVELOPED)

6 rolls 110 film (12 exposures)
1 roll 35 film (24 exposures)

26

Signature of Inspector	Signature of Owner, Operator, or Agent
William Moran	William A. Butler
Title: ENVIRONMENTAL SCIENTIST	Title: May 19, 1982

EPA Agency

RECEIPT FOR SAMPLES AND DOCUMENTS

Inspector Name: M Callicrate / R Morgan / B Mundy

Inspector Address: VERSAR Inc
6621 Electronic Drive.
Springfield VA 22151

Firm Address: North Jackson Bedford Indiana.

Name of Individual: William Butler

Title: Superintendent - Plant Engineer

Date Collected	Duplicate Samples Requested and Received	Sample Numbers
5/19/82	(X) Yes ( ) No	C1F-14 — CDF-26

The documents and samples of chemical substances and/or mixtures described below were collected in connection with the administration and enforcement of the Toxic Substances Control Act.

Receipt for the document(s) and/or sample(s) described is hereby acknowledged:

Sample #

CDF14 Water from pond near 7 storage tanks near air injection
CDF15 7 tanks area - SE sample
CDF16 7 tanks area NE, sample
CDF17 7 tanks area Center sample
CDF18 7 tanks area SW sample
CDF19 7 tanks area NW sample
CDF20 Discharge 002 (H2O)
CDF21 Run off/storm water near Discharge 002
CDF22 Soil at base of discharge 002
CDF23 Soil from North Lagoon 10 feet above water can bank
CDF24 Soil from North Lagoon just below water level
CDF-25 Discharge 001 (H2O)
CDF-26 Soil at base of discharge 001

Signature of Inspector	Signature of Owner, Operator, or Agent
M. Callicrate	William A. Butler
Title: Compliance Auditor	Title: Superintendent - Plant Engineer

VERSAR Sample Results

Sample No.	Location	Sample Type	Analys.
01	NM3 Sump	WATER	9 PPB
02	NM3 Sump	Solid	121 PPM
03	SM1 Sump	WATER	18 PPB
04	SM1 Sump	Solid	12 PPM
05	Under D/C Mach	Solid	7 PPM
06	Grit Chamber	Solid	253 PPM
07	Spring	WATER	<1 PPB
08	Below Dock	WATER	<1 PPB
09	Filter Cake	Solid	59 PPM
10	Lagoon	WATER	876 PPM
11	Lagoon	Solid	694 PPM
12	Mil Gal Tnk	Oil	156 PPM
13	Soil By 14 Tanks (Upper Pond)	Solid	16 PPM
14	Tank Sump	Oil/Water	(Oil 346)(Total E.
15	Tank Area Soil	Solid	90 PPM
16	"	"	110 PPM
17	"	"	60 PPM
18	"	"	388 PPM
19	"	"	ND
20	Carbon Discharge	WATER	<1 PPB
21	002 Storm Disch.	WATER	<1 PPB
22	" " " Soil	Solid	10 PPM
23	North Pond	Solid	2376 PPM
24	" "	"	3068 PPM
25	Old 001 Pipe	WATER	<1 PPB
26	" " Soil	Solid	7.2 PPB

By G. Brent
10-14-82

cc: B. Butcox
G. Ohl

TABLE 1. PCB ANALYTICAL RESULTS FOR SAMPLES COLLECTED AT THE CENTRAL FOUNDRY DIVISION ON MAY 19, 1982*

Sample Number	Description	PCB Concentration (ppm)**	Aroclor Type
1	Water: North Make 3 Sump	400 ppb	1242
2	Sludge: North Make 3 Sump	24	1242
3	Water: North and South Make 1 Sump	87 ppb	1242
4	Sludge: North and South Make 1 Sump	1,200	1242
5	Solids: Die Cast Machine at West Storage Yard	4	1242
6	Solids: Grit Chamber at Treatment Plant	160	1242
7	Water: Groundwater Sump	ND+	--
8	Water: Storm Sewer by Treatment Plant	4 ppb	1242
9	Solids: Filter Cake in the Dumpster	1,500	1242
10	Oil/Water: From Storage Lagoon	20,000	1242
11	Solids: Cake from Storage Lagoon	27,000	1242
12	Oil: East Million Gallon Storage Tank	580	1242
13	Sediment: Space Composite by North Pond	97	Mix
14	Oil/Water: From South Pond	3,800	1242
15	Sediment: SE Side of Seven Leaking Storage Tanks	1,900	1242
16	Sediment: NE Side of Seven Leaking Storage Tanks	2,100	1242
17	Sediment: Center of Seven Leaking Storage Tanks	2,000	1242
18	Sediment: SW Side of Seven Leaking Storage Tanks	9,700	1242
19	Sediment: NW Side of Seven Leaking Storage Tanks	57	1248
20	Water: Discharge 002	ND+	--
21	Water: Stormwater Runoff into Bailey's Branch	7 ppb	1242
22	Sediment: Discharge 002 into Bailey's Branch	170	1242
23	Sediment: NE Corner of Old Watershed Lagoon, 10 feet above water level	9,600	1242
24	Sediment: North Side of Old Watershed Lagoon near water surface	69,000	1242
25	Water: Discharge 001	6 ppb	1242
26	Sediment: Base of Discharge 001 (Core sample)	29	1248

* The facility collected two duplicates for each of the eight water samples and two splits on the remaining samples. One duplicate/split was collected in a bottle supplied by Versar personnel, the second duplicate/split was collected in a bottle supplied by the Central Foundry Division. All samples were collected by Versar inspectors.

** All water samples are reported in parts per billion.
\+ Not detected at 1 part per billion.

MAY 25, 2001

APPENDIX G.32

CECOS TRANSPORTATION AND DISPOSAL OF PCB CONTAMINATED SOIL AND TANKS SUMMARY REPORT

Division of General Motors Corporation
Bedford Plant
Bedford, Indiana 47421

September 21, 1982

Mr. Paul Zavala
Office of General Counsel
General Motors Corporation
3044 West Grand Boulevard
Detroit, Michigan 48202

Dear Mr. Zavala:

The CECOS/CER Co. has submitted the enclosed report on the removal and disposal of the seven bulk storage tanks and contaminated soil located near the south lagoon. The soil and tanks were disposed of in the CECOS/CER Co.'s Secure Chemical Management Facility located near Williamsburg, Ohio. It should be noted that this is the soil referred to by Ms. Barbara Magel, EPA attorney, in her letter to you dated June 4, 1982 and by myself in my letter to Barbara Magel dated July 26, 1982.

Sincerely,

W. A. Butler

W. A. Butler
Superintendent
Plant Engineering

WAB/sc

cc: P. Murphy
W. Cheek
J. Medved

FILE

CECOS
CER CO.
CHEMICAL AND ENVIRONMENTAL CONSERVATION SYSTEMS
4879 Spring Grove Ave. Cincinnati, Ohio 45232

SUMMARY REPORT FOR

GENERAL MOTORS
CENTRAL FOUNDRY DIV.
BEDFORD, INDIANA PLANT

TRANSPORTATION AND DISPOSAL OF PCB CONTAMINATED SOIL AND TANKS

SUMMARY REPORT SUBMITTED BY:

CECOS/CER CO.
SPECIAL ENVIRONMENTAL SERVICES DIV.

PREPARED BY:

MICHAEL A. VERDE
SPECIAL SERVICES MANAGER

CECOS
CER CO.
CHEMICAL AND ENVIRONMENTAL CONSERVATION SYSTEMS

Administrative Offices
4879 Spring Grove Avenue
Cincinnati, Ohio 45232
(513) 681-5731

Operations Site
5092 Aber Road
Williamsburg, Ohio 45
(513) 724-6114

SUMMARY REPORT

On July 26, 1982 CECOS/CER CO. commenced work on removal of seven (7) contaminated tanks and PCB contaminated soil from the General Motors Plant located in Bedford, Indiana. A total of five (5) days was required to complete the project.

CECOS/CER CO. was responsible for the removal of the seven (7) tanks and all contaminated soil. All work was performed in a bermed area adjacent to the General Motors, Central Foundry Division, Bedford Plant South Lagoon.

Area within the berms measured 110 feet x 70 feet.

Initially, CECOS/CER CO. removed the residual sludge like material from the bottom of the tanks. This material was processed through the General Motors Sludge Dewatering Facility. All dewatered sludge was shipped to CECOS/CER CO.'s Secure Chemical Management Facility located near Williamsburg, Ohio for disposal.

After removal of the residual material, the seven (7) tanks were cut into sections and shipped to CECOS/CER CO.'s Secure Chemical Management Facility located near Williamsburg, Ohio for disposal.

After removal of the tanks, all visually stained soil was removed from within the bermed area and shipped to CECOS/CER CO.'s Secure Chemical Management Facility located near Williamsburg, Ohio for disposal. The Federal EPA ID Number for the CECOS/CER CO. Williamsburg facility is OHD 087 433 744.

Visual inspection and removal of all stained areas is an acceptable procedure within the industry for determining the initial scope of the job. Final determination of PCB contamination can only be accomplished through analytical tests of the area.

Soil samples were taken by CECOS/CER CO. and given to General Motors Central Foundry for analysis. Soil sampling was accomplished by partitioning 110 ft. x 70 ft. bermed area into six (6) distinct sections. Each section was approximately 35 x 35. From the center of each section, a 4 inch core sample was taken. General Motors was given six (6) individual samples ... plus a composite sample for analysis. The above sampling protocal is based on sound scientific principles.

General Motors analysis of the composite showed 21.2 ppm PCB, per a verbal report from General Motors to CECOS/CER CO.

CECOS
CER CO.
CHEMICAL AND ENVIRONMENTAL CONSERVATION SYSTEMS
4879 Spring Grove Ave. Cincinnati, Ohio 45232

SUMMARY REPORT
PAGE TWO

ITEM ONE: Job commenced Monday, July 26, 1982 and ended Friday, July 30, 1982. Work days ranged from 8 to 16 hours a day (averaging 12.7 hours per day). All work was performed under the direction of a CECOS/CER Supervisor.

ITEM TWO: Equipment utilized includes:

Cat 977-L Loader (1)
Case 580-C Loader/Grappler (1)
Passenger Vehicle (1)
Equipment Vehicles (2)
Storage Vehicle (1)
Torches and Fuel
Personnel Safety Equipment

ITEM THREE: Transportation consisted of:

Monday - no loads
Tuesday - 4 loads
Wednesday - 1 load
Thursday - 4 loads
Friday - 11 loads

ITEM FOUR: DISPOSAL: 345.15 Tons disposal at CECOS/CER CO. Secure Chemical Management Facility.

ITEM FIVE: Cost: Total cost of the project as invoiced $89,431.00

Should additional information be needed, please contact Michael A. Verde.

GLEN OHL

Subject: PCB ANALysis of Soil Sample TAKEN from OLD TANK STORAGE AREA AFTER Cecos Clean-up.

AREA WAS SECTIONED per ATTACHED DRAWING. AND SAMPLES of soil WERE TAKEN from EACH of The le SECTIONS. (by Cecos).

LABORATORY. REMOVED EQUAL QUANTITIES from EACH CONTAINER AND COMPOSITED. SAMPLE WAS EXTRACTED AND PCB ANALysis RUN.

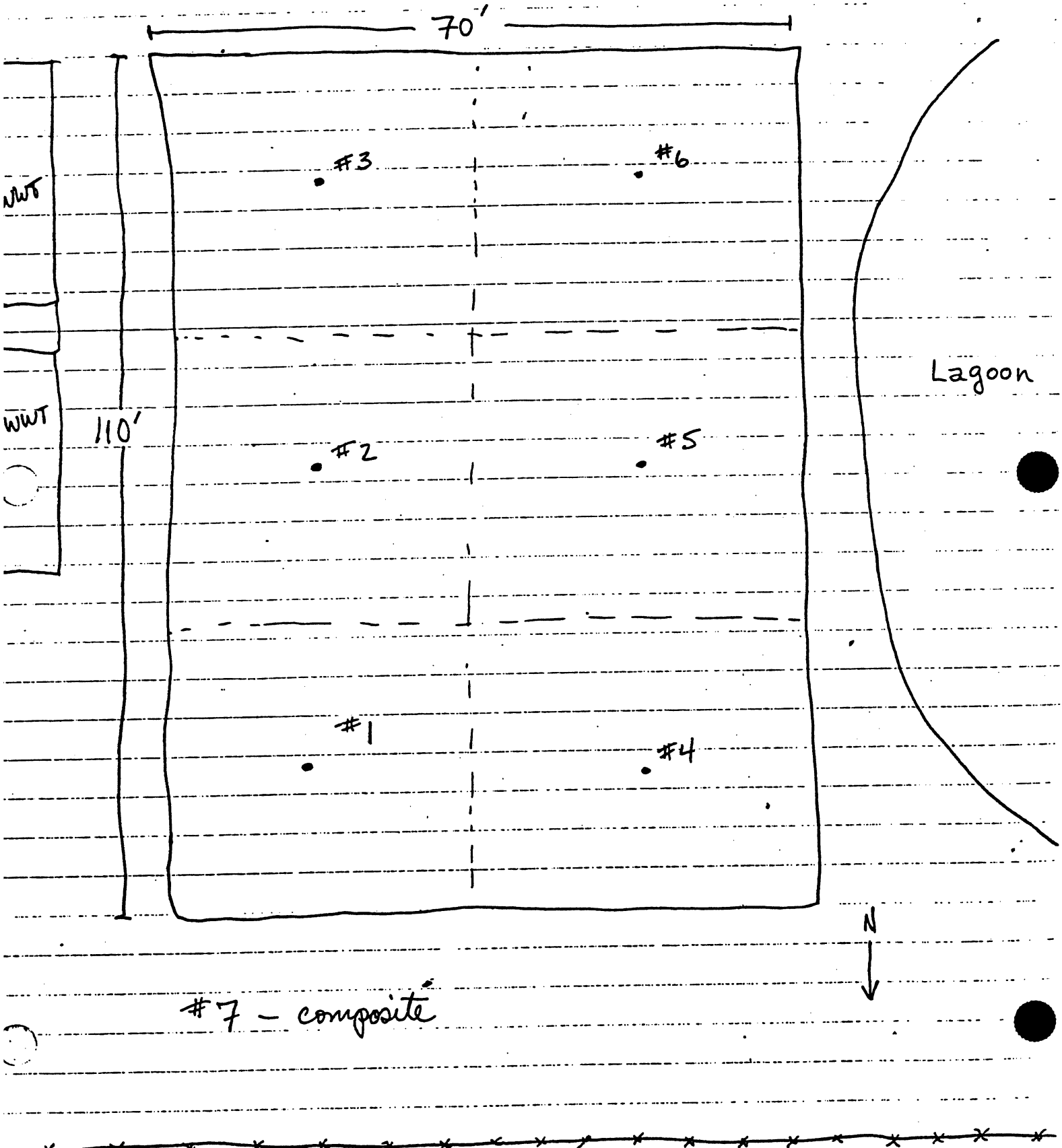
Composite - ANALysis — 21.2 PPM PCB.

CC: Bill Butler
P. Murphy

8-1-82

GM - Bedford, IN 8:30 PM July 30, 1982

Sampling Diagram



#7 - composite

APPENDIX G.33

ISPCB LETTER DATED FEBRUARY 23, 1977

Division of General Motors Corporation
Bedford Plant
P. O. Box 271
Bedford, Indiana 47421

February 23, 1977

Mr. Patrick L. Stevens
Indiana Stream Pollution Control Board
1330 West Michigan Street
Indianapolis, Indiana 46206

Dear Mr. Stevens:

A small quantity of mineral hydraulic fluid escaped plant boundaries on Tuesday, February 22, 1977 at 3:00 p.m. Approximately five gallons or less entered a storm sewer at a company owned manhole and appeared to have discharged onto a surface ditch approximately 100 feet from the manhole. The oil originated from a storage tank used to hold mineral fluid for eventual disposal. Oil on the ground around the storage tank accumulated as a result of pumping error and was contained by sand dams awaiting final clean up, however, melting snow raised the fluid level above the sand dam and a small amount of oil and water escaped company property before discovery.

Yours truly,

M. J. Tahy
Plant Manager

MJT:mw

cc: Mr. Paul McBride
Lawrence County Health Dept.

Wm. C. Cheek
CFD Saginaw

APPENDIX G.34

NRC LETTER DATED SEPTEMBER 27, 1984

Division of General Motors Corporation
Bedford Plant
Bedford, Indiana 47421

September 27, 1984

Duty Officer
National Response Center
U.S. Coast Guard
400 Seventh Street, S.W.
Washington, D.C. 20590

Re: Confirmation of Telephone Contact
on September 15, 1984

Dear Sir:

The purpose of this letter is to confirm the telephone call from the General Motors, Central Foundry Division-Bedford, Indiana Plant to the National Response Center and the State of Indiana Emergency Response Center at approximately 12:50 a.m. on September 15, 1984. The contacts were Mr. Ambrozewicz at the National Response Center and Messrs. McClellon and McFall at the State of Indiana. The telephone call was made to report an incident regarding the loss of approximately 2,500 gallons of hydraulic fluid during the unloading of a Consolidated Recycling Company tanker truck at the General Motors, Central Foundry Division-Bedford, Indiana Plant. The incident occurred at approximately 10:15 p.m. on September 14, 1984. The fluid leaked onto a concrete slab and immediate action was taken to contain the fluid. None of the fluid left General Motors property. General Motors and its contractor, Commercial Sewer Cleaners, cleaned up the lost material. The surrounding area and drainage systems were also inspected and cleaned to insure that all material was recovered.

Sincerely,

W. A. Butler
Superintendent
Plant Engineering

E#2/sc

cc: Emergency Center
Indiana State Board of Health

bcc: R. Herr
P. Murphy
W. Cheek
J. Medved
J. Chu - GM-EAS
P. Zavala - GM-Legal
G. Ohl

APPENDIX G.35

ORIGINAL NOTIFICATION FOR UST - EPA FORM 7530

Notification for Underground Storage Tanks

FORM APPROVED
OMB NO. 2050-0049
APPROVAL EXPIRES: 10-88

FOR TANKS IN IN

RETURN COMPLETED FORM TO
Division of Land Pollution Control
UST Program
Indiana State Board of Health
P.O. Box 7015
Indianapolis, IN 46207
(317) 243-5060

I.D. Number

STATE USE ONLY

Date Received

GENERAL INFORMATION

Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1974, that are in the ground as of May 8, 1986, or that are brought into use after May 8, 1986. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act, (RCRA), as amended.

The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonably available records, or, in the absence of such records, your knowledge, belief, or recollection.

Who Must Notify? Section 9002 of RCRA, as amended, requires that, unless exempted, owners of underground tanks that store regulated substances must notify designated State or local agencies of the existence of their tanks. Owner means—

(a) in the case of an underground storage tank in use on November 8, 1984, or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances, and

(b) in the case of any underground storage tank in use before November 8, 1984, but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use.

What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Some examples are underground tanks storing: 1. gasoline, used oil, or diesel fuel, and 2. industrial solvents, pesticides, herbicides or fumigants.

What Tanks Are Excluded? Tanks removed from the ground are not subject to notification. Other tanks excluded from notification are:

1. farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
2. tanks used for storing heating oil for consumptive use on the premises where stored;
3. septic tanks;
4. pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
5. surface impoundments, pits, ponds, or lagoons;
6. storm water or waste water collection systems;
7. flow-through process tanks;
8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;
9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances regulated as hazardous waste under Subtitle C of RCRA. It also includes petroleum, e.g., crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

Where To Notify? Completed notification forms should be sent to the address given at the top of this page.

When To Notify? 1. Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974, but still in the ground, must notify by May 8, 1986. 2. Owners who bring underground storage tanks into use after May 8, 1986, must notify within 30 days of bringing the tanks into use.

Penalties: Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $10,000 for each tank for which notification is not given or for which false information is submitted.

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section V. **This form must by completed for each location containing underground storage tanks.** If more than 5 tanks are owned at this location, photocopy the reverse side, and staple continuation sheets to this form.

Indicate number of continuation sheets attached: 1

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)
GMC Central Foundry Division Bedford Plant

Street Address
North Jackson Street

County
Lawrence

City: Bedford | State: IN | ZIP Code: 47421

Area Code: 812 | Phone Number: 279-7000

Type of Owner *(Mark all that apply ☒)*

- [X] Current
- [ ] Former
- [ ] State or Local Gov't
- [ ] Federal Gov't (GSA facility I.D. no. _____)
- [X] Private or Corporate
- [ ] Ownership uncertain

II. LOCATION OF TANK(S)

(If same as Section 1, mark box here [X])

Facility Name or Company Site Identifier, as applicable

Street Address or State Road, as applicable

County

City (nearest) | State | ZIP Code

Indicate number of tanks at this location: 2

Mark box here if tank(s) are located on land within an Indian reservation or on other Indian trust lands: [ ]

III. CONTACT PERSON AT TANK LOCATION

Name (If same as Section I, mark box here [ ])
G. R. Ohl

Job Title: Environmental Coordinator

Area Code: (812) | Phone Number: 279-7302

IV. TYPE OF NOTIFICATION

[ ] Mark box here only if this is an amended or subsequent notification for this location.

V. CERTIFICATION (Read and sign after completing Section VI.)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. This certification is made on behalf of General Motors Corporation.

Name and official title of owner or owner's authorized representative	Signature	Date Signed
R. W. Herr, Plant Manager	R. W. Herr	4-14-86

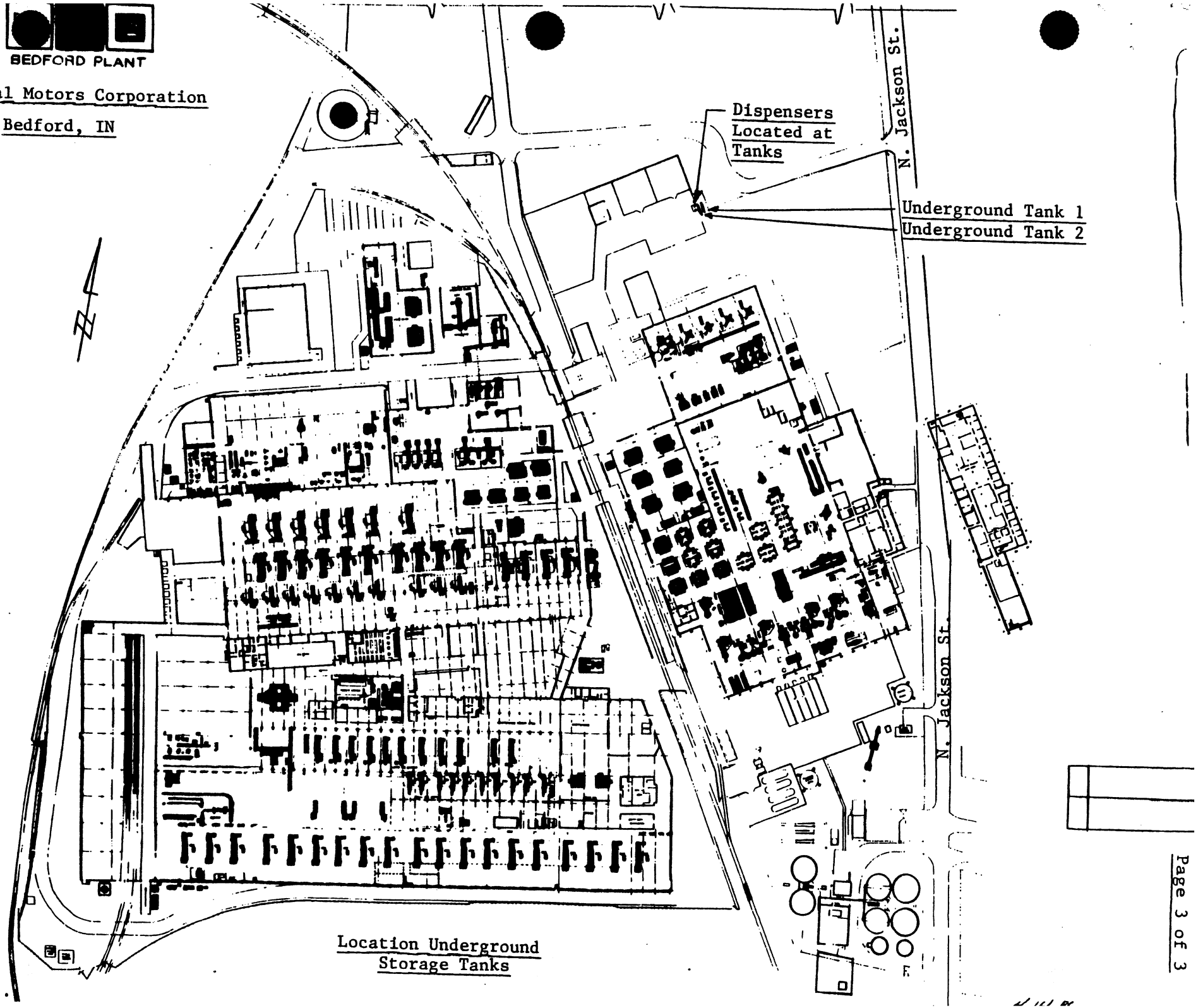
CONTINUE ON REVERSE SIDE

Owner Name (from Section I) General Motors Location (from Section II) Bedford, IN Page No. 2 of 3 Pag

VI DESCRIPTION OF UNDERGROUND STORAGE TANKS - Complete for each tank at this location

Tank Identification No. (e.g., ABC-123), or Arbitrarily Assigned Sequential Number (e.g., 1,2,3...)	Tank No. 1	Tank No. 2	Tank No.	Tank No.	Tank No
1. Status of Tank (Mark all that apply ☒)					
Currently in Use	X	X			
Temporarily Out of Use					
Permanently Out of Use					
Brought into Use after 5/8/86					
2. Estimated Age (Years)	9	9			
3. Estimated Total Capacity (Gallons)	2,000	10,000			
4. Material of Construction (Mark one ☒)					
Steel	X	X			
Concrete					
Fiberglass Reinforced Plastic					
Unknown					
Other, Please Specify					
5. Internal Protection (Mark all that apply ☒)					
Cathodic Protection					
Interior Lining (e.g., epoxy resins)					
None	X	X			
Unknown					
Other, Please Specify					
6. External Protection (Mark all that apply ☒)					
Cathodic Protection					
Painted (e.g., asphaltic)	X	X			
Fiberglass Reinforced Plastic Coated					
None					
Unknown					
Other, Please Specify					
7. Piping (Mark all that apply ☒)					
Bare Steel					
Galvanized Steel	X	X			
Fiberglass Reinforced Plastic					
Cathodically Protected					
Unknown					
Other, Please Specify					
8. Substance Currently or Last Stored in Greatest Quantity by Volume (Mark all that apply ☒)					
a. Empty					
b. Petroleum					
Diesel					
Kerosene					
Gasoline (including alcohol blends)	X	X			
Used Oil					
Other, Please Specify					
c. Hazardous Substance					
Please Indicate Name of Principal CERCLA Substance					
OR Chemical Abstract Service (CAS) No.					
Mark box ☒ if tank stores a mixture of substances					
d. Unknown					
9. Additional Information (for tanks permanently taken out of service)					
a. Estimated date last used (mo/yr)	/	/	/	/	/
b. Estimated quantity of substance remaining (gal.)					
c. Mark box ☒ if tank was filled with inert material (e.g., sand, concrete)					

☆ U.S. Government Printing Office: 1986—486-735


BEDFORD PLANT
General Motors Corporation
Bedford, IN
Dispensers Located at Tanks
N. Jackson St.
Underground Tank 1
Underground Tank 2
N. Jackson St.
Location Underground Storage Tanks

CC: R. Hess
P. Murphy
W. Clark
D. Medvick
M. Cooke GM-Local
J. Chu " EA's
INDIANAPOLIS

STATE OF INDIANA

STATE BOARD OF HEALTH

AN EQUAL OPPORTUNITY EMPLOYER

Address Reply to:
Division of Land Pollution Control--UST
P.O. Box 7015
Indianapolis, IN 46207-7015

3-24-81

March 1986

Gentlemen:

Re: Underground Storage Tank
Notification

In November of 1984, the Hazardous and Solid Waste Amendments to the Resource Conservation and Recovery Act (RCRA) were passed into law. Subtitle I of these amendments established the Underground Storage Tank (UST) Program requiring all owners and operators of underground storage tanks that are either currently in service or were taken out of service after January 1, 1974, but are still in the ground, to notify of their existence. The Division of Land Pollution Control, Indiana State Board of Health, has been designated to receive this notification.

To meet the requirements of notification, each owner and operator must:

1. Fill out the enclosed notification form;

2. Sign the certification at the bottom of the form; and

3. In addition, please include a diagram of the facility on standard 8 1/2 by 11-inch white bond paper. The diagram should include the location of any underground storage tank and associated piping, the location of above ground structures, the location of the tank dispenser, a north directional arrow, and a street address. The diagram should be in black ink for microfilming purposes.

   The notification form may be photocopied if additional copies are required.

When complete, return the form to the Division of Land Pollution Control, UST Program, Indiana State Board of Health, P.O. Box 7015, Indianapolis, Indiana, 46207-7015.

All questions should be directed to Mr. Michael T. Scanlon at AC 317/243-5060.

Very truly yours,

David D. Lamm, Director
Division of Land Pollution Control

MTS/sk
Enclosure

Notification for Underground Storage Tanks

FORM APPROVED
OMB NO 2050-0049
APPROVAL EXPIRES 6-30-88

FOR TANKS IN IN

RETURN COMPLETED FORM TO
Division of Land Pollution Control
UST Program
Indiana State Board of Health
P.O. Box 7015
Indianapolis, IN 46207
(317) 243-5060

I.D. Number **STATE USE ONLY**

Date Received

GENERAL INFORMATION

Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1974, that are in the ground as of May 8, 1986, or that are brought into use after May 8, 1986. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act, (RCRA), as amended.

The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonably available records, or, in the absence of such records, your knowledge, belief, or recollection.

Who Must Notify? Section 9002 of RCRA, as amended, requires that, unless exempted, owners of underground tanks that store regulated substances must notify designated State or local agencies of the existence of their tanks. Owner means—

(a) in the case of an underground storage tank in use on November 8, 1984, or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances, and

(b) in the case of any underground storage tank in use before November 8, 1984, but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use.

What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Some examples are underground tanks storing: 1. gasoline, used oil, or diesel fuel, and 2. industrial solvents, pesticides, herbicides or fumigants.

What Tanks Are Excluded? Tanks removed from the ground are not subject to notification. Other tanks excluded from notification are:

1. farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
2. tanks used for storing heating oil for consumptive use on the premises where stored;
3. septic tanks;
4. pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
5. surface impoundments, pits, ponds, or lagoons;
6. storm water or waste water collection systems;
7. flow-through process tanks;
8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;
9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances regulated as hazardous waste under Subtitle C of RCRA. It also includes petroleum, e.g., crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

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When To Notify? 1. Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974, but still in the ground, must notify by May 8, 1986. 2. Owners who bring underground storage tanks into use after May 8, 1986, must notify within 30 days of bringing the tanks into use.

Penalties: Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $10,000 for each tank for which notification is not given or for which false information is submitted.

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section V. **This form must by completed for each location containing underground storage tanks.** If more than 5 tanks are owned at this location, photocopy the reverse side, and staple continuation sheets to this form.

Indicate number of continuation sheets attached ☐

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)

Street Address

County

City State ZIP Code

Area Code Phone Number

Type of Owner *(Mark all that apply ☒)*

☐ Current ☐ State or Local Gov't ☐ Private or Corporate

☐ Former ☐ Federal Gov't (GSA facility I.D. no. _____) ☐ Ownership uncertain

II. LOCATION OF TANK(S)

(If same as Section 1, mark box here ☐)

Facility Name or Company Site Identifier, as applicable

Street Address or State Road, as applicable

County

City (nearest) State ZIP Code

Indicate number of tanks at this location ☐

Mark box here if tank(s) are located on land within an Indian reservation or on other Indian trust lands ☐

III. CONTACT PERSON AT TANK LOCATION

Name (If same as Section I, mark box here ☐) Job Title Area Code Phone Number

IV. TYPE OF NOTIFICATION

☐ Mark box here only if this is an amended or subsequent notification for this location.

V. CERTIFICATION (Read and sign after completing Section VI.)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative	Signature	Date Signed

CONTINUE ON REVERSE SIDE

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)

Tank Identification No. (e.g., ABC-123), or Arbitrarily Assigned Sequential Number (e.g., 1,2,3...)	Tank No.	Tank No.	Tank No.	Tank No.	Tank No.
1. Status of Tank *(Mark all that apply ☒)* — Currently in Use; Temporarily Out of Use; Permanently Out of Use; Brought into Use after 5/8/86	☐	☐	☐	☐	☐
2. Estimated Age (Years)					
3. Estimated Total Capacity (Gallons)					
4. Material of Construction *(Mark one ☒)* — Steel; Concrete; Fiberglass Reinforced Plastic; Unknown; Other, Please Specify	☐ / _____	☐ / _____	☐ / _____	☐ / _____	☐ / _____
5. Internal Protection *(Mark all that apply ☒)* — Cathodic Protection; Interior Lining (e.g., epoxy resins); None; Unknown; Other, Please Specify	☐ / _____	☐ / _____	☐ / _____	☐ / _____	☐ / _____
6. External Protection *(Mark all that apply ☒)* — Cathodic Protection; Painted (e.g., asphaltic); Fiberglass Reinforced Plastic Coated; None; Unknown; Other, Please Specify	☐ / _____	☐ / _____	☐ / _____	☐ / _____	☐ / _____
7. Piping *(Mark all that apply ☒)* — Bare Steel; Galvanized Steel; Fiberglass Reinforced Plastic; Cathodically Protected; Unknown; Other, Please Specify	☐ / _____	☐ / _____	☐ / _____	☐ / _____	☐ / _____
8. Substance Currently or Last Stored in Greatest Quantity by Volume *(Mark all that apply ☒)* — **a. Empty**; **b. Petroleum**: Diesel; Kerosene; Gasoline (including alcohol blends); Used Oil; Other, Please Specify	☐ / ☐ / ☐ / ☐ / ☐ / _____	☐ / ☐ / ☐ / ☐ / ☐ / _____	☐ / ☐ / ☐ / ☐ / ☐ / _____	☐ / ☐ / ☐ / ☐ / ☐ / _____	☐ / ☐ / ☐ / ☐ / ☐ / _____
c. Hazardous Substance	☐	☐	☐	☐	☐
Please Indicate Name of Principal CERCLA Substance OR Chemical Abstract Service (CAS) No.	_____	_____	_____	_____	_____
Mark box ☒ if tank stores a mixture of substances	☐	☐	☐	☐	☐
d. Unknown	☐	☐	☐	☐	☐
9. Additional Information (for tanks permanently taken out of service)					
a. Estimated date last used (mo/yr)	/	/	/	/	/
b. Estimated quantity of substance remaining (gal.)	_____	_____	_____	_____	_____
c. Mark box ☒ if tank was filled with inert material (e.g., sand, concrete)	☐	☐	☐	☐	☐

☆ U.S. Government Printing Office: 1986—496-735

APPENDIX G.36

IDEM LETTER DATED JULY 12, 1991

Central Foundry Division
General Motors Corporation
Bedford Plant
North Jackson Street
Bedford, Indiana 47421-0271

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

July 12, 1991

Indiana Department of Environmental Management
Underground Storage Tank Section
2321 Executive Drive
Indianapolis, IN 46241

Re: General Motors Central Foundry
Bedford, Indiana
UST Removal
IDEM Incident No. 9107058/NRC Case No. 78944

Gentlemen:

In the course of executing an underground storage tank closure project administered by your office, subsurface contamination was discovered at the above referenced site. Subsequently, representatives of our organization notified IDEM and the National Response Center of this incident in accordance with applicable notification requirements. The intent of this letter is to further document this incident, and to advise your office of subsequent actions to be taken by GM - Central Foundry.

By way of background, your office was advised by GM - Central Foundry of our intent to close (remove) two underground storage tanks. This notification was received by your office on May 28, 1991, and subsequent approval was issued on June 5, 1991. This approval stipulated a commencement date of June 28, 1991. As noted on our notification form, we intended to excavate and remove two underground storage tanks; a 2000 gallon tank and a 10,000 gallon tank. Both tanks were formerly used to store gasoline (unleaded and leaded) and were reported to be 14 years old.

On the morning of July 10, 1991, excavation activities were begun at the subject site. It should be noted that the contractor retained by GM - Central Foundry is properly certified by the State Fire Marshal for this type of work. The initial soils encountered revealed no signs of subsurface contamination; however, at a depth of approximately 4 feet, visual evidence of contamination as well as odors were encountered. This discovery was made mid-morning of the same day.

Upon discovery, excavation was continued in order to probe the extent of contamination. At this point, a temporary containment area consisting of poly sheeting and diking was erected onto which all contaminated soils removed from the excavation were placed. It should also be noted that a cover was placed over these contaminated soils during cessations in the excavation work. Additionally, an internal assessment of the situation was

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SAFETY BELTS SAVE LIVES

under way in order to determine appropriate actions. This included consultation with our environmental consultant, O'Brien & Gere Engineers, Inc., who was retained to assist us with this project.

Initial observations of the site conditions seemed to indicate that the contamination was very much localized due to the presence of a dense clay which surrounded the excavation in which the tanks were installed. These confining soils caused some volume of water to accumulate in the granular fill surrounding the tank. This water, however, is not believed to be hydraulically connected to any aquifer systems due to the low hydraulic conductivity of the native clay. It was not possible from these initial observations to make any estimation of the volume of material which had been released. Furthermore, the specific component(s) from which the material leaked was not readily obvious.

At 3:50 PM that same day, Mr. Dorel Hunt of the IDEM Emergency Response Commission was contacted by representatives of GM - Central Foundry and the incident was verbally reported. An IDEM incident number was assigned (No. 9107058) at this time. Additionally, Mr. Hunt advised GM - Central Foundry that this reported incident would be forwarded to your office thus satisfying the notification requirements set forth in the approval letter dated June 5, 1991.

At 10:15 AM on July 11, 1991, a similar report of this incident was made to Mr. Jim Robinson of the National Response Center (NRC Case N. 78944). Mr. Robinson indicated that this report would be forwarded to USEPA Region 5.

Having made the appropriate notifications, GM - Central Foundry intends to implement the following actions:

1. Complete the removal of the tanks and associated piping in accordance with the approved protocols. This will include removal and segregation of visually contaminated soils, and placement of these soils in a secure containment area to await proper transportation and disposal.

2. Expansion of the existing excavation to remove all visually contaminated soils.

3. Collection of up to eight soil samples from the excavation. These samples are to be analyzed for Total Petroleum Hydrocarbons using USEPA Method 8015 (Modified).

4. Placement of poly sheeting to line the completed excavation.

5. Installation of clean backfill in the excavation to remove the physical hazards associated with the excavation which is in a traffic area. Also, an impervious cover will be installed to prevent the accumulation of water in the clean granular fill.

6. Upon receipt of sample results, GM - Central Foundry will forward to your office a completed closure notification form along with analytical data from the aforementioned soil samples.

As evidenced by by our proactive response, GM - Central Foundry is committed to proper resolution of this matter. We are confident that through this letter, we have adequately advised your office of this incident as well as our intended course of actions. Furthermore, it is our understanding that these actions are consistent with IDEM requirements and, as such, will allow us to accomplish our common objective of properly closing these tanks.

Should there be any questions related to this matter, please do not hesitate to contact Mr. William Schoonmaker at (812) 279-7308.

