INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

EPA Region 5 Records Ctr.
334827

SCREENING SITE INSPECTION REPORT

FOR

WABASH VALLEY LANDFILL

WABASH, INDIANA

U.S. EPA ID: IND000780494

AUGUST 22, 1990

Signature Page
for
Wabash Valley Landfill
Wabash, Indiana

U.S.EPA ID: IND000780494

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Section I

Introduction

The Site Investigation Section of the IDEM (Indiana Department of Environmental Management) was given approval by the United States Environmental Protection Agency (U.S. EPA) to conduct a SSI (Screening Site Investigation) of the Wabash Valley Landfill site, located in Wabash, Indiana.

The site is a landfill operation that has accepted some potentially hazardous wastes including toxic constituents such as zinc, phenols, and heavy metals. In addition, it has been alleged that the landfill has accepted hazardous wastes surreptitiously during early morning hours, although the exact nature of the chemicals are unknown. These allegations may have led to the sites eventual placement on the CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System) list.

The site was evaluated in the form of a PA (preliminary assessment) on February 4, 1987, by Ms. Mary Anne Hunter. The site received a medium priority assessment rating because of the potential for contaminants within the site to migrate to nearby residential wells and to the Wabash River about 1/2 mile southeast of the property.

The SSI was conducted by State Personnel on May 23, 1990. The SSI consisted of an interview with site owners, a reconnaissance survey of the site, and the collection of leachate samples from visible sources, collection of surface water samples from a creek bordering the southern boundary of the property, and well sampling to confirm movement of hazardous waste into local groundwater.

A total of seven (7) soil samples were collected including one (1) duplicate and one (1) background sample. Three (3) surface water samples were

collected from the creek. Five (5) remaining samples (one duplicate) were obtained from four (4) on-site monitoring wells.

Information contained within this report will be used to evaluate the site under the Revised Hazardous Ranking System Model for possible inclusion on the NPL (National Priorities List) of hazardous waste sites. The purposes of an SSI have been stated by U.S. EPA in a directive outlining Pre-Remedial strategies. The directive states that all sites selected to receive a screening SI (site inspection) are required to 1) have additional data collected beyond the PA in order to enable a more refined preliminary HRS (Hazard Ranking System) score, 2) establish priorities among sites most likely to qualify for the NPL (National Priority List), and 3) identify the most critical data requirements for the listing SI step. A screening SI will not have rigorous DQOs (data quality objectives). On the basis of the refined preliminary HRS score and other technical judgement factors, the subject sites will then either be designated as NFRAP (no further remedial action planned), or carried forward as an NPL listing candidate. A listing SI will not automatically be done on these sites. However, they will go through a management evaluation to determine whether they can be addressed by another authority such as RCRA (Resource Conservation and Recovery Act)--Sites that are designated NFRAP or deferred to other statutes are not candidates for a listing SI.

The listing SI will address all the data requirements of the revised HRS using field screening and NPL level DQOs. It may also provide needed data in a format that will support remedial investigation work plan development. Only sites that appear to score high enough for listing and that have not been referred to another authority will receive a listing SI.

Section II

Site Background

2.1 Introduction

This section presents information obtained from the SSI work plan preparation, the site representative interview, and a reconnaissance inspection of the site.

2.2 Site Description

Wabash Valley Landfill is located in Section 1, Township 27 N, Range 6 E, in Wabash County, Indiana, and contains approximately 103 acres of which approximately 56 acres are permitted for solid waste disposal. The site is located on State Road 13, two miles northeast of Wabash. The Wabash River runs approximately 1/2 mile southeast of the site boundary.

The site is situated along the margin of the Wabash River flood plain. The water table ranges in depth from 1 to 4 feet beneath the surface in low areas, and from 15 to 20 feet in depth in the higher areas of the property. The northern and southern boundaries of the site are marked by intermittent streams that discharge into the Wabash River. The landfill is lined with an earthen liner (clay only).