Sincerely,

R W. Herr

Robert W. Herr
Plant Manager

cc: NRC
Wm. S. Schoonmaker, CF Bedford Environmental Director

bcc: Fred Koehler, GM EAS
Keith West, CFD EAS

MAY 25, 2001

APPENDIX G.37

O'BRIEN & GERE UST REMOVAL ENVIRONMENTAL SITE ASSESSMENT

Central Foundry Division
General Motors Corporation
Bedford Plant
North Jackson Street
Bedford, Indiana 47421-0271

September 18, 1991

Indiana Department of Environmental Management
Office of Environmental Response
UST Program
P.O. Box 7015
Idianapolis, IN 46207-7015

Gentlemen:

As stated in our letter of July 12, 1991, GM - Central Foundry is forwarding with this letter the completed closure notification form along with the analytical data from the soil samples obtained during the closure.

Should there be any questions related to this matter, please do not hesitate to contact Mr. William Schoonmaker at (812) 279-7308.

Sincerely,

R.W. Herr

Robert W. Herr
Plant Manager

Enclosure

cc: Wm. S. Schoonmaker, CF Bedford Environmental Director

Lets Get It Together
SAFETY BELTS SAVE LIVES

O'BRIEN & GERE

September 3, 1991

Mr. Bill Litkenhous
GM Central Foundry
North Jackson Street
P O Box 271
Bedford, IN 47421-0271

RE: UST Closure

FILE: 2488-295

Dear Bill:

Please find attached a site assessment report to be submitted to IDEM in accordance with the tank closure requirements. Also note that the notification form has been revised to reflect completion of the closure. This form will need to be signed by Mr. Herr.

Please call with any questions.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

Lowell W. McBurney, P.E.
Office Manager

LWM/kc/A45.LTR

Attachment

cc: J Rauschkolb - OBG Technical Services, Inc.

REPORT

UST REMOVAL -

SITE ASSESSMENT

GM CENTRAL FOUNDRY

BEDFORD, INDIANA

SEPTEMBER 1991

PREPARED BY:

OBG TECHNICAL SERVICES, INC.

INDIANAPOLIS, INDIANA

NOTIFICATION FOR UNDERGROUND STORAGE TANKS

FORM APPROVED
OMB NO. 2050-0068
APPROVAL EXPIRES 9-30-91

FOR TANKS IN **IN**

RETURN COMPLETED FORM TO

Indiana Department of Environmental Management
Office of Environmental Response
UST Program
P.O. Box 7015
Indianapolis, Indiana 46207-7015
(317) 243-5022

STATE USE ONLY

ID Number

Date Received

GENERAL INFORMATION

Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1974, that are in the ground as of May 8, 1986 or that are brought into use after May 8, 1986. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act, (RCRA), as amended.

The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonably available records or, in the absence of such records, your knowledge, belief or recollection.

Who Must Notify? Section 9002 of RCRA as amended requires that unless exempted, owners of underground tanks that store regulated substances must notify designated State or local agencies of the existence of their tanks. Owner means:

(a) In the case of an underground storage tank in use on November 8, 1984 or brought into use after that date, any person who owns an underground storage tanks used for the storage, use or dispensing of regulated substances, and

(b) In the case of an underground storage tank in use before November 8, 1984 but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use.

What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Some examples are underground tanks storing: 1. gasoline, used oil or diesel fuel; and 2. industrial solvents, pesticides, herbicides, or fumigants.

What Tanks Are Excluded? Tanks removed from the ground are not subject to notification. Other tanks excluded from notification are:

1. Farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
2. Tanks used for storing heating oil for consumptive use on the premises where stored;
3. Septic tanks;
4. Pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
5. Surface impoundments, pits, ponds, or lagoons;
6. Storm water or waste water collection systems;
7. Flow-through process tanks;
8. Liquid traps or associated gathering lines directly related to oil or gas production and gathering operations; or
9. Storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) with the exception of those substances regulated as hazardous waste under subtitle C of RCRA. It also includes petroleum (e.g. crude oil or any fraction thereof) which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

Where To Notify? Completed notification forms should be sent to the address given at the top of this page.

When to Notify? Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974 but still in the ground must notify by May 8, 1986. Owners who bring underground storage tanks into use after May 8, 1986 must notify within 30 days of bringing the tanks into use.

Penalties. Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $10,000 for each tank for which notification is not given or for which false information is submitted.

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section V. This form must be completed for each location containing underground storage tanks. If more than 5 tanks are owned at this location, photocopy the reverse side, and staple continuation sheets to this form.

Indicate number of continuation sheets attached: 1

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)
GMC CENTRAL FOUNDRY DIV. BEDFORD PLANT

Street Address
NORTH JACKSON STREET

County
LAWRENCE

City: BEDFORD | State: IN | ZIP Code: 47421

Area Code: (812) | Phone Number: 279-7360

Type of Owner (mark all that apply)

- [X] Current
- [ ] Former
- [ ] State or Local Gov't
- [ ] Federal Gov't (GSA facility I.D. no. _____)
- [XX] Private or Corporate
- [ ] Ownership uncertain

II. LOCATION OF TANK(S)

(If same as Section I, mark box here) [X]

Facility Name or Company Site Identifier, as applicable

Street Address or State Road, as applicable

County

City (nearest) | State | ZIP Code

Indicate number of tanks at this location: 2

Mark box here if tank(s) are located on land within an Indian reservation or on other Indian trust lands [ ]

III. CONTACT PERSON AT TANK LOCATION

Name (If same as Section I, mark box here) [ ]: WILLIAM S. SCHOONMAKER

Job Title: ENVIRONMENTAL DIRECTOR

Area Code: (812) | Phone Number: 279-7308

IV. TYPE OF NOTIFICATION

[ ] Mark box here only if this is an amended or subsequent notification for this location

V. CERTIFICATION (READ AND SIGN AFTER COMPLETING SECTION VI)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. This certification is made on behalf of General Motors Corp.

Name and official title of owner or owner's authorized representative	Signature	Date Signed
Robert W. Herr, Plant Manager		

(Continue on Reverse Side)

VII. CERTIFICATION OF COMPLIANCE (COMPLETE FOR ALL NEW OR EXISTING UPGRADED TANKS AT THIS LOCATION)

☐ The information in items 11 through 14 applies to all tanks at ths facility

☐ The information in items 11 through 14 applies to tank number _____

(Refer to the tank numbers used on page 2 in completing this item Then use copies of page 3 to supply information for each remaining tank.)

11 Release Detection (mark all that apply):

- ☐ Manual tank gauging.
- ☐ Tank tightness testing with inventory controls.
- ☐ Automatic tank gauging.
- ☐ Vapor monitoring.
- ☐ Ground-water monitoring.
- ☐ Interstitial monitoring within a secondary barrier.
- ☐ Interstitial monitoring within secondary containment.
- ☐ Automatic line leak detectors.
- ☐ Line tightness testing.
- ☐ Another method allowed by the implementing agency. Please specify:

12. Cathodic Protection (if applicable):

- ☐ As specified for coated steel tanks with cathodic protection. Circle one: Impressed current / Sacrificial anodes
- ☐ As specified for coated steel piping with cathodic protection. Circle one: Impressed current / Sacrificial anodes
- ☐ Another method allowed by the implementing agency. Please specify:

13 Spill and Overfill Control:

- ☐ Catchment basins
- ☐ Automatic shut off devices.
- ☐ Overfill alarms
- ☐ Ball float valves
- ☐ Another method allowed by the implementing agency. Please specify:

14 Installation, Upgrade or Closure (mark all that apply):

- ☐ The installer has been certified by the tank and piping manufacturers.
- ☒ The installer or closure contractor has been certified or licensed by the State Fire Marshal's Office
- ☐ The installation has been inspected and certified by a registered professional engineer
- ☒ The installation or closure has been inspected and approved by the State Fire Marshal's Office.
- ☐ All work listed on the manufacturer's installation checklists has been completed
- ☐ Another method was used as allowed by the implementing agency Please specify.

(Section VII continued on Page 4)

EXHIBITS

1 - SITE PLAN

2 - CLOSURE NOTIFICATION FORM

3 - IDEM APPROVAL LETTER

4 - SAMPLE SUMMARY

5 - LABORATORY REPORTS

EXHIBIT 1

SITE PLAN

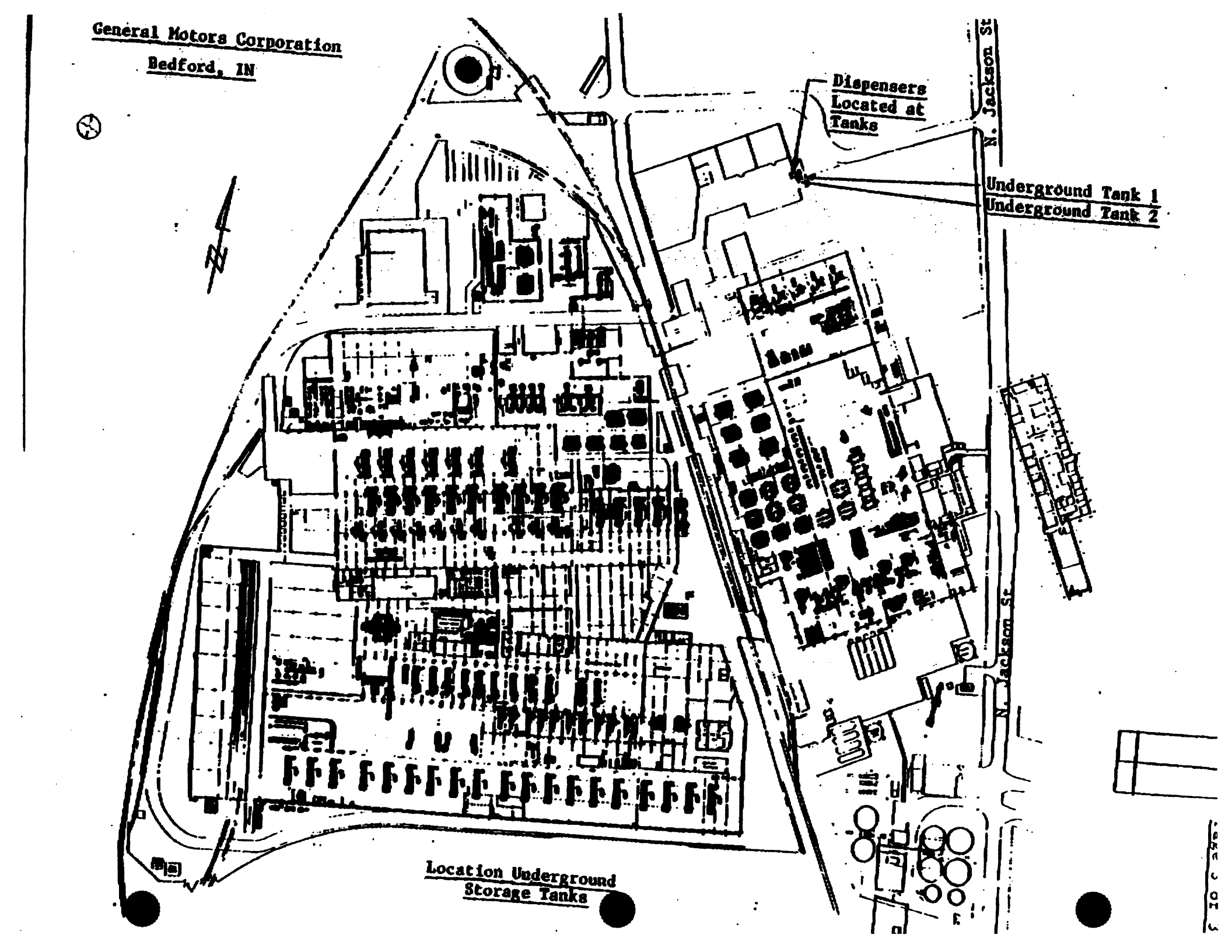

General Motors Corporation
Bedford, IN
Dispensers Located at Tanks
N. Jackson St
Underground Tank 1
Underground Tank 2
N. Jackson St.
Location Underground Storage Tanks

EXHIBIT 2

CLOSURE NOTIFICATION FORM

Underground Storage Tank Closure Notification Form

Mail 30 days prior to intended tank closure date to:
Indiana Dept. of Environmental Management
Office of Environmental Response
UST Section/Closure Notice
5500 West Bradbury Avenue
Indianapolis, IN 46241

Tank Owner Information

Owner Name: GM - CENTRAL FOUNDRY
Street Address: NORTH JACKSON STREET
City, State, Zip: BEDFORD, INDIANA 47421
Telephone: (812) 279-7257
Contact Person: BILL LITKENHOUS

Tank Location Information

Location Name: SAME
Street Address:
City, State, Zip:
Telephone/County:
Contact Person:

Tank Information

Tank #	Size (gallons)	Contents	Age	Closure Method	Comments
1	2,000	GASOLINE	14 YRS.	REMOVAL / DISPOSAL	
2	10,000	GASOLIN	14 YRS.	REMOVAL / DISPOSAL	

Intended Closure Date JUNE 24, 1991

Contractor Information

Name: WILLIAM TIMOTHY WALTERS
Street Address: RURAL ROUTE 2, BOX 46
City, State, Zip: SUMMITVILLE, IN 46070
Telephone: (317) 536-2524
Contact Person: DAVID TAYLOR (317)879-3133
Certification Number: # 90-49-90

Fire Department Information

Department Name: BEDFORD FIRE DEPT.
Street Address: 1900 H STREET
City, State, Zip: BEDFORD, IN 47421
Telephone: (812) 275-4544
Contact Person: JACK BUTTERFIELD
ASSISTANT CHIEF

Tank closures must be performed by persons certified by the State Fire Marshal's Office

Tank Owner Signature R.W. Hirn
Date Signed 5/24/91

If the intended closure date is changed please contact IDEM at (317) 243-5022.

If the site assessment shows signs of soil contamination please call (317) 243-5022.

EXHIBIT 3

IDEM APPROVAL LETTER

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

105 South Meridian Street
P.O. Box 6015
Indianapolis 46206-6015
Telephone 317/232-8603

June 5, 1991

Mr. Bill Litkenhous
G. M. Central Foundry
North Jackson Street
Bedford, IN 47421

Re: Intent to Close
Underground Storage Tank

Dear Mr. Litkenhous:

On May 28, 1991, the Indiana Department of Environmental Management (IDEM), Underground Storage Tank Section (UST), received your letter indicating your intent to close (an) underground storage tank(s) located at North Jackson Street, Bedford. The closure must be completed in accordance with 40 CFR 280.71 and with the requirements of the Indiana State Fire Code. Federal regulation 40 CFR 280.71 requires that American Petroleum Institute Recommended Practice 1604 (API 1604) be followed in completing tank closures. A brief synopsis of recommended tank closure practices is enclosed but is not intended as a substitute for API 1604. It is the responsibility of the tank owner/operator to ensure that all provisions of API 1604 are followed during a tank closure.

If the method of closure is removal, you may begin closing your tank(s) on June 28, 1991. If the method of closure is to fill the tank(s) in place, approval of the closure date will be given by IDEM only after review of site assessment results for the proposed in place closure. If your tank(s) have been temporarily closed for more than twelve (12) months, additional approval for an in-place closure must be received from the State Fire Marshal's Office. Ninety (90) days after your approved closure date, the approval will expire and you will be required to resubmit the 30-day closure notification. Two weeks prior to your closure date, you must notify the local fire department and the State Fire Marshal's Office (AC 317/232-7648) of the tank closure and of the closure date. If the closure date should change from the date above, please call our office (AC 317/243-5022), the State Fire Marshal's Office, and the local fire department to advise of the change.

When completing a tank closure, a site assessment (soil borings or soil samples) must be performed in accordance with 40 CFR Part 280 Subpart G, to assess whether a release has occurred. To determine the

location and the amount of samples, please contact our office. If the method of closure is to fill the tank in place rather than remove it, the site assessment must be done prior to beginning the tank closure. Site assessment results for in-place closures must then be sent to our office for review. If this review determines that an in-place closure can begin, our office will send you an approval letter for the in-place closure. During closure if any visible soil or water contamination is found, it must be reported to our office within 24 hours. If the site assessment laboratory results show any detectable contamination, it must also be reported within 24 hours and the results submitted to IDEM. Please include with these results the site assessment sampling locations and any site characteristics that would aid IDEM in determining the extent of contamination.

The appropriate testing methods are listed below:

Type of Sample/Product	EPA Method
Soil	
- Gasoline, Diesel or Waste Oil	8015 Modified (GC/FID) or 8240 (GC/MS) for Total Petroleum Hydrocarbons
Water	624 (GC/MS) for BTEX

These are the only methods that will meet IDEM's site assessment requirements. To report any soil or water contamination, call our office at AC 317/243-5022.

To comply with the new requirements of IC 13-7-20, tank closures must now be performed by contractors or individuals certified by the State Fire Marshal's Office. During the closure, at least one certified person must be on site at all times. It is required that a copy of this IDEM letter be kept at the tank closure site at all times. (If an in-place closure is being completed, the IDEM approval letter for an in-place closure must also be kept at the tank closure site at all times.) This will ensure that fire department officials recognize that you have fulfilled the IDEM closure notification requirements. If a noncertified contractor or individual performs any tank closure, their names will be forwarded to the State Fire Marshal's Office for potential enforcement action.

Once the closure is finished, complete the enclosed notification form with an original signature in ink and return it to our office. The certified contractor or individual who performs the closure must also sign the form and provide their certification number (pg. 4, item 15). Closure records must be kept for at least three (3) years. If they cannot be kept on site, they may be sent to our office to be filed with our records on the facility.

When completed, return the notification form to:

Indiana Department of Environmental Management
Underground Storage Tank Section
2321 Executive Drive
Indianapolis, Indiana 46241

This address should also be used for submitting any required site assessment results.

If you have any questions, please contact Mark Billington at AC 317/240-6216.

Sincerely,

John P. Gunter

John P. Gunter, Chief
Underground Storage Tank Section
Office of Environmental Response

MAB

Enclosure(s)

cc: Tricia Crull
Office of the State Fire Marshal
William Walters

UNDERGROUND STORAGE TANK CLOSURE ACTIVITIES

The permanent removal or in-place closure of tank systems may be conducted for a number of reasons, including compliance with regulations. The determination of whether to excavate and remove a tank permanently, to close it in place, or to repair it depends on a number of factors, such as the location of the tank, State and local regulations, availability of equipment, labor, and materials. The State and local Fire Marshal's office should be consulted to obtain information on specfic requirements. The Indiana Department of Environmental Management (IDEM) must be given at least 30 days written prior notice to an underground storage tanks (USTs) closure.

To comply with the new requirements of IC 13-7-20, tank closures must now be performed by contractors or individuals certified by the State Fire Marshal's Office. During the closure, at least one certified person must be on site at all times. If a non-certified contractor or individual performs the tank closure, their name will be forwarded to the State Fire Marshal's Office for further action.

TANK REMOVAL

An understanding of tank removal procedures is important, since site observations made during these removals can often provide the first direct evidence of leaks and the extent of soil contamination. The following steps may be followed during tank removal:

a) Drain the product from the piping into the tank;

b) Pump the product from the tank;

c) Remove the fill line, disconnect the product line and the fill gauge, and cap or plug all open ends of lines (except vent lines);

d) Eliminate explosive conditions in the tank; e.g., by placing dry ice inside (1.5 lbs. per 100 gallons of tank capacity) or by ventilating the tank with air by use of a small gas exhauster;

e) Clean residual sludge from the tank. A recommended method is to cut an 18" x 18" hole into the tank to facilitate removal of the sludge; this should be done before removing the tank from the ground (See API 1631, "Interior Lining of Underground Storage Tanks" as recommended in 40 CFR 280.71.);

f) Remove the tank and place it in a secure location (i.e., to prevent movement obstruction);

g) Check tank for explosive conditions;

h) Remove soil accretion on the outside of the tank as much as possible;

i) Check certain parts of the tank for evidence of leakage; i.e., the seams, the tank bottom (particulary the area beneath the fill pipe where stick tests frequently hit the tank), and the parts of the tank which are located near patches of stained soils;

j) Plug or cap all openings, execpt the vent, after vapor removal;

k) Check for explosive conditions and secure the tank on a truck for transporation to the disposal site.

Arrangements for a disposal site should be made prior to excavation. With the ongoing capacity shortages at landfills and recent regulations restricting land disposal, it may take time to finalize an agreement with a disposal site. In those cases, an open excavation or stockpiled soils could pose unnecessary risks during the negotiation period. Similarly, arrangements should be made for a supply of clean fill or security fencing for a site before beginning operations.

Managing soils during removal is another aspect of the project that should be planned. Some states prohibit any contaminated soils from being placed back in an excavation during a tank removal, even if more extensive soil removal will need to be conducted in the near future.

TANK CLOSURE IN PLACE

Tank closure in place is often a viable option when a tank removal would be extremely difficult (i.e. a tank is located directly underneath a building, and/or removal would severely disrupt a facility's operation). As with tank removals, in-place closures involve emptying the tank of all liquids and dangerous vapors and cleaning out the accumulated sludge. Additionally, a tank closed in place should be filled with a harmless, chemically inactive solid, such as sand, concrete or pea gravel.

SITE ASSESSMENT

In order to ensure that a tank being closed is not responsible for any contamination, a site assessment must be conducted prior to the completion of closure activities. Contact IDEM about specific site assessment requirements for tank closures. If any contaminated soil and/or ground water or any free product is discovered during this assessment, the owner/operator must report the release and conduct appropriate clean-up measures.

IDEM/UST SECTION: AC/317-243-5022

IN STATE FIRE MARSHAL: AC/317-232-2222

NOTIFICATION FOR UNDERGROUND STORAGE TANKS

FORM APPROVED
OMB NO. 2050-0068
APPROVAL EXPIRES 9-30-91

FOR TANKS IN

RETURN COMPLETED FORM TO **Indiana Department of Environmental Management**
Office of Environmental Response
UST Program
P.O. Box 7015
Indianapolis, Indiana 46207-7015 **(317) 243-5022**

STATE USE ONLY

I.D Number

Date Received

GENERAL INFORMATION

Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1974, that are in the ground as of May 8, 1986, or that are brought into use after May 8, 1986. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act, (RCRA), as amended.

The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonably available records, or, in the absence of such records, your knowledge, belief or recollection.

Who Must Notify? Section 9002 of RCRA, as amended, requires that, unless exempted, owners of underground tanks that store regulated substances must notify designated State or local agencies of the existence of their tanks. Owner means--

(a) in the case of an underground storage tank in use on November 8, 1984, or brought into use after that date, any person who owns an underground storage tanks used for the storage, use or dispensing of regulated substances, and

(b) in the case of any underground storage tank in use before November 8, 1984, but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use.

What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Some examples are underground tanks storing 1. gasoline, used oil, or diesel fuel, and 2. industrial solvents, pesticides, herbicides, or fumigants.

What Tanks Are Excluded? Tanks removed from the ground are not subject to notification. Other tanks excluded from notification are:

1. farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
2. tanks used for storing heating oil for consumptive use on the premises where stored;
3. septic tanks;
4. pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
5. surface impoundments, pits, ponds, or lagoons;
6. storm water or waste water collection systems;
7. flow-through process tanks;
8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;
9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances regulated as hazardous waste under Subtitle C of RCRA. It also includes petroleum, e.g., crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

Where To Notify? Completed notification forms should be sent to the address given at the top of this page.

When to Notify? 1. Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974, but still in the ground, must notify by May 8, 1986. 2. Owners who bring underground storage tanks into use after May 8, 1986 must notify within 30 days of bringing the tanks into use.

Penalties: Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $10,000 for each tank for which notification is not given or for which false information is submitted.

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section V. This form must be completed for each location containing underground storage tanks. If more than 5 tanks are owned at this location, photocopy the reverse side, and staple continuation sheets to this form.

Indicate number of continuation sheets attached ☐

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)

Street Address

County

City State ZIP Code

Area Code Phone Number

Type of Owner (mark all that apply)

☐ Current ☐ State or Local Gov't ☐ Private or Corporate

☐ Former ☐ Federal Gov't (GSA facility I.D. no. _____) ☐ Ownership uncertain

II. LOCATION OF TANK(S)

(If same as Section I, mark box here) ☐

Facility Name or Company Site Identifier, as applicable

Street Address or State Road, as applicable

County

City (nearest) State ZIP Code

Indicate number of tanks at this location

Mark box here if tank(s) are located on land within an Indian reservation or on other Indian trust lands ☐

III. CONTACT PERSON AT TANK LOCATION

Name (If same as Section I, mark box here) ☐ Job Title Area Code Phone Number

IV. TYPE OF NOTIFICATION

☐ Mark box here only if this is an amended or subsequent notification for this location

V. CERTIFICATION (READ AND SIGN AFTER COMPLETING SECTION VI)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative	Signature	Date Signed

Owner Name (from Section I) _____ Location (from Section II) _____ Page No. _____ of _____ Pag

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (COMPLETE FOR EACH TANK AT THIS LOCATION)

Tank Identification No (e.g., ABC-123) or Arbitrarily Assigned Sequential Number e g., 1,2,3...)		Tank No.	Tank No.	Tank No.	Tank No.	
1. **Status of Tank** (mark all that apply)	Currently in Use	☐	☐	☐	☐	☐
	Temporarily Out of Use	☐	☐	☐	☐	☐
	Permanently Out of Use	☐	☐	☐	☐	☐
	Brought into Use after 5/8/86	☐	☐	☐	☐	☐
2. **Year Installed (e.g., 1986)**						
3. **Estimated Total Capacity (Gallons)**						
4. **Material of Construction** (mark all that apply)	Steel	☐	☐	☐	☐	☐
	Concrete	☐	☐	☐	☐	☐
	Fiberglass Reinforced Plastic	☐	☐	☐	☐	☐
	Unknown	☐	☐	☐	☐	☐
	Other Please Specify	_____	_____	_____	_____	_____
5. **Internal Protection** (mark all that apply)	Cathodic Protection	☐	☐	☐	☐	☐
	Interior Lining (e.g , epoxy resins)	☐	☐	☐	☐	☐
	None	☐	☐	☐	☐	☐
	Unknown	☐	☐	☐	☐	☐
	Other Please Specify	_____	_____	_____	_____	_____
6. **External Protection** (mark all that apply)	Cathodic Protection	☐	☐	☐	☐	☐
	Painted (e.g., asphaltic)	☐	☐	☐	☐	☐
	Fiberglass Reinforced Plastic Coated	☐	☐	☐	☐	☐
	None	☐	☐	☐	☐	☐
	Unknown	☐	☐	☐	☐	☐
	Other Please Specify	_____	_____	_____	_____	_____
7. **Piping** (mark all that apply)	Bare Steel	☐	☐	☐	☐	☐
	Galvanized Steel	☐	☐	☐	☐	☐
	Fiberglass Reinforced Plastic	☐	☐	☐	☐	☐
	Cathodically Protected	☐	☐	☐	☐	☐
	Unknown	☐	☐	☐	☐	☐
	Other Please Specify	_____	_____	_____	_____	_____
8. **Substance Currently or Last Stored In Greatest Quantity by Volume** (mark all that apply)	a. Empty	☐	☐	☐	☐	☐
	b. Petroleum					
	Diesel	☐	☐	☐	☐	☐
	Kerosene	☐	☐	☐	☐	☐
	Gasoline	☐	☐	☐	☐	☐
	Used Oil	☐	☐	☐	☐	☐
	Other Please Specify	_____	_____	_____	_____	_____
	C. Hazardous Substance	☐	☐	☐	☐	☐
	Please Indicate Name of Principal CERCLA Substance	_____	_____	_____	_____	_____
	or					
	Chemical Abstract Service (CAS) No.	_____	_____	_____	_____	_____
	Mark box if tank stores a mixture of substances	☐	☐	☐	☐	☐
	D. Unknown	☐	☐	☐	☐	☐
9. **Additional Information (for tanks permanently taken out of service)**	a Closure Date (mo. /yr.)	/	/	/	/	/
	b Mark box if removed from the ground	☐	☐	☐	☐	☐
	c Mark box if tank filled with inert material (e g , sand, concrete gravel)	☐	☐	☐	☐	☐

VII CERTIFICATION OF COMPLIANCE (COMPLETE FOR ALL NEW OR EXISTING UPGRADED TANKS AT THIS LOCATION)

10 ☐ The information in items 11 through 14 applies to all tanks at ths facility

☐ The information in items 11 through 14 applies to tank number _____

(Refer to the tank numbers used on page 2 in completing this item Then use copies of page 3 to supply information for each remaining tank)

11 Release Detection (mark all that apply):

☐ Manual tank gauging.
☐ Tank tightness testing with inventory controls.
☐ Automatic tank gauging.
☐ Vapor monitoring.
☐ Ground-water monitoring.
☐ Interstitial monitoring within a secondary barrier
☐ Interstitial monitoring within secondary containment
☐ Automatic line leak detectors
☐ Line tightness testing.
☐ Another method allowed by the implementing agency Please specify:

_____

12 Cathodic Protection (if applicable):

☐ As specified for coated steel tanks with cathodic protection — Circle one: Impressed current / Sacrificial anodes
☐ As specified for coated steel piping with cathodic protection — Circle one: Impressed current / Sacrificial anodes
☐ Another method allowed by the implementing agency Please specify:

_____

13 Spill and Overfill Control:

☐ Catchment basins
☐ Automatic shut off devices.
☐ Overfill alarms
☐ Ball float valves
☐ Another method allowed by the implementing agency Please specify:

_____

14 Installation, Upgrade or Closure (mark all that apply):

☐ The installer has been certified by the tank and piping manufacturers.
☐ The installer or closure contractor has been certified or licensed by the State Fire Marshal's Office
☐ The installation has been inspected and certified by a registered professional engineer
☐ The installation or closure has been inspected and approved by the State Fire Marshal's Office
☐ All work listed on the manufacturer's installation checklists has been completed
☐ Another method was used as allowed by the implementing agency Please specify.

_____

(Section VII continued on Page 4)

Owner Name (from Section I) _____ Location (from Section II) _____ Page No. _____ of _____ Pages

III CERTIFICATION OF COMPLIANCE (CONTINUED FROM PAGE 3)

15. OATH: I certify that the information concerning installation, upgrade or closure provided in Item 14 is true to the best of my belief and knowledge

Installer: (Print) _____ _____
Name Date

_____
Position

_____
Company

(Signature) _____ Certification Number: _____
Name

16. ☐ I have financial responsibility in accordance with Subpart I Please specify:

Method. _____

Insurer. _____

Policy Number: _____

VIII DIAGRAM OF TANK FACILITY (INCLUDE ALL NEW OR EXISTING TANKS AND THEIR ASSOCIATED PIPING AND DISPENSERS)

EXHIBIT 4

SAMPLE SUMMARY

ANALYTICAL SUMMARY
UST REMOVAL - GM CENTRAL FOUNDRY

Sample No.	Sample Date	Sample Location	Total Petroleum Hydrocarbons (mg/kg)	Benzene (ug/kg)	Toluene (ug/kg)	Ethylbenzene (ug/kg)	Total Xylene (ug/kg)
1	7/17/91	East wall - 8'	<10	ND	<5	<5	<5
2	7/17/91	East wall - 12'	<10	ND	ND	ND	ND
3	7/17/91	South wall - 8'	<10	ND	ND	ND	ND
4	7/17/91	South wall - 12'	<10	ND	ND	ND	ND
5	7/17/91	West wall - 8'	<10	200	<5	15	16
6	7/17/91	West wall - 12'	<10	ND	ND	ND	ND
7	7/17/91	North wall - 8'	<10	ND	ND	ND	ND
8	7/17/91	North wall - 12'	<10	ND	ND	ND	ND
9	7/17/91	Southeast bottom	<10	ND	ND	ND	ND
10	7/17/91	Southwest bottom	<10	ND	ND	ND	ND
11	7/17/91	Northwest bottom	<10	ND	ND	ND	ND
15	7/18/91	Dispensing Station	<10	ND	ND	<5	7

NOTES:

(1) ND = Not Detected

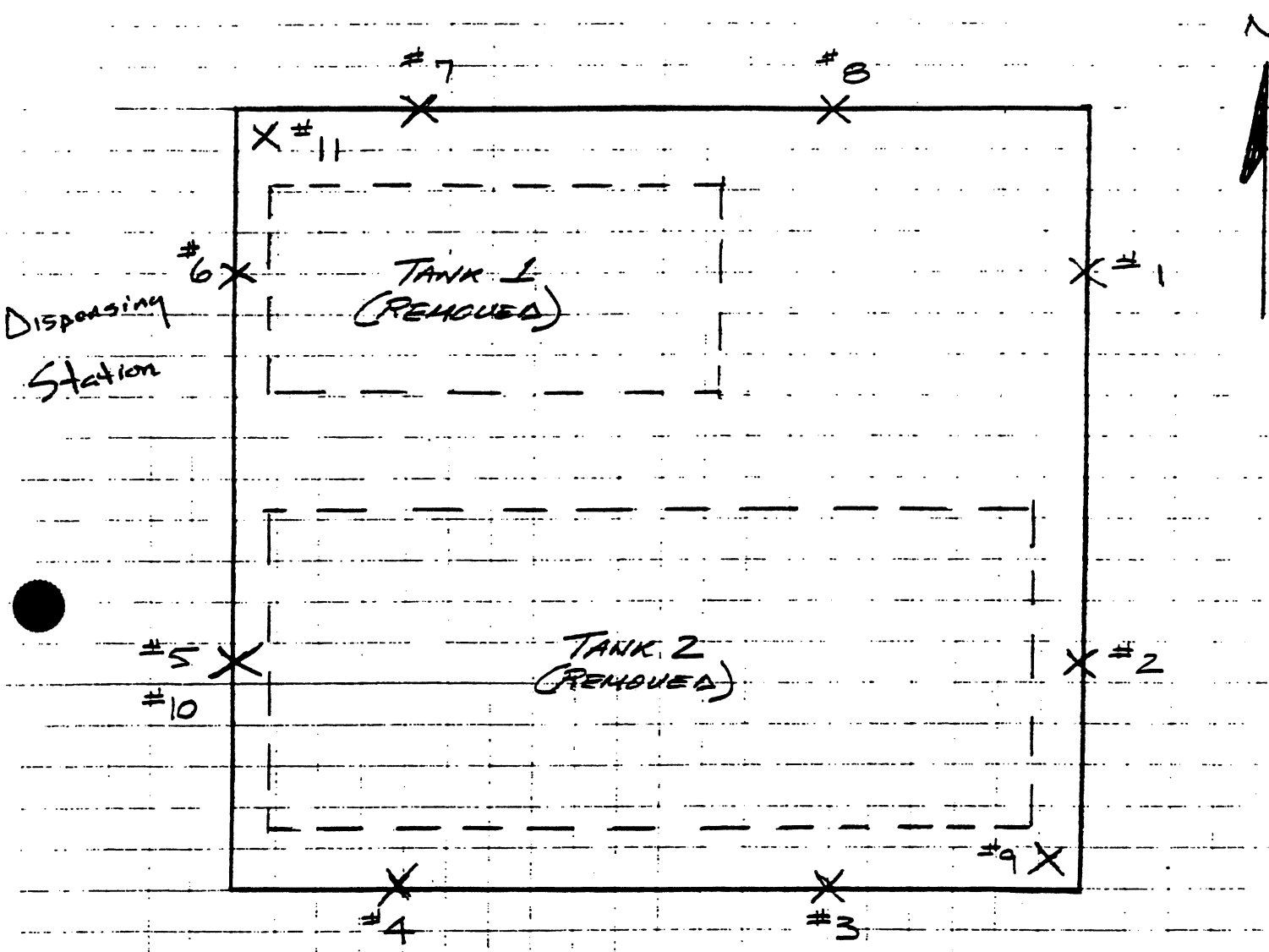
(2) See attached sketch for sample locations.

(3) TPH Analytical Method: EPA Method 8015 Modified

(4) BTEX Analytical Method: EPA Methods 5030/8020

O'BRIEN & GERE

SUBJECT	SHEET	BY	DATE	JOB NO.
Central Foundry - UST Removal Sample Locations	1/1	LWH		



SAMPLE NO.	DEPTH
1	8'
2	12'
3	8'
4	12'
5	8'
6	12'
7	8'
8	12'
9	15' (bottom)
10	15' (bottom)
11	15' (bottom)

Note: Approximate size of excavation = 40' x 40' x 15'

EXHIBIT 5

LABORATORY REPORTS

Environmental Service Group
Division Of Astbury Gabriel Corp.
5933 WEST 71ST STREET INDIANAPOLIS, INDIANA 46278
(317) 290-1471
FAX (317) 290-1670

CLIENT: NORTH AMERICAN CONSTRUCTION CO.
770 PINEVIEW DR.
ZIONSVILLE, IN 46077
ATTN: KIM DEREMIAH

DATE OF REPORT: JULY 31, 1991

DATE OF SAMPLE: JULY 17, 1991

DATE RECEIVED: JULY 17, 1991

MATRIX: SOIL

SAMPLE DESCRIPTION: O.B.G. TEC. SERVICES GM PLANT - BEDFORD, IN

LAB NUMBER: SEE BELOW

ANALYTICAL METHOD: SW846 8015 MOD.

LAB NUMBER	SAMPLE IDENTIFICATION	TOTAL PETROLEUM HYDROCARBONS GC/FID
917150	#1 EAST SIDE 8'	< 10 MG/KG
917151	#2 EAST SIDE 12'	< 10 MG/KG
917152	#3 SOUTH SIDE 8'	< 10 MG/KG
917153	#4 SOUTH SIDE 12'	< 10 MG/KG
917154	#5 WEST SIDE 8'	< 10 MG/KG
917155	#6 WEST SIDE 12'	< 10 MG/KG
917156	#7 NORTH SIDE 8'	< 10 MG/KG
917157	#8 NORTH SIDE 12'	< 10 MG/KG
917158	#9 S.E. CORNER BOTTOM	< 10 MG/KG
917159	#10 S.W. CORNER BOTTOM	< 10 MG/KG
917160	#11 N.W. CORNER BOTTOM	< 10 MG/KG

CERTIFIED BY Bruce Hanlon

Environmental Service Group
Division Of Astbury Gabriel Corp.
(317) 290-1471
5933 WEST 71ST STREET INDIANAPOLIS, INDIANA 46278
FAX (317) 290-1670

.IENT: NORTH AMERICAN CONSTRUCTION
770 PINEVIEW DR.
ZIONSVILLE, IN 46077

\TE OF REPORT: JULY 31, 1991

.TE OF SAMPLE: JULY 17, 1991

TE RECEIVED: JULY 17, 1991

\TE OF ANALYSIS: JULY 18, 1991

TRIX: SOIL

MPLE DESCRIPTION: O.B.G. TEC. SERVICES GM PLANT - BEDFORD, IN
#1 EAST SIDE 8'

B NUMBER: 917150

PURGEABLE ORGANICS - BTEX BY GC/PID (SW846 METHOD 5030/8020)

ANALYTE	CAS NUMBER	CONCENTRATION (UG/KG) SAMPLE	CONCENTRATION (UG/KG) BLANK	MINIMUM QUANTITATION LIMIT (UG/KG) SAMPLE	MINIMUM QUANTITATION LIMIT (UG/KG) BLA
NZENE	71-43-2	ND	ND	5	5
.UENE	108-88-3	BQL	ND	5	5
HYLBENZENE	100-41-4	BQL	ND	5	5
TAL XYLENE	1330-20-7	BQL	ND	5	5

= NOT DETECTED
L = DETECTED BELOW QUANTITATION LIMIT

CERTIFIED BY Bruce Parker

Environmental Service Group

Division Of Astbury Gabriel Corp.

5933 WEST 71ST STREET INDIANAPOLIS, INDIANA 46278

(317) 290-1471

FAX (317) 290-1670

IENT: NORTH AMERICAN CONSTRUCTION
770 PINEVIEW DR.
ZIONSVILLE, IN 46077

E OF REPORT: JULY 31, 1991

TE OF SAMPLE: JULY 17, 1991

E RECEIVED: JULY 17, 1991

E OF ANALYSIS: JULY 18, 1991

TRIX: SOIL

PLE DESCRIPTION: O.B.G. TEC. SERVICES GM PLANT - BEDFORD, IN
#2 EAST SIDE 12'

NUMBER: 917151

PURGEABLE ORGANICS - BTEX BY GC/PID (SW846 METHOD 5030/8020)

ANALYTE	CAS NUMBER	CONCENTRATION (UG/KG) SAMPLE	CONCENTRATION (UG/KG) BLANK	MINIMUM QUANTITATION LIMIT (UG/KG) SAMPLE	MINIMUM QUANTITATION LIMIT (UG/KG) BLANK
NZENE	71-43-2	ND	ND	5	5
LUENE	108-88-3	ND	ND	5	5
YLBENZENE	100-41-4	ND	ND	5	5
TAL XYLENE	1330-20-7	ND	ND	5	5

= NOT DETECTED

CERTIFIED BY Bruce Parker

Environmental Service Group,
Division Of Astbury Gabriel Corp.
(317) 290-1471
5933 WEST 71ST STREET INDIANAPOLIS, INDIANA 46278
FAX (317) 290-1670

.IENT: NORTH AMERICAN CONSTRUCTION
770 PINEVIEW DR.
ZIONSVILLE, IN 46077

\TE OF REPORT: JULY 31, 1991

'E OF SAMPLE: JULY 17, 1991

'TE RECEIVED: JULY 17, 1991

\TE OF ANALYSIS: JULY 18, 1991

'RIX: SOIL

\MPLE DESCRIPTION: O.B.G. TEC. SERVICES GM PLANT - BEDFORD, IN
#3 SOUTH SIDE 8'

\B NUMBER: 917152

PURGEABLE ORGANICS - BTEX BY GC/PID (SW846 METHOD 5030/8020)

ANALYTE	CAS NUMBER	CONCENTRATION (UG/KG) SAMPLE	BLANK	MINIMUM QUANTITATION LIMIT (UG/KG) SAMPLE	BLA
NZENE	71-43-2	ND	ND	5	5
UENE	108-88-3	ND	ND	5	5
HYLBENZENE	100-41-4	ND	ND	5	5
AL XYLENE	1330-20-7	ND	ND	5	5

= NOT DETECTED

CERTIFIED BY Bruce Pooler

Environmental Service Group,
Division Of Astbury Gabriel Corp.
5933 WEST 71ST STREET INDIANAPOLIS, INDIANA 46278
(317) 290-1471
FAX (317) 290-1670

NORTH AMERICAN CONSTRUCTION
770 PINEVIEW DR.
ZIONSVILLE, IN 46077

TE OF REPORT: JULY 31, 1991

E OF SAMPLE: JULY 17, 1991

TE RECEIVED: JULY 17, 1991

IE OF ANALYSIS: JULY 18, 1991

RIX: SOIL

MPLE DESCRIPTION: O.B.G. TEC. SERVICES GM PLANT - BEDFORD, IN
#4 SOUTH SIDE 12'

3 NUMBER: 917153

PURGEABLE ORGANICS - BTEX BY GC/PID (SW846 METHOD 5030/8020)

ANALYTE	CAS NUMBER	CONCENTRATION (UG/KG) SAMPLE	CONCENTRATION (UG/KG) BLANK	MINIMUM QUANTITATION LIMIT (UG/KG) SAMPLE	MINIMUM QUANTITATION LIMIT (UG/KG) BLANK
ZENE	71-43-2	ND	ND	5	5
UENE	108-88-3	ND	ND	5	5
YLBENZENE	100-41-4	ND	ND	5	5
AL XYLENE	1330-20-7	ND	ND	5	5

= NOT DETECTED

CERTIFIED BY

Environmental Service Group
Division Of Astbury Gabriel Corp.
5933 WEST 71ST STREET INDIANAPOLIS, INDIANA 46278
(317) 290-1471
FAX (317) 290-1670

IENT: NORTH AMERICAN CONSTRUCTION
770 PINEVIEW DR.
ZIONSVILLE, IN 46077

TE OF REPORT: JULY 31, 1991

ATE OF SAMPLE: JULY 17, 1991

TE RECEIVED: JULY 17, 1991

TE OF ANALYSIS: JULY 18, 1991

ATRIX: SOIL

MPLE DESCRIPTION: O.B.G. TEC. SERVICES GM PLANT - BEDFORD, IN
#5 WEST SIDE 8'

B NUMBER: 917154

PURGEABLE ORGANICS - BTEX BY GC/PID (SW846 METHOD 5030/8020)

ANALYTE	CAS NUMBER	CONCENTRATION (UG/KG) SAMPLE	BLANK	MINIMUM QUANTITATION LIMIT (UG/KG) SAMPLE	BLANK
ENZENE	71-43-2	200	ND	5	5
OLUENE	108-88-3	BQL	ND	5	5
THYLBENZENE	100-41-4	15	ND	5	5
OTAL XYLENE	1330-20-7	16	ND	5	5

ND = NOT DETECTED
BQL = DETECTED BELOW QUANTITATION LIMIT

CERTIFIED BY

Environmental Service Group
Division Of Astbury Gabriel Corp.
5933 WEST 71ST STREET INDIANAPOLIS, INDIANA 46278
(317) 290-147
FAX (317) 290-167

CLIENT: NORTH AMERICAN CONSTRUCTION
770 PINEVIEW DR.
ZIONSVILLE, IN 46077

DATE OF REPORT: JULY 31, 1991

DATE OF SAMPLE: JULY 17, 1991

DATE RECEIVED: JULY 17, 1991

DATE OF ANALYSIS: JULY 18, 1991

MATRIX: SOIL

SAMPLE DESCRIPTION: O.B.G. TEC. SERVICES GM PLANT - BEDFORD, IN
#6 WEST SIDE 12'

LAB NUMBER: 917155

PURGEABLE ORGANICS - BTEX BY GC/PID (SW846 METHOD 5030/8020)

ANALYTE	CAS NUMBER	CONCENTRATION (UG/KG) SAMPLE	BLANK	MINI QUANTIT LIMIT (SAMPLE
BENZENE	71-43-2	ND	ND	5
TOLUENE	108-88-3	ND	ND	5
ETHYLBENZENE	100-41-4	ND	ND	5
TOTAL XYLENE	1330-20-7	ND	ND	5

ND = NOT DETECTED

CERTIFIED BY Bruce Fowler

Environmental Service Group
Division Of Astbury Gabriel Corp.
(317) 290-1471
5933 WEST 71ST STREET INDIANAPOLIS, INDIANA 46278
FAX (317) 290-1670

ENT: NORTH AMERICAN CONSTRUCTION
770 PINEVIEW DR.
ZIONSVILLE, IN 46077

E OF REPORT: JULY 31, 1991

E OF SAMPLE: JULY 17, 1991

E RECEIVED: JULY 17, 1991

E OF ANALYSIS: JULY 18, 1991

RIX: SOIL

PLE DESCRIPTION: O.B.G. TEC. SERVICES GM PLANT - BEDFORD, IN
#7 NORTH SIDE 8'

NUMBER: 917156

PURGEABLE ORGANICS - BTEX BY GC/PID (SW846 METHOD 5030/8020)

ANALYTE	CAS NUMBER	CONCENTRATION (UG/KG) SAMPLE	CONCENTRATION (UG/KG) BLANK	MINIMUM QUANTITATION LIMIT (UG/KG) SAMPLE	MINIMUM QUANTITATION LIMIT (UG/KG) BLANK
ENE	71-43-2	ND	ND	5	5
ENE	108-88-3	ND	ND	5	5
LBENZENE	100-41-4	ND	ND	5	5
L XYLENE	1330-20-7	ND	ND	5	5

NOT DETECTED

CERTIFIED BY Bruce Peck

Environmental Service Group
Division Of Astbury Gabriel Corp.
5933 WEST 71ST STREET INDIANAPOLIS, INDIANA 46278
(317) 290-1471
FAX (317) 290-1670

LIENT: NORTH AMERICAN CONSTRUCTION
770 PINEVIEW DR.
ZIONSVILLE, IN 46077

ATE OF REPORT: JULY 31, 1991

ATE OF SAMPLE: JULY 17, 1991

TE RECEIVED: JULY 17, 1991

ATE OF ANALYSIS: JULY 18, 1991

TRIX: SOIL

AMPLE DESCRIPTION: O.B.G. TEC. SERVICES GM PLANT - BEDFORD, IN
#9 S.E. CORNER BOTTOM

AB NUMBER: 917158

PURGEABLE ORGANICS - BTEX BY GC/PID (SW846 METHOD 5030/8020)

ANALYTE	CAS NUMBER	CONCENTRATION (UG/KG) SAMPLE	CONCENTRATION (UG/KG) BLANK	MINIMUM QUANTITATION LIMIT (UG/KG) SAMPLE	MINIMUM QUANTITATION LIMIT (UG/KG) BLANK
ENZENE	71-43-2	ND	ND	5	5
OLUENE	108-88-3	ND	ND	5	5
THYLBENZENE	100-41-4	ND	ND	5	5
OTAL XYLENE	1330-20-7	ND	ND	5	5

) = NOT DETECTED

CERTIFIED BY

Environmental Service Group
Division Of Astbury Gabriel Corp.
5933 WEST 71ST STREET INDIANAPOLIS, INDIANA 46278
(317) 290-1471
FAX (317) 290-1670

LIENT: NORTH AMERICAN CONSTRUCTION
770 PINEVIEW DR.
ZIONSVILLE, IN 46077

ATE OF REPORT: JULY 31, 1991

ATE OF SAMPLE: JULY 17, 1991

TE RECEIVED: JULY 17, 1991

ATE OF ANALYSIS: JULY 18, 1991

TRIX: SOIL

AMPLE DESCRIPTION: O.B.G. TEC. SERVICES GM PLANT - BEDFORD, IN
#10 S.W. CORNER BOTTOM

AB NUMBER: 917159

PURGEABLE ORGANICS - BTEX BY GC/PID (SW846 METHOD 5030/8020)

ANALYTE	CAS NUMBER	CONCENTRATION (UG/KG) SAMPLE	CONCENTRATION (UG/KG) BLANK	MINIMUM QUANTITATION LIMIT (UG/KG) SAMPLE	MINIMUM QUANTITATION LIMIT (UG/KG) BL
ENZENE	71-43-2	ND	ND	5	5
LUENE	108-88-3	ND	ND	5	5
THYLBENZENE	100-41-4	ND	ND	5	5
TAL XYLENE	1330-20-7	ND	ND	5	5

. = NOT DETECTED

CERTIFIED BY Bina Patel

Environmental Service Group
Division Of Astbury Gabriel Corp.
5933 WEST 71ST STREET INDIANAPOLIS, INDIANA 46278
(317) 290-1471
FAX (317) 290-1670

IENT: NORTH AMERICAN CONSTRUCTION
770 PINEVIEW DR.
ZIONSVILLE, IN 46077

DATE OF REPORT: JULY 31, 1991

DATE OF SAMPLE: JULY 17, 1991

DATE RECEIVED: JULY 17, 1991

DATE OF ANALYSIS: JULY 18, 1991

MATRIX: SOIL

SAMPLE DESCRIPTION: O.B.G. TEC. SERVICES GM PLANT - BEDFORD, IN
#11 N.W. CORNER BOTTOM

LAB NUMBER: 917160

PURGEABLE ORGANICS - BTEX BY GC/PID (SW846 METHOD 5030/8020)

ANALYTE	CAS NUMBER	CONCENTRATION (UG/KG) SAMPLE	BLANK	MINIMUM QUANTITATION LIMIT (UG/KG) SAMPLE	BLAN
BENZENE	71-43-2	ND	ND	5	5
TOLUENE	108-88-3	ND	ND	5	5
ETHYLBENZENE	100-41-4	ND	ND	5	5
TOTAL XYLENE	1330-20-7	ND	ND	5	5

D = NOT DETECTED

CERTIFIED BY

NORTH AMERICAN CONSTRUCTION CO., INC.

770 Pineview Drive Zionsville, Indiana 46077 317-846-5757
317-87

P.O. # 2705

CHAIN OF CUSTODY RECORD

Client: O.B.G. Tec. Services

Project: GM Plant - Bedford, In

Sampler(s): Dave Taylor / North American Constr. Co.

Number	Sampling Location	Date	Time	Composite	Grab	No. of Bottles	gasoline gc/FID 8015 / BTEX 8020	Remarks
1	East Side 8' Deep	7/11/91	8 AM		✓	2	TPH / BTEX	(Leach)
2	East Side 12' Deep	"	"		✓	2		
3	South Side 8' Deep	"	"		✓	2		
4	South Side 12' Deep	"	"		-	2		
5	West Side 8' Deep	"	"		-	2		
6	West Side 12' Deep	"	"		-	2		
7	North Side 8' Deep	"	"		-	2		
8	North Side 12' Deep	"	"		-	2		
9	SE Corner Bottom	"	"		-	2		
10	S.W Corner Bottom	"	"		-	2		
11	N.W. Corner Bottom	"	"		-	2		

Relinquished By	Received By	Date	Time
David Taylor	[signature]	7/12/91	5:00

Shipping Notes

NORTH AMERICAN CONSTRUCTION CO., INC.

770 Pineview Drive Zionsville, Indiana 46077 317-846-575
317-875-755

P.O. # 2705

CHAIN OF CUSTODY RECORD

Client: O.B.G. Tec. Services

Project: GM Plant - Bedford, In

Sampler(s): Dave Taylor / North American Constr. Co.

Number	Sampling Location	Date	Time	Composite	Grab	No. of Bottles	gasoline gc/FID	Remarks
1	East Side 8' Deep	7/17/91	8 AM		✓	2	B015 TPH / B020 BTEX	(1 each)
2	East Side 12' Deep	"	"		✓	2		
3	South Side 8' Deep	"	"		✓	2		
4	South Side 12' Deep	"	"		✓	2		
5	West Side 8' Deep	"	"		✓	2		
6	West Side 12' Deep	"	"		✓	2		
7	North Side 8' Deep	"	"		✓	2		
8	North Side 12' Deep	"	"		✓	2		
9	S.E. Corner Bottom	"	"		✓	2		
10	S.W. Corner Bottom	"	"		✓	2		
11	N.W. Corner Bottom	"	"		✓	2		

Relinquished By	Received By	Date	Time
David Taylor	[signature]	7/17/91	5:00

Shipping Notes

Environmental Service Group
Division Of Astbury Gabriel Corp.
5933 WEST 71ST STREET INDIANAPOLIS, INDIANA 46278
(317) 290-1471
FAX (317) 290-1670

COPY

CLIENT: NORTH AMERICAN CONSTRUCTION CO.
770 PINEVIEW DR.
ZIONSVILLE, IN 46077

DATE OF REPORT: JULY 26, 1991

DATE OF SAMPLE: JULY 18, 1991

DATE RECEIVED: JULY 18, 1991

MATRIX: SOIL

SAMPLE DESCRIPTION: GM CENTRAL FOUNDRY #015

LAB NUMBER: 917218

ANALYTICAL METHOD: SEE BELOW

PARAMETER	ANALYTICAL METHOD	ANALYTICAL RESULT
TOTAL PETROLEUM HYDROCARBONS GC/FID	SW846 8015 MOD.	ND @ 10 MG/KG

ND = NOT DETECTED

CERTIFIED BY Bruce Hoole

Environmental Service Group
Division Of Astbury Gabriel Corp.
5933 WEST 71ST STREET INDIANAPOLIS, INDIANA 46278
(317) 290-1471
FAX (317) 290-1670

ENT: NORTH AMERICAN CONSTRUCTION
770 PINEVIEW DR.
ZIONSVILLE, IN 46077

E OF REPORT: JULY 26, 1991

E OF SAMPLE: JULY 18, 1991

E RECEIVED: JULY 18, 1991

E OF ANALYSIS: JULY 19, 1991

RIX: SOIL

PLE DESCRIPTION: GM CENTRAL FOUNDRY #015

NUMBER: 917218

PURGEABLE ORGANICS - BTEX BY GC/PID (SW846 METHOD 5030/8020)

ANALYTE	CAS NUMBER	CONCENTRATION (UG/KG) SAMPLE	CONCENTRATION (UG/KG) BLANK	MINIMUM QUANTITATION LIMIT (UG/KG) SAMPLE	MINIMUM QUANTITATION LIMIT (UG/KG) BLANK
ZENE	71-43-2	ND	ND	5	5
UENE	108-88-3	ND	ND	5	5
YLBENZENE	100-41-4	BQL	ND	5	5
AL XYLENE	1330-20-7	7	ND	5	5

= NOT DETECTED
= DETECTED BELOW QUANTITATION LIMIT

CERTIFIED BY Bruce Parker

APPENDIX G.38

IDEM LETTER DATED AUGUST 21, 1991

Central Foundry Division
General Motors Corporation
Bedford Plant
North Jackson Street
Bedford, Indiana 47421-0271

August 21, 1991

Mr. George Oliver
Solid Waste Management Branch
Department of Environmental Management
P.O. Box 6015
Indianapolis, IN 46225-6015

Dear Mr. Oliver:

Re: Disposal of Contaminated Soil from UST Closure

The GMC, Central Foundry Division, which operates an aluminum die casting facility located in Bedford, Indiana, is requesting approval to dispose of "contaminated soil" generated as the result of the closure of an underground storage tank at the plant.

This is a one time disposal of approximately 750 cubic yards of this material.

The Bedford Plant is requesting approval to dispose of this material at Rumpke Landfill in Medora, Indiana.

Attached for your information and review are the results of the TLCP test conducted on this waste stream.

If you have any questions regarding this matter or need additional information, please do not hesitate to contact me at (812) 279-7257.

Very truly yours,

William E. Litkenhous
Environmental Engineer

Attachments

cc: Wm. S. Schoonmaker
Thomas Rumpke

Lets Get It Together
SAFETY BELTS SAVE LIVES

CERTIFICATE OF ANALYSIS

Service Location	Received	Lab ID
EMS HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	18-JUL-91	A234358
	Complete 06-AUG-91	PO Number F568727
	Printed 07-AUG-91	Sampled 18-JUL-91 11:40

Report To

GM CENTRAL FOUNDRY DIVISION
BILL LITKENHOUS
P.O. BOX 271
BEDFORD PLANT - NORTH JACKSON STREET
BEDFORD, IN 47421

Bill To

CENTRAL FOUNDRY DIVISION-GMC
DISBURSEMENT ANALYSIS
P.O. BOX 5079
SAGINAW, MI 48605-5079

Sample Description

SAMPLE ID:: 001
DESCRIPTION: WASTE SOIL STOCKPILE
VENDOR: 303047

TOTAL SOLIDS EPA 160.3

Analyst: R. RIFE Analysis Date: 25-JUL-91 Test: G401.7. 0

Parameter	Result	Det. Limit	Units
SOLIDS	91	1	Percent

TOX CHAR LEACHING PROCEDURE (TCLP W/ ORGANICS) SW846-1311

Analyst: A. HILSCHER Analysis Date: 19-JUL-91 Test: P107.1. 0

Parameter	Result	Det. Limit	Uni
TOTAL SAMPLE WEIGHT	100		Grams
LIQUID FRACTION (GRAMS)			Grams
EXTRACTED SAMPLE	100		Grams
SOLIDS	100		Percent
9.5 MM SIEVE TEST			Passed
INITIAL PH	8.42		Std. Unit
ADJUSTED PH	2.18		Std. Unit
BUFFER SOLUTION PH	4.94		Std. Unit
FINAL PH	6.57		Std. Unit
VOLUME BUFFERED SOLUTION	2000		mL
VOLUME EXTRACT FILTERED	2000		mL
LIQUID FRACTION			mL
TOTAL VOLUME FILTRATE	2000		mL
INITIAL TIME	10089.5		HRS
FINAL TIME	10106.8		HRS
PHASE 0 VOLUME (REP 0)	2000		mL
PHASE 0 WEIGHT	2000		Grams
PHASE 0 DENSITY	1.0		g/mL

AMBIENT TEMP: 23 DEGREES

FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010

Analyst: B. HAHN Analysis Date: 24-JUL-91 Test: P130.8. 0

Prep: TOX CHAR LEACHING PROCEDURE (TCLP W/ ORGANICS) SW846-1311

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	100		mL
FINAL WEIGHT OR VOLUME	100		mL

TCLP BARIUM FAA (1 POINT MSA) SW846-7080

Analyst: A. STOCKBURGER Analysis Date: 25-JUL-91 Instrument: FAA Test: M704.5. 0

Prep: FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010
Prep: TOX CHAR LEACHING PROCEDURE (TCLP W/ ORGANICS) SW846-1311

Parameter	Corrected Result	Detection Limit	Units	Observed Result	Matrix Spike True Value	Sample + Spike	Matrix Spik % Recovery
BARIUM	3.7	0.2	mg/L	2.6	1.00	3.28	70
ADDITION 1			mg/L	2.50			
SAMPLE			Conc	2.58			
SAMPLE + ADD 1			Conc	4.93			
DILUTION				1			

TCLP CADMIUM FAA (1 POINT MSA) SW846-7130

Analyst: A. STOCKBURGER Analysis Date: 25-JUL-91 Instrument: FAA Test: M708.5. 0

Prep: FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010
Prep: TOX CHAR LEACHING PROCEDURE (TCLP W/ ORGANICS) SW846-1311

Parameter	Corrected Result	Detection Limit	Units	Observed Result	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
CADMIUM	BDL	0.02	mg/L	BDL	0.20	0.18	90
ADDITION 1			mg/L	0.50			
SAMPLE			Conc	0.00			
SAMPLE + ADD 1			Conc	0.50			
DILUTION				1			

TCLP CHROMIUM FAA (1 POINT MSA) SW846-7190

Analyst: A. STOCKBURGER Analysis Date: 25-JUL-91 Instrument: FAA Test: M710.5. 0

Prep: FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010
Prep: TOX CHAR LEACHING PROCEDURE (TCLP W/ ORGANICS) SW846-1311

Parameter	Corrected Result	Detection Limit	Units	Observed Result	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
CHROMIUM	BDL	0.05	mg/L	BDL	0.40	0.43	108
ADDITION 1			mg/L	1.00			
SAMPLE			Conc	-0.01			
SAMPLE + ADD 1			Conc	1.15			
DILUTION				1			

TCLP LEAD FAA (1 POINT MSA) SW846-7420

Analyst: A. STOCKBURGER Analysis Date: 25-JUL-91 Instrument: FAA Test: M716.5. 0

Prep: FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010
Prep: TOX CHAR LEACHING PROCEDURE (TCLP W/ ORGANICS) SW846-1311

Parameter	Corrected Result	Detection Limit	Units	Observed Result	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
LEAD	BDL	0.20	mg/L	BDL	2.00	1.69	85
ADDITION 1			mg/L	5.00			
SAMPLE			Conc	-0.03			
SAMPLE + ADD 1			Conc	4.65			
DILUTION				1			

TCLP SILVER FAA (1 POINT MSA) SW846-7760

Analyst: A. STOCKBURGER Analysis Date: 25-JUL-91 Instrument: FAA Test: M730.5. 0

Prep: FAA OR ICP ACID DIGESTION OF LEACHATE SAMPLES SW846-3010
Prep: TOX CHAR LEACHING PROCEDURE (TCLP W/ ORGANICS) SW846-1311

Parameter	Corrected Result	Detection Limit	Units	Observed Result	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
SILVER	BDL	0.04	mg/L	BDL	0.20	0.19	95
ADDITION 1			mg/L	0.50			
SAMPLE			Conc	0.00			

Parameter	Corrected Result	Detection Limit	Units	Observed Result	Matrix Spike True Value	Sample + Spike	Matrix Spik % Recovery
SAMPLE + ADD 1			Conc	0.51			
DILUTION				1			

GFAA ACID DIGESTION OF LEACHATE SAMPLES SW846-3020

Analyst: B. HAHN Analysis Date: 24-JUL-91 Test: P130.9. 0

Prep: TOX CHAR LEACHING PROCEDURE (TCLP W/ ORGANICS) SW846-1311

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	50		mL
FINAL WEIGHT OR VOLUME	50		mL

TCLP ARSENIC GFAA (1 POINT MSA) SW846-7060

Analyst: W. WATNESS Analysis Date: 25-JUL-91 Instrument: GFAA Test: M703.6. 0

Prep: GFAA ACID DIGESTION OF LEACHATE SAMPLES SW846-3020

Prep: TOX CHAR LEACHING PROCEDURE (TCLP W/ ORGANICS) SW846-1311

Parameter	Corrected Result	Detection Limit	Units	Observed Result	Matrix Spike True Value	Sample + Spike	Matrix Spik % Recovery
ARSENIC	BDL	0.005	mg/L	BDL	0.0250	0.0241	96
ADDITION 1			mg/L	0.010			
SAMPLE			Conc	0.0011			
SAMPLE + ADD 1			Conc	0.011			
DILUTION				1			

TCLP SELENIUM GFAA (1 POINT MSA) SW846-7740

Analyst: K. KEHOE Analysis Date: 26-JUL-91 Instrument: GFAA Test: M728.6. 0

Prep: GFAA ACID DIGESTION OF LEACHATE SAMPLES SW846-3020

Prep: TOX CHAR LEACHING PROCEDURE (TCLP W/ ORGANICS) SW846-1311

Parameter	Corrected Result	Detection Limit	Units	Observed Result	Matrix Spike True Value	Sample + Spike	Matrix % Recov
SELENIUM	BDL	0.005	mg/L	BDL	0.0250	0.016	64
ADDITION 1			mg/L	0.0100			
SAMPLE			Conc	0.0002			
SAMPLE + ADD 1			Conc	0.0062			
DILUTION				1			

MERCURY CVAA ACID DIGESTION OF LEACHATE SAMPLES SW846-7470

Analyst: K. HACK Analysis Date: 23-JUL-91 Test: P131.9. 0

Prep: TOX CHAR LEACHING PROCEDURE (TCLP W/ ORGANICS) SW846-1311

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10		mL
FINAL VOLUME	100		mL

TCLP MERCURY CVAA (1 POINT MSA) SW846-7470

Analyst: J. WARE Analysis Date: 24-JUL-91 Instrument: CVAA Test: M720.6. 0

Prep: MERCURY CVAA ACID DIGESTION OF LEACHATE SAMPLES SW846-7470

Prep: TOX CHAR LEACHING PROCEDURE (TCLP W/ ORGANICS) SW846-1311

Parameter	Corrected Result	Detection Limit	Units	Observed Result	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
MERCURY	BDL	0.005	mg/L	BDL	0.020	0.017	86
ADDITION 1			mg/L	0.0010			
SAMPLE			Conc	0.0000			
SAMPLE + ADD 1			Conc	0.00092			
DILUTION				1			

TCLP GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Analyst: G. HUGHS Analysis Date: 24-JUL-91 Test: P733.4. 0

Prep: TOX CHAR LEACHING PROCEDURE (TCLP W/ ORGANICS) SW846-1311

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	200		mL
FINAL VOLUME	1		mL

TCLP SEMIVOLATILE ORGANICS (TOXICITY CHARACTERISTIC) SW846-8270

Analyst: J. ELLIS Analysis Date: 01-AUG-91 Instrument: GC/MS SVOA Test: 0514.7. 0

Prep: TCLP GC/MS SEPARATORY FUNNEL LIQUID-LIQUID EXTRACTION SW846-3510

Prep: TOX CHAR LEACHING PROCEDURE (TCLP W/ ORGANICS) SW846-1311

Parameter	Corrected Result	Detection Limit	Units	Observed Result	Matrix Spike True Value	Sample + Spike	Matrix Spik % Recovery
1,4-DICHLOROBENZENE	BDL	50	ug/L	BDL	500	355	71
2,4-DINITROTOLUENE	BDL	50	ug/L	BDL	500	510	102
HEXACHLOROBENZENE	BDL	50	ug/L	BDL	500	415	83
HEXACHLOROBUTADIENE	BDL	50	ug/L	BDL	500	320	64
HEXACHLOROETHANE	BDL	50	ug/L	BDL	500	340	68
NITROBENZENE	BDL	50	ug/L	BDL	500	510	102
PYRIDINE	BDL	250	ug/L	BDL	500	355	71
2-METHYL PHENOL	BDL	50	ug/L	BDL	500	455	91
3-METHYL PHENOL		50	ug/L	BDL			
4-METHYLPHENOL	BDL	50	ug/L	BDL	500	370	74
PENTACHLOROPHENOL	BDL	250	ug/L	BDL	500	330	65
2,4,5-TRICHLOROPHENOL	BDL	50	ug/L	BDL	500	405	81
2,4,6-TRICHLOROPHENOL	BDL	50	ug/L	BDL	500	375	75
SURROGATE RECOVERY							
-FLUOROPHENOL			% Rec	61			
PHENOL-D5			% Rec	34			
NITROBENZENE-D5			% Rec	102			
2-FLUOROBIPHENYL			% Rec	86			
2,4,6-TRIBROMOPHENOL			% Rec	108			
TERPHENYL-D14			% Rec	108			

ZERO HEADSPACE EXTRACTION (TCLP) SW846-1311

Analyst: G. WILSON Analysis Date: 22-JUL-91 Test: P108.1. 0

Parameter	Result	Det. Limit	Units
TOTAL SAMPLE WEIGHT	25.0		Grams
LIQUID PORTION	0.00		mL
LIQUID FRACTION (GRAMS)	0.00		Grams
EXTRACTED SAMPLE	25.0		Grams
PHASE ONE VOLUME (REP 0)	380.0		mL
PHASE TWO VOLUME (REP 1)	0.00		mL

TCLP VOLATILE ORGANICS (TOXICITY CHARACTERISTIC) SW846-8240

Analyst: T. WIEGAND Analysis Date: 30-JUL-91 Instrument: GC/MS VOA Test: 0513.7. 0

Prep: ZERO HEADSPACE EXTRACTION (TCLP) SW846-1311

Parameter	Corrected Result	Detection Limit	Units	Observed Result	Matrix Spike True Value	Sample + Spike	Matrix Spike % Recovery
BENZENE	BDL	50	ug/L	BDL	500	490	98
CARBON TETRACHLORIDE	BDL	50	ug/L	BDL	500	430	86
CHLOROBENZENE	BDL	50	ug/L	BDL	500	460	92
CHLOROFORM	BDL	50	ug/L	BDL	500	440	88
1,2-DICHLOROETHANE	BDL	50	ug/L	BDL	500	460	92
1,1-DICHLOROETHYLENE	BDL	50	ug/L	BDL	500	480	96
METHYL ETHYL KETONE	BDL	100	ug/L	BDL	500	1500	300

Parameter	Corrected Result	Detection Limit	Units	Observed Result	Matrix Spike True Value	Sample + Spike	Matrix Spil % Recovery
TETRACHLOROETHYLENE	BDL	50	ug/L	BDL	500	430	86
TRICHLOROETHYLENE	BDL	50	ug/L	BDL	500	440	88
VINYL CHLORIDE	BDL	100	ug/L	BDL	500	910	182
.							
SURROGATE RECOVERY							

DICHLOROETHANE-D4			% Rec	98			
TOLUENE-D8			% Rec	102			
BROMOFLUOROBENZENE			% Rec	101			
DILUTION FACTOR 1:10							

VOLATILE ORGANICS SW846-8240

Analyst: R. SHAMP Analysis Date: 30-JUL-91 Instrument: GC/MS VOA Test: 0510.3. 0

Parameter	Result	Det. Limit	Units
ACETONE	BDL	1.2	mg/kg
ACROLEIN	BDL	3.1	mg/kg
ACRYLONITRILE	BDL	4.4	mg/kg
BENZENE	BDL	0.31	mg/kg
BROMODICHLOROMETHANE	BDL	0.31	mg/kg
BROMOFORM	BDL	0.31	mg/kg
BROMOMETHANE	BDL	0.63	mg/kg
CARBON DISULFIDE	BDL	0.31	mg/kg
CARBON TETRACHLORIDE	BDL	0.31	mg/kg
CHLOROBENZENE	BDL	0.31	mg/kg
CHLOROETHANE	BDL	0.63	mg/kg
CHLOROFORM	BDL	0.31	mg/kg
CHLOROMETHANE	BDL	0.63	mg/kg
DIBROMOCHLOROMETHANE	BDL	0.31	mg/kg
CIS-1,3-DICHLOROPROPENE	BDL	0.31	mg/kg
DICHLORODIFLUOROMETHANE	BDL	0.31	mg/kg
1,1-DICHLOROETHANE	BDL	0.31	mg/kg
1,2-DICHLOROETHANE	BDL	0.31	mg/kg
1,1-DICHLOROETHENE	BDL	0.31	mg/kg
1,2-DICHLOROPROPANE	BDL	0.31	mg/kg
ETHYLBENZENE	1.8	0.31	mg/kg
FLUOROTRICHLOROMETHANE	BDL	0.31	mg/kg
2-HEXANONE	BDL	0.63	mg/kg
METHYLENE CHLORIDE	BDL	0.31	mg/kg
METHYL ETHYL KETONE	BDL	0.63	mg/kg
4-METHYL-2-PENTANONE	BDL	0.63	mg/kg
STYRENE	BDL	0.31	mg/kg
1,1,2,2-TETRACHLOROETHANE	BDL	0.31	mg/kg
TETRACHLOROETHENE	BDL	0.31	mg/kg
TETRAHYDROFURAN	BDL	1.5	mg/kg
TOLUENE	1.0	0.31	mg/kg
1,2-DICHLOROETHENE (TOTAL)	BDL	0.31	mg/kg
TRANS-1,3-DICHLOROPROPENE	BDL	0.31	mg/kg
1,1,1-TRICHLOROETHANE	BDL	0.31	mg/kg
1,1,2-TRICHLOROETHANE	BDL	0.31	mg/kg
TRICHLOROETHENE	BDL	0.31	mg/kg
VINYL ACETATE	BDL	0.63	mg/kg
VINYL CHLORIDE	BDL	0.63	mg/kg
XYLENE (TOTAL)	12	0.31	mg/kg
.			
SURROGATE RECOVERY			

EMS HERITAGE LABORATORIES, INC.

Lab Sample ID: A2343

Parameter	Result	Det. Limit	Units
DICHLOROETHANE-D4	93		% Rec
TOLUENE-D8	104		% Rec
BROMOFLUOROBENZENE	119		% Rec
DILUTION FACTOR 1:63			
ALSO DETECTED			
(1-METHYLETHYL)BENZENE	RT=35.24		
PROPYL BENZENE	RT=31.97		
2,5,6-TRIMETHYLOCTANE	RT=23.7		
UNKNOWN	RT=22.61		
UNKNOWN	RT=26.31		
UNKNOWN	RT=39.16		
UNKNOWN	RT=14.88		
UNKNOWN	RT=23.04		
UNKNOWN	RT=33.06		
2,3-DIMETHYLPENTANE	RT=21.3		

Sample Comments

cc: OBG TECHNICAL SERVICES

BDL Below Detection Limit
RT Retention Time

Quality Assurance Officer: W Peterson

APPENDIX G.39

IDEM LETTER DATED OCTOBER 23, 1991

Central Foundry Division
General Motors Corporation
Bedford Plant
North Jackson Street
Bedford, Indiana 47421-0271

October 23, 1991

Mr. Robert Snodgrass
Solid Waste Management Branch
Department of Environmental Management
P.O. Box 6015
Indianapolis, IN 46225-6015

Dear Mr. Snodgrass:

Re: PCB Analysis of Contaminated Soil from UST Closure

Per our recent telephone conversation, I am enclosing a copy of the PCB analysis done on the soil removed during the UST Closure. As the test data indicates, no PCBs were detected.

If you have any questions regarding this matter or need additional information, please do not hesitate to contact me at (812) 279-7257.

Very truly yours,

William E. Litkenhous
Environmental Engineer

Attachments

cc: Wm. S. Schoonmaker
Jerry Jackson, Rumpke Disposal

Lets Get It Together
SAFETY BELTS SAVE LIVES

CERTIFICATE OF ANALYSIS

Service Location

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

Received	Lab ID
11-OCT-91	A239959
Complete	PO Number
18-OCT-91	F568727
Printed	Sampled
21-OCT-91	09-OCT-91 14:30

Report To

CENTRAL FOUNDRY DIVISION
TIM GALLOWAY
P.O. BOX 271
BEDFORD PLANT
BEDFORD, IN 47421

Bill To

CENTRAL FOUNDRY DIVISION-GMC
DISBURSEMENT ANALYSIS
P.O. BOX 5079
SAGINAW, MI 48605-5079

Sample Description

DESCRIPTION: UNDERGROUND TANK FILL
VENDOR: 303047

PCB SONICATION EXTRACTION SW846-3550

Analyst: D. FULP Analysis Date: 14-OCT-91 Test: P231.1. 0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10.01		Grams
FINAL VOLUME	100		mL

POLYCHLORINATED BIPHENYLS (PCBS) SW846-8080

Analyst: D. FULP Analysis Date: 17-OCT-91 Instrument: GC/ECD Test: 0301.2. 0
Prep: PCB SONICATION EXTRACTION SW846-3550

Parameter	Result	Det. Limit	Units
PCB AROCHLOR 1016	BDL	1.0	mg/kg
PCB AROCHLOR 1221	BDL	5.0	mg/kg
PCB AROCHLOR 1232	BDL	1.0	mg/kg
PCB AROCHLOR 1242	BDL	1.0	mg/kg
PCB AROCHLOR 1248	BDL	1.0	mg/kg
PCB AROCHLOR 1254	BDL	1.0	mg/kg
PCB AROCHLOR 1260	BDL	1.0	mg/kg
PCB AROCHLOR 1262	BDL	1.0	mg/kg

Sample Comments

BDL Below Detection Limit

Quality Assurance Officer: _____

MAY 25, 2001

APPENDIX G.40

SOUTH PISTON YARD UST CLOSURE REPORT

GM POWERTRAIN

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P797554962

August 4, 1994

Ms. Lynette Honeycutt
Indiana Department of Environmental Management
Underground Storage Tank Section
N1253, 100 North Senate Avenue
P.O. Box 7015
Indianapolis, IN 46206-7015

Subject: Incident Number 94-05525 - Submission of UST Closure Report

Dear Ms. Honeycutt:

Please find enclosed one (1) copy of the Underground Storage Tank Closure Report documenting the activities conducted at our facility along with a copy of a Notification For Underground Storage Tanks form. As presented in the Report, we feel the activities to date successfully complete the closure of these underground storage tanks and would not anticipate further action to be required.

We are confident that you will find that this Report satisfies the reporting requirements per the underground storage tank closure regulations. However, if you have any question or require additional information, feel free to contact me at the address below or at (812) 279-7308

Very truly yours

Wm Schoonmaker

Wm. S. Schoonmaker, P.E.
Chemical and Environmental
System Manager

Enclosures

bcc: Laura Tucker, GM Legal
Reg Sobczynski, GM NAO EEO
John Boneberg - OBG Cincinnati

NOTIFICATION FOR UNDERGROUND STORAGE TANKS

FOR TANKS IN **IN**

RETURN COMPLETED FORM TO

Indiana Department of Environmental Management
Office of Environmental Response
UST Program
P.O. Box 7015
Indianapolis, Indiana 46207-7015
(317) 240-6215

DE	
AM	
CL	
SA	

Facility I.D. Number (This number is found on tank fee invoice)	018959	Federal I.D. Number or Social Security Number	
Owner I.D. Number (This number is found on tank fee invoice)	C104C	EPA I.D. Number STATE USE ONLY	IND 006036099

GENERAL INFORMATION

Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1974, that are in the ground as of May 8, 1986, or that are brought into use after May 8, 1986. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act, (RCRA), as amended.