A 4-mile radius map of the Wabash Valley Landfill site is provided in Appendix A.

2.3 Site History

With regard to waste disposal, the history of Wabash Valley Landfill site apparently begins in 1974. On November 19, 1974, the Stream Pollution Control

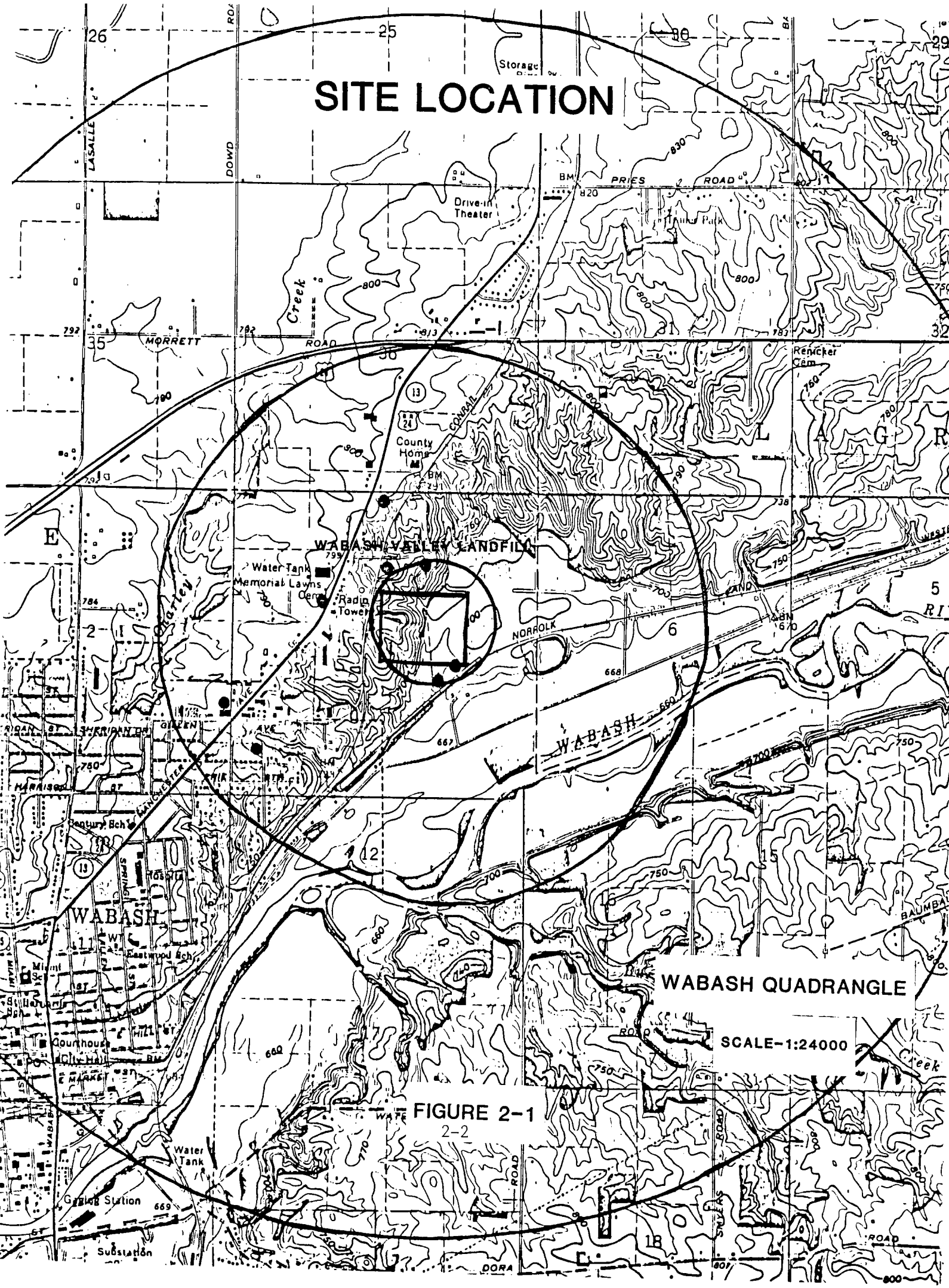

SITE LOCATION
WABASH QUADRANGLE
SCALE-1:24000
WABASH VALLEY LANDFILL
Water Tank
Memorial Lawns Cem
Radio Tower
County Home
Drive-in Theater
Storage
PRIES ROAD
MORRETT ROAD
LASALLE
DOWD
Creek
Renicker Cem
NORFOLK
WABASH
Century Sch
Hospital
Eastwood Sch
Courthouse
City Hall
Water Tank
Gaging Station
Substation
DORA
ROAD

FIGURE 2-1

Board approved the construction plan permit for a sanitary landfill, located in part of Section 1, T 27 N, R 6 E, Noble Township. The operating permit was issued to Mr. Edward Graves in January of 1975. Mr. Graves who acted as both owner and operator of the site was soley responsible for the sanitary landfill (Graves Disposal Landfill) operations.

The landfill has been known by several names throughout its history, including Graves Disposal Landfill, Wabash Valley Reclamation Center Landfill, and its current name Wabash Valley Landfill. The first name change occurred with the transfer of the solid waste management facility permit to Mr. Raymond Gill, in March of 1978. Mr. Gill then proceeded to operate the sanitary landfill until July of 1988, at which time the landfill was once again transferred to it current ownership by the Wabash Valley Landfill Company, Ltd. Mr. John Hoffman, president of Wabash Valley Landfill Company, Ltd., is the principal responsible party in the landfills operations.

Throughout the landfill's operating history there have been anonymous complaints and reports that much unauthorized dumping has occurred at the site including so-called "mid-night" dumping (Hunter 1987). However, very little information is available concerning the history of the types and amounts of waste deposited at the site. According to the PA (Preliminary Assessment) completed by Ms. Mary Anne Hunter, in February of 1987, the site was alleged to have accepted some potentially hazardous