The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonably available records, or, in the absence of such records, your knowledge, belief or recollection.

What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Some examples are underground tanks storing: 1. gasoline, used oil, or diesel fuel, and 2. industrial solvents, pesticides, herbicides or fumigants.

What Tanks Are Excluded? Tanks excluded from notification are:

1. farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
2. tanks use for storing heating oil for consumptive use on the premises where stored;
3. septic tanks;.
4. pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
5. surface impoundments, pits, ponds, or lagoons;
6. storm water or waste water collection systems/
7. flow-through process tanks;
8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;
9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances regulated as hazardous waste under Subtitle C of RCRA. It also includes petroleum, e.g., crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees fahrenheit and 14.7 pounds per square inch absolute).

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section V. This form must be completed for each location containing underground storage tanks. If more than 5 tanks are owned at this location, photocopy pages 2 and 3 and staple continuation sheets to this form.

Indicate number of continuation sheets attached: ____

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)
GM POWERTRAIN DIVISION - BEDFORD PLANT

Street Address
P.O. BOX 271 105 GM DRIVE

County
LAWRENCE CO.

City: BEDFORD
State: IN
ZIP Code: 47421

Area Code / Phone Number:

Date of Ownership of Tanks(s)
effective date of current ownership, mo/day/yr) / /

II. LOCATION OF TANK(S)

(If same as Section I, mark box here) ☐

Facility Name or Company Site Identifier, as applicable

Street Address or State Road, as applicable

County

City (nearest) State ZIP Code

Type of Operation (mark all that apply):

- ☐ Motor vehicle fuel dispensing station (automotive or marine)
- ☐ Commerical (dry cleaning store, auto equipment/service store, etc.)
- ☒ Industrial
- ☐ Residential
- ☐ Agricultural

Description of Owner:

- ☐ State or Local Gov't
- ☐ Federal Gov't
- ☐ (GSA facility I.D. no. _____)
- ☐ Other_____

Mark box here if tank(s) are located on land within an Indian reservation or on other Indian trust lands ☐

III. CONTACT PERSON AT TANK LOCATION

Name (If same as Section I, mark box here) ☐
M. SCHOONMAKER

Job Title
CHEM. E. ENV. SYSTEM MGR.

Area Code / Phone Number
812 279-7308

IV. TYPE OF NOTIFICATION

☐ Mark box here only if this is an amended or subsequent notification for this location.

V. CERTIFICATION (READ AND SIGN AFTER COMPLETING SECTION VI)

I certify under penalty of law that I have personally examined and am familiar with he information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative	Signature (signed in ink)	Date Signed
PAUL FORD, PRODUCTION MANAGER	Paul E Ford	8/4/94

(Continue on Reverse Side)

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (COMPLETE FOR EACH TANK AT THIS LOCATION)

Tank Identification No. (e.g., ABC-123) or Arbitrarily Assigned Sequential Number e.g., 1,2,3...)		Tank No. #1	Tank No. #2	Tank No. #3	Tank No. #4	Tank No. #5
1. Status of Tank (mark all that apply)	Currently in Use					
	Temporarily Out of Use					
	Permanently Out of Use	X	X	X	X	X
	Brought into Use after 5/8/86					
2. Date of Installation (mo/day/yr)		UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNO
3. Estimated Total Capacity (Gallons)		12,000	12,000	12,000	7,500	12,00
4. Material of Construction (mark all that apply)	Steel	X	X	X	X	X
	Concrete					
	Fiberglass Reinforced Plastic					
	Unknown					
	Other Please Specify					
5. Internal Protection (mark all that apply)	Cathodic Protection					
	Interior Lining (e.g., epoxy resins)					
	None	X	X	X	X	X
	Unknown					
	Other Please Specify					
6. External Protection (mark all that apply)	Cathodic Protection					
	Painted (e.g., asphaltic)					
	Fiberglass Reinforced Plastic Coated					
	None	X	X	X	X	X
	Unknown					
	Other Please Specify					
7. Piping (mark all that apply)	Bare Steel					
	Galvanized Steel					
	Fiberglass Reinforced Plastic					
	Cathodically Protected					
	Unknown	X	X	X	X	X
	Other Please Specify					
8. Substance Currently or Last Stored in Greatest Quantity by Volume (mark all that apply)	a. Empty					
	b. Petroleum					
	Diesel					
	Kerosene					
	Gasoline				X	
	Used Oil					
	Other Please Specify					ETHYL SILICATE
	C. Hazardous Substance					
	Please Indicate Name of Principal CERCLA Substance or Chemical Abstract Service (CAS) No.					
	Mark box if tank stores a mixture of substances					
	D. Unknown	X	X	X		
9. Additional Information (for tanks permanently taken out of service)	a. Closure Date (mo/day/yr)	5/13/94	5/13/94	5/13/94	5/13/94	5/13/94
	b. Mark box if removed from the ground	X	X	X	X	X
	c. Mark box if tank filled with inert material (e.g. sand, concrete gravel)					
	d. Date mo/day/yr last used (for tanks temporarily out of use)	/ /	/ /	/ /	/ /	/ /

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (COMPLETE FOR EACH TANK AT THIS LOCATION)

Tank Identification No. (e.g., ABC-123) or Arbitrarily Assigned Sequential Number e.g., 1,2,3...)	Tank No. #1	Tank No. #2	Tank No. #3	Tank No. #4	Tank No. #5
10. Piping Method mark which applies: Pressurized or Suction (European/American)					
NO DISPENSER EXISTED AT THE TIME OF REMOVAL					
Pressurized	☐	☐	☐	☐	☐
Suction					
European	☐	☐	☐	☐	☐
American	☐	☐	☐	☐	☐

Pressurized
This method uses a pump at the bottom of the tank to push product to the dispenser.

Suction
This method uses a pump in the dispenser to draw product from the tank to the dispenser. Suction piping is installed in one of the two following manners:
EUROPEAN - the check valve is located next to the dispenser pump.
or
AMERICAN - the check valve is located next to the tank.

VII. CERTIFICATION OF COMPLIANCE (COMPLETE FOR ALL NEW OR EXISTING UPGRADED TANKS AT THIS LOCATION)

SECTION NOT APPLICABLE ALL TANKS REMOVED

11. ☐ The information in items 12 through 15 applies to all tanks at thisfacility.

☐ The information in items 12 through 15 applies to tank number _____.

[Refer to the tank numbers used on page 2 in completing this item. Use copies of page 3, as needed, to supply information for other tank(s)]

12. Release Detection (mark all that apply):

- ☐ Manual tank gauging.
- ☐ Tank tightness testing with inventory controls.
- ☐ Automatic tank gauging.
- ☐ Vapor monitoring.
- ☐ Ground-water monitoring.
- ☐ Interstitial monitoring within a secondary barrier.
- ☐ Interstitial monitoring within secondary containment.
- ☐ Automatic line leak detectors.
- ☐ Line tightness testing.
- ☐ Another method allowed by the implementing agency. Please specify:

13. Cathodic Protection (if applicable):

- ☐ As specified for coated steel tanks with cathodic protection. Circle one: Impressed current / Sacrificial anodes
- ☐ As specified for coated steel piping with cathodic protection. Circle one: Impressed current / Sacrificial anodes
- ☐ Another method allowed by the implementing agency. Please specify:

14. Spill and Overfill Control:

- ☐ Catchment basins.
- ☐ Automatic shut off devices.
- ☐ Overfill alarms.
- ☐ Ball float valves.
- ☐ Another method allowed by the implementing agency. Please specify:

VII. CERTIFICATION OF COMPLIANCE (CONTINUED FROM PAGE 3)

15. Installation, Upgrade or Closure (mark all that apply):

- ☐ The installer has been certified by the tank and piping manufacturers.
- ☐ The installer, closure or upgrade contractor has been certified by the State Fire Marshal's Office.
- ☐ The installation has been inspected and certified by a registered professional engineer.
- ☐ The installation or closure has been inspected by the State Fire Marshal's Office.
- ☐ All work listed on the manufacturer's installation checklists has been completed.
- ☐ Another method was used as allowed by the implementing agency. Please specify:

_____

16. OATH: I certify that the information concerning installation, upgrade or closure provided in Item 15 is true to the best of my belief and knowledge.

Installer: (Print) _____ _____
Name Date

_____
Position

_____
Company

(Signature) _____ Certification Number: _____
Name

17. ☐ I have financial responsibility in accordance with Subpart I. Please specify:

Method: _____

Insurer: _____

Policy Number: _____

VIII. DIAGRAM OF TANK FACILITY (INCLUDE ALL NEW OR EXISTING TANKS AND THEIR ASSOCIATED PIPING AND DISPENSERS)

NO UNDERGROUND TANKS EXIST AT THIS FACILITY.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live

Evan Bayh
Governor
Kathy Prosser
Commissioner

June 14, 1994

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
Telephone 317-232-8603
Environmental Helpline 1-800-451-6027

Mr. Bill Schoonmaker
GM Drive
P.O. Box 271
Bedford, Indiana 47421

RE: Underground Storage Tank Ownership

Dear Mr. Schoonmaker:

Recently, we received notification that you are the current owner of underground storage tanks (USTs) located at GM Powertrain Division.

We have not received a notification form indicating your ownership. Please complete the enclosed form and return it with this letter to:

Lynette Honeycutt
Indiana Department of Environmental Management
Underground Storage Tank Section
N1253, 100 North Senate Avenue
P.O. Box 7015
Indianapolis, IN 46206-7015

If you have any questions, please contact her at (317) 233-6416.

Sincerely,

John P. Gunter

John P. Gunter, Chief
Underground Storage Tank Section
Office of Environmental Response

LH/deh

Enclosure

2488.483

Report

Underground Storage Tank Closure

General Motors Power Train
Bedford, Indiana

August 1994

O'BRIEN & GERE ENGINEERS, INC.

11590 Century Boulevard
Suite 205
Cincinnati, Ohio 45246

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Exhibits

1 Underground Storage Tank Closure Work Plan
2 Chain-of-Custody Documentation
3 Analytical Reports
4 Disposal Manifests

1. Facility Background

This section provides information pertinent to the Underground Storage Tank (UST) system owner, operator, and facility.

UST System Owner:	GM Powertrain Division General Motors Corporation Bedford Plant P.O. Box 271 North Jackson Street Bedford, IN 47421 Lawrence County Contact: Bill Schoonmaker (812) 279-7308 Title: Environmental Manager
UST System Operator:	Same as above.
Facility Owner:	Same as above.
Facility Location:	Same as above.
IDEM Facility I.D. Number:	None exists.
Past Owner/Operator:	Same as above.

3. UST Data

3.1. Introduction

A UST was uncovered during construction activities being performed to complete a modification to the facility fire suppression system. A subsequent review of plant record drawings revealed the potential presence of four (4) USTs. A ground penetrating radar survey (GPR) was conducted and confirmed the presence of four (4) potential USTs.

General Motors Power Train undertook a voluntary closure program to remove these previously unknown and unregistered USTs. The program was voluntary because the USTs were apparently closed in place prior to 1974. Furthermore, it was assumed that the USTs no longer contained product. Therefore, the USTs were not considered to be regulated under the current IDEM UST regulations. Although the program was voluntary, a Work Plan was developed which included closure methods and sampling requirements consistent with IDEM regulations. A copy of the Work Plan is included as Exhibit 1.

The Work Plan was initially developed for the anticipated removal of 4 USTs. However, during closure activities, a fifth UST was uncovered. The Work Plan was applied to perform the closure of this fifth UST.

Mr. Jack Butterfield, the local fire marshal, was notified by the facility contact prior to field activities to review the Work Plan. Mr. Butterfield also visited the site on May 9, 1994, to review the closure activities.

3.2. System Information

Facility Name:	GM Powertrain Division General Motors Corporation Bedford Plant P O Box 271 North Jackson Street Bedford, IN 47421 Lawrence County (812) 279-7308
IDEM Facility I.D. Number:	None exists.
Number of Tanks:	Five (5)
Tank Capacities:	1) 12,000 gallon 2) 12,000 gallon 3) 12,000 gallon 4) 7,500 gallon 5) 12,000 gallon
Former Contents:	1) Diesel 2) Diesel 3) Diesel 4) Gasoline 5) Ethyl Silicate
Contents at Removal:	1) Water 2) Water 3) Water 4) Water/Residuals 5) Water/Residuals/Solids
Present Condition:	Tanks have been removed and disposed off-site.
Recent Leak Detection Results:	None available.
Records of Tightness Tests:	None available.

Installation Date and Age of USTs:	Unknown.
Material of Construction:	Steel.
Leak Detection Apparatus:	None.
Previously Closed USTs:	None.
Location of USTs:	See Figure 1 for a Location Plan and Figure 2 for a Site Plan.

3.3. Site Data

History of Spill Reports:	None.
Facility Use:	Present and past use has been a foundry for the casting of automotive components.
Coverage:	The facility encompasses approximately 3.5 million square feet of area. Of this total, approximately 1 million square feet is paved with asphalt or concrete, 1.3 million is non-paved (i.e., grass or crushed stone) and the remaining 1.2 million is covered by structures.
Proximity to Humans and Environmentally Sensitive Areas:	The facility is bounded to the north, east, and west by residential property. Due south of the facility is a mineral processing facility and railway yard. South of this property is residential area.

The approximate distances from the subject UST site to this residential property is as follows:

1,200 feet to the east
1,200 feet to the south
1,600 feet to the north
1,400 feet to the west

Soils: No additional information other than that included as part of this report was available.

Site Drainage: Surface flow in the vicinity of the former UST area is contained by the plant storm sewer system and is processed by the facility's wastewater treatment plant.

4. Sampling Data

4.1. Sample Collection

A concrete pad and containment area located above the UST site was removed on March 9, 1994. The subject UST's were exposed and samples of the tank contents were obtained on this date. Samples were analyzed for Benzene, Toluene, Ethylbenzene, Xylenes, (BTEX) and Methyl-tert-butyl-ether (MTBE) using EPA Method 8020. Originally, the Work Plan had called for the tank contents to be analyzed for Total Petroleum Hydrocarbons (TPH). Although the tank contents did not represent groundwater samples, it was decided the contents would be analyzed for BTEX and MTBE, in accordance with the IDEM requirements for analysis of groundwater, due to the aqueous nature of the samples. Visual and olfactory inspection of the contents of Tank No. 5 revealed the potential presence of alcohol compounds. Therefore, the contents of this UST were submitted for the analysis of alcohols in addition to the above parameters. Proper sample jars with an air tight seal and latex gloves were used. The sample jars were then placed into a cooler, packed with ice and transported to the laboratory for analysis.

Removal of UST contents, UST purging and cleaning, and excavation of the USTs and backfill material within which they were situated was initiated on May 9, 1994, and completed on May 13, 1994. The USTs were in fairly good condition. However, some corrosion and pitting was evident.

After removal of the USTs and backfill material was completed, 21 soil samples were collected on May 13, 1994. These closure samples were collected by scrapping away the first few inches of soil and collecting the sample from a previously unexposed area. Latex gloves were worn during the collection of each sample. Samples were collected from the sidewall of the excavation, approximately 6 feet below grade and at locations every 25 feet around the perimeter of the excavation. Samples were also collected from the midpoint and

ends of Tank Nos. 1 - 3 and the ends only of Tank Nos. 4 and 5. See Figure 3 for a plan of sample locations. Samples were submitted for the analysis of TPH using EPA Method 8015 Modified with a quantification between gas and diesel. Six samples in the vicinity of Tank No. 5 were also submitted for the analysis of alcohols.

In addition to the tank closure samples, 3 samples were collected from the stockpiled soils and were analyzed for TPH only. Proper sample jars with an air tight seal were used. The sample jars were then placed into a cooler, packed with ice and transported to the laboratory for analysis.

The results from the first round of closure samples were verbally received on May 16, 1994. The results exhibited by the samples indicated that several areas exhibited concentrations of TPH which were greater than the IDEM action level of 100 milligrams per kilogram (mg/kg). These soils were located in the vicinity of Tank Nos. 1, 2, 4, and 5, and along portions of the north, east, and west walls. Additional excavation activities were performed in these areas on May 16, 1994. The resulting spoils were stockpiled separately from those generated from the initial excavation. A second round of closure samples was collected on May 17, 1994. Sample locations identified in the first round were re-sampled and analyzed for TPH. Additionally, the stockpiled soils generated from the initial excavation were re-sampled along with the separate set of stockpiled soils generated from the additional excavation. A total of 5 stockpile samples were collected and submitted for the analysis of TPH.

The results from the second round of closure samples were received on May 18, 1994. The results indicated that several areas exhibited concentrations of TPH which were greater than the action level of 100 mg/kg. The soils were located in the vicinity of Tank Nos. 1 and 2 and along the north wall. Additional excavation was performed along the north wall on May 18, 1994. No further excavation was done beneath former Tank Nos. 1 and 2 due to the presence of a facility process sewer. After completion of the additional excavation, a third closure sample was collected at the north wall from the same location as the previous sampling rounds. This sample was submitted for the analysis of TPH. The result from this sample was received on May 25, 1994. The sample exhibited a concentration of TPH which was below the detection limit.

Copies of chain-of-custody documentation can be found in Exhibit 2.

4.2. Sample Collection Personnel

GM Powertrain retained OBG Technical Services, Inc. of Indianapolis, Indiana to assist in the removal of the USTs. Mr. Randy Reader, of OBG Technical Services, Inc. collected the samples.

4.3. Sample Results

Four of the five samples collected from the tank contents exhibited detectable concentrations of BTEX and MTBE. The sample from Tank No. 1 exhibited concentrations which were below detection limits for all parameters. Tank No. 5 also exhibited detectable concentrations of several alcohols. Please refer to Table 1 for a summary of results.

Of the 21 samples collected in the first round of confirmatory sampling, 13 samples exhibited concentrations of TPH which were greater than the IDEM action level of 100 mg/kg as shown on Figure 3. These samples were located in the vicinity of Tank Nos. 1, 2, 4, and 5, and along portions of the north, east and west walls. Additionally, the three samples collected from the stockpiled soils also exhibited concentrations of TPH which were above the action level of 100 mg/kg.

Of the six samples collected in the vicinity of Tank No. 5 and submitted for alcohols, one sample exhibited a detectable concentration of alcohols. The only parameter detected was ethanol. A summary of sample locations and results can be found on Table 2.

Of the 13 locations re-sampled for the second round of confirmatory sampling, 5 locations exhibited concentrations of TPH which were above the action level of 100 mg/kg as shown on Figure 4. These samples were located in the vicinity of Tank Nos. 1 and 2 and along a portion of the north wall. The samples collected from the stockpiled soils generated from the additional excavation as well as the re-samples of the initial stockpiles of soils exhibited concentrations of TPH which were below the action level of 100 mg/kg.

The sample collected from the north wall as part of the third round of confirmatory samples exhibited a concentration of TPH which was below the action level of 100 mg/kg. A summary of sample locations and results can be found on Table 2. Copies of the analytical reports can be found in Exhibit 3.

4.4. Laboratory Information

Samples were submitted to the following laboratory:

National Environmental Testing, Inc.
6964 Hillsdale Court
Indianapolis, IN 46250
Contact: Ms. Beth Day
Phone: (317) 842-4261

5. Waste Disposal Data

5.1. Disposition of UST System

Tank Nos. 1, 2, and 3 were excavated on May 11, 1994, and removed off-site on May 12, 1994. Tank Nos. 4 and 5 were excavated on May 12, 1994 and removed off-site on May 13, 1994. The tanks were removed off-site by William K. Hanna Trucking and disposed of at Bedford Recycling located on H Street in Bedford, Indiana. Copies of disposal manifests are included in Exhibit 4.

5.2. Disposition of Solids

A concrete pad and aboveground storage tanks containment area were formerly located above the USTs. Approximately 135 yards of concrete were excavated to provide access to the USTs. The concrete was excavated by Hoosier Equipment Service, Inc. and transported off-site by William K. Hanna Trucking for disposal at the Rumpke Landfill located in Medora, Indiana. Copies of the disposal manifests are included in Exhibit 4.

Initially, soils in the immediate vicinity of the USTs, consisting primarily of backfill material, were excavated to obtain access for removal of the USTs. These soils were stockpiled on plastic sheeting pending results of the confirmational sampling.

All together, approximately 769 cubic yards of soils were excavated. These soils are presently stockpiled on plastic sheeting and will be disposed at USPCI in Nevada. A section has been reserved in the Exhibits for manifests associated with this disposal and will be incorporated.

5.3. Disposition of Tank Contents

Tank No. 1 contained approximately 12,000 gallons of water which was transferred to the on-site wastewater treatment plant for disposal. The on-site wastewater treatment plant utilizes tertiary treatment which includes the capability of treating biologic and organic matter.

Tank No. 2 contained approximately 6,500 gallons of water which was transferred to the on-site wastewater treatment plant for disposal.

Tank No. 3 contained approximately 5,000 gallons of water which was transferred to the on-site wastewater treatment plant for disposal. After this water was removed, one 55 gallon drum of sludge was removed from the tank bottom.

Tank No. 4 contained approximately 5,000 gallons of liquids. Approximately 600 gallons of gasoline was removed and placed into 13 55-gallon drums. Additionally, one 55 gallon drum of sludge was removed from the tank bottom. The remaining water was transferred to the on-site wastewater treatment plant for disposal.

Nine 55-gallon drums of sludge were removed from Tank No. 5. Additionally, approximately 15 cubic yards of solids were removed from the bottom of the tank and placed into a storage container. Decanted liquids from the drums are scheduled to be transferred to the on-site wastewater treatment plant for disposal. Remaining solids are scheduled to be combined with the UST solids in the storage container for off-site disposal. A section in the Exhibits has been reserved for manifests the associated with this disposal and will be incorporated.

The 2 drums of sludge collected from Tank Nos. 3 and 4 and 13 drums of residual collected from Tank No. 4 were removed off-site on June 14, 1994 by Envirosolve Environmental Management, Inc. and transported to their facility located at 5608 Massachusetts Avenue in Indianapolis, IN for disposal. Copies of manifests are included in Exhibit 4.

Wastewater generated from tank cleaning activities was transferred to the on-site wastewater treatment plant for disposal.

6. Miscellaneous Data

6.1 Native Soil Description

During closure activities, it was observed the USTs were primarily located within a backfill material. Removal of the backfill material within the bottom of the excavation revealed the presence of clay. However, the excavation activities were limited to the area in the immediate vicinity of the USTs. Therefore, no additional lithologic data was obtained. No additional explorations, such as boring logs, were performed during closure activities.

6.2. Other Pertinent Information

This section provides other miscellaneous data related to the removal of these two USTs.

Local Inspector:

Mr. Jack Butterfield
State Fire Marshal
1900 H Street
Bedford, IN 47421
(812) 275-4544

Local Fire Department:

Bedford Fire Department
1900 H Street
Bedford, IN 47421
Attn: Mr. Jack Butterfield
(812) 275-4544

7. Leaking Underground Storage Tank (LUST) Referral

7.1. IDEM Notification

General Motors notified IDEM of the discovered conditions on May 23, 1994. A response was received from Mr. Nat Honeycutt of the UST Branch of IDEM on May 31, 1994. An incident number (94-05525) was also assigned at this time.

7.2. LUST Site Investigation

Based on field observations, data collected and IDEM guidance documents, the following presents an overview of the site issues:

Soil Contamination

Analytical results indicate that areas of soils which exhibited concentrations of TPH in excess of 100 mg/kg (ppm) exist underneath Tank No. 1 and the west end of Tank No. 2 An attempt was made to remove these soils during field activities, as evidenced by the collection of 3 separate rounds of closure samples. However, complete excavation of these soils could not be performed due to structural limitations at the site. Specifically, additional soil removal within the bottom of the excavation could not be conducted without potentially undermining the 24" diameter process sewer which traverses underneath the excavation. This sewer conveys flow to the facility wastewater treatment plant and serves a large portion of the facility including operations which are maintained 365 days a year. Additional excavation could cause a disruption to this service. Furthermore, disturbing this process sewer could also cause additional environmental problems due to the nature of the sewer's oily wastewater contents.

Groundwater
Groundwater was not detected during closure activities and no assessment of groundwater impact was made. However, the Bedford water treatment plant was telephoned regarding the presence of groundwater wells within the vicinity of the UST site. It was indicated that no drinking water wells exist in the city of Bedford. Furthermore, residents are supplied by the city's water treatment plant whose intake is situated on the White River located several miles from the former UST site.

Free Product
No free product was detected within the UST excavation during closure activities.

IDEM Determination
Based on the site information collected, no inhabitable buildings have been impacted by the former UST site. Additionally, access to the site is restricted by a security fence and 24 hour surveillance. Furthermore, residential property is located more than 1,200 feet from the former USTs. Therefore, access for off-site inhabitants to come in direct contact with the contamination is not present.

Drinking water has not been affected. As mentioned in Section 7.2 - Groundwater, no drinking water wells are present in the vicinity of the former UST site. Residents are supplied by the treatment plant whose intake is located on the White River several miles from the UST site. The observed presence of clay could further assist in limiting off-site migration of contamination.

A utility conduit does exist in the vicinity of the former UST site. This conduit is the 24-inch diameter process sewer which traverses the excavation from north to south. This sewer conveys an oily wastewater from a portion of the facility to the on-site wastewater treatment plant. Potential impact to this conduit was not assessed during this investigation, however potential impact to this utility would not appear to be a concern due to the nature of its contents.

Upon review of existing site information, it appears that the UST site would be categorized as a low priority. The UST site appears to pose little risk to the surrounding population based upon existing site conditions and proximity to the surrounding population and its drinking water. Therefore, no further site investigation is recommended at this time.

TABLE 1 - TANK CONTENTS
SAMPLE RESULTS
GM POWERTRAIN
BEDFORD, IN

BTEX and MTBE Concentrations reported in micrograms per liter (ug/l)
Alcohols Concentrations reported in milligrams per liter (mg/l)

	LOCATION:				
	TANK 1	TANK 2	TANK 3	TANK 4	TANK 5
REPORTING LIMIT	<1.0	<1.0	<5.0	<100.0	<5.0
Benzene	<1.0	2.6	290	14000	55
Ethylbenzene	<1.0	<1.0	5	7400	67
MTBE	<1.0	3.3	19	<100.0	<5.0
Toluene	<1.0	<1.0	<5.0	16000	18
Xylenes (total)	<1.0	<1.0	38	55000 (1)	<5.0
ALCOHOLS (2)					
Acetone (3)	NA	NA	NA	NA	<150.0
Ethanol	NA	NA	NA	NA	161000
Isopropyl Alcohol	NA	NA	NA	NA	21.3
Methanol (4)	NA	NA	NA	NA	<100.0
MEK	NA	NA	NA	NA	1.5
n-Butyl Alcohol	NA	NA	NA	NA	46.6
Isobutyl Alcohol	NA	NA	NA	NA	22.4
MIBK	NA	NA	NA	NA	<1.0
n-Propyl Alcohol (5)	NA	NA	NA	NA	<10.0
tert-Butyl Alcohol	NA	NA	NA	NA	<1.0

LEGEND:
NA = Not Analyzed
MTBE = Methyl-tert-butyl-ether
MEK = Methyl Ethyl Ketone
MIBK = 4-methyl-1,2-pentanone

NOTES:
(1) Concentration is estimated
(2) Reporting Limit for alcohols was <1.0 mg/l
(3) Reporting Limit elevated to <150.0 mg/l
(4) Reporting Limit elevated to <100.0 mg/l
(5) Reporting Limit elevated to <10.0 mg/l

All concentrations reported in milligrams per kilogram (mg/kg)

ID#	SAMPLE	SAMPLE I.D.	DATE TAKEN	GASOLINE (RL=15 mg/kg)	DIESEL (RL=15 mg/kg)	ETHANOL (1) (RL=1mg/kg)
5EB	84669	TANK 5 EAST END BOTTOM	5/13/94	170	610	NA
5WB	84670	TANK 5 WEST END BOTTOM	5/13/94	<15.0	<15.0	NA
NW	84671	NORTH END WALL	5/13/94	3400	12500	NA
SW	84672	SOUTH END WALL	5/13/94	<15.0	35	NA
EW1	84673	EAST WALL, SAMPLE #1	5/13/94	<15.0	<15.0	NA
EW2	84674	EAST WALL, SAMPLE #2	5/13/94	21	70	NA
EW3	84675	EAST WALL, SAMPLE #3	5/13/94	35	120	NA
WW1	84676	WEST WALL, SAMPLE #1	5/13/94	<15.0	16	NA
WW2	84677	WEST WALL, SAMPLE #2	5/13/94	620	210	NA
WW3	84678	WEST WALL, SAMPLE #3	5/13/94	480	1800	NA
SN	84679	STOCKPILE A NORTH	5/13/94	160	520	NA
SC	84680	STOCKPILE B CENTER	5/13/94	390	1400	NA
SS	84681	STOCKPILE C SOUTH	5/13/94	180	620	NA
1EB	84682	TANK 1 EAST END BOTTOM	5/13/94	780	2800	NA
1CB	84683	TANK 1 CENTER BOTTOM	5/13/94	56	200	NA
1WB	84684	TANK 1 WEST END BOTTOM	5/13/94	280	1000	NA
2EB	84685	TANK 2 EAST END BOTTOM	5/13/94	140	520	NA
2CB	84686	TANK 2 CENTER BOTTOM	5/13/94	420	1500	NA
2WB	84687	TANK 2 WEST END BOTTOM	5/13/94	65	230	NA
3EB	84688	TANK 3 EAST END BOTTOM	5/13/94	<15.0	34	NA
3CB	84689	TANK 3 CENTER BOTTOM	5/13/94	<15.0	<15.0	NA
3WB	84690	TANK 3 WEST END BOTTOM	5/13/94	22	80	NA
4EB	84691	TANK 4 EAST END BOTTOM	5/13/94	1700	6200	NA
4WB	84692	TANK 4 WEST END BOTTOM	5/13/94	2000	7200	NA
1CB	84693	TANK 1 CENTER BOTTOM	5/13/94	NA	NA	<1.0
5EB	84694	TANK 5 EAST BOTTOM	5/13/94	NA	NA	26.7
5WB	84695	TANK 5 WEST BOTTOM	5/13/94	NA	NA	<1.0
EW3	84696	EAST WALL, SAMPLE #3	5/13/94	NA	NA	<1.0
WW3	84697	WEST WALL, SAMPLE #3	5/13/94	NA	NA	<1.0
SW	84698	SOUTH END WALL	5/13/94	NA	NA	<1.0
NW	84814	NORTH END WALL (2)	5/17/94	420	1600	NA
4EB	84815	TANK 4 EAST END BOTTOM	5/17/94	<15.0	<15.0	NA
4WB	84816	TANK 4 WEST END BOTTOM	5/17/94	<15.0	<15.0	NA
WW2	84817	WEST WALL, SAMPLE #2	5/17/94	<15.0	<15.0	NA
WW3	84818	WEST WALL, SAMPLE #3	5/17/94	<15.0	<15.0	NA
1EB	84819	TANK 1 EAST END BOTTOM	5/17/94	85	320	NA
1CB	84820	TANK 1 CENTER BOTTOM	5/17/94	60	230	NA
1WB	84821	TANK 1 WEST END BOTTOM	5/17/94	83	320	NA
SN	84822	STOCKPILE A NORTH	5/17/94	<15.0	48	NA
SC	84823	STOCKPILE B CENTER	5/17/94	<15.0	<15.0	NA
SS	84824	STOCKPILE C SOUTH	5/17/94	<15.0	<15.0	NA
SN	84825	SECOND STOCKPILE A	5/17/94	20	77	NA
SC	84826	SECOND STOCKPILE B	5/17/94	<15.0	<15.0	NA
EW3	84827	EAST WALL, SAMPLE #3	5/17/94	<15.0	<15.0	NA
5EB	84828	TANK 5 EAST END BOTTOM	5/17/94	21	80	NA
2EB	84829	TANK 2 EAST END BOTTOM	5/17/94	<15.0	20	NA
2CB	84830	TANK 2 CENTER BOTTOM	5/17/94	<15.0	51	NA
2WB	84831	TANK 2 WEST END BOTTOM	5/17/94	32	130	NA
NW	85126	NORTH END WALL	5/18/94	<15.0	<15.0 (3)	NA

NOTES:

(1) Samples analyzed for complete Alcohol scan, including:
Acetone, Ethanol, Isopropyl Alcohol, Methanol, Methyl Ethyl Ketone, n-Butyl Alcohol, Isobutyl Alcohol, 4-Methyl-1,2-pentanone, n-Propyl Alcohol, and tert-Butyl Alcohol using a Reporting Limit of <1.0 mg/kg. Ethanol was the only constituent exhibited.

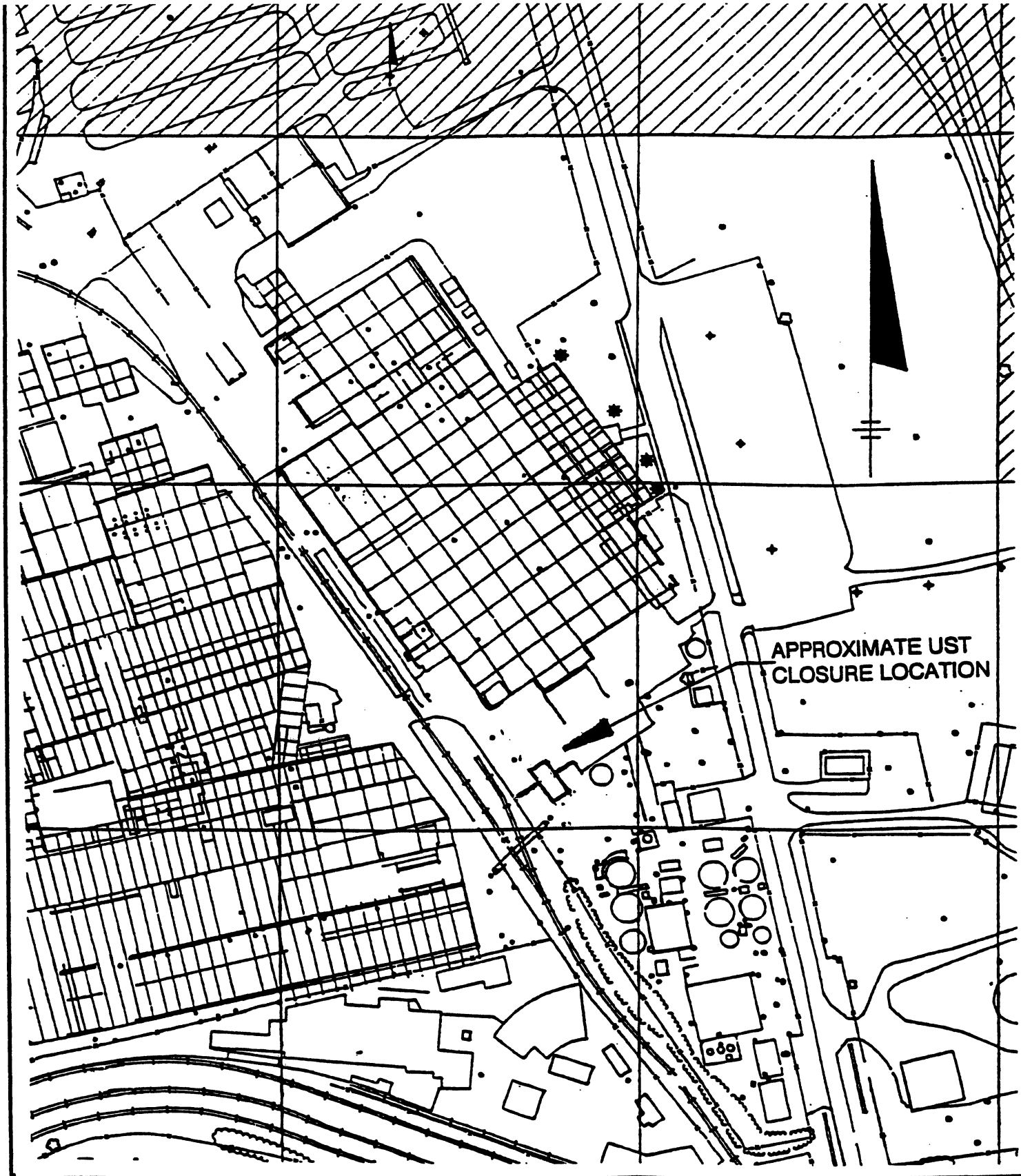
(2) Concentrations are estimated

(3) Concentration was quantified using a diesel fuel standard

LEGEND:

NA = Not Analyzed

RL = Reporting Limit

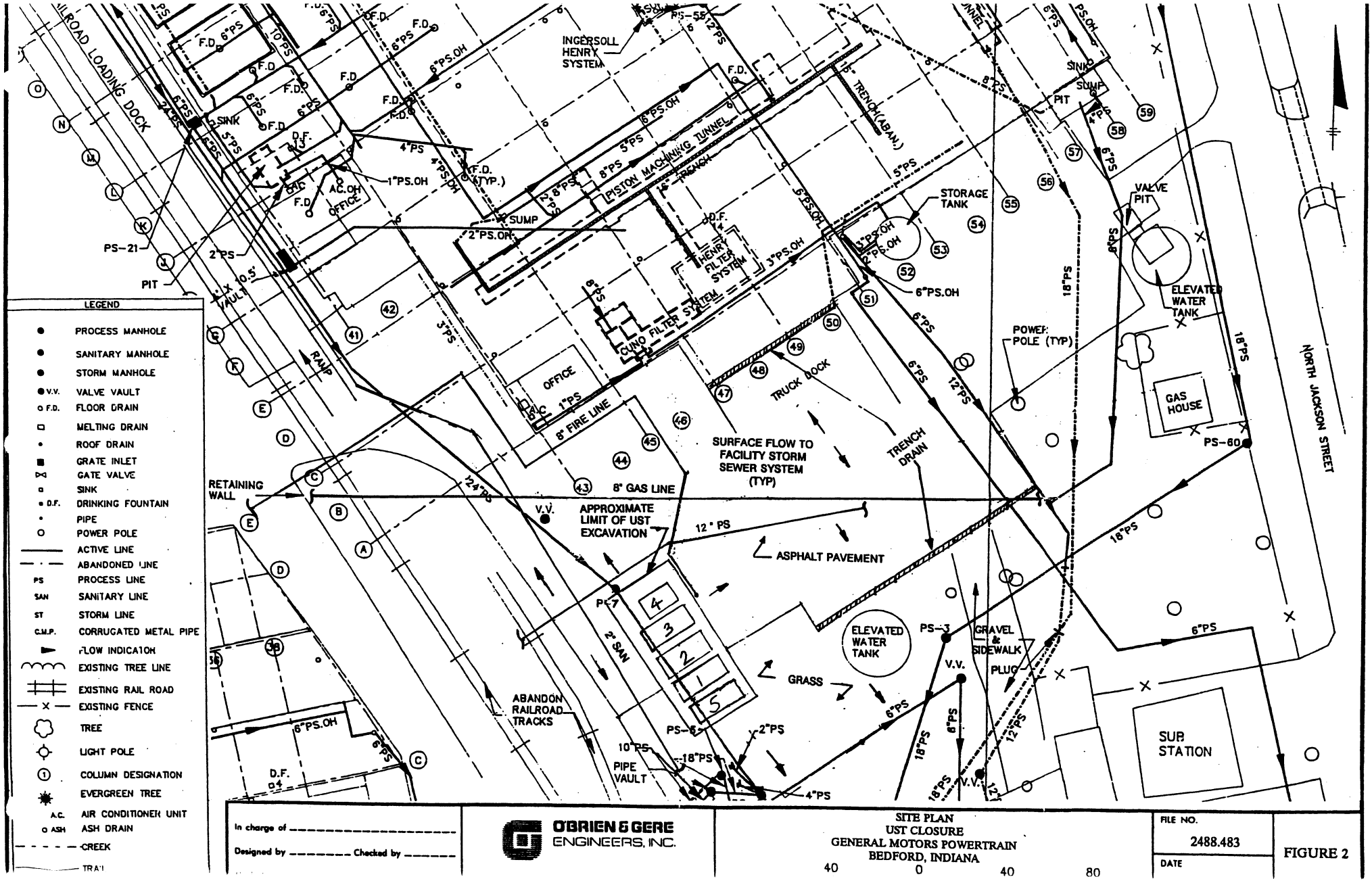


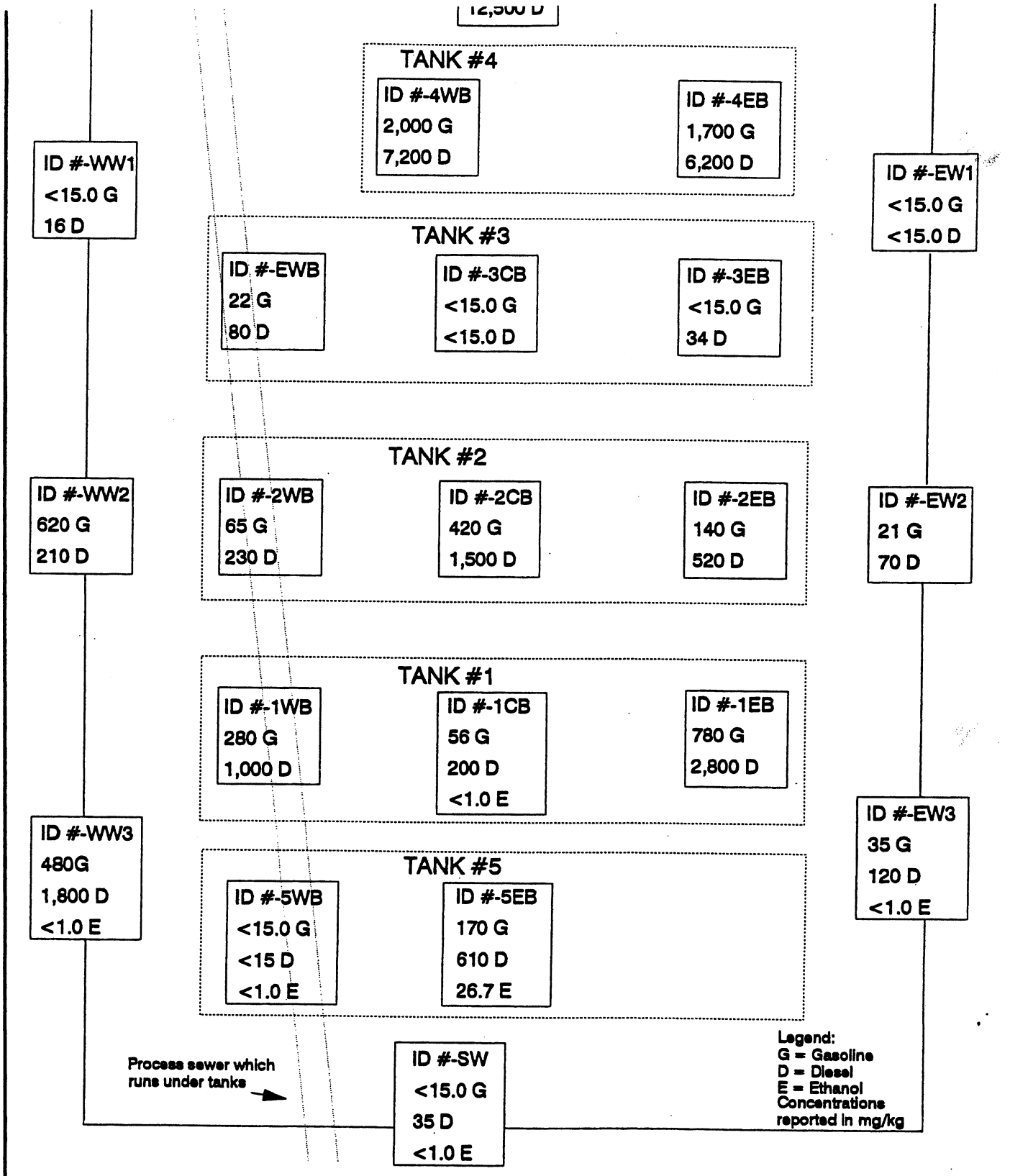
O'BRIEN & GERE
ENGINEERS INC.
Cincinnati, Ohio

LOCATION PLAN
UST CLOSURE
GENERAL MOTORS POWERTRAIN
BEDFORD, INDIANA

SCALE: 1" = 200'

FILE NO. 2488.483
DATE AUGUST 1994
DWG. NO. FIGURE 1

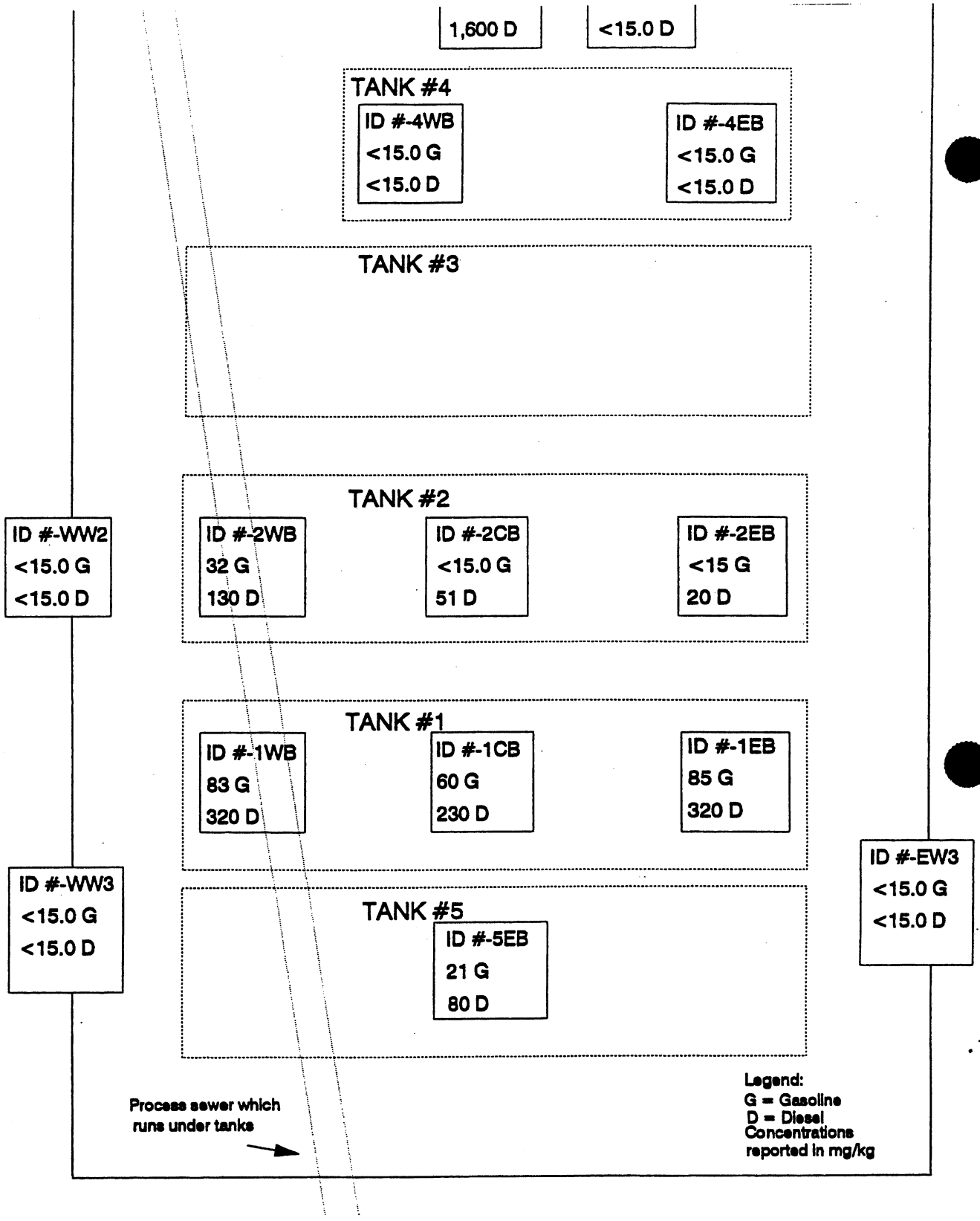

LEGEND
PROCESS MANHOLE
SANITARY MANHOLE
STORM MANHOLE
V.V. VALVE VAULT
F.D. FLOOR DRAIN
MELTING DRAIN
ROOF DRAIN
GRATE INLET
GATE VALVE
SINK
D.F. DRINKING FOUNTAIN
PIPE
POWER POLE
ACTIVE LINE
ABANDONED LINE
PS PROCESS LINE
SAN SANITARY LINE
ST STORM LINE
C.M.P. CORRUGATED METAL PIPE
FLOW INDICATION
EXISTING TREE LINE
EXISTING RAIL ROAD
EXISTING FENCE
TREE
LIGHT POLE
COLUMN DESIGNATION
EVERGREEN TREE
A.C. AIR CONDITIONER UNIT
ASH ASH DRAIN
CREEK
TRAIL
RAILROAD LOADING DOCK
INGERSOLL HENRY SYSTEM
PISTON MACHINING TUNNEL
TRENCH (ABAN.)
STORAGE TANK
VALVE PIT
ELEVATED WATER TANK
POWER POLE (TYP)
NORTH JACKSON STREET
GAS HOUSE
PS-60
PS-55
PS-21
PIT
SUMP
AC.OH
OFFICE
HENRY FILTER SYSTEM
CUNO FILTER SYSTEM
RAMP
TRUCK DOCK
OFFICE
8" FIRE LINE
SURFACE FLOW TO FACILITY STORM SEWER SYSTEM (TYP)
TRENCH DRAIN
8" GAS LINE
RETAINING WALL
APPROXIMATE LIMIT OF UST EXCAVATION
ASPHALT PAVEMENT
ELEVATED WATER TANK
GRAVEL & SIDEWALK
PLUG
GRASS
SUB STATION
ABANDON RAILROAD TRACKS
PIPE VAULT
PS-7
PS-8
PS-9
2" SAN
10'PS
18"PS
12"PS
8"PS
6"PS
5"PS
4"PS
3"PS
2"PS
1"PS
6"PS.OH
5"PS.OH
4"PS.OH
3"PS.OH
2"PS.OH
1"PS.OH
F.D.
SINK
SUMP
PIT
D.F.
A.C.
OFFICE
V.V.
10.5' X 10.5' VAULT
In charge of
Designed by
Checked by
O'BRIEN & GERE ENGINEERS, INC.
SITE PLAN
UST CLOSURE
GENERAL MOTORS POWERTRAIN
BEDFORD, INDIANA
40 0 40 80
FILE NO. 2488.483
DATE
FIGURE 2



O'BRIEN & GERE ENGINEERS INC.
Cincinnati, Ohio

CLOSURE SAMPLE LOCATIONS AND RESULTS
FIRST ROUND
GENERAL MOTORS POWERTRAIN
BEDFORD, INDIANA
SCALE: NOT TO SCALE

FILE NO. 2488.483
DATE AUGUST 1994
DWG. NO. FIGURE 3



O'BRIEN & GERE ENGINEERS INC.
Cincinnati, Ohio

CLOSURE SAMPLE LOCATIONS AND RESULTS
SECOND AND THIRD ROUNDS
GENERAL MOTORS POWERTRAIN
BEDFORD, INDIANA
SCALE: NOT TO SCALE

FILE NO. 2488.483
DATE AUGUST 1994
DWG. NO. FIGURE 4

EXHIBIT 1

UNDERGROUND STORAGE TANK

CLOSURE WORK PLAN

Underground Storage Tank Closure

GM Powertrain
Bedford Plant

May 1994

Work Plan

Underground Storage Tank Closure

GM Powertrain
Bedford, Indiana

May 1994

O'BRIEN & GERE ENGINEERS, INC.

11590 Century Boulevard
Suite 205
Cincinnati, Ohio 45246

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4.0 **SITE RESTORATION** 4

5.0 **CLOSURE REPORT** 4

GM BEDFORD

UST CLOSURE - WORK PLAN

1.0 Notifications

Prior to closure activities, the local fire marshal will be contacted and informed of the proposed activities by GM.

2.0 Surface Structure Removal

Presently, two above ground storage tanks (ASTs) occupy the area directly above the under ground storage tanks (USTs). The ASTs are set in concrete saddles which are located within a concrete containment area.

2.01 AST Removal

GM will drain and remove product present in the ASTs. After the product is removed, the ASTs will be disconnected from associated piping and removed from the concrete saddles.

The ASTs will be cleaned after removal from the concrete saddles. Cleaning fluids will be collected and discharged to the plant sanitary sewer for treatment at the on-site water treatment plant. After the ASTs have been cleaned, they shall be removed off site for disposal.

2.02 Piping Removal

Above ground piping associated with the former ASTs will be cleaned and removed. Any cleaning fluids generated will be collected and discharged to the plant sanitary sewer for treatment at the on-site water treatment plant. Piping will be removed off-site for disposal.

2.03 Concrete Removal

After the ASTs and associated piping have been removed, the concrete saddles, containment structures, and support slab shall be demolished and removed off-site for disposal as a non-regulated material.

3.0 UST Related Activities

Four USTs have been identified through a Ground Penetrating Radar Survey previously conducted. The contents of the tanks are not known at the present time.

3.01 Characterization Sampling of Residual Contents

The contents of the USTs (if product is present), shall be sampled and characterized though laboratory analysis for potential disposal at the on-site water treatment plant.

Characterization shall be accomplished through the collection and submittal of a water sample from each UST for the analysis of Total Petroleum Hydrocarbons (TPH) and other analysis as requested by GM. It is assumed that this analysis shall be conducted on an expedited 24-hour turn around basis to avoid potential conflicts with future field activities.

3.02 Tank Evacuation

After product characterization is complete, the contents of the USTs shall be removed. Liquid contents shall be discharged to the plant sanitary sewer for treatment at the on-site treatment plant or taken off-site for disposal with a tanker truck, dependent upon the results of the characterization analysis.

Sludge removed from the USTs will be containerized, characterized, and placed at an on-site storage location for disposal by GM. Laboratory analysis required for sludge characterization will be determined by the appropriate disposal facility.

3.03 UST Cleaning

The USTs shall be purged with dry ice and powerwashed. Cleaning fluids shall be collected and discharged to the plant sanitary sewer for treatment at the on-site water treatment plant.

3.04 UST and Soil Removal

After the USTs have been cleaned, they shall be excavated, rendered useless by either cutting or puncturing, and taken off-site for disposal.

Soil located in the vicinity of the USTs will be removed. Continuous field screening will be conducted during the excavation activities. Field screening will be performed through the use of a photoionization detector (PID) and sensory methods. The screening will be conducted to evaluate the potential presence of subsurface contamination and establish preliminary excavation limits. However, final excavation limits will be dependent upon the results of confirmatory sampling analysis, discussed in the next section.

Soils which exhibit a concentration of TPH which is greater than the current IDEM action level of 20 parts per million will not be left in place. Excavated material will be stockpiled on plastic sheeting and covered to protect against the elements. Potentially impacted material will be stockpiled separately from non-impacted fill material based on the results of the field screening and confirmatory analysis.

3.05 Confirmatory Sampling Within the Excavation

Samples from natural soil will be taken from the excavation bottom and the sidewalls and will be submitted for the analysis of TPH. The frequency of these samples is as follows:

1) At both ends and middle of each UST (the natural soil is to be sampled at a point 2 feet below the bottom of the excavation); and

2) At every 20 feet of horizontal distance around the entire excavation (sidewall samples will be collected at points approximately one half the distance between the surface level and the bottom of the excavation).

3.06 Characterization Sampling of Spoil Soils

Samples will be collected from stockpiled material at a frequency of 1 per 100 cubic yards of excavated material. Samples from potentially non-impacted material will submitted for the analysis of TPH to evaluate whether the material can be returned to the excavation as backfill. If samples from the stockpiled material exhibit a concentration of TPH which is less than the IDEM action level of 20 ppm, the material will be returned to the excavation as backfill. If the material can not be returned to the excavation as backfill, samples from this material as well as the stockpile of potentially impacted material, will be collected and submitted for chemical analysis to be determined by the disposal facility. It is assumed that the confirmatory analysis will be conducted on an expedited 24-hour turn around basis.

4.0 Site Restoration

At the conclusion of UST and soil removal activities, the excavation will be backfilled with the non-impacted excavated material and compacted. The remainder of the excavation will be backfilled with clean fill and compacted.

5.0 Closure Report

After the field activities have been completed, a closure report will be generated summarizing the UST closure activities. The report will include information on the owner of the USTs, the removal contractor, description of the site (i.e., site history, site maps, etc.), description of the USTs (i.e., tank contents, age, material of construction, etc.), sample results, and miscellaneous closure documentation (i.e., subsurface data, disposal documentation, etc.).

EXHIBIT 2

CHAIN-OF-CUSTODY DOCUMENTATION

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY General Motors Powertrain Group Indy Division
ADDRESS North Jackson ST Bedford Indy 47421
PHONE 812 279 7308 FAX 812 279 7258
PROJECT NAME/LOCATION TANK Removal.
PROJECT NUMBER
PROJECT MANAGER Bill Schoon Maker

REPORT TO: Both
INVOICE TO:
P.O. NO.
NET QUOTE NO.

SAMPLED BY (PRINT NAME) Randy Reader
SIGNATURE Randy Reader
(PRINT NAME)
SIGNATURE

DATE	TIME	SAMPLE ID DESCRIPTION	GRAB	COMP	# OF CONTAINERS TYPE	MATRIX	PRESERVED Y/N	ANALYSES: Total Petroleum Hydrocarbons	BETX + MTBE 8020	METHANOL	COMMENTS
5/9	1500	TANK # 1			1		Y	X			TPH Test
5/9	"	TANK # 1			1						
5/9	"	TANK # 1			1						
5/9	"	TANK # 2			1						
5/9	"	TANK # 2			1						
5/9	"	TANK # 2			1						
5/9	"	TANK #3			1						
5/9	"	TANK #3			1						
5/9	"	TANK #3			1						
5/9	"	TANK #4			1						
5/9	"	TANK #4			1		Y				
5/9	"	TANK #4			1						
5/9	"	TANK #5			1				X		
5/9	"	#5			1				X		
5/9	"	#5			1			X	X		

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT:

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS DATE

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	RELINQUISHED BY:	DATE/TIME	RECEIVED FOR NET BY:
R. Reader	5/9/94 1530			5/10/94 09:35	Beth

METHOD OF SHIPMENT

REMARKS:
C.O.C. CHANGES MADE 5-10-94 PER GREG BARNIUK 5-10-94.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY GM Powertrain OBG Tech
ADDRESS Bedford Plant GM Drive Bedford In 47421
PHONE 812 279-7308 FAX
PROJECT NAME/LOCATION GM TANK Pull
PROJECT NUMBER
PROJECT MANAGER Bill Schoon Maker

REPORT TO: Bill Sch
INVOICE TO:
P.O. NO.
NET QUOTE NO.

SAMPLED BY (PRINT NAME) Randy Reader — SIGNATURE Randy Reader
(PRINT NAME) — SIGNATURE

DATE	TIME	SAMPLE ID DESCRIPTION	GRAB	COMP	# OF CONTAINERS TYPE	MATRIX	PRESERVED Y/N	ANALYSES: TPH @ S-8015M	COMMENTS
5/13	10:30	East End TANK BTM	✓		1			1	TPH GC Volatile Method
	10:30	West End TANK BTM	✓		1			1	Quantate for Gas +
	9:00	North End wall #1 side	✓		1			1	" "
	10:00	South End Wall #1	✓		1			1	" "
	10:05	East wall #1	✓		1			1	" "
	10:05	East wall #2	✓		1			1	" "
	10:05	East wall #3	✓		1			1	" "
	9:00	West Wall #1	✓		1			1	" "
	9:00	West Wall #2	✓		1			1	" "
	9:00	West Wall #3	✓		1			1	" "
	9:10	Stock Pile A North	✓		1			1	" "
	9:10	Stock Pile B Center	✓		1			1	" "
	9:10	Stock Pile C South	✓		1			1	" "

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT: On I

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS — DATE

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	RELINQUISHED BY:	DATE/TIME	RECEIVED FOR NET BY:
R Reader	5/13 11:00				Mark A. Cry

METHOD OF SHIPMENT

REMARKS:

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY GM Power Train (OBG Tech)
ADDRESS Bedford Plant GM Drive Bedford In 47421
PHONE _____ FAX _____
PROJECT NAME/LOCATION GM TANK pulls
PROJECT NUMBER _____
PROJECT MANAGER _____

REPORT TO: Bill Sch
INVOICE TO: GM
P.O. NO. _____
NET QUOTE NO. _____

SAMPLED BY (PRINT NAME) Randy Reader — SIGNATURE Randy Reader
(PRINT NAME) _____ — SIGNATURE _____

DATE	TIME	SAMPLE ID DESCRIPTION	GRAB	COMP	# OF CONTAINERS TYPE	MATRIX	PRESERVED Y/N	ANALYSES: TPH 5-8015M	COMMENTS
5/13	9:25	TANK 1 East End TANK BTm	✓		1			1	TPH GC Volatile Method for gas +
	9:25	TANK 1 C of TANK BTm	✓					1	"
	9:25	TANK 1 West End of TANK BTm	✓		1			1	"
									"
	10:15	TANK 2 East End of TANK BTM	✓		1			1	TPH GC Volatile Method 5-8
	10:15	TANK 2 C of TANK BTM	✓		1			1	Quantate for gas + D
	10:15	TANK 2 West End of TANK BTm	✓		1			1	" "
									" "
	10:20	TANK 3 EAST of TANK BTM	✓		1			1	TPH GC Volatile Methor
	10:20	TANK 3 C of TANK BTM	✓		1			1	Quantate for GAS +
	10:20	TANK 3 West End of TANK BTm	✓		1			1	" "
	10:25	TANK #4 East End TANK BTM	✓		1			1	TPH GC Volatile. Met
	10:25	TANK #4 West End TANK BTm	✓		1			1	Quantate for Gas + D

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO — FIELD FILTERED? YES / NO — COC SEALS PRESENT AND INTACT? YES / NO — VOLATILES FREE OF HEADSPACE? YES / NO — TEMPERATURE UPON RECEIPT: on

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA _____
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS _____ DATE _____

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	RELINQUISHED BY:	DATE/TIME	RECEIVED FOR NET BY:
K Reader	5/13 | 11:00AM				Mark A. Gray 5-

METHOD OF SHIPMENT

REMARKS:

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY GM Powertrain (OBSTech)
ADDRESS Bedford Plant GM Drive Bedford IN 47421
PHONE _____ FAX _____
PROJECT NAME/LOCATION _____
PROJECT NUMBER _____
PROJECT MANAGER Bill Schoonmaker

REPORT TO: Bill Schoonm
INVOICE TO: GM
P.O. NO. _____
NET QUOTE NO. _____

SAMPLED BY
Randy Reader (PRINT NAME) Randy Reader SIGNATURE
_____ (PRINT NAME) _____ SIGNATURE

DATE	TIME	SAMPLE ID DESCRIPTION	GRAB	COMP	# OF CONTAINERS TYPE	MATRIX	PRESERVED Y/N	ANALYSES: Ethanol	COMMENTS
5/13	9:25	Ex of Tank #1 BTM 14oz	✓		1			1	Analyses for Etha
"	9:25	Tank #5 East BTM 14oz	✓		1			1	" 1
	9:25	Tank #5 West BTM 14oz	✓		1			1	" 1
	9:25	East Wall #3 14oz	✓		1			1	"
	9:00	West Wall #3 14oz	✓		1			1	"
	10:00	South Wall #1 14oz	✓		1			1	"

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT: ON

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA _____
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS _____ DATE _____

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	RELINQUISHED BY:	DATE/TIME	RECEIVED FOR NET BY:
Randy Reader	11:00 5/13				Mark A. Gray

METHOD OF SHIPMENT

REMARKS:

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY GM Powertrain
ADDRESS Bedford In Plant
PHONE _____ FAX _____
PROJECT NAME/LOCATION Tank Pull
PROJECT NUMBER _____
PROJECT MANAGER Bill Schoon Matzer

REPORT TO: Bill Sch
INVOICE TO: GM
P.O. NO. _____
NET QUOTE NO. _____

SAMPLED BY
Randy Reader (PRINT NAME) — Randy Reader SIGNATURE
_____ (PRINT NAME) — _____ SIGNATURE

DATE	TIME	SAMPLE ID DESCRIPTION	GRAB	COMP	# OF CONTAINERS TYPE	MATRIX	PRESERVED Y/N	ANALYSES: 5.8015m Q for Gas Dual	COMMENTS
5/17	7:15	-North End Wall	✓		1		N	✓	TPH GC Volatile Method
		-Tank #4 East End BTM			1			✓	Guantate for Gas + D
		-Tank #4 West End BTM			1			✓	
		Westwall #2			1			✓	
		Westwall #3			1			✓	
		-Tank #1 East End BTM			1			✓	
		-Tank #1 [redacted] Q BTM			1			✓	
		-Tank #1 ~~East~~ West BTM			1			✓	
		Soil Pile A-B-C			3			✓	
		2nd Soil Pile A-B			2			✓	
		East Wall #3			1			✓	
		-Tank 5 East BT			1			✓	
		-Tank #2 East End BTM	✓		1			✓	
		-Tank #2 Q BTM	✓		1			✓	
		-Tank #2 West End BTM	✓		1			✓	

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT: _____

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA _____
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS _____ DATE _____

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	RELINQUISHED BY:	DATE/TIME	RECEIVED FOR NET BY:
R. Reader	5/17/94 11:35	Bill Day			

METHOD OF SHIPMENT

REMARKS:

NET® NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY GM Power TRAIN CBG Tech
ADDRESS GM Drive Bedford In.
PHONE 812 279-7308 FAX
PROJECT NAME/LOCATION Tank Pull Job
PROJECT NUMBER
PROJECT MANAGER Bill Schoonmaker

REPORT TO: Bill Schoon
INVOICE TO: GM Powe
P.O. NO.
NET QUOTE NO.

SAMPLED BY (PRINT NAME) Randy Reader SIGNATURE Randy Reader
(PRINT NAME) SIGNATURE

DATE	TIME	SAMPLE ID DESCRIPTION	GRAB	COMP	# OF CONTAINERS TYPE	MATRIX	PRESERVED Y/N	ANALYSES: 5-8015 m TPH	COMMENTS
5/18	2:10p	North End Side Wall	✓		1			1	Method 5-8015 - G Quantate for Gas &

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT:

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS DATE

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	RELINQUISHED BY:	DATE/TIME	RECEIVED FOR NET BY:
Randy Reader	5/18/94			5/23/94	M. Mathison

METHOD OF SHIPMENT

REMARKS:

EXHIBIT 3

ANALYTICAL REPORTS

NET® TESTING, INC.
Tel: (317) 842-4261
Fax: (317) 842-4286

ANALYTICAL REPORT

Mr. Greg Baryluk
O'BRIEN & GERE
11590 Century Blvd.
Suite 205
Cincinnati, OH 45246

05/12/1994

NET Job Number: 94.01329

Enclosed are the Analytical Results for the following samples submitted to NET, Inc. Indianapolis Division for analysis:

Project Description: GM POWERTRAIN - BEDFORD, IN

Sample Number	Sample Description	Date Taken	Date Received
84506	TANK #1	05/09/1994	05/10/1994
84507	TANK #2	05/09/1994	05/10/1994
84508	TANK #3	05/09/1994	05/10/1994
84509	TANK #4	05/09/1994	05/10/1994
84510	TANK #5	05/09/1994	05/10/1994

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

Approved By:

Steve Johnson

Steve Johnson
Project Manager

® TESTING, INC.
Tel: (317) 842-4261
Fax: (317) 842-4286

KEY TO ABBREVIATIONS

<	Less than; when appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	Concentration in units of milligrams of analyte per Liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/L	Concentration in units of micrograms of analyte per Liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
mg/kg	Concentration in units of milligrams of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm).
ug/kg	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
PQL	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy under routine conditions.
a	Indicates the sample concentration was quantitated using a diesel fuel standard.
b	Indicates the analyte of interest was also found in the method blank.
d1	Indicates the sample was diluted due to high analyte concentration.
d2	Indicates the sample was diluted due to matrix interference and that the PQL may be elevated.
e	Indicates the reported concentration is estimated.
f	Indicates the sample concentration was quantitated using a fuel oil standard.
g	Indicates the sample concentration was quantitated using a gasoline standard.
h	Indicates the sample was analyzed past holding time.
j	Indicates the reported concentration is below the PQL.
k	Indicates the sample concentration was quantitated using a kerosene standard.
m	Indicates the sample concentration was quantitated using a mineral spirits standard.
o	Indicates the sample concentration was quantitated using a motor oil standard.
q	Indicates the sample concentration was quantitated using a standard provided by the client.
r	Indicates the sample was received past holding time.
s	Indicates the sample concentration was quantitated using a stoddard solvent standard.
u	Indicates the sample was received improperly preserved and/or contained.
TCLP	Indicates the Toxicity Characteristic Leaching Procedure was performed for this analysis.
ICP	Indicates the analysis was performed using Inductively Coupled Plasma Spectroscopy.
GFAA	Indicates the analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
%	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
Dry Weight	When indicated, the results are reported on a dry weight basis. The contribution of the moisture content in the sample is subtracted when calculating the concentration of the analyte.

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ANALYTICAL REPORT

Mr. Greg Baryluk
O'BRIEN & GERE
11590 Century Blvd.
Suite 205
Cincinnati, OH 45246

05/12/1994

Sample No.: 84506
Job No.: 94.01329
P.O. NO.: PBS03297

Sample Description: TANK #1
Job Description: GM POWERTRAIN - BEDFORD, IN

Date Taken: 05/09/1994 Date Received: 05/10/1994

Parameter	Result	Units	Analyst/ Date of Analysis	Method Number	Method PQL
VOLATILE - BETX (AQUEOUS)			/		
Benzene	<1.0	ug/L	srj / 05/10/1994	S-8020	<1.0
Ethylbenzene	<1.0	ug/L	srj / 05/10/1994	S-8020	<1.0
Methyl-tert-butyl-ether (MTBE	<1.0	ug/L	srj / 05/10/1994	S-8020	<1.0
Toluene	<1.0	ug/L	srj / 05/10/1994	S-8020	<1.0
Xylenes, Total	<1.0	ug/L	srj / 05/10/1994	S-8020	<1.0

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ANALYTICAL REPORT

Mr. Greg Baryluk
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Suite 205
Cincinnati, OH 45246

05/12/1994

Sample No.: 84507
Job No.: 94.01329
P.O. NO.: PBS03297

Sample Description: TANK #2
Job Description: GM POWERTRAIN - BEDFORD, IN

Date Taken: 05/09/1994 Date Received: 05/10/1994

Parameter	Result	Units	Analyst/ Date of Analysis	Method Number	Method PQL
VOLATILE - BETX (AQUEOUS)			/		
Benzene	2.6	ug/L	srj / 05/10/1994	S-8020	<1.0
Ethylbenzene	<1.0	ug/L	srj / 05/10/1994	S-8020	<1.0
Methyl-tert-butyl-ether (MTBE	3.3	ug/L	srj / 05/10/1994	S-8020	<1.0
Toluene	<1.0	ug/L	srj / 05/10/1994	S-8020	<1.0
Xylenes, Total	<1.0	ug/L	srj / 05/10/1994	S-8020	<1.0

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ANALYTICAL REPORT

Mr. Greg Baryluk
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05/12/1994

Sample No.: 84508
Job No.: 94.01329
P.O. NO.: PBS03297

Sample Description: TANK #3
Job Description: GM POWERTRAIN - BEDFORD, IN

Date Taken: 05/09/1994 Date Received: 05/10/1994

Parameter	Result	Units	Analyst/ Date of Analysis	Method Number	Method PQL
VOLATILE - BETX (AQUEOUS)			/		
Benzene	290	ug/L	srj / 05/10/1994	S-8020	<5.
Ethylbenzene	5	ug/L	srj / 05/10/1994	S-8020	<5.
Methyl-tert-butyl-ether (MTBE	19	ug/L	srj / 05/10/1994	S-8020	<5.
Toluene	<5.	ug/L	srj / 05/10/1994	S-8020	<5.
Xylenes, Total	38	ug/L	srj / 05/10/1994	S-8020	<5.

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ANALYTICAL REPORT

Mr. Greg Baryluk
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Suite 205
Cincinnati, OH 45246

05/12/1994

Sample No.: 84509
Job No.: 94.01329
P.O. NO.: PBS03297

Sample Description: TANK #4
Job Description: GM POWERTRAIN - BEDFORD, IN

Date Taken: 05/09/1994 Date Received: 05/10/1994

Parameter	Result		Units	Analyst/ Date of Analysis	Method Number	Method PQL
VOLATILE - BETX (AQUEOUS)				/		
Benzene	14,000		ug/L	srj / 05/10/1994	S-8020	<100
Ethylbenzene	7,400		ug/L	srj / 05/10/1994	S-8020	<100
Methyl-tert-butyl-ether (MTBE	<100		ug/L	srj / 05/10/1994	S-8020	<100
Toluene	16,000		ug/L	srj / 05/10/1994	S-8020	<100
Xylenes, Total	55,000	e	ug/L	srj / 05/10/1994	S-8020	<100

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ANALYTICAL REPORT

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Suite 205
Cincinnati, OH 45246

05/12/1994

Sample No.: 84510
Job No.: 94.01329
P.O. NO.: PBS03297

Sample Description: TANK #5
Job Description: GM POWERTRAIN - BEDFORD, IN

Date Taken: 05/09/1994 Date Received: 05/10/1994

Parameter	Result		Units	Analyst/ Date of Analysis
MISC. ALCOHOLS				
Acetone	<150	*	mg/L	maj / 05-11-94
Ethanol	161000		mg/L	maj / 05-11-94
Isopropyl Alcohol	21.3		mg/L	maj / 05-11-94
Methanol	<100	**	mg/L	maj / 05-11-94
Methyl Ethyl Ketone (MEK)	1.5		mg/L	maj / 05-11-94
n-Butyl Alcohol	46.6		mg/L	maj / 05-11-94
Isobutyl Alcohol	22.4		mg/L	maj / 05-11-94
4-Methyl-1,2-pentanone (MIBK)	<1.0		mg/L	maj / 05-11-94
n-Propyl Alcohol	<10.0	**	mg/L	maj / 05-11-94
tert-Butyl Alcohol	<1.0		mg/L	maj / 05-11-94
VOLATILE - BETX (AQUEOUS)				/
Benzene	55		ug/L	srj / 05/10/1994
Ethylbenzene	67		ug/L	srj / 05/10/1994
Methyl-tert-butyl-ether (MTBE	<5.		ug/L	srj / 05/10/1994
Toluene	18		ug/L	srj / 05/10/1994
Xylenes, Total	<5.		ug/L	srj / 05/10/1994

* Reporting limit raised due to process blank exhibiting 1 mg/L.

** Reporting limit raised due to interferences.

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ANALYTICAL REPORT

Mr. Greg Baryluk
O'BRIEN & GERE
11590 Century Blvd.
Suite 205
Cincinnati, OH 45246

05/17/1994

NET Job Number: 94.01382

Enclosed are the Analytical Results for the following samples submitted to NET, Inc. Indianapolis Division for analysis:

Project Description: GM POWERTRAIN - BEDFORD, IN

Sample Number	Sample Description	Date Taken	Date Received
84669	EAST END TANK 5 BTM	05/13/1994	05/14/1994
84670	WEST END TANK 5 BTM	05/13/1994	05/14/1994
84671	NORTH END WALL #1 SIDE	05/13/1994	05/14/1994
84672	SOUTH END WALL #1 SIDE	05/13/1994	05/14/1994
84673	EAST WALL #1	05/13/1994	05/14/1994
84674	EAST WALL #2	05/13/1994	05/14/1994
84675	EAST WALL #3	05/13/1994	05/14/1994
84676	WEST WALL #1	05/13/1994	05/14/1994
84677	WEST WALL #2	05/13/1994	05/14/1994
84678	WEST WALL #3	05/13/1994	05/14/1994
84679	STOCKPILE A NORTH	05/13/1994	05/14/1994
84680	STOCKPILE B CENTER	05/13/1994	05/14/1994
84681	STOCKPILE C SOUTH	05/13/1994	05/14/1994
84682	TANK 1 EAST END TANK BTM	05/13/1994	05/14/1994
84683	TANK 1 CL OF TANK BTM	05/13/1994	05/14/1994
84684	TANK 1 WEST END OF TANK BTM	05/13/1994	05/14/1994
84685	TANK 2 EAST END OF TANK BTM	05/13/1994	05/14/1994
84686	TANK 2 CL OF TANK BTM	05/13/1994	05/14/1994

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

Approved By:

Beth Day
Project Manager

NET® TESTING, INC.
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Fax: (317) 842-4286

ANALYTICAL REPORT

Mr. Greg Baryluk
O'BRIEN & GERE
11590 Century Blvd.
Suite 205
Cincinnati, OH 45246

05/17/1994

NET Job Number: 94.01382

Enclosed are the Analytical Results for the following samples submitted to NET, Inc. Indianapolis Division for analysis:

Project Description: GM POWERTRAIN - BEDFORD, IN

Sample Number	Sample Description	Date Taken	Date Received
84687	TANK 2 WEST END OF TANK BTM	05/13/1994	05/14/1994
84688	TANK 3 EAST END OF TANK BTM	05/13/1994	05/14/1994
84689	TANK 3 CL OF TANK BTM	05/13/1994	05/14/1994
84690	TANK 3 WEST END OF TANK BTM	05/13/1994	05/14/1994
84691	TANK 4 EAST END OF TANK BTM	05/13/1994	05/14/1994
84692	TANK 4 WEST END OF TANK BTM	05/13/1994	05/14/1994
84693	CL OF TANK #1 BTM	05/13/1994	05/14/1994
84694	TANK #5 EAST BTM	05/13/1994	05/14/1994
84695	TANK #5 WEST BTM	05/13/1994	05/14/1994
84696	EAST WALL #3	05/13/1994	05/14/1994
84697	WEST WALL #3	05/13/1994	05/14/1994
84698	SOUTH WALL #1	05/13/1994	05/14/1994

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

Approved By:

Beth Day

Beth Day
Project Manager

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KEY TO ABBREVIATIONS

<	Less than; when appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	Concentration in units of milligrams of analyte per Liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
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PQL	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy under routine conditions.
a	Indicates the sample concentration was quantitated using a diesel fuel standard.
b	Indicates the analyte of interest was also found in the method blank.
d1	Indicates the sample was diluted due to high analyte concentration.
d2	Indicates the sample was diluted due to matrix interference and that the PQL may be elevated.
e	Indicates the reported concentration is estimated.
f	Indicates the sample concentration was quantitated using a fuel oil standard.
g	Indicates the sample concentration was quantitated using a gasoline standard.
h	Indicates the sample was analyzed past holding time.
j	Indicates the reported concentration is below the PQL.
k	Indicates the sample concentration was quantitated using a kerosene standard.
m	Indicates the sample concentration was quantitated using a mineral spirits standard.
o	Indicates the sample concentration was quantitated using a motor oil standard.
q	Indicates the sample concentration was quantitated using a standard provided by the client.
r	Indicates the sample was received past holding time.
s	Indicates the sample concentration was quantitated using a stoddard solvent standard.
u	Indicates the sample was received improperly preserved and/or contained.
TCLP	Indicates the Toxicity Characteristic Leaching Procedure was performed for this analysis.
ICP	Indicates the analysis was performed using Inductively Coupled Plasma Spectroscopy.
GFAA	Indicates the analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
%	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
Dry Weight	When indicated, the results are reported on a dry weight basis. The contribution of the moisture content in the sample is subtracted when calculating the concentration of the analyte.