wastes, although, the exact nature of the chemicals are unknown. It was not until 1983, that the State required the landfill owners to submit monthly reports pertaining to special waste(s) received at the landfill. Since that time Wabash Valley Landfill has been reported to have accepted large quantities of such waste materials as foundry sand, paint sludges, and asbestos waste.

The landfill is currently being expanded. The expansion project consists of the construction of a ten (10) foot thick clay liner in an area comprising approximately (9) acres in the northwest corner, within the previous permitted (56 acres) fill boundaries.

Section III

Screening Site Inspection Procedures and Field Observations

3.1 Introduction

This section outlines the procedures and observations of the Wabash Valley Landfill SSI. The U.S. EPA Potential Hazardous Waste Site Inspection Report Form (2070-13) for this site is provided in Appendix B.

3.2 Site Representative Interview

Ms. Monica Hartke, State Project Manager, conducted an interview with Mr. John Hoffman, President of Wabash Valley Landfill Co., Ltd., during a site visit on March 28, 1990. A second meeting took place on May 23, 1990, the date the screening site inspection occurred. Mr. Billy Giles, IDEM, was also in attendance. Staff explained the scope of the work to be completed and that the purpose of the SSI was to determine if this site posed a significant threat to local residents and the natural environment. Access was granted for this environmental assessment to utilize the monitoring wells which are installed along the perimeter of the site.

3.3 Reconnaissance Inspection

Upon arrival at Wabash Valley Landfill on May 23, 1990, IDEM field team performed a reconnaissance inspection of the site. It was made in accordance with IDEM health and safety guidelines (IDEM August 1987). The reconnaissance inspection included a walk through of the site to determine whether health and safety requirements were being met and to make observations to aid in characterizing the site. The inspection was also used to determine on-site sample locations for both water and soils.