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ANALYTICAL REPORT

Mr. Greg Baryluk
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11590 Century Blvd.
Suite 205
Cincinnati, OH 45246

05/17/1994

P.O. NO.: PBS03297
Job No.: 94.01382

Date Received: 05/14/1994
Job Description: GM POWERTRAIN - BEDFORD, IN

Sample Number / Sample I.D. / Parameters	Results		Sample Date/ Units	Analyst & Date Analyzed	Method	PQL
84669 EAST END TANK 5 BTM			05/13/1994			
TPH - GC/FID Volatile 8015M	170	g	mg/kg	srj / 05/14/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	610	d	mg/kg	srj / 05/14/1994	S-8015M	<15.
84670 WEST END TANK 5 BTM			05/13/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/15/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	<15	d	mg/kg	srj / 05/15/1994	S-8015M	<15.
84671 NORTH END WALL #1 SIDE			05/13/1994			
TPH - GC/FID Volatile 8015M	3,400	g	mg/kg	srj / 05/15/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	12,500	d	mg/kg	srj / 05/15/1994	S-8015M	<15.
84672 SOUTH END WALL #1 SIDE			05/13/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/15/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	35	d	mg/kg	srj / 05/15/1994	S-8015M	<15.

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ANALYTICAL REPORT

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Suite 205
Cincinnati, OH 45246

05/17/1994

P.O. NO.: PBS03297
Job No.: 94.01382

Date Received: 05/14/1994
Job Description: GM POWERTRAIN - BEDFORD, IN

Sample Number / Sample I.D. / Parameters	Results		Sample Date/ Units	Analyst & Date Analyzed	Method	PQL
84673 EAST WALL #1			05/13/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/15/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	<15	d	mg/kg	srj / 05/15/1994	S-8015M	<15.
84674 EAST WALL #2			05/13/1994			
TPH - GC/FID Volatile 8015M	21	g	mg/kg	srj / 05/15/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	70	d	mg/kg	srj / 05/15/1994	S-8015M	<15.
84675 EAST WALL #3			05/13/1994			
TPH - GC/FID Volatile 8015M	35	g	mg/kg	srj / 05/15/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	120	d	mg/kg	srj / 05/15/1994	S-8015M	<15.
84676 WEST WALL #1			05/13/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/15/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	16	d	mg/kg	srj / 05/15/1994	S-8015M	<15.

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ANALYTICAL REPORT

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Suite 205
Cincinnati, OH 45246

05/17/1994

P.O. NO.: PBS03297
Job No.: 94.01382

Date Received: 05/14/1994
Job Description: GM POWERTRAIN - BEDFORD, IN

Sample Number / Sample I.D. / Parameters	Results		Sample Date/ Units	Analyst & Date Analyzed	Method	PQL
84677 WEST WALL #2			05/13/1994			
TPH - GC/FID Volatile 8015M	620	g	mg/kg	srj / 05/15/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	210	d	mg/kg	srj / 05/15/1994	S-8015M	<15.
84678 WEST WALL #3			05/13/1994			
TPH - GC/FID Volatile 8015M	480	g	mg/kg	srj / 05/15/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	1,800	d	mg/kg	srj / 05/15/1994	S-8015M	<15.
84679 STOCKPILE A NORTH			05/13/1994			
TPH - GC/FID Volatile 8015M	160	g	mg/kg	srj / 05/15/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	520	d	mg/kg	srj / 05/15/1994	S-8015M	<15.
84680 STOCKPILE B CENTER			05/13/1994			
TPH - GC/FID Volatile 8015M	390	g	mg/kg	srj / 05/15/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	1,400	d	mg/kg	srj / 05/15/1994	S-8015M	<15.

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Cincinnati, OH 45246

05/17/1994

P.O. NO.: PBS03297
Job No.: 94.01382

Date Received: 05/14/1994
Job Description: GM POWERTRAIN - BEDFORD, IN

Sample Number / Sample I.D. / Parameters	Results		Sample Date/ Units	Analyst & Date Analyzed	Method	PQL
84681 STOCKPILE C SOUTH			05/13/1994			
TPH - GC/FID Volatile 8015M	180	g	mg/kg	srj / 05/15/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	620	d	mg/kg	srj / 05/15/1994	S-8015M	<15.
84682 TANK 1 EAST END TANK BTM			05/13/1994			
TPH - GC/FID Volatile 8015M	780	g	mg/kg	srj / 05/14/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	2,800	d	mg/kg	srj / 05/14/1994	S-8015M	<15.
84683 TANK 1 CL OF TANK BTM			05/13/1994			
TPH - GC/FID Volatile 8015M	56	g	mg/kg	srj / 05/15/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	200	d	mg/kg	srj / 05/15/1994	S-8015M	<15.
84684 TANK 1 WEST END OF TANK BTM			05/13/1994			
TPH - GC/FID Volatile 8015M	280	g	mg/kg	srj / 05/15/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	1,000	d	mg/kg	srj / 05/15/1994	S-8015M	<15.

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ANALYTICAL REPORT

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05/17/1994

P.O. NO.: PBS03297
Job No.: 94.01382
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Date Received: 05/14/1994
Job Description: GM POWERTRAIN - BEDFORD, IN

Sample Number / Sample I.D. / Parameters	Results		Sample Date/ Units	Analyst & Date Analyzed	Method	PQL
84685 TANK 2 EAST END OF TANK BTM			05/13/1994			
TPH - GC/FID Volatile 8015M	140	g	mg/kg	srj / 05/15/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	520	d	mg/kg	srj / 05/15/1994	S-8015M	<15.
84686 TANK 2 CL OF TANK BTM			05/13/1994			
TPH - GC/FID Volatile 8015M	420	g	mg/kg	srj / 05/14/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	1,500	d	mg/kg	srj / 05/14/1994	S-8015M	<15.
84687 TANK 2 WEST END OF TANK BTM			05/13/1994			
TPH - GC/FID Volatile 8015M	65	g	mg/kg	srj / 05/14/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	230	d	mg/kg	srj / 05/14/1994	S-8015M	<15.
84688 TANK 3 EAST END OF TANK BTM			05/13/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/14/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	34	d	mg/kg	srj / 05/14/1994	S-8015M	<15.

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Sample Number / Sample I.D. Parameters	Results		Sample Date/ Units	Analyst & Date Analyzed	Method	PQL
84689 TANK 3 CL OF TANK BTM			05/13/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/14/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	<15	d	mg/kg	srj / 05/14/1994	S-8015M	<15.
84690 TANK 3 WEST END OF TANK BTM			05/13/1994			
TPH - GC/FID Volatile 8015M	22	g	mg/kg	srj / 05/14/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	80	d	mg/kg	srj / 05/14/1994	S-8015M	<15.
84691 TANK 4 EAST END OF TANK BTM			05/13/1994			
TPH - GC/FID Volatile 8015M	1,700	g	mg/kg	srj / 05/14/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	6,200	d	mg/kg	srj / 05/14/1994	S-8015M	<15.
84692 TANK 4 WEST END OF TANK BTM			05/13/1994			
TPH - GC/FID Volatile 8015M	2,000	g	mg/kg	srj / 05/14/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	7,200	d	mg/kg	srj / 05/14/1994	S-8015M	<15.

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Sample Number / Sample I.D. Parameters	Results	Sample Date/ Units	Analyst & Date Analyzed	Method	PQL
84693 CL OF TANK #1 BTM		05/13/1994			
MISC. ALCOHOLS					
Acetone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Ethanol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Isopropyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Methanol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Methyl Ethyl Ketone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
n-Butyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Isobutyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
4-Methyl-1,2-pentanone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
n-Propyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
tert-Butyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
84694 TANK #5 EAST BTM		05/13/1994			
MISC. ALCOHOLS					
Acetone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Ethanol	26.7	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Isopropyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Methanol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Methyl Ethyl Ketone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
n-Butyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Isobutyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
4-Methyl-1,2-pentanone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
n-Propyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
tert-Butyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0

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Sample Number / Sample I.D. Parameters	Results	Sample Date/ Units	Analyst & Date Analyzed	Method	PQL
84695 TANK #5 WEST BTM		05/13/1994			
MISC. ALCOHOLS					
Acetone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Ethanol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Isopropyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Methanol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Methyl Ethyl Ketone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
n-Butyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Isobutyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
4-Methyl-1,2-pentanone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
n-Propyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
tert-Butyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
84696 EAST WALL #3		05/13/1994			
MISC. ALCOHOLS					
Acetone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Ethanol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Isopropyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Methanol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Methyl Ethyl Ketone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
n-Butyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Isobutyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
4-Methyl-1,2-pentanone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
n-Propyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
tert-Butyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0

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Sample Number / Sample I.D. Parameters	Results	Sample Date/ Units	Analyst & Date Analyzed	Method	PQL
84697 WEST WALL #3		05/13/1994			
MISC. ALCOHOLS					
Acetone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Ethanol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Isopropyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Methanol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Methyl Ethyl Ketone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
n-Butyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Isobutyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
4-Methyl-1,2-pentanone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
n-Propyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
tert-Butyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
84698 SOUTH WALL #1		05/13/1994			
MISC. ALCOHOLS					
Acetone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Ethanol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Isopropyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Methanol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Methyl Ethyl Ketone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
n-Butyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
Isobutyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
4-Methyl-1,2-pentanone	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
n-Propyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0
tert-Butyl Alcohol	<1.0	mg/kg	bgm / 05/16/1994	NET-GC	<1.0

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05/18/1994

NET Job Number: 94.01409

Enclosed are the Analytical Results for the following samples submitted to NET, Inc. Indianapolis Division for analysis:

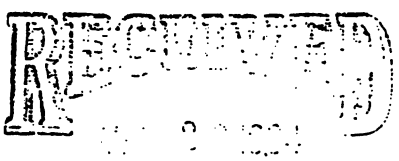
Project Description: GM POWERTRAIN - BEDFORD, IN

Sample Number	Sample Description	Date Taken	Date Received
84814	NORTH END WALL	05/17/1994	05/17/1994
84815	TANK #4 EAST END BTM	05/17/1994	05/17/1994
84816	TANK #4 WEST END BTM	05/17/1994	05/17/1994
84817	WEST WALL #2	05/17/1994	05/17/1994
84818	WEST WALL #3	05/17/1994	05/17/1994
84819	TANK #1 EAST END BTM	05/17/1994	05/17/1994
84820	TANK #1 CL BTM	05/17/1994	05/17/1994
84821	TANK #1 WEST END BTM	05/17/1994	05/17/1994
84822	SOIL PILE A	05/17/1994	05/17/19
84823	SOIL PILE B	05/17/1994	05/17/19
84824	SOIL PILE C	05/17/1994	05/17/1994
84825	2ND SOIL PILE A	05/17/1994	05/17/1994
84826	2ND SOIL PILE B	05/17/1994	05/17/1994
84827	EAST WALL #3	05/17/1994	05/17/1994
84828	TANK 5 EAST BT	05/17/1994	05/17/1994
84829	TANK #2 EAST END BTM	05/17/1994	05/17/1994
84830	TANK #2 CL BTM	05/17/1994	05/17/1994
84831	TANK #2 WEST END BTM	05/17/1994	05/17/1994

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

Approved By:

Beth Day
Project Manager





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KEY TO ABBREVIATIONS

<	Less than; when appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	Concentration in units of milligrams of analyte per Liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/L	Concentration in units of micrograms of analyte per Liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
mg/kg	Concentration in units of milligrams of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm).
ug/kg	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
PQL	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy under routine conditions.
a	Indicates the sample concentration was quantitated using a diesel fuel standard.
b	Indicates the analyte of interest was also found in the method blank.
d1	Indicates the sample was diluted due to high analyte concentration.
d2	Indicates the sample was diluted due to matrix interference and that the PQL may be elevated.
e	Indicates the reported concentration is estimated.
f	Indicates the sample concentration was quantitated using a fuel oil standard.
g	Indicates the sample concentration was quantitated using a gasoline standard.
h	Indicates the sample was analyzed past holding time.
j	Indicates the reported concentration is below the PQL.
k	Indicates the sample concentration was quantitated using a kerosene standard.
m	Indicates the sample concentration was quantitated using a mineral spirits standard.
o	Indicates the sample concentration was quantitated using a motor oil standard.
q	Indicates the sample concentration was quantitated using a standard provided by the client.
r	Indicates the sample was received past holding time.
s	Indicates the sample concentration was quantitated using a stoddard solvent standard.
u	Indicates the sample was received improperly preserved and/or contained.
TCLP	Indicates the Toxicity Characteristic Leaching Procedure was performed for this analysis.
ICP	Indicates the analysis was performed using Inductively Coupled Plasma Spectroscopy.
GFAA	Indicates the analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
%	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
Dry Weight	When indicated, the results are reported on a dry weight basis. The contribution of the moisture content in the sample is subtracted when calculating the concentration of the analyte.

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Date Received: 05/17/1994
Job Description: GM POWERTRAIN - BEDFORD, IN

Sample Number / Sample I.D. Parameters	Results		Sample Date/ Units	Analyst & Date Analyzed	Method	PQL
84814 NORTH END WALL			05/17/1994			
TPH - GC/FID Volatile 8015M	420	g,e	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	1,600	d,e	mg/kg	srj / 05/17/1994	S-8015M	<15.
84815 TANK #4 EAST END BTM			05/17/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	<15	d	mg/kg	srj / 05/17/1994	S-8015M	<15.
84816 TANK #4 WEST END BTM			05/17/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	<15	d	mg/kg	srj / 05/17/1994	S-8015M	<15.
84817 WEST WALL #2			05/17/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	<15	d	mg/kg	srj / 05/17/1994	S-8015M	<15.

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Sample Number / Sample I.D. / Parameters	Results		Sample Date/ Units	Analyst & Date Analyzed	Method	PQL
84818 WEST WALL #3			05/17/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	<15	d	mg/kg	srj / 05/17/1994	S-8015M	<15.
84819 TANK #1 EAST END BTM			05/17/1994			
TPH - GC/FID Volatile 8015M	85	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	320	d	mg/kg	srj / 05/17/1994	S-8015M	<15.
84820 TANK #1 CL BTM			05/17/1994			
TPH - GC/FID Volatile 8015M	60	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	230	d	mg/kg	srj / 05/17/1994	S-8015M	<15.
84821 TANK #1 WEST END BTM			05/17/1994			
TPH - GC/FID Volatile 8015M	83	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	320	d	mg/kg	srj / 05/17/1994	S-8015M	<15.

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Sample Number / Sample I.D. / Parameters	Results		Sample Date/ Units	Analyst & Date Analyzed	Method	PQL
84822 SOIL PILE A			05/17/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	48	d	mg/kg	srj / 05/17/1994	S-8015M	<15.
84823 SOIL PILE B			05/17/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	<15	d	mg/kg	srj / 05/17/1994	S-8015M	<15.
84824 SOIL PILE C			05/17/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	<15	d	mg/kg	srj / 05/17/1994	S-8015M	<15.
84825 2ND SOIL PILE A			05/17/1994			
TPH - GC/FID Volatile 8015M	20	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	77	d	mg/kg	srj / 05/17/1994	S-8015M	<15.

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84826 2ND SOIL PILE B			05/17/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	<15	d	mg/kg	srj / 05/17/1994	S-8015M	<15.
84827 EAST WALL #3			05/17/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	<15	d	mg/kg	srj / 05/17/1994	S-8015M	<15.
84828 TANK 5 EAST BT			05/17/1994			
TPH - GC/FID Volatile 8015M	21	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	80	d	mg/kg	srj / 05/17/1994	S-8015M	<15.
84829 TANK #2 EAST END BTM			05/17/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	20	d	mg/kg	srj / 05/17/1994	S-8015M	<15.

® TESTING, INC.
Tel: (317) 842-4261
Fax: (317) 842-4286

ANALYTICAL REPORT

Mr. Greg Baryluk
O'BRIEN & GERE
11590 Century Blvd.
Suite 205
Cincinnati, OH 45246

05/18/1994

P.O. NO.: PBS03297
Job No.: 94.01409

Date Received: 05/17/1994
Job Description: GM POWERTRAIN - BEDFORD, IN

Sample Number / Sample I.D. Parameters	Results		Sample Date/ Units	Analyst & Date Analyzed	Method	PQL
84830 TANK #2 CL BTM			05/17/1994			
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	51	d	mg/kg	srj / 05/17/1994	S-8015M	<15.
84831 TANK #2 WEST END BTM			05/17/1994			
TPH - GC/FID Volatile 8015M	32	g	mg/kg	srj / 05/17/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	130	d	mg/kg	srj / 05/17/1994	S-8015M	<15.

ENVIRONMENTAL TESTING, INC.
Tel: (317) 842-4261
Fax: (317) 842-4286

ANALYTICAL REPORT

Mr. Greg Baryluk
O'BRIEN & GERE
11590 Century Blvd.
Suite 205
Cincinnati, OH 45246

05/25/1994

Sample No.: 85126
Job No.: 94.01511
P.O. NO.: PBS03297

Sample Description: NORTH END SIDE WALL
Job Description: GM POWERTRAIN - BEDFORD, IN

Date Taken: 05/18/1994 Date Received: 05/23/1994

Parameters	Results		Units	Analyst/ Date of Analysis	Method Number	Method PQL
TPH - GC/FID Volatile 8015M	<15	g	mg/kg	rla / 05/24/1994	S-8015M	<15.
TPH - GC/FID Volatile 8015M	<15	a	mg/kg	srj / 05/24/1994	S-8015M	<15.

Beth Day
Project Manager

RECEIVED
MAY 31 1994
O'BRIEN & GERE
CINCINNATI

TESTING, INC.
Tel: (317) 842-4261
Fax: (317) 842-4286

KEY TO ABBREVIATIONS

<	Less than; when appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	Concentration in units of milligrams of analyte per Liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/L	Concentration in units of micrograms of analyte per Liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
mg/kg	Concentration in units of milligrams of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm).
ug/kg	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
PQL	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy under routine conditions.
a	Indicates the sample concentration was quantitated using a diesel fuel standard.
b	Indicates the analyte of interest was also found in the method blank.
d1	Indicates the sample was diluted due to high analyte concentration.
d2	Indicates the sample was diluted due to matrix interference and that the PQL may be elevated.
e	Indicates the reported concentration is estimated.
f	Indicates the sample concentration was quantitated using a fuel oil standard.
g	Indicates the sample concentration was quantitated using a gasoline standard.
h	Indicates the sample was analyzed past holding time.
j	Indicates the reported concentration is below the PQL.
k	Indicates the sample concentration was quantitated using a kerosene standard.
m	Indicates the sample concentration was quantitated using a mineral spirits standard.
o	Indicates the sample concentration was quantitated using a motor oil standard.
q	Indicates the sample concentration was quantitated using a standard provided by the client.
r	Indicates the sample was received past holding time.
s	Indicates the sample concentration was quantitated using a stoddard solvent standard.
u	Indicates the sample was received improperly preserved and/or contained.
TCLP	Indicates the Toxicity Characteristic Leaching Procedure was performed for this analysis.
ICP	Indicates the analysis was performed using Inductively Coupled Plasma Spectroscopy.
GFAA	Indicates the analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
%	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
Dry Weight	When indicated, the results are reported on a dry weight basis. The contribution of the moisture content in the sample is subtracted when calculating the concentration of the analyte.

EXHIBIT 4

DISPOSAL MANIFESTS

SPECIAL WASTE DISPOSAL NOTIFICATION

GENERATOR INFORMATION

Company Name: GM Powertrain Division Technical Contact: Wm. Schoonmaker
Mailing Address: N Jackson St, Bedford, IN 47421 Generator Location: N. Jackson St Bedford, IN

Emergency Response Phone Number: 812 279 7200

WASTE CERTIFICATION INFORMATION

Waste Name: Concrete Debris Certification Number: 21236 Expiration Date: 15 Jan 9[illegible]

Description of Waste: [redacted] concrete debris from plant [redacted] aways and floors

I Hereby certify that the above information is true and accurate to the best of my knowledge.

~~Wilbur L. Fields~~ R G SIMMERMAN R G Simmerman 5/9/94

Name(print or type) Signature Date(MM/DD/YY)

TRANSPORTER INFORMATION

Company Name: ~~Rumpke~~ RS HANNA TRUCKING Mail Address: ~~10795 Hughes Road Cincinnati, OH 42247~~ 750 N COUNTY ROAD BEDFORD, IN

Keith Lentz 5-9-

Driver's Signature Date(MM/DD/YY)

DISPOSAL SITE INFORMATION

Site Name: Rumpke Medora Landfill OPP Number: 36-1 Amount: 15 yds

Authorized Signature 5-9-94 Date(MM/DD/Y

Pursuant to Solid Waste Rule 329 IAC 2-21-15 (Facility respon[illegible] (Generator responsibility for special waste disposal), all special was[illegible] notification. As stated in each of these respective cites, the generat[illegible] notification for each load of special waste to be disposed of and the [illegible] special waste with the information provided. The solid waste dispos[illegible] such time as certification of post-closure is deemed acceptable for th[illegible]

Pursuant to Solid Waste Rule 329 IAC 2-14-8 (Records and rep[illegible] commissioner a quarterly report which includes the origin of the soi[illegible] originated outside of Indiana. The origin of the waste must be provi[illegible] by percent, the composition of a mixed load. Therefore, the county special waste disposal notification (see above).

The quarterly report, however, does not replace the monthly rep[illegible] special waste. If you have any questions regarding this matter, plea[illegible]

[illegible]ility for special waste disposal) and 329 IAC 2-21-16 [illegible]elivered for disposal shall be accompanied by a disposa[illegible] [illegible]nust provide the disposal facility with a written disposal [illegible]d waste disposal facility operator shall check each load [illegible] facility shall also maintain the disposal notifications un[illegible] [illegible]ite.

[illegible]), all solid waste disposal facilities shall submit to the [illegible] waste compiled by county, or by state if the waste [illegible] to the facility by the hauler and the hauler must estim[illegible] [illegible]/or the state of origin is now required information on th[illegible]

[illegible] which is required from all solid waste facilities that rece[illegible] [illegible]ontact this office at 317/232-4473.

SPECIAL WASTE DISPOSAL NOTIFICATION

GENERATOR INFORMATION

Company Name: GM Powertrain Division Technical Contact: Wm. Schoonmaker
Mailing Address: N Jackson St, Bedford, IN 47421 Generator Location: N. Jackson St Bedford, IN

Emergency Response Phone Number: 812 279 7200

WASTE CERTIFICATION INFORMATION

Waste Name: Concrete Debris [redacted] Certification Number: 21236 Expiration Date: 15 Jan

Description of Waste: [redacted] concrete debris from plant [redacted] roadways and floors

I Hereby certify that the above information is true and accurate to the best of my knowledge. R. Hutchinso

[redacted] R. Hutchinson Engr Tech

Name(print or type) Signature Date(MM/DD/Y

TRANSPORTER INFORMATION

Company Name: Rumpke Mailing Address: 10795 Hughes Road Cincinnati, OH 45247

Driver's Signature 5-10-94
Date(MM/DD/Y

DISPOSAL SITE INFORMATION

Site Name: Rumpke Medora Landfill OPP Number: 36-1 Amount: 15 yds

Authorized Signature 5-10-94
Date(MM/DD/

Pursuant to Solid Waste Rule 329 IAC 2-21-15 (Facility respo... (Generator responsibility for special waste disposal), all special wa... notification. As stated in each of these respective cites, the genera... notification for each load of special waste to be disposed of and the special waste with the information provided. The solid waste dispo... such time as certification of post-closure is deemed acceptable for t...

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...ility for special waste disposal) and 329 IAC 2-21-16 ... delivered for disposal shall be accompanied by a dispos... must provide the disposal facility with a written disposa... lid waste disposal facility operator shall check each load... facility shall also maintain the disposal notifications u... site.

...s), all solid waste disposal facilities shall submit to the ... waste compiled by county, or by state if the waste ... to the facility by the hauler and the hauler must estim... d/or the state of origin is now required information on t...

... which is required from all solid waste facilities that rec... contact this office at 317/232-4473.

SPECIAL WASTE DISP SAL NOTIFICATION

GENERATOR I: ORMATION

Company Name: GM Powertrain Division
Mailing Address: N Jackson St, Bedford, IN G 47421

nical Contact: Wm. Schoonmaker
ator Location: N. Jackson St Bedford, IN

Emergency Response Phone Number: 812 279 7200

WASTE CERTIFICAT: { INFORMATION

Waste Name: Concrete Debris [redacted] Certification Nu.: 21236 Expiration Date: 15 Jan

Description of Waste: [redacted] concrete debris from plant [redacted] adways and floors

I Hereby certify that the above information is true and accurate to . best of my knowledge.

R. Hutchinson
Name(print or type)

R. Hutchinson 5-10-9
Signature Date(MM/DD/YY

TRANSPORTER I: ORMATION

Company Name: ~~Rumpke~~ WANNA Mail: Address: ~~18795 Hughes Road Cincinnati, OH 45247~~

Driver's Signature

5-10-94
Date(MM/DD

DISPOSAL SITE IN: ORMATION

Site Name: Rumpke Medora Landfill OPP Nu: 36-1 Amount: 15 yds.

Authorized Signat:

5-10-94
Date(MM/DD/Y

Pursuant to Solid Waste Rule 329 IAC 2-21-15 (Facility respon (Generator responsibility for special waste disposal), all special was notification. As stated in each of these respective cites, the generat notification for each load of special waste to be disposed of and the special waste with the information provided. The solid waste dispos such time as certification of post-closure is deemed acceptable for th

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), all solid waste disposal facilites shall submit to the waste compiled by county, or by state if the waste l to the facility by the hauler and the hauler must estimu for the state of origin is now required information on th

which is required from all solid waste facilities that rece ntact this office at 317/232-4473.

SPECIAL WASTE DISPOSAL NOTIFICATION

GENERATOR INFORMATION

Company Name: GM Powertrain Division
Mailing Address: N Jackson St, Bedford, IN 47421

Tecnical Contact: Wm. Schoonmaker
Generator Location: N. Jackson St Bedford, IN

Emergency Response Phone Number: 812 279 7200

WASTE CERTIFICATION INFORMATION

Waste Name: Concrete Debris [redacted]
Certification Number: 21236
Expiration Date: 15 Jan

Description of Waste: [redacted] concrete debris from plan[redacted] roadways and floors

I Hereby certify that the above information is true and accurate to the best of my knowledge.

R. Hutchinson
Name(print or type)

R. Hutchinson GMPT 5-10-
Signature Date(MM/DD/

TRANSPORTER INFORMATION

Company Name: Rumpke
Mailing Address: 10795 Hughes Road Cincinnati, OH 45247

Driver's Signature
5-10-94
Date(MM/DD/

DISPOSAL SITE INFORMATION

Site Name: Rumpke Medora Landfill
OPP Number: 36-1
Amount: 15 yds.

Authorized Signature
5-10-94
Date(MM/DD

Pursuant to Solid Waste Rule 329 IAC 2-21-15 (Facility respo[nsibility for special waste disposal) and 329 IAC 2-21-16 (Generator responsibility for special waste disposal), all special wa[ste delivered for disposal shall be accompanied by a dispo notification. As stated in each of these respective cites, the generat[or must provide the disposal facility with a wrimen dispo notification for each load of special waste to be disposed of and th[e solid waste disposal facility operator shall check each loa special waste with the information provided. The solid waste disp[osal facility shall also maintain the disposal notifications such time as certification of post-closure is deemed acceptable for[this site.

Pursuant to Solid Waste Rule 329 IAC 2-14-8 (Records and re[ports), all solid waste disposal facilities shall submit to the commissioner a quarterly report which includes the origin of the s[olid waste compiled by county, or by state if the waste originated outside of Indiana. The origin of the waste must be pro[vided to the facility by the hauler and the hauler must esti by percent, the composition of a mixed load. Therefore, the coun[ty and/or the state of origin is now required information on special waste disposal notification (see above).

The quarterly report, however, does not replace the monthly r[eport which is required from all solid waste facilities that re special waste. If you have any questions regarding this matter, pl[ease contact this office at 317/232-4473.

SPECIAL WASTE DISPOSAL NOTIFICATION

GENERATOR INFORMATION

Company Name: GM Powertrain Division
Mailing Address: N Jackson St, Bedford, IN 47421

Technical Contact: Wm. Schoonmaker
Generator Location: N. Jackson St Bedford, IN

Emergency Response Phone Number: 812 279 7200

WASTE CERTIFICATION INFORMATION

Waste Name: Concrete Debris
Certification Number: 21236
Expiration Date: 15 Jan

Description of Waste: concrete debris from plant roadways and floors

I Hereby certify that the above information is true and accurate to the best of my knowledge. R. Hutchens

~~William L. Finch~~ | R. Hutchens | 5-10-94
Name(print or type) | Signature | Date(MM/DD/YY)

TRANSPORTER INFORMATION

Company Name: ~~Rumpke~~ Hanna
Mailing Address: ~~10795 Hughes Road Cincinnati, OH 45247~~

[illegible] | 5-10-94
Driver's Signature | Date(MM/DD/YY)

DISPOSAL SITE INFORMATION

Site Name: Rumpke Medora Landfill
OPP Number: 36-1
Amount: 15 yds

[illegible] | 5-10-94
Authorized Signature | Date(MM/DD/YY)

Pursuant to Solid Waste Rule 329 IAC 2-21-15 (Facility responsibility for special waste disposal) and 329 IAC 2-21-16 (Generator responsibility for special waste disposal), all special waste delivered for disposal shall be accompanied by a disposal notification. As stated in each of these respective cites, the generator must provide the disposal facility with a written disposal notification for each load of special waste to be disposed of and the solid waste disposal facility operator shall check each load of special waste with the information provided. The solid waste disposal facility shall also maintain the disposal notifications until such time as certification of post-closure is deemed acceptable for the site.

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The quarterly report, however, does not replace the monthly report which is required from all solid waste facilities that receive special waste. If you have any questions regarding this matter, please contact this office at 317/232-4473.

SPECIAL WASTE DISPOSAL NOTIFICATION

GENERATOR INFORMATION

Company Name: GM Powertrain Division Tecnical Contact: Wm. Schoonmaker
Mailing Address: N Jackson St, Bedford, IN 47421 Generator Location: N. Jackson St Bedford, IN

Emergency Response Phone Number: 812 279 7200

WASTE CERTIFICATION INFORMATION

Waste Name: Concrete Debris Certification Number: 21236 Expiration Date: 15 Ja

Description of Waste: [redacted]
concrete debris from plant roadways and floors

I Hereby certify that the above information is true and accurate to the best of my knowledge.

R. Hutchinson R. Hutchinson 5-12-9

~~Wilbur Lv Fields~~ Name(print or type) Signature Date(MM/DD/Y

TRANSPORTER INFORMATION

Company Name: Rumpke Mailing Address: 10795 Hughes Road Cincinnati, OH 45247

Driver's Signature Date(MM/DD/Y

DISPOSAL SITE INFORMATION

Site Name: Rumpke Medora Landfill OPP Number: 36-1 Amount: 15 yd

Authorized Signature 05/12/96 Date(MM/DD

Pursuant to Solid Waste Rule 329 IAC 2-21-15 (Facility responsibility for special waste disposal) and 329 IAC 2-21-16 (Generator responsibility for special waste disposal), all special waste delivered for disposal shall be accompanied by a disposal notification. As stated in each of these respective cites, the generator must provide the disposal facility with a written disposal notification for each load of special waste to be disposed of and the solid waste disposal facility operator shall check each load special waste with the information provided. The solid waste disposal facility shall also maintain the disposal notifications until such time as certification of post-closure is deemed acceptable for the site.

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SPECIAL WASTE DISPOSAL NOTIFICATION

GENERATOR INFORMATION

Company Name: GM Powertrain Division Technical Contact: Wm. Schoonmaker
Mailing Address: N Jackson St, Bedford, IN 47421 Generator Location: N. Jackson St Bedford, IN

Emergency Response Phone Number: 812 279 7200

WASTE CERTIFICATION INFORMATION

Waste Name: Concrete Debris Certification Number: 21236 Expiration Date: 15 Jan

Description of Waste: concrete debris from plant roadways and floors

I Hereby certify that the above information is true and accurate to the best of my knowledge.

R. Hutchinson

Willard Fields R. Hutchinson GrPT 5-10-94

Name(print or type) Signature Date(MM/DD/YY)

TRANSPORTER INFORMATION

Company Name: ~~Rumpke~~ HANNA Mailing Address: ~~10795 Hughes Road~~ Cincinnati, ~~OH 45247~~

Wayne Cassidy 5-10-

Driver's Signature Date(MM/DD/YY)

DISPOSAL SITE INFORMATION

Site Name: Rumpke Medora Landfill OPP Number: 36-1 Amount: 15 yds

Thomas K. Wallace 5-10-94

Authorized Signature Date(MM/DD/YY)

Pursuant to Solid Waste Rule 329 IAC 2-21-15 (Facility responsibility for special waste disposal) and 329 IAC 2-21-16 (Generator responsibility for special waste disposal), all special waste delivered for disposal shall be accompanied by a disposal notification. As stated in each of these respective cites, the generator must provide the disposal facility with a written disposal notification for each load of special waste to be disposed of and the solid waste disposal facility operator shall check each load special waste with the information provided. The solid waste disposal facility shall also maintain the disposal notifications until such time as certification of post-closure is deemed acceptable for the site.

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SPECIAL WASTE DISPOSAL NOTIFICATION

GENERATOR INFORMATION

Company Name: GM Powertrain Division Technical Contact: Wm. Schoonmaker
Mailing Address: N Jackson St, Bedford, IN 47421 Generator Location: N. Jackson St Bedford, IN

Emergency Response Phone Number: 812 279 7200

WASTE CERTIFICATION INFORMATION

Waste Name: Concrete Debris Certification Number: 21236 Expiration Date: 15 Jan

Description of Waste: [redacted] concrete debris from plant roadways and floors

I Hereby certify that the above information is true and accurate to the best of my knowledge. R. Hutchinson

~~Wilbur~~ Fields R. Hutchinson Capt 5-10-94
Name(print or type) Signature Date(MM/DD/YY

TRANSPORTER INFORMATION

Company Name: ~~Rumpke~~ HANNA Mailing Address: ~~10795 Hughes Road~~ ~~Cincinnati, OH 45247~~

Driver's Signature 5-10-94
Driver's Signature Date(MM/DD/YY

DISPOSAL SITE INFORMATION

Site Name: Rumpke Medora Landfill OPP Number: 36-1 Amount: 15yd.

Authorized Signature 5-10-94
Authorized Signature Date(MM/DD/Y

Pursuant to Solid Waste Rule 329 IAC 2-21-15 (Facility responsibility for special waste disposal) and 329 IAC 2-21-16 (Generator responsibility for special waste disposal), all special waste delivered for disposal shall be accompanied by a disposal notification. As stated in each of these respective cites, the generator must provide the disposal facility with a written disposal notification for each load of special waste to be disposed of and the solid waste disposal facility operator shall check each load c special waste with the information provided. The solid waste disposal facility shall also maintain the disposal notifications unt such time as certification of post-closure is deemed acceptable for the site.

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SPECIAL WASTE DISPOSAL NOTIFICATION

GENERATOR INFORMATION

Company Name: GM Powertrain Division Tecnical Contact: Wm. Schoonmaker
Mailing Address: N Jackson St, Bedford, IN 47421 Generator Location: N. Jackson St Bedford, IN

Emergency Response Phone Number: 812 279 7200

WASTE CERTIFICATION INFORMATION

Waste Name: Concrete Debris Certification Number: 21236 Expiration Date: 15 Jan

Description of Waste: concrete debris from plant roadways and floors

I Hereby certify that the above information is true and accurate to the best of my knowledge. R. Hutchinson

~~Wilbur L. Fields~~ R. Hutchinson 5-12-9
Name(print or type) Signature Date(MM/DD/YY

TRANSPORTER INFORMATION

Company Name: ~~Rumpke~~ Hanna Mailing Address: ~~10795~~ ~~Hughes Road~~ ~~Cincinnati, OH 45247~~

Jerald Beasley 5/12/94
Driver's Signature Date(MM/DD/Y

DISPOSAL SITE INFORMATION

Site Name: Rumpke Medora Landfill OPP Number: 36-1 Amount: 15 yd

05/12/94
Authorized Signature Date(MM/DD

Pursuant to Solid Waste Rule 329 IAC 2-21-15 (Facility responsibility for special waste disposal) and 329 IAC 2-21-16 (Generator responsibility for special waste disposal), all special waste delivered for disposal shall be accompanied by a disposal notification. As stated in each of these respective cites, the generator must provide the disposal facility with a written disposal notification for each load of special waste to be disposed of and the solid waste disposal facility operator shall check each load of special waste with the information provided. The solid waste disposal facility shall also maintain the disposal notifications until such time as certification of post-closure is deemed acceptable for the site.

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The quarterly report, however, does not replace the monthly report which is required from all solid waste facilities that receive special waste. If you have any questions regarding this matter, please contact this office at 317/232-4473.

Incorporated

Date: 5-12-94

To Whom It May Concern:

Hoosier Equipment Service, Inc. certifies that tank number(s) 1940027 A BC has (have) been properly purged and cleaned in accordance with the guidelines established in API Bulletin #1604. Tank number(s) 1940027 ABC contain(s) no sludge or hazardous residues and has (have) been disposed of at BEDFORD RECYCLING located at "H" STREET BEDFORD INDIANA.

Substance stored in tank - [X] unleaded gasoline [ ] leaded gasoline [X] diesel [ ] motor oil [ ] kerosene [ ] other substances _____.

This tank is to be cut up and processed as scrap steel.

RECEIVED
JUN 16 1994
O'BRIEN & GERE
CINCINNATI

8014 W. Thompson Rd.
Indianapolis, IN 46241
(317) 631-5000/(317) 856-2751

(Name of Contractor) HOOSIER EQUIPMENT

Certifies that the tank/tanks listed below, which were removed from (Owners Name and Location of Tank) GENERAL MOTORS FOUNDARY BEDFORD INDIANA, have been purged in accordance with API Bulletin 1604 and

1. the tank never contained leaded gasoline or,
2. the tank has been cleaned in accordance with API Bulletin 2015 and 2015 A and any interior surfaces which might have been in contact with sludge have been cleaned to bare metal in accordance with API 2202 .

Assigned Tank No. (NO. TO BE PRINTED ON ACTUAL TANKS)	Tank Size	Tank Contents
1. 1940027 A	120"X21FT 12K	DIESEL ✓ 42980
2. 1940027 B	120"X21FT 12K	DIESEL ✓ 42720
3. 1940027 C	120" X21 FT 12K	DIESEL ✓ 43180
4. ~~1940027 D~~	~~96"X~~	~~GAS~~ DSE TO BE REMOVED 5/13/94
5. ~~1940027 E~~	~~96"X~~	

Signed by: (Acting Agent For Contractor) [signature]

Title: PROJECT MANAGER Date: 5/12/94

BEDFORD RECYCLING ~~[illegible]~~, INC., certifies that the above listed tanks are being purchased for remelting purposes only, and to the best of our knowledge meet all State and Federal requirements for cleaning.