Reconnaissance Inspection Observations

Inspection of the 56 acre site revealed it to be largely devoid of vegetation expect for the shrubbery and trees on the perimeter of the property. At the site entrance, in the northeast section of the property is the location of a mobile trailer used as the site office.

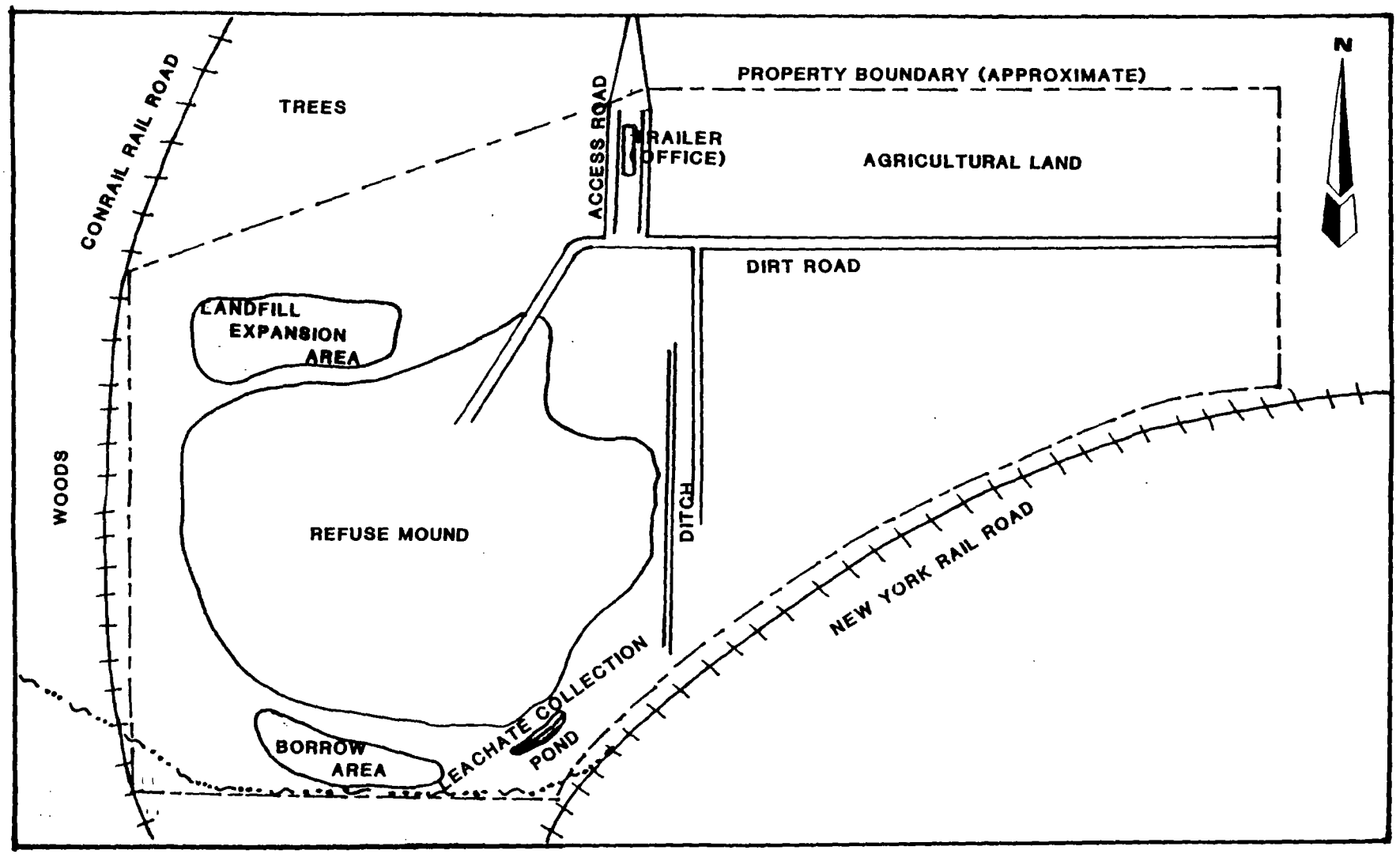
One large mound of landfilled materials is located in the center of the property just north/northeast of the borrow area. The site had obviously been graded since the March 28, 1990, site visit, but leachate seeps were still evident at the southeast section of the fill area. A leachate collection pond had also been installed in the southeast portion of the landfill after the site visit.