Signed by: [signature]

Title: Office Mgr. Date: 5/12/94

SCRAP IRON & STEEL INSTITUTE INC. 1938

Date: 5/13/94

To Whom It May Concern:

Hoosier Equipment Service, Inc. certifies that tank number(s) 1940027 D & E has (have) been properly purged and cleaned in accordance with the guidelines established in API Bulletin #1604. Tank number(s) 1940027 D & C contain(s) no sludge or hazardous residues and has (have) been disposed of at BEDFORD RECYCLING located at "H" STREET BEDFORD INDIANA.

Substance stored in tank - [X] unleaded gasoline [ ] leaded gasoline [ ] diesel [ ] motor oil [ ] kerosene [X] other substances ALCOHOL/SOLVENT.

8014 W. Thompson Rd.
Indianapolis, IN 46241
(317) 631-5000/(317) 856-2751

(Name of Contractor) HOOSIER EQUIPMENT

Certifies that the tank/tanks listed below, which were removed from (Owners Name and Location of Tank) GENERAL MOTORS FOUNDARY BEDFORD INDIANA, have been purged in accordance with API Bulletin 1604 and

1. the tank never contained leaded gasoline or,
2. the tank has been cleaned in accordance with API Bulletin 2015 and 2015 A and any interior surfaces which might have been in contact with sludge have been cleaned to bare metal in accordance with API 2202 .

Assigned Tank No. (NO. TO BE PRINTED ON ACTUAL TANKS)	Tank Size	Tank Contents
1. 1940027 D	(36"X 20FT) 7500gal	GASOLINE
2. 1940027 E	(120"X21F) 12000 ~~(120"X20FT) 7500~~ gal	ALCOHOL/SOLVENT
3.		
4.		

Signed by: (Acting Agent For Contractor) R Frank

Title: PROJECT MANAGER Date: 5/13/94

BEDFORD RECYCLING ~~MATERIALS INC~~., certifies that the above listed tanks are being purchased for remelting purposes only, and to the best of our knowledge meet all State and Federal requirements for cleaning.

Signed by: R Frank

Title: Office Mgr Date: 5/13/94

SCRAP INSTITUTE 1904

Date 10 / 1

In Collect on Delivery shipments the letters COD must appear before consignee's name as otherwise provided in Item 420 Sec. 1

TO:
Consignee ENVIRO SOLVE

Street 3600X Mass Ave

INDpolis State IN Zip Code

FROM:
Shipper GM Piston PLT

Street 105 GM Drive

City Bedford State In Zip Code 47

24 hr. Emergency Contact Tel. No. 1-800-886-7

Route

Vehicle Number 4

No. of Units & Container Type	HM	BASIC DESCRIPTION Proper Shipping Name, Hazard Class, Identification Number (UN or NA), Packing Group, per 172.101, 172.202, 172.203	TOTAL QUANTITY (Weight, Volume, Gallons, etc.)	WEIGHT (Subject to Correction)	RATE	CHAR (For C Use C
15 dms X		GASOLINE 3 UN1203 PG II	825 gal			
1 dm		EMPTY DRUM				

PLACARDS TENDERED: YES ☒ NO ☐ FLAM

REMIT C.O.D. TO: ADDRESS

Note — Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding
$ _____ per _____

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by ☒ Rail ☒ Highway ☒ Water [DELETE NON-APPLICABLE MODE OF TRANSPORT] according to applicable international and national governmental regulations.

_____ Signature

COD Amt. $

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement.
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

_____ (Signature of Consignor)

C.O.D. FEE: PREPAID ☐ COLLECT ☐ $

TOTAL CHARGES: $

FREIGHT CHARGES PREPAID PREPAID charges when box at right is checked ☐ Check box if charges are to be collected

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions on the governing classification on the date of shipment.
Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER John Schoonover

:R

CARRIER Enviro Solve

PER Bob Copple

DATE

rmanent post-office address of shipper.

STYLE F60 LABELMASTER, An American Labelmark Co., Chicago, IL 60646 800/621-58

PRINTED ON RECYCLED PAPER USING SOYBEAN INK Printed with SOY INK

15 x $100.00
1 x $25.00

EnviroSolve
environmental management, inc.

DATE: 6-14-94 TIME: 1:30

CUSTOMER: GM Piston PLT

ADDRESS: 105 GM Drive

GENERATOR: Hoosier Eq

ADDRESS:

TRUCK NUMBER: 4

LANDFILL: TICKET NO: 10506

DESCRIPTION: K5 Non Haz Non Reg UST Sludge - Flam Pnt. - 1 cut

DRUMS QUANTITY:

DELIVERY ONLY

15 YD	ASBESTOS	SLUDGE	TRASH
20 YD	ASBESTOS	SLUDGE	TRASH
30 YD	ASBESTOS	SLUDGE	TRASH
40 YD	ASBESTOS	SLUDGE	TRASH
42 YD	ASBESTOS	SLUDGE	TRASH

DRIVER: Bob Capp

I hereby authorize EnviroSolve to deliver and/or pickup this container. It is understood that all invoices are to be paid in full within 30 days of this ticket date.

AUTHORIZED SIGNATURE: John Solomon

SECTION RESERVED FOR SOIL DISPOSAL MANIFESTS

TECHNICAL SERVICES

RE: UST Removal

FILE: C28801

CC: J. F. Rauschb

TO:

NAO Disbursements - Warren South
Powertrain Casting Operations
P.O. Box 2000
Flint, MI 48555-2000

TERMS - NET 30 DAYS
1½% Monthly late payment charge
on all outstanding balances due
Payment Due: 07/24/94

DESCRIPTION OF SERVICES	AMOUNT DUE
RE: Demolition of Above Ground Tank Farm (Concrete Containment with 2 - 5,000 Gallon Tanks), and Subsequent Excavation and Disposal of 4 - 10,000 Gallon USTs (Diesel Fuel). As Per PO #PBS03632 Dated April 18, 1994. Services Beyond the Original Scope of Work, as per Attached.	
Additional Analytical Work (Soil & Water Samples) by O'Brien and Gere Engineers.	$ 5,492.50
Additional Sub-Contract Costs Incurred due to 5th Tank Removal, Transportation & Disposal of Concrete Debris to Medora Landfill, Removal & Disposal of Tank Liquids, Removal & Disposal of Tank Sludge, & Contaminated Soil Excavation & Replacement With Clean Fill.	$ 23,381.
10% Profit & 10% Overhead on Sub-Contract Costs.	$ 4,676.30
OBG Technical Services Supervision/Management	$ 3,050.00
Mini-Rac Site Survey Meter Rental (Soil Screening)	$ 567.00
TOTAL AMOUNT DUE THIS INVOICE	$ 37,167.30

PROCESSED
JUN 28 1994
OBG TECHNICAL SERVICES

RBJ

Robert C. Cheeseman, Vice President

REMIT TO: OBG TECHNICAL SERVICES, INC.
PO BOX 2682
SYRACUSE NY 13220-2682

arkway/East Syracuse, NY 13057
100

APPENDIX G.41

NOVEMBER 22, 1977 ANALYTICAL RESULTS

ANATECH SERVICES, INC.

828 Phoenix Dr. Ann Arbor, Mich. 48104 313-973-1270

ANALYTICAL REPORT

ANALYSIS FOR PCB * 1250/1500 ACKE

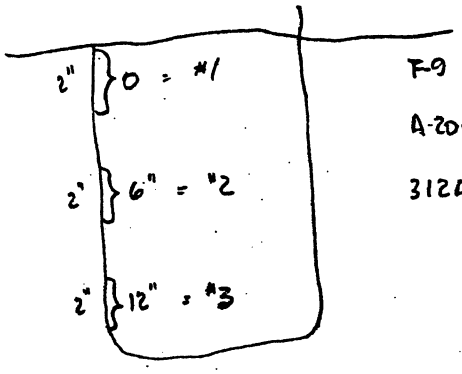
CLIENT Office of the General Counsel
GM Building
3044 West Grand Blvd.
Detroit, Michigan 48202

RECEIVED November 23, 1977

DESCRIPTION Various samples as indicated below

ID NOS. Attn: Dave Graves
As indicated below

METHOD "Manual of Analytical Methods for the Analysis of Pesticide Residues in Human and Environmental Samples"



F-9 60% 1242
A-200 30% 1254
312A 60% 1242

2.5 FEDERAL F.D STD.

RESULTS

Sample ID	PCB(ppm)* whole weight	fat weight
(Milk-bottles)		
#1 11-22-77 AM	0.013	3.43**
#2 11-27-77 AM	0.012	1.76**
Heifer 2 Eartag 17 11-21 PM - new cow	0.073	5.20**
#4 Big White Cow 11-21 PM	0.192	3.37
#4 11-22-77 AM	0.044	1.92
#3 Black 11-21 PM	0.097	8.07**
#3 11-22-77 AM	0.022	5.49**
Heifer 1 11-21-77 PM - NEW Cow	0.109	5.77
(Milk-bags)		
1 11-21 PM	0.094	4.97**
2 11-21 PM	0.054	3.35**
3 11-21 PM	0.043	6.28**
4 11-21 PM	0.032	2.99**

Need 3% min. butter fat level to obtain reliable PCB analysis

Results continued on second sheet

* As Arochlor 1254

**Butter fat level so low as to make fat weight determination unreliable

Signed Robert F. Rebuck Date 12-8-77

by and for ANATECH SERVICES, INC.

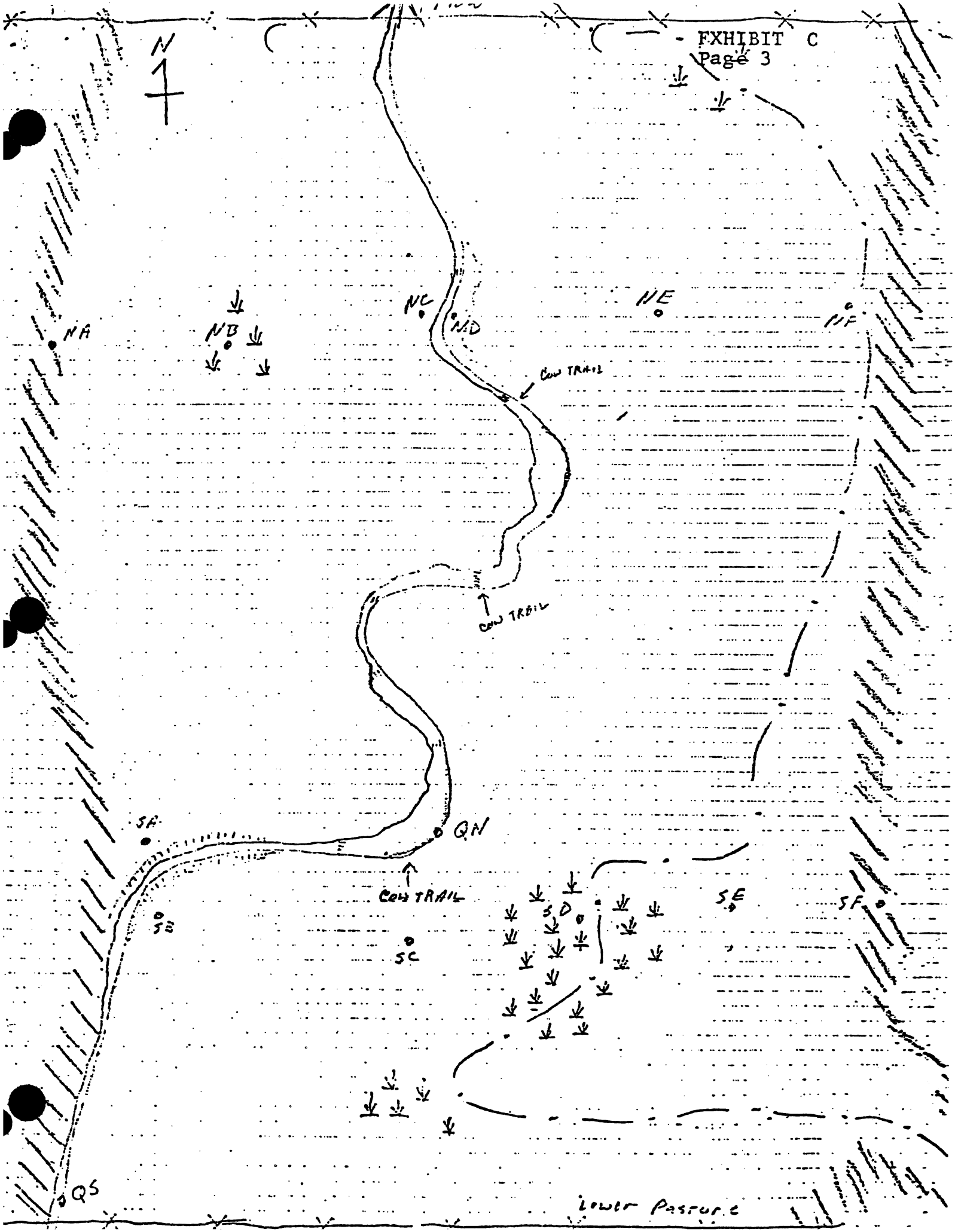
Code nos. 77-2-191,192

SAMPLES REPR COMPOSITE SAMPLING THROUGHOUT ENTIRE NOTED AREAS.

(Grass)	ID	PCB(ppm)*
West Side CFD	1248/1254	6.24
CTR CFD	1248/1254	0.202
East Side	1248/1254	0.571
(Sediments)		
QS	1242	825.95
QN	1242	17.09
(Soils)		
NA 1	1248/1254	0.019
NA 2	" "	0.066
NA 3	" "	0.037
NB 1	" "	25.49
NB 2	" "	1.04
NB 3	" "	0.065
NC 1	" "	33.52
NC 2	" "	2.86
NC 3	" "	0.009
ND 1	" "	65.32
ND 2	" "	119
ND 3	" "	220
NE 1	" "	10.63
NE 2	" "	0.048
NE 3	" "	0.063
NF 1	" "	3.01
NF 2	" "	0.036
NF 3	" "	0.009
SA 1	" "	7.85
SA 2	" "	0.116
SA 3	" "	0.080
SB 1	" "	8.80
SB 2	" "	0.056
SB 3	" "	0.131
SC 1	" "	10.48
SC 2	" "	0.064
SC 3	" "	0.121
SD 1	" "	14.41
SD 2	" "	0.295
SD 3	" "	0.126
SE 1	" "	0.635
SE 2	" "	0.181
SE 3	" "	0.131
SF 1	" "	0.011
SF 2	" "	<0.001
SF 3	" "	0.025
Silage	" "	0.032
Silage scrapings top	" "	0.009
Ground corn (M'BRIDES CORN)	" "	0.059

Soil
#1 .606
#2 .049
#3 .036

* As Arochlor 1248


N
NA
NB
NC
ND
NE
NF
COW TRAIL
COW TRAIL
QN
SA
SB
SC
COW TRAIL
SD
SE
SF
QS
Lower Pasture

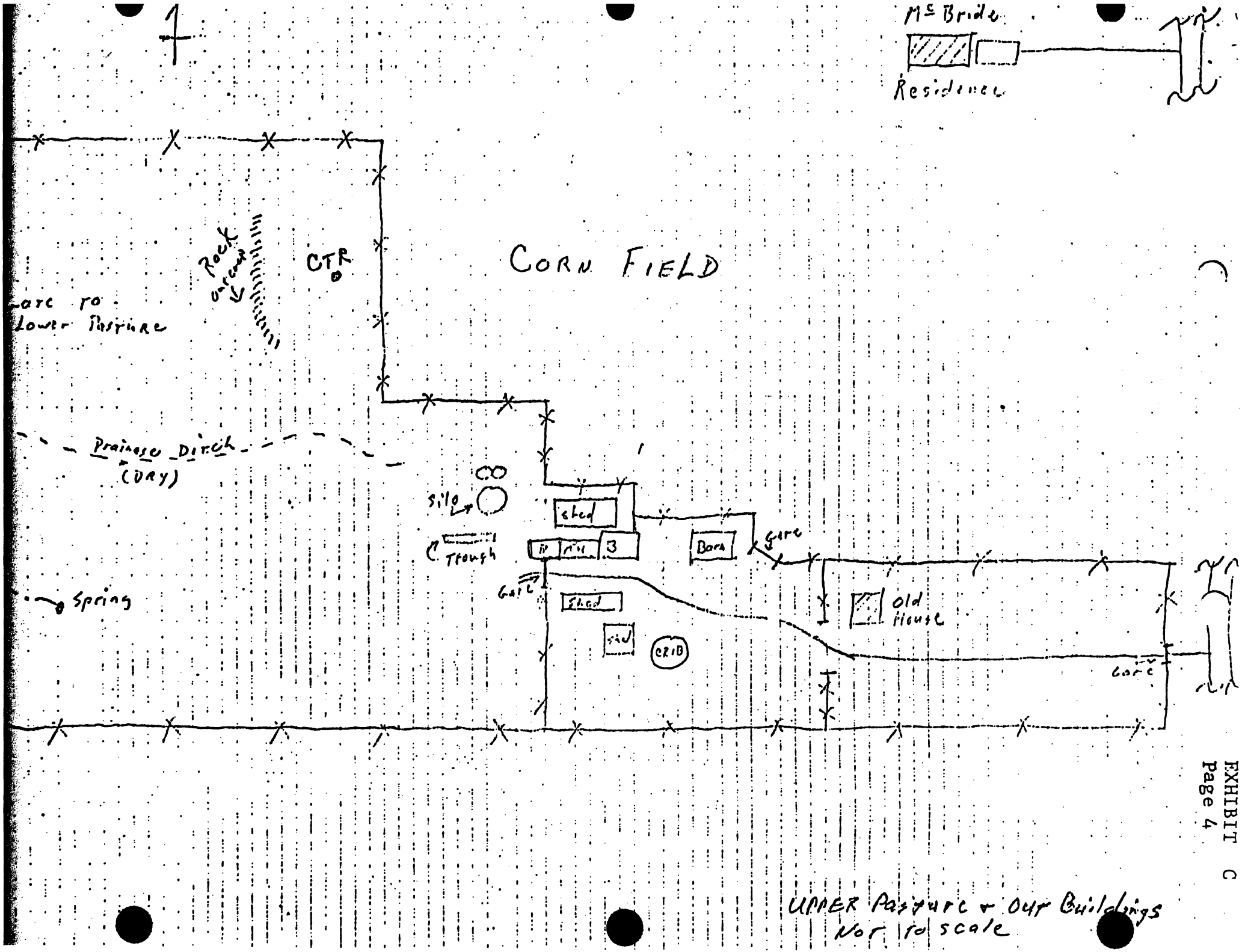


EXHIBIT C
Page 4

County Rd
Residence
Corral (Filled)
Fence Lines (Approximate)
not to scale
CR
Upper Pasture
Spring
N
Lower Pasture
Old
Ditch
Pleasant

APPENDIX G.42

CDM REPORT DATED JUNE 22, 1978

6/22/78

CAMP DRESSER & McKEE INC.
Environmental Sciences Division

Rec'd 6-27-78

The Determination of Concentrations of Polychlorinated Biphenyls in the Milk and Adipose Tissue of Certain Cattle

To

Barnes, Hickam, Pantzer and Boyd

From

CDM/ENVIRONMENTAL SCIENCES DIVISION
6132 W. Fond du Lac Ave.
Milwaukee, Wisconsin 53218

CDM
environmental engineers, scientists,
planners, & management consultants

CAMP DRESSER & McKEE INC.
6132 West Fond du Lac Avenue
Milwaukee, Wisconsin 53218
414 461-9500

June 22, 1978

Mr. Bryan Tabler, Attorney
Barnes, Hickam, Pantzer and Boyd
1313 Merchants Bank Building
Indianapolis, IN 46204

Dear Mr. Tabler:

Enclosed is the revised Analytical Services Report regarding the analysis of polychlorinated biphenyls (PCB's) in cattle milk and tissue biopsy samples obtained from the McBride farm on March 20, 1978. This report incorporates revisions to the May 26, 1978 report due to reassignment of PCB concentration values for standards.

During a quality control check, we observed what appeared to be degradation in the original Aroclor 1254 standard 09C. Therefore we puchased a new Aroclor standard 09C" whose chromatographic peak area values have been used to recalculate sample PCB concentrations, e.g.:

$$\text{Reported Concentration Value} \times \frac{(09C \text{ Peak Area Measured } 6/14)}{(09C'' \text{ Peak Area Measured } 6/14)}$$

= Recalculation Concentration Value.

If you have any questions, please give me or Dr. Mark Cherwin (Chemistry Laboratory Manager) a call.

Sincerely,

CDM ENVIRONMENTAL SCIENCES DIVISION

Daniel F. Buss
Program Manager

DFB/jm

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1. Samples
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   b. Sample Identification
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   b. Milk
   c. Additional Samples
3. Procedures Employed
   a. Tissue
   b. Milk
   c. Confirmatory Procedures
4. Gas Chromatograph Operating Conditions
5. Discussion
   a. Sample Handling
   b. Procedures
   c. Gas Chromatographic Interpretation
   d. Results

Appendix I: Shrader Analytical & Consulting Laboratories, Inc. Analytical Results

1. Samples

   a. General Information

      Client: Barnes, Hickam, Pantzer, and Boyd
      1313 Merchants Bank Building
      Indianapolis, Indiana 46204

      Attn: Bryan G. Tabler

      Date: May 26, 1978

      Project No.: 78-1062

      Date Received: March 21, 1978

      No. of Samples: Tissue: 15
      Milk: 21

b. Sample Identification

CDM Sample #	Ear Tag #	Age (yrs.)	Date Fresh	Type Milk Per Milking (gal.)	Description	Time on Lower Pasture (yrs.)
1 Tissue	1				Calf	
1A	2				Calf; insufficient sample	
2	3				Calf	
3	4				Calf	
4	5				Calf	
5	6				Calf	
6	7				Milker #106; "Bones"	
7	8				Milker #113; "Heifer with sawed off horns"	
8	9				Non-milker	
9	10				Milker #108, pregnant; "White Fleenor cow, dry"	
10	11				Non-milker	
11	12	4	7 1/2 mo. preg.		Non-milker "Embree in Williams"	2
12	13	4			Non-milker "Johnsons-Heltonville"	2
13	14				Young bull yearling	
14	15	9			Non-milker - "Mitchells"	5-6
15	16	6			Non-milker	4
16 Milk	-	6	11/4/77	2.5/3	Milker #101; "Three-spot"	5
17	-	7	10/24/77	3	Milker #102; "Chain 19"	5
18	-	2.5	10/77	Raised calf	Milker #103; "#10"	No-Pur. fall'77
19	-	4	10/77	4+	Milker #104; "White heifer from Mitchell"	2
20	-	5	11/77	4+	Milker #105; "Cow we raised"	4
21	7	4	11/77	3-4	Milker #106; "Bones"	2
22	-	4	11/77	3-4	Milker #107; "Black three-teat"	2
23	10	6	Due 4/16/78	5-6	Milker #108, pregnant; "White Fleenor cow, dry"	4
24	-	2.5	12/1/77	2/2.5	Milker #109; "Frosty"	No-Pur. fall '77
25	-	3	12/77	2/2.5	Milker #110; "Old ear tag #1077"	1
26	-	4	1/78	2-3	Milker #111; "Black horned cow we raised - has calf in barn"	3
27	-	2.5	1/78	2/2.5	Milker #112; "Old ear tag #725"	No-Pur. fall '77
28	8	2.5	12/77	3	Milker #113; "Heifer with sawed off horns"	No-Pur. fall '77
29	-	6	2/78	4-5	Milker #114; "Black Fleenor cow"	4
30	-	2.5	1/78	3	Milker #115; "Small black & white heifer"	No-Pur. fall '77
31	-	7	1/78	3-4	Milker #116; "Holmes heifer"	6
32	-	4	1/78	3+	Milker #117; "Old yellow ear tag #25"	2
33	-	4	12/77	3+	Milker #118; "Old white ear tag #15"	1 1/2
34	-	5	12/77	2.5/3	Milker #119; "Old black ear tag #25"	1
35	-	7	11/77	3-4	Milker #120; "White big-bag cow raised calf in main barn"	6
36	-	2.5	12/77	2+	Milker #121; "Wild heifer from B. Blackburns"	No-Pur. fall '77

Additional historical data has been supplied by T.A. Appold as follows.

The first six calves listed, as well as all the yearlings, were never exposed to the lower pasture area. Typically, all the yearlings were in the 700-800 lb. weight range. The cows were all fed silage, hay and ground feed, whereas the yearlings were fed hay and ground feed only. The six cows purchased in the fall of 1977 (as indicated), came from the Blackburn farm.

2. Analytical Results

a. Tissue

CDM Sample No.	Sample Weight for Extraction (g)	Fat weight for analysis (g)	% Fat	PCB mg/kg*
1	(Sample lost during transfer of extract)			
2	11.0999	2.2836	20.6	0.46
3	6.7006	0.0909	1.37	9.4
4	12.3612	0.1251	1.01	<5.2
5	3.7670	0.0077	0.20	<84.
6	15.3169	0.4391	2.87	4.6
7	5.6464	0.0128	0.227	<5.1
8	18.5487	1.8344	9.89	4.5
9	18.0890	3.7701	20.8	1.5
10	11.9067	0.6458	5.42	0.44
11	3.0945	0.1811	5.85	12.0
12	9.1937	0.1465	1.59	8.8
13	3.8833	0.1268	3.27	6.4
14	17.2011	0.4451	2.59	7.9
15	8.6762	0.8359	9.63	3.2

PPM

* Fat weight basis, as Aroclor 1254.

The solvent portions are washed and transferred to a tared flask, evaporated and reweighed for the percent fat calculation. The fat is then worked up as in the tissue procedure.

The Micro Scale Alkali Treatment procedure used to confirm the presence of PCB's can be summarized as follows. The stability of PCB to alkali permits the use of alkaline hydrolysis as a test for confirming the identity of PCB residues. At the same time, the conversion of certain pesticides to their olefins via alkali treatment provides a means of removing some interferences from the quantitative measurement of PCB's. Alkaline hydrolysis also provides an additional cleanup for many sample types, since it saponifies fats. A concentrated extract or cleaned up extract is treated with potassium hydroxide to effect dehydrochlorination. The alkali stable compounds are then extracted with hexane and eluted on a florisil micro column.

The perchlorination of PCB's as a confirmatory method can be summarized as follows. The perchlorination procedure for derivatization of PCB is a technique whereby commercial multicomponent preparations (Aroclors) are converted to a single derivative, decachlorobiphenyl. Aroclors contain only partially chlorinated biphenyl rings. This procedure converts any biphenyl ring present in the sample to a fully (saturated) chlorinated biphenyl ring: Decachlorobiphenyl. Cleaned up sample extracts containing PCB residues are reacted with antimony pentachloride in the presence of chloroform to form decachlorobiphenyl. The derivative is extracted with hexane, washed, and concentrated for gas chromotographic analysis using a 2 ft. stainless steel column.

c. Gas Chromatographic Interpretation

As mentioned above, commercial PCB mixtures (Aroclors) consist of biphenyl rings chlorinated to various degrees (isomers). In the analysis of animal-source PCB residues the complete pattern of PCB isomers for a particular Aroclor does not exist. Thus, only a small percentage of isomers remain after animal ingestion and subsequent metabolic degradation. This was confirmed in the analysis of both the tissue and milk samples. Only three of the more stable PCB isomers were found in the sample extracts. They were identified as part of the Aroclor 1254 mixture. The other 15 isomers of Aroclor 1254 were not identifiable due to degredation. The three isomers found in the samples were confirmed as being part of the Aroclor 1254 mixture by gas chromatographic introduction using a second column.

The presence of PCB isomers in the sample was further confirmed using alkali treatment. The three suspected isomers were stable under alkali treatment, as is characteristic of PCB's. The derivatization procedure also confirmed the presence of PCB's, since decachlorobiphenyl was formed from the sample extracts.

The presence of PCB isomers in a milk sample extract was confimed via GC/MS analysis at Shrader Analytical Laboratories. Mass Spectroscopy (MS) offers positive identification of the components of a sample extract via measurement of the components' mass fragmentation pattern. Two samples were sent to Shrader: 78-1062-32, a milk sample extract; and 78-1062-S, a standard mixture of Aroclor 1254. Both were found to contain tetra- and pentachlorobiphenyl isomers, components of the Aroclor 1254 mixture.

d. Results

Results are expressed as mg PCB/kg of fat or parts per million on a fat weight basis, as Aroclor 1254.

Percent recovery figures indicate a high level of efficiency in procedural and instrumental methodology.

Data for the blanks indicate low levels of contaminant introduction, through reagents, glassware, etc., incorporated in the procedures.

Variation of the detection limit for those samples where PCB was not detected [i.e. results labeled "less than" (>)], is due to the low levels of fat extracted from these samples.

Appendix I

Shrader Analytical & Consulting Laboratories, Inc.
Analytical Results

Shrader Analytical & CONSULTING LABORATORIES, INC.
MASS SPECTROMETRY, GAS CHROMATOGRAPHY, ELEMENTAL ANALYSES

3450 LOVETT AVENUE • DETROIT, MICHIGAN 48210

894-4440
894-4441

ANALYTICAL RESULTS May 4, 1978

CUSTOMER : CDM (NEVILLE)

SAMPLE NO. : 78 - 1062 - S and - 32

ANALYSIS : GC/MS

RESULTS : The above samples were analyzed by GC/MS to determine the presence of polychlorinated biphenyl. The analysis was performed on a 6' 3% SE 30 column programmed from 180-350° at 10°/min.

Sample S produced barely detectable ions whose retention times, mass, mass defect and isotope intensity ratios identified as tetrachlora and pentachlorobiphenyl. Interfering hydracarbon ions prevented positive identification of suspected trichloro-biphenyl ions.

Sample 32 produced clear spectra of tetrachloro and pentachloro-biphenyl, of intensity similar to that of a 50ng standard (sample vol. = 10µl). The enclosed mass chromatogtam identifies the somposition of the major GC peaks.

We regret the loss of samples 9 and 30 and the inconvenience this has caused you.

John A. Defever

Time
Scan #
Sample 78-1062-32
tetrachloro
Total ion current
Pentachloro
8.21
7.29
6.40
5.57
5.4
4.16
3.24
2.33

Shrader Analytical & CONSULTING LABORATORIES, INC.
MASS SPECTROMETRY, GAS CHROMATOGRAPHY, ELEMENTAL ANALYSES

3450 LOVETT AVENUE • DETROIT, MICHIGAN 48210

894-4440
894-4441

Run Name: 32 Scan No: 81, 92

Customer: CDM

Sample No: 78-1062-32

Conditions: 6' x 2mm, 3% SE30
180-350 C @ 10°/min

32 86 03-MAY-78 1. 1

MASS	% INT MOD.	ABS INT
204	4.31	27
205	7.19	45
206	2.24	14
207	100.00	626
208	19.97	125
209	16.45	103
210	4.47	28
211	3.51	22
212	2.40	15
217	4.79	30
218	2.88	18
219	2.08	13
220	21.09	132
221	7.19	45
222	14.86	93
223	3.35	21
224	2.88	18
229	2.24	14
230	1.92	12
231	1.92	12
249	2.56	16
251	2.40	15
252	1.92	12
255	2.08	13
256	2.88	18
258	2.72	17
265	3.83	24
267	7.03	44
273	1.92	12
276	1.92	12
277	23.96	150
278	9.27	58
279	5.75	36
281	19.81	124
282	7.03	44
283	3.35	21
286	2.56	16
290	24.28	152
291	3.83	24
292	34.98	219
293	4.31	27
294	15.81	99
295	2.08	13
296	3.35	21
327	2.24	14
342	5.43	34
356	7.51	47
357	1.92	12

32 92 03-MAY-78 2. 1

MASS	% INT MOD.	ABS INT
204	2.74	18
205	10.20	67
207	100.00	657
208	19.33	127
209	15.37	101
210	3.04	20
211	3.96	26
213	2.28	15
215	2.44	16
217	3.81	25
218	3.20	21
219	2.89	19
220	7.31	48
221	6.24	41
222	6.39	42
223	3.04	20
225	2.59	17
229	2.44	16
231	2.44	16
233	3.20	21
249	2.28	15
251	2.44	16
252	2.13	14
254	16.89	111
255	4.11	27
256	19.48	128
257	2.74	18
258	7.00	46
265	3.65	24
266	1.98	13
267	5.94	39
277	21.92	144
278	5.63	37
279	6.85	45
281	20.09	132
282	5.94	39
283	3.35	22
289	4.72	31
290	7.91	52
291	7.15	47
292	11.42	75
293	5.63	37
294	6.24	41
324	17.05	112
325	4.72	31
326	29.53	194
327	5.18	34
328	19.18	126
329	4.72	31
330	5.63	37
341	3.50	23
355	7.31	48

Shrader Analytical & CONSULTING LABORATORIES, INC.
MASS SPECTROMETRY, GAS CHROMATOGRAPHY, ELEMENTAL ANALYSES

3450 LOVETT AVENUE • DETROIT, MICHIGAN 48210

894-4440
894-4441

Run Name: 5 Scan No: 1-4 & 9-H

Customer: COM

Sample No: 5

Conditions: 6' x 2mm, 3% SE30
180-350 C @ 10°/min

S 64 03-MAY-78 1. 1

MASS	ABS INT	
280.0	6	
280.9	84	
282.0	28	
283.0	17	
284.1	20	
285.0	7	
286.1	16	
287.2	8	
288.1	13	
289.8	4	←
290.1	11	
291.2	6	
291.8	9	←
292.2	14	
293.2	9	
294.2	5	
295.1	8	
300.0	7	
300.2	6	
302.2	5	
315.4	6	

Tetra-chlorobiphenyl

APPENDIX G.43

USDA LETTER DATED APRIL 6, 1978

UNITED STATES DEPARTMENT OF AGRICULTURE
SCIENCE AND EDUCATION ADMINISTRATION

FEDERAL RESEARCH
NORTHEASTERN REGION
BELTSVILLE AGRICULTURAL RESEARCH CENTER
BELTSVILLE, MARYLAND 20705

EXHIBIT G

GENERAL COUNSEL
D. Graves

April 6, 1978

Mr. David W. Graves, Jr.
Office of General Counsel
General Motors Corporation
General Motors Building
Detroit, Michigan 48202

Dear Mr. Graves:

As agreed in our recent conversations, this letter provides my suggestions on possible uses of the lower 20 acres and the soil sampling necessary to evaluate the upper 80 acres of the McBride farm. My suggestions are strictly based on the likelihood of unacceptable PCB residues and I have not considered the agronomic or soil characteristics necessary for the production of a given crop.

The lower 20 acres should not be used as pasture by any class of livestock or used to produce forage crops for animals. These crops would include alfalfa, clovers or grass used as hay or silage, and corn for silage. Also, leafy or root vegetables for human consumption should not be grown on this land.

Grain crops such as corn, wheat, oats, barley, and soybeans can be grown without significant PCB residues. However, the straw should not be used for animal feed or bedding. All classes of fruit and nut trees could also be grown.

I have divided the upper 80 acres into four areas for evaluating soil PCB levels. These areas were selected because of their differing past histories and possible future uses. They have been designated A, B, C, and D on the copy of the farm map you supplied. I should note that some of the features of the upper pasture on the map do not agree with my memory but the following descriptions should indicate my intent:

Area A: The part of the upper pasture adjacent to the buildings that is completely denuded of grass because of the heavy animal traffic. For convenience, it is the area behind the barn bounded by fence on the east.

Area B: The southwest part of the upper pasture that is fenced off from the rest of the upper pasture. This includes the old pig area.

Area C: The remainder of the upper pasture that lies beyond are A between the corn field and the stream from the spring.

Area D: The cornfield.

Mr. David W. Graves, Jr.

The wooded areas do not require sampling. Although cows may use these areas for shade during hot weather, the chances of soil residues are much less than any other area and there is little likelihood that cows will find feed in the area.

The sampling sites within an area should be selected by laying out a grid system. Core samples are then taken at each of grid intersections and composited to provide a single sample for the entire area. Four replicate composite samples should be obtained from each area.

The grid lines should be laid out at approximately equal intervals but they do not have to be located precisely. I would consider "eyeball" estimates using distinctive boundry features sufficient for locating a sampling point. The four replicate cores can then be randomly taken within a 10-20 foot radius of this point.

The number grid lines and sampling points for each area are as follows:

Area A: 4 X 4 with 16 points

Area B: 3 X 3 with 9 points

Area C: 3 X 3 with 9 points

Area D: 4 X 5. Because of the unevenness of the bounderies, the number of sampling points will be somewhat less than 20.

The core samples should be taken to an approximate depth of 3 inches. It is not practical to go to an exact depth. The largest diameter core sample readily available should be used.

Before analysis the composite samples should be passed through a 2 mm sieve and thoroughly mixed. Any recognized analytical method can be used and I will make specific suggestions if requested. The soils should be analyzed as received and not dried to avoid possible loss of the residue by volatilization. In addition to the concentration of residue, the following information should be reported for each composite sample: (1) number of cores (2) diameter of the cores (3) total weight, and (4) the dry matter content.

I feel it would be a good idea if the individual doing the soil sampling contacted me to discuss the details of my suggestions. This would eliminate the possibility of misunderstandings about my intent.

Feel free to contact me if there are any questions pertaining to the above suggestions.

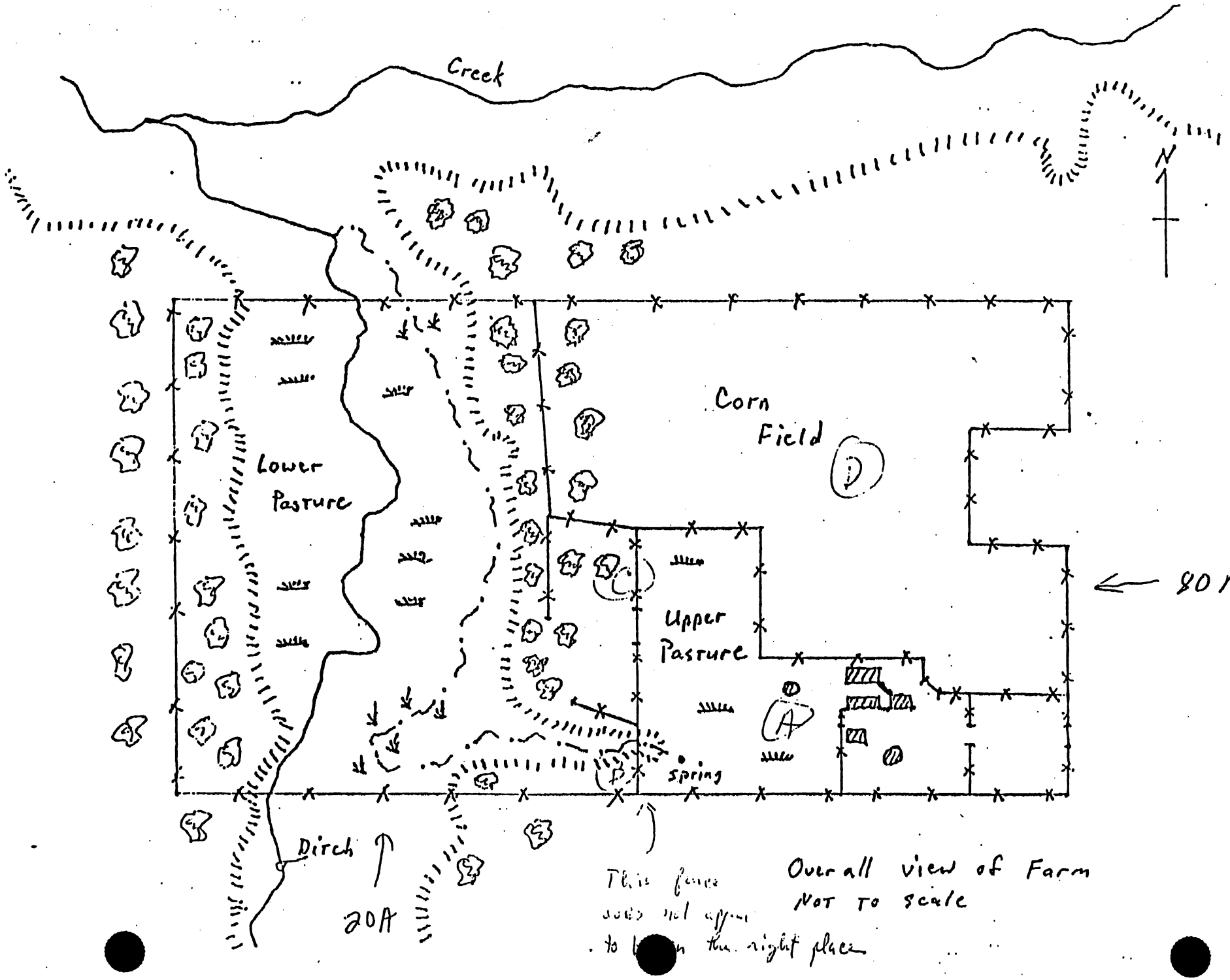
Mr. David W. Graves, Jr.