Inspection of the perimeter of the site revealed leachate seeping southward out of the fill area in the direction of the stream, a natural feature that defines the southern property boundary. The stream flows toward the Wabash River 1/2 mile southeast of the site. An HNu photoionizer was used during the reconnaissance survey. No readings were detected above background.

Photographs of the site are provided in Appendix C.

3.4 Sampling Procedures

Samples were collected by IDEM staff at locations determined during the reconnaissance survey. The samples were analyzed for parameters within the Indiana Site Investigation Target Aanalyte List (ISITAL). The analytical and organic compounds and their detection limits are provided in Appendix D.



SCALE

0 250 500 750 1000 FEET

FIGURE 3-1 SITE FEATURES

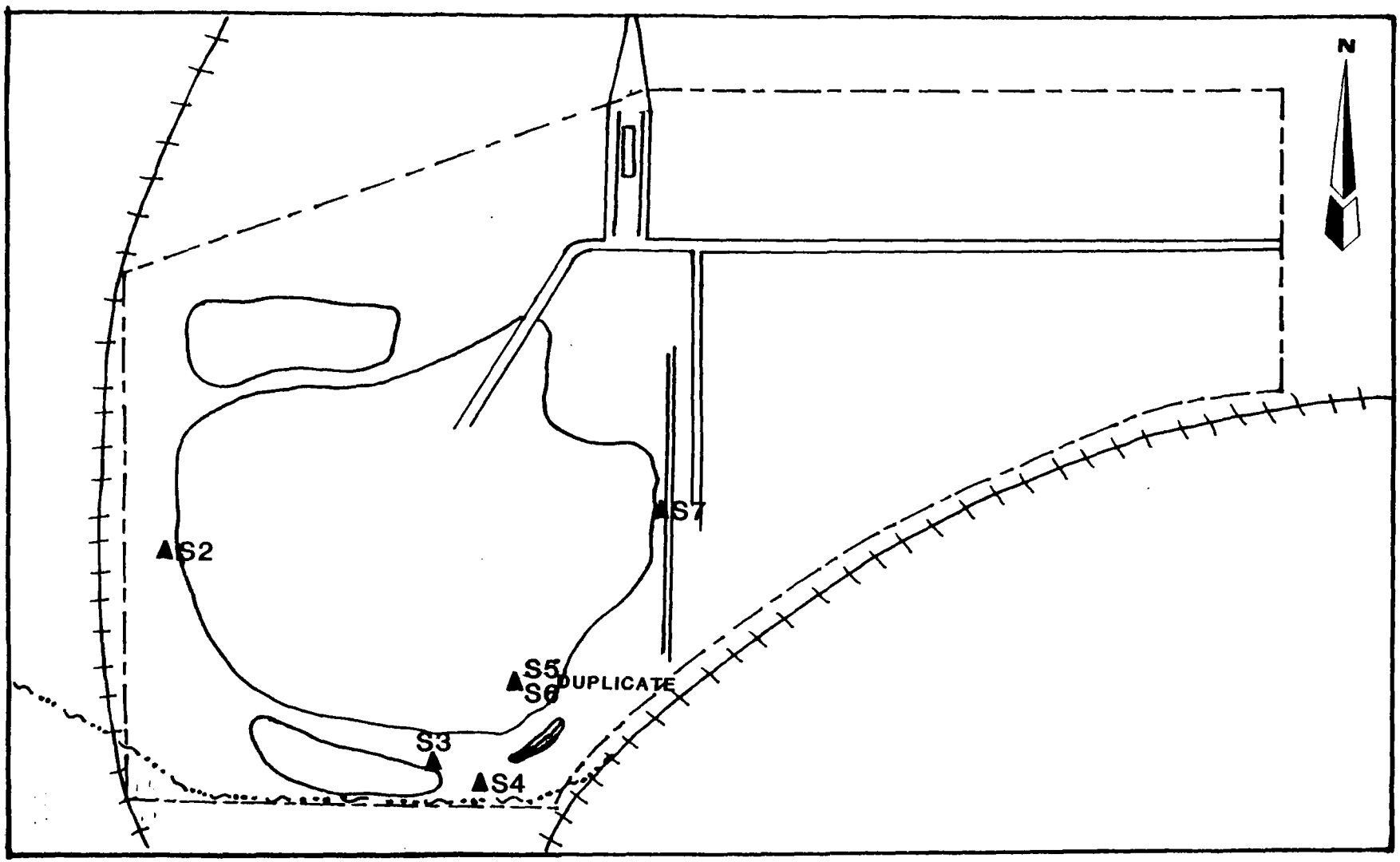
On May 22, 1990, Site Investigation staff collected seven soil samples, six surface water samples, and five ground water samples, including duplicate samples, background samples, and a trip blank. The site features and on-site sample locations are shown in Figures 3-1 through 3-4.