Sincerely,

George F Fries

George F. Fries, Animal Scientist
Pesticide Degradation Laboratory
Agricultural Environmental
Quality Institute

Enclosure



Overall view of Farm
NOT TO SCALE

EXHIBIT G
Page 4

APPENDIX G.44

CDM REPORT DATED JUNE 29, 1978

The Determination of Concentrations of Polychlorinated Biphenyls in Soil Samples at the McBride Farm

To

Barnes, Hickam, Pantzer, & Boyd

Prepared By

Camp Dresser & McKee Inc.
Environmental Sciences Division
6132 W. Fond du Lac Avenue
Milwaukee, Wisconsin 53218
(414) 461-9500

CDM
environmental engineers, scientists,
planners, & management consultants

CAMP DRESSER & McKEE INC.
Environmental Sciences Division

6132 West Fond du Lac Avenue
Milwaukee, Wisconsin 53218
414 461-9500

June 29, 1978

Mr. Bryan Tabler Attorney
Barnes, Hickam, Pantzer & Boyd
1313 Merchants Bank Building
Indianapolis, Indiana 46204

Dear Mr. Tabler,

Enclosed are three copies of the Analytical Services Report regarding the analyses of polychlorinated biphenyls (PCB's) in soil samples obtained from the McBride farm on April 26, 1978. Please distribute these reports to the appropriate parties.

If there are any questions regarding this report, please contact us.

Sincerely,

Camp Dresser & McKee Inc.
Environmental Sciences Division

Daniel F. Buss
Program Manager

Mark G. Cherwin, Ph.D.
Chemistry Laboratory Manager

DFB/kt

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   b. Extraction and Cleanup of Soil Samples

4. Gas Chromatograph Operating Conditions

5. Discussion

   a. Sample Handling

   b. Procedures

   c. Gas Chromatographic Interpretation

   d. Results

Appendix I: Shrader Analytical & Consulting Laboratories, Inc. Analytical Results

1. Samples

a. General Information

Client: Barnes, Hickam, Pantzer, and Boyd

1313 Merchants Bank Building

Indianapolis, Indiana 46204

Attn: Bryan G. Tabler

Date: June 28, 1978

Project No.: 78-1070

Date Received: April 27, 1978

No. of Samples: Soil: 16

b. Sample Identification and Collection Information

Soil samples were collected during April 26, 1978 from the McBride farm for determining concentrations of PCB's. The McBride soil study was based upon the sampling design outlined in Dr. George Fries' April 6, 1978 letter to Mr. David W. Graves attorney.

Samples were collected from four areas and the relationship of these areas is presented in Figure 1. These sampling areas were:

(1) Area A (Figure 2) - The part of the upper pasture adjacent to the buildings that was generally denuded of grass because of the heavy animal traffic and the area behind the barn bounded by the fence on the east;

(2) Area B (Figure 3) - The southwest part of the upper pasture that was fenced off from the rest of the upper pasture which included the old pig area;

(3) Area C (Figure 4) - The portion of the upper pasture that lies beyond Area A and bounding to the North and South Area B;

(4) Area D (Figure 5) - The cornfield.

In each area four replicate composite samples were collected. The number of cores composing the composite samples for the areas, sample weight before and after sieving are presented in Table 1. The sampling sites within an area were selected by laying out a grid system. Four replicate cores were collected randomly within a 20 ft. radius of each grid intersection point. Core samples were then taken with a two inch corer to a depth of approximately three inches. Each core was individually wrapped in aluminum foil, placed in the proper burlap bag and immediately placed in an ice chest. Samples were transported back to the CDM-Milwaukee laboratory and stored in a refrigerator. Each composite sample was sieved through a 2 mm sieve and thoroughly mixed prior to analysis.

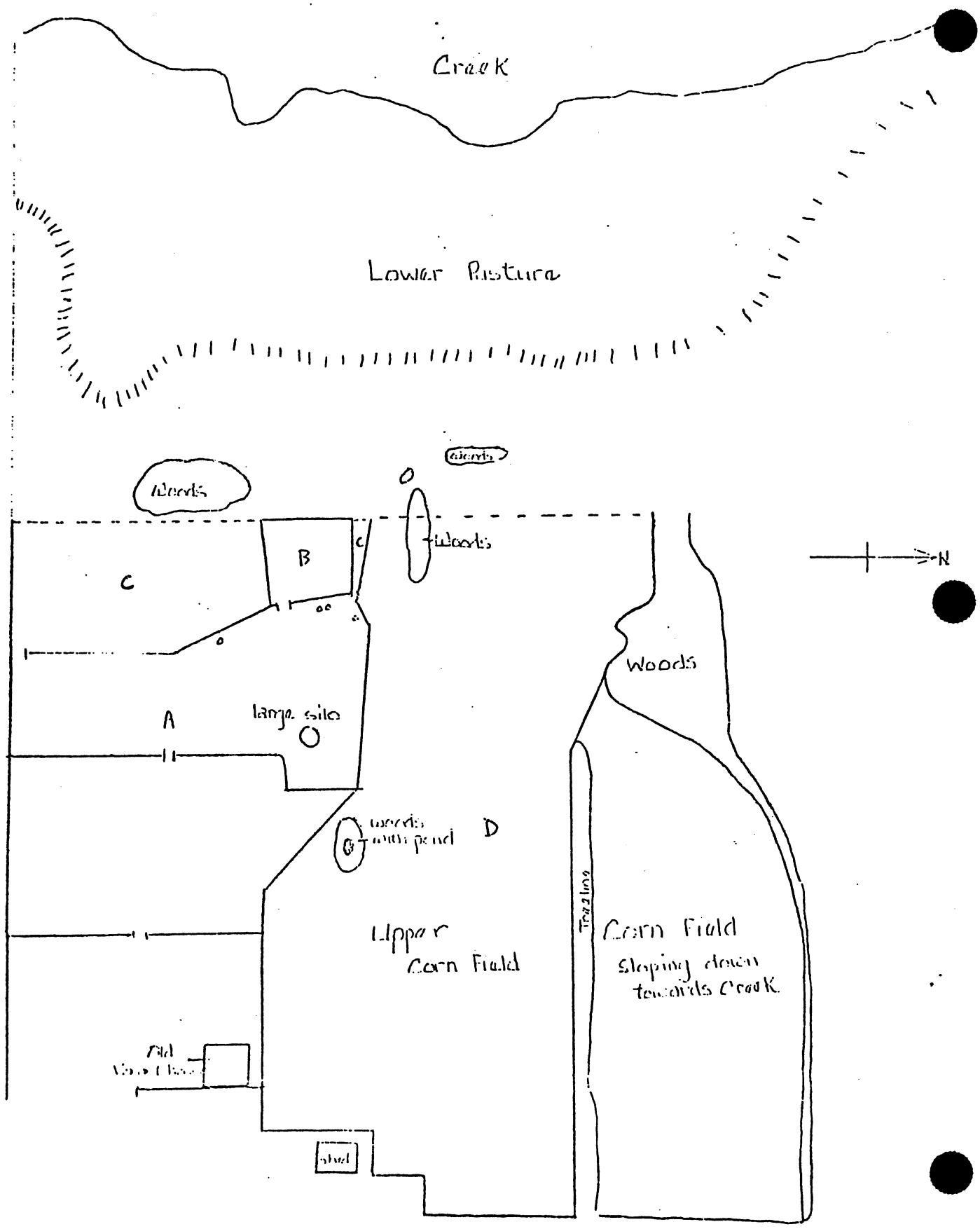


Figure 1 Areas sampled on the McBride Farm

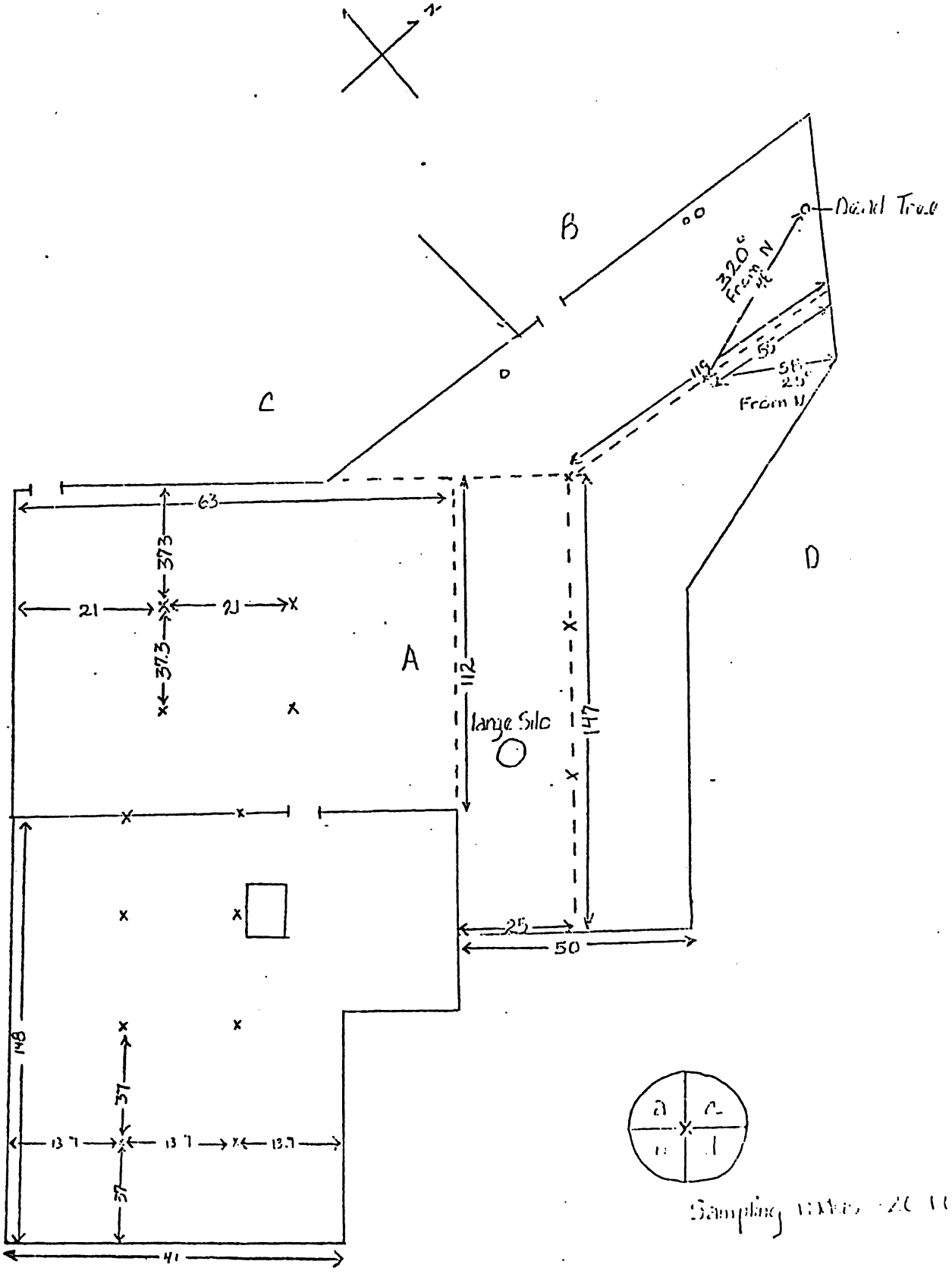
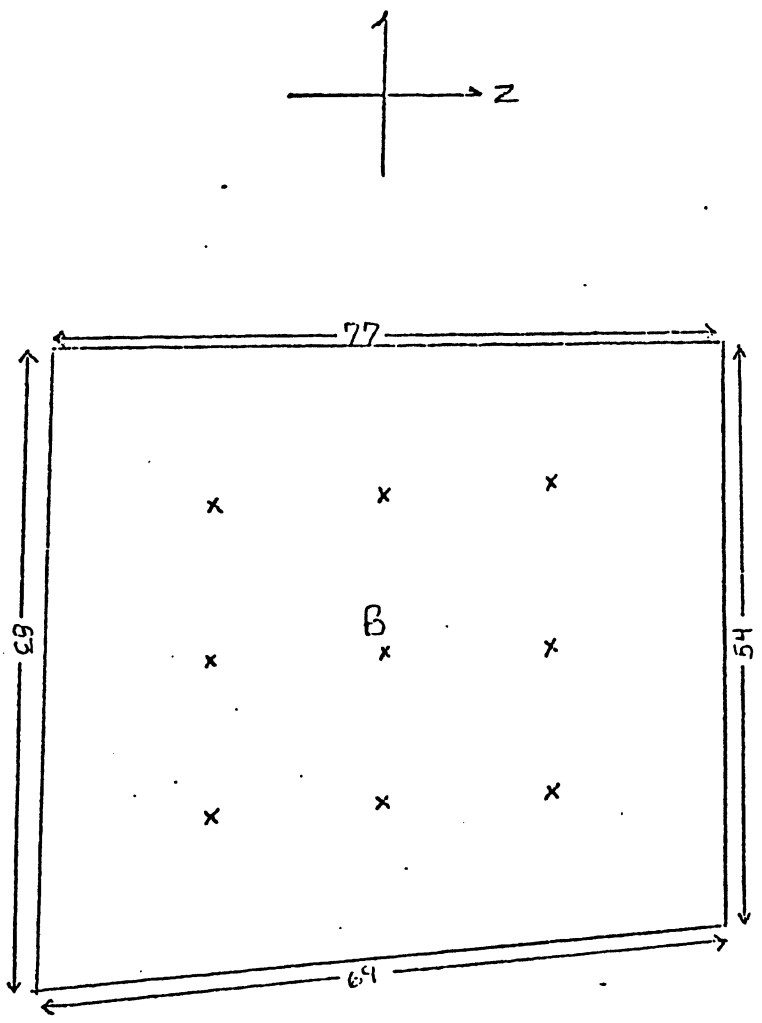
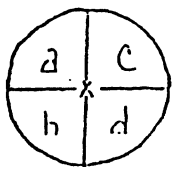


Figure 2 Area A





Sampling radius = 20 ft.

Figure 3 Area B

Figure 4 Area C

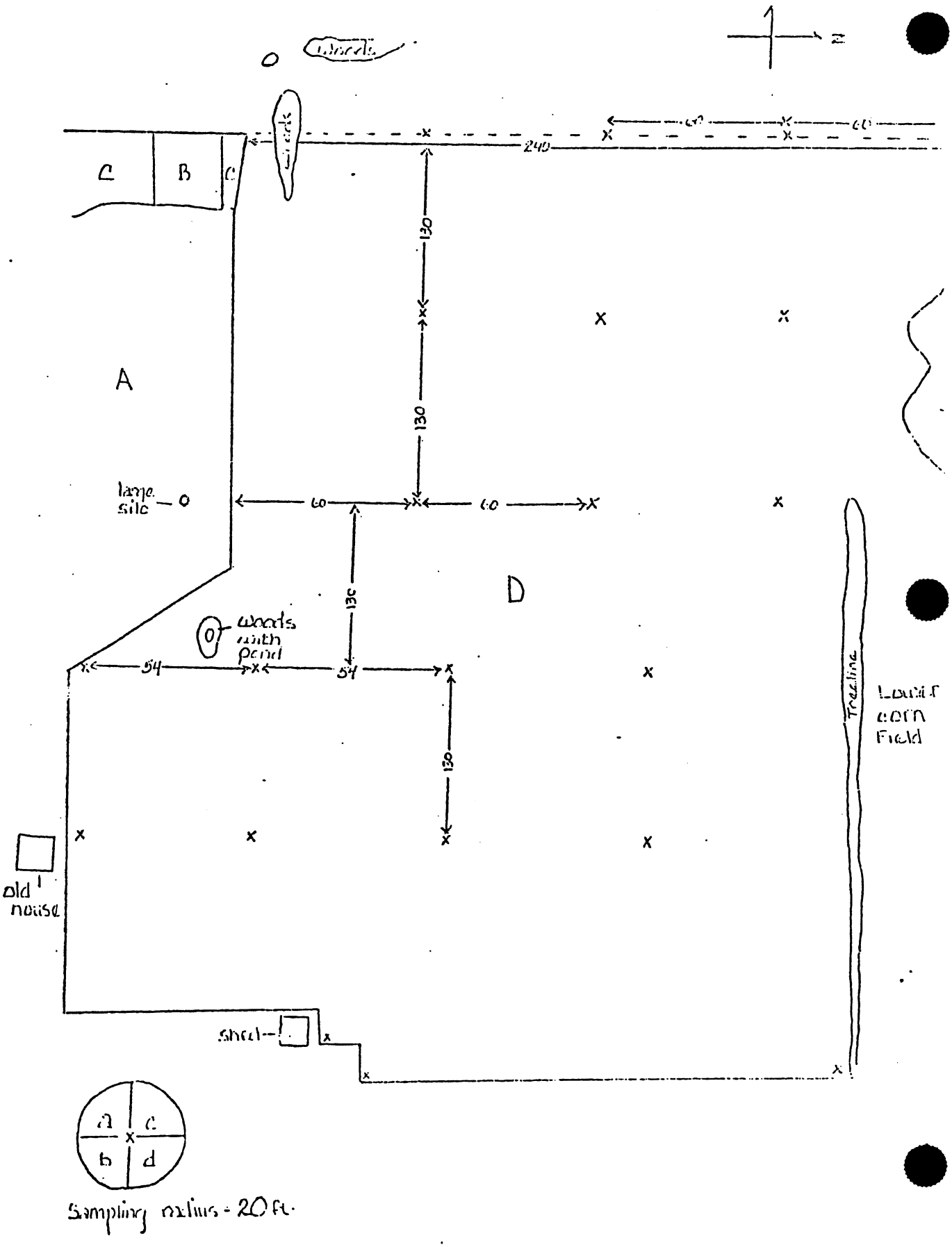


Figure 5 Area D

SOIL SAMPLE DATA FORM

Table 1

mple mber	Number of Cores	Core Diameter	Sample Weight * Before Sieving	Sample Weight After Sieving
-a	16		8 lb. 4 oz.	7 lb. 14 oz.
-b	16		7 lb. 10 oz.	7 lb. 6 oz.
-c	16		8 lb. 5 oz.	7 lb. 14 oz.
-d	16		7 lb. 9 oz.	7 lb. 4 oz.
-a	9		5 lb. 7 oz.	5 lb. 3 oz.
-b	9		4 lb. 14 oz.	4 lb. 10 oz.
	9		5 lb. 2 oz.	4 lb. 14 oz.
	9		5 lb. 5 oz.	5 lb. 1 oz.
a	9		5 lb. 6 oz.	5 lb.
b	9		5 lb. 7 oz.	5 lb. 4 oz.
c	9		5 lb. 10 oz.	5 lb. 7 oz.
d	9		5 lb. 11 oz.	5 lb. 5 oz.
a	19		10 lb. 11 oz.	9 lb. 15 oz.
b	19		10 lb. 4 oz.	10 lb.

lyst Greg Vogel

oes not include weight of burlap bag, aluminum foil or waste

SOIL SAMPLE DATA FORM

mple mber	Number of Cores	Core Diameter	Sample Weight * Before Sieving	Sample Weight After Sieving
-c	19		10 lb. 9 oz.	10 lb. 1 oz.
-d	19		10 lb. 6 oz.	10 lb. 2 oz.

lyst Greg Vogel

oes not include weight of burlap bag, aluminum foil or waste

2. Analytical Results
   a. Soil Samples

CDM Sample No.	Wet Sample Weight Extracted (g)	Percent Dry Weight	PCB mg/kg* ppm
A - a	100	74.76	0.22
A - b	100	72.55	0.33
A - c	100	74.02	0.19
A - d	100	74.18	0.26
B - a	100	75.33	<0.066
B - b	100	73.97	0.078
B - c	100	75.02	<0.067
B - d	100	79.82	0.044
C - a	100	81.31	0.11
C - b	100	81.20	0.34
C - c	100	80.79	0.052
C - d	100	80.53	0.11
D - a	100	81.29	<0.062
D - b	100	84.36	<0.059
D - c	100	81.89	<0.061
D - d	100	81.46	<0.061

* Dry weight basis, as Aroclor 1248

   b. Additional Samples

Blank

78-1070 - Blk - - Negligible

3. Procedures Employed
   a. Percent Dry Weight
      Determination of Percent Dry Weight
      APHA Standard Methods, 14th ed., 1975, pp. 96-98.
      EPA Chemistry Laboratory Manual - Bottom Sediments, 1969, pp. 85-86.

   b. Extraction and Cleanup of Soil Samples
      Pretreatment of Sediment for the Determination of Pesticide Residues and/or Polychlorinated Biphenyls

EPA, Great Lakes Region Committee on Analytical Methods, Chemistry Laboratory Manual: Bottom Sediments, 1969.

EPA, Analysis of Pesticide Residues in Human and Environmental Samples, 1972.

EPA, "Method for Polychlorinated Biphenyls (PCB's) in Industrial Effluents," 1973.

EPA, "Method for Organochlorine Pesticides in Industrial Effluents," 1973.

EPA, "Method for Organophosphorus Pesticides in Industrial Effluents," 1973.

FDA, Pesticide Analytical Manual, Vol. I, 1971.

Pionke, H.B., Chesters, and Armstrong, "Extraction of Chlorinated Hydrocarbon Insecticides from Soils," Agronomy Journal, 1968, Vol. 60.

Saha, J.G., "Comparison of Several Methods for Extracting Chlordane Residues from Soil," J.A.O.A.C., 1971, Vol. 54.

Reynolds, L.M., "Polychlorobiphenyls (PCB's) and their Interference with Pesticide Residue Analysis," Bull. Envi. Cont. & Taxl, 1969, Vol. 4, No. 3.

4 . Gas Chromatograph Operating Conditions

All analyses were performed with a Perkin-Elmer Model 900 Gas Chromatograph equipped with a tritium source electron capture detector and a Perkin-Elmer Model 56 strip chart recorder. All blanks, standards, and samples were analyzed under the following conditions:

Carrier Gas:	95% Argon/5% Methane
Flow Rate:	70 ml/min.
Column Composition:	1.5% OVI7/1.95% QF1
Column Substrate:	80/100 Chromosorb WHP
Column Dimensions:	Glass, 6 ft. x 4 mm. I.D.
Column Temperature:	190°C, Isothermal
Injector Temperature:	220°C
Manifold Temperature:	200° C
Detector Temperature:	195° C
Detector Polarity:	B
Attenuation:	X 8
Amplification:	X 1
Chart Speed:	10 mm/min.
Sample Size:	1-8 ul

The following conditions were employed as a confirmatory analysis:

Column Composition: 5% SP2401
(equivalent to 5% OV210)

All other conditions were as listed above.

5. Discussion

a. Sample Handling

Soil samples were refrigerated at 4° C upon arrival at CDM and remained in this state until they were sieved and analyzed.

b. Procedures

A general description of the procedures employed in the analysis of PCB's in soils is as follows. PCB's adsorbed on particulate matter may be desorbed by continuous soxhlet extraction with suitable organic solvents. Thus, one hundred grams of wet sediment is weighed out for extraction; a separate ten gram portion is weighed out, dried at 104°C and reweighed for the percent dry weight determination. The 100 g sample is then dried with anhydrous magnesium sulfate, transferred to a soxhlet extractor and extracted for 18 hours with 1:1 acetone-hexane. The extract is then concentrated and transferred to a florisil column and eluted with 200 ml of hexane. The eluate is then concentrated to 10 ml for gas chromatographic analysis, using fresh PCB standards for qualitative and quantitative purposes.

c. Gas Chromatographic Interpretation

Commercial PCB mixtures (Aroclors) consist of biphenyl rings chlorinated to various degrees (isomers). In the analysis of soil-source PCB residues, the complete pattern of PCB isomers, for a particular Aroclor, often is not visible. In such cases, only a small percentage of isomers are used to identify and quantify the particular Aroclor present. This was the case in the analysis of the McBride soil samples. Only five of the more stable PCB isomers were found in the sample extracts. They were identified as part of the Aroclor 1248 mixture. The other 10 isomers of Aroclor 1248 were not identifiable due to contaminant interference and degradation. The five isomers found in the samples were confirmed as being part of the Aroclor 1248 mixture by gas chromatographic introduction using a second column. Thus a perfect match was not made between Aroclor 1248 and the soil extracts, but this Aroclor mixture most closely resembled these extracts.

The presence of PCB isomers in a soil sample extract was confirmed via GC/MS analysis at Shrader Analytical Laboratories. Mass Spectroscopy (MS) offers positive identification of the components of a sample extract via measurement of the components' mass fragmentation pattern. One sample was sent to Shrader: 78-1070-A-B . This sample was found to contain the tetrachlorobiphenyl isomer, a component of the Aroclor 1248 mixture.

Appendix I

Shrader Analytical & Consulting Laboratories, Inc.
Analytical Results

Shrader Analytical & CONSULTING LABORATORIES, INC.
MASS SPECTROMETRY, GAS CHROMATOGRAPHY, ELEMENTAL ANALYSES

3460 LOVETT AVENUE • DETROIT, MICHIGAN 48210

894-4440
894-4441

June 19, 1978

ANALYTICAL RESULTS

CUSTOMER : CDM - Environmental Science Div.

SAMPLE NO. : 78-1070-A-B

ANALYSIS : GC/MS

RESULTS : The sample was injected onto a 6' 3% SE-30 column, temperature programmed from 180°C to 350°C at 10°C/minute. Tetrachlorobiphenyl was detected in the sample. No other PCB isomers were found.

Scan	Ions	Compound
37	290, 292, 294	Tetrachlorobiphenyl
72	279, 167	Dioctyl phthalate

Conclusion: The PCB present in the sample is from an Aroclor more chlorinated than Aroclor 1242.

Terry Cullum

Terry Cullum

Shrader Analytical & CONSULTING LABORATORIES, INC.
MASS SPECTROMETRY, GAS CHROMATOGRAPHY, ELEMENTAL ANALYSES

3450 LOVETT AVENUE • DETROIT, MICHIGAN 48210

894-4440
894-4441

Run Name: 3883B Scan No: 37 & 72

Customer: CDH - Environmental Science Division

Sample No: 78-1070-A-B

Conditions: 6' 3% SE-30

180°C to 350°C at 10°C/min

30 cc/min

MASS	% INT MOD.	ABS INT
150	21.95	27
151	32.52	40
152	19.51	24
153	20.33	25
155	14.62	18
157	17.07	21
158	10.57	13
159	18.70	23
161	13.01	16
162	10.57	13
163	16.26	20
165	22.76	28
166	12.20	15
167	14.82	17
168	9.76	12
169	21.14	26
170	9.76	12
171	16.26	20
173	14.63	18
174	10.57	13
175	12.20	15
176	12.20	15
177	17.07	21
178	26.02	32
179	18.70	23
181	9.76	12
183	16.26	20
189	21.95	27
190	9.76	12
191	27.64	34
192	11.38	14
193	14.63	18
195	13.01	16
200	26.83	33
201	20.33	25
202	100.00	123
203	29.27	36
204	12.20	15
205	17.07	21
206	36.59	45
207	45.53	56
208	13.01	16
209	13.01	16
213	10.57	13
220	16.26	20
222	14.63	18
223	13.01	16
233	12.20	15
250	4.88	6
252	3.25	4
253	5.69	7
254	4.07	5
255	4.07	5
259	4.07	5
262	5.69	7

MASS	% INT MOL.	ABS INT
269	4.07	5
272	4.07	5
274	6.50	8
277	4.07	5
291	13.01	16
292	5.69	7
288	4.07	5
290	27.64	34
291	4.07	5
292	26.02	32
293	4.07	5
294	11.38	14

MASS	% INT MOD.	ABS INT
150	32.54	613
167	100.00	1884
207	10.14	191
250	0.48	9
251	0.37	7
252	0.21	4
252	0.32	6
253	0.74	14
254	0.21	4
254	0.27	5
255	0.53	10
256	0.37	7
257	0.64	12
258	0.27	5
259	0.37	7
260	0.37	7
261	0.48	9
262	0.90	17
263	0.48	9
264	0.27	5
265	0.90	17
266	0.27	5
267	1.33	25
267	0.53	10
268	0.27	5
269	0.42	8
270	0.37	7
271	0.37	7
272	0.42	8
273	0.27	5
275	0.37	7
276	0.37	7
277	0.58	11
278	0.48	9
279	13.80	260
279	0.21	4
280	2.76	52
281	4.25	80
282	1.06	20
283	0.74	14
284	0.21	4
285	0.37	7
288	0.27	5
294	0.21	4
295	0.37	7

MAY 25, 2001

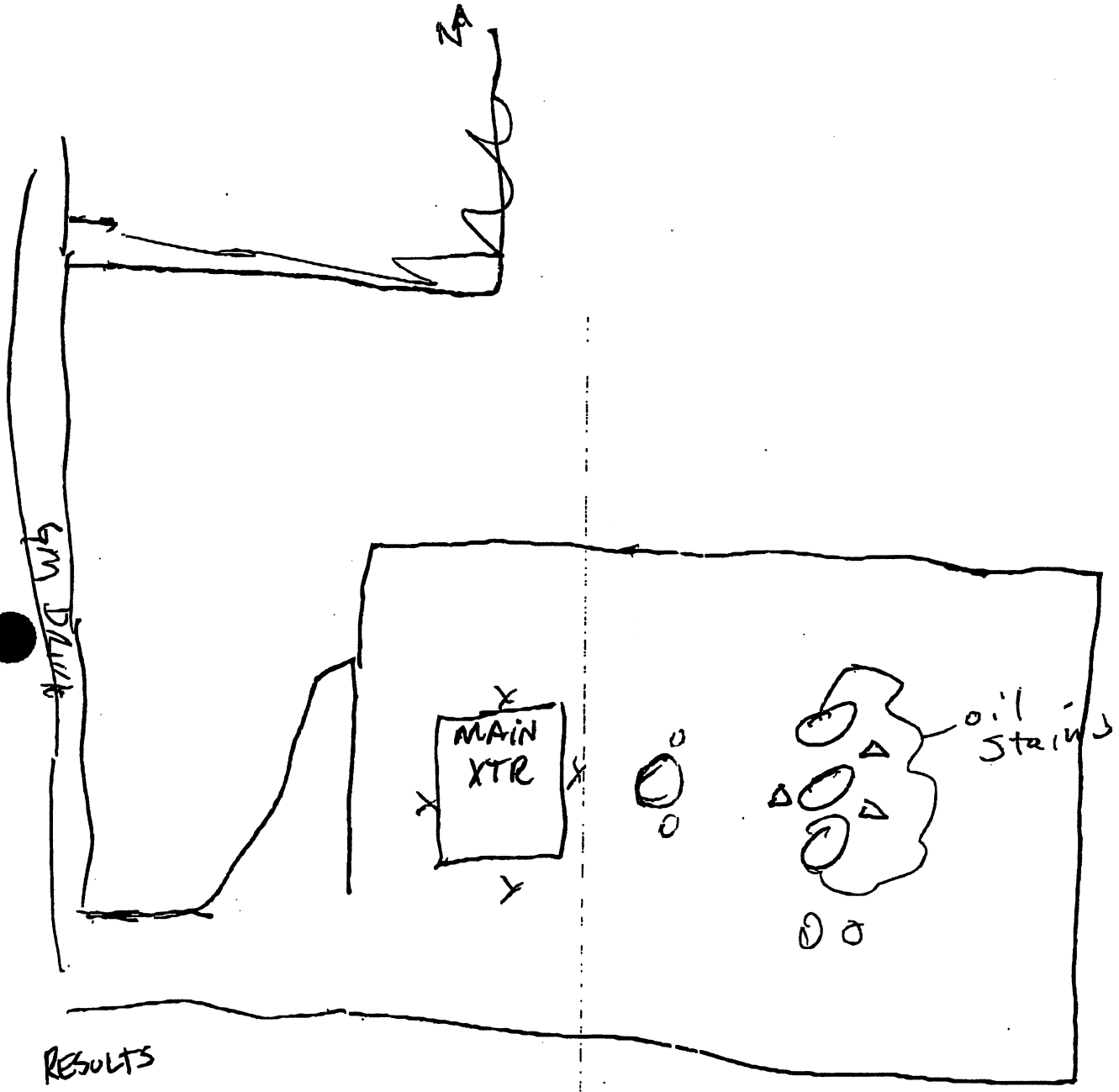
APPENDIX G.45

CINERGY REPORT

Sampling Notes

BEDFORD Jackson St. STB 11/96

N



RESULTS

2.9 X - EP 907A

BDL o - EP 908A Composite samples

BDL △ - EP 909A

Extensive oil contamination on east end of main.

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	02-JUN-94	86	A313060
	Complete: 07-JUN-94	PO Number: VERBAL TIM HAYES	
	Printed: 08-JUN-94	Sampled: 01-JUN-94 11:40	

Report To

TIM HAYES
PSI ENERGY, INC. (PSI)
1000 EAST MAIN STREET
PLAINFIELD, IN 46168

Bill To

MARTY LOY
PSI ENERGY, INC. (PSI)
1000 EAST MAIN STREET
PLAINFIELD, IN 46168

JUN

Sample Description

SAMPLE ID: EP909A
DESCRIPTION: BEDFORD JACKSON ST SUB

PCB SONICATION EXTRACTION SW846-3550

Analyst: B. BELL Analysis Date: 03-JUN-94 Test: P231.1.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10.08		Grams
FINAL VOLUME	100		mL

POLYCHLORINATED BIPHENYLS (PCBS) SW846-8080

Analyst: C. WILLIAMS Analysis Date: 07-JUN-94 Instrument: GC/ECD Test: D301.2.0
Prep: PCB SONICATION EXTRACTION SW846-3550 P231.1.0

Parameter	Result	Det. Limit	Units
PCB AROCHLOR 1016	BDL	1.0	mg/kg
PCB AROCHLOR 1221	BDL	5.0	mg/kg
PCB AROCHLOR 1232	BDL	1.0	mg/kg
PCB AROCHLOR 1242	BDL	1.0	mg/kg
PCB AROCHLOR 1248	BDL	1.0	mg/kg
PCB AROCHLOR 1254	BDL	1.0	mg/kg
PCB AROCHLOR 1260	BDL	1.0	mg/kg
PCB AROCHLOR 1262	BDL	1.0	mg/kg

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 19531.

This Certificate shall not be reproduced, except in full, without the written approval of the lab.

Additional copies of this report sent to:
MARTY LOY, PSI ENERGY, INC. (PSI)
1000 EAST MAIN STREET, PLAINFIELD, IN 46168

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location	Received	Project	Lab ID
HERITAGE LABORATORIES, INC. 7901 W. MORRIS ST. INDIANAPOLIS, IN 46231 (317)243-8305	02-JUN-94	86	A313059
	Complete 07-JUN-94	PO Number VERBAL TIM HAYES.	
	Printed 08-JUN-94	Sampled 01-JUN-94 11:35	

Report To	Bill To
TIM HAYES PSI ENERGY, INC. (PSI) 1000 EAST MAIN STREET PLAINFIELD, IN 46168	MARTY LOY PSI ENERGY, INC. (PSI) 1000 EAST MAIN STREET PLAINFIELD, IN 46168

Sample Description

SAMPLE ID: EP908A
DESCRIPTION: BEDFORD JACKSON ST SUB

PCB SONICATION EXTRACTION SW846-3550
Analyst: B. BELL Analysis Date: 03-JUN-94 Test: P231 1.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10.02		Grams
FINAL VOLUME	100		mL

POLYCHLORINATED BIPHENYLS (PCBS) SW846-8080
Analyst: C. WILLIAMS Analysis Date: 07-JUN-94 Instrument: GC/ECD Test: 0301 2.0
Prep: PCB SONICATION EXTRACTION SW846-3550 P231 1.0

Parameter	Result	Det. Limit	Units
PCB AROCHLOR 1016	BDL	1.0	mg/kg
PCB AROCHLOR 1221	BDL	5.0	mg/kg
PCB AROCHLOR 1232	BDL	1.0	mg/kg
PCB AROCHLOR 1242	BDL	1.0	mg/kg
PCB AROCHLOR 1248	BDL	1.0	mg/kg
PCB AROCHLOR 1254	BDL	1.0	mg/kg
PCB AROCHLOR 1260	BDL	1.0	mg/kg
PCB AROCHLOR 1262	BDL	1.0	mg/kg

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 19531.

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Additional copies of this report sent to:
MARTY LOY, PSI ENERGY, INC. (PSI)
1000 EAST MAIN STREET, PLAINFIELD, IN 46168

Quality Assurance Officer: _____

CERTIFICATE OF ANALYSIS

Service Location
HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

Received	Project	Lab ID
02-JUN-94	86	A3130
Complete	**PO Number**	
07-JUN-94	VERBAL TIM HAYES	
Printed	**Sampled**	
08-JUN-94	01-JUN-94 11:30	

Report To
TIM HAYES
PSI ENERGY, INC. (PSI)
1000 EAST MAIN STREET
PLAINFIELD, IN 46168

Bill To
MARTY LOY
PSI ENERGY, INC. (PSI)
1000 EAST MAIN STREET
PLAINFIELD, IN 46168

Sample Description
SAMPLE ID: EP907A
DESCRIPTION: BEDFORD JACKSON ST SUB

PCB SONICATION EXTRACTION SW846-3550

Analyst: B. BECK Analysis Date: 03-JUN-94 Test: PZ51_1.0

Parameter	Result	Det. Limit	Units
INITIAL WEIGHT OR VOLUME	10.16		Grams
FINAL VOLUME	100		mL

POLYCHLORINATED BIPHENYLS (PCBS) SW846-8080

Analyst: L. WILLIAMS Analysis Date: 07-JUN-94 Instrument: HC/ECD Test: G301_2.0
Prep: PCB SONICATION EXTRACTION SW846-3550 PZ51_1.0

Parameter	Result	Det. Limit	Units
PCB AROCHLOR 1016	BDL	1.0	mg/kg
PCB AROCHLOR 1221	BDL	5.0	mg/kg
PCB AROCHLOR 1232	BDL	1.0	mg/kg
PCB AROCHLOR 1242	BDL	1.0	mg/kg
PCB AROCHLOR 1248	BDL	1.0	mg/kg
PCB AROCHLOR 1254	BDL	1.0	mg/kg
PCB AROCHLOR 1260	2.9	1.0	mg/kg
PCB AROCHLOR 1262	BDL	1.0	mg/kg

Sample Comments

BDL Below Detection Limit

Sample chain of custody number 19531.

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