Six on-site soil samples were collected to determine whether ISITAL compounds or analytes have been deposited on the ground or buried at Wabash Valley Landfill.

A background soil sample, S1, was collected in what appeared to be an undisturbed vegetated area located approximately one-half mile southwest of the site, just east off of Manchester Road. The background sample was collected to determine the representative chemical content of the soil in the area of the site.

Soil samples S2, S4, S5 and S6 were collected from visible leachate seeps leading from the refuse mound. Sample S2 was collected from a leachate seep at the west edge of the mound. Sample S4 was collected from a leachate seep located at the base of the mound. Duplicate samples S5 and S6 were collected from the southeast edge of the mound, just north of the leachate collection pond.

Sample S3 was collected from a drainage relief area at the base of the landfill located south/southeast of the mound. Sample S7 was collected from a ditch northeast of the refuse mound.



SCALE

0 250 500 750 1000 FEET

FIGURE 3-2 SOIL SAMPLING LOCATIONS

All samples were collected at depths ranging from 2 to 6 inches, using a shovel and plastic disposable scoops. Standard decontamination procedures were adhered to during the collection of the samples. Decontamination procedures included the scrubbing of equipment with a solution of Alconox detergent and distilled water, and triple-rinsing the equipment with distilled water before the collection of each sample.

Surface Water and Groundwater Sampling Procedures

Surface water and groundwater samples were collected to establish the existence and extent of contaminant migration.

Three (3) surface water samples (designated as SW1, SW2, and SW3) were collected on-site. All surface water samples were collected from the stream designating the southern boundary of the property. Sample SW1 was collected upstream from a location west of the landfill area. Sample SW1 was collected as a potential background sample to determine the representative chemical content of the surface water in the area of the site. Duplicate samples SW2 and SW3 were collected downstream southeast of the site, to determine whether ISITAL compounds or analytes were migrating from the site.

A total of five (5) groundwater samples (designated as GW1 through GW5) including a duplicate were collected on-site to sample the upper aquifer in the area. The groundwater samples were obtained from four on-site monitoring wells. Well depths are presented in Table 3-1.

Ground waterflow in the study area is to the southeast (Giles 1985). Monitoring well sample GW1 was obtained from an upgradient well located northwest of the refuse mound and was considered a potential background sample.

Sample GW2 was taken from a monitoring well located directly south of the refuse mound. Samples GW3 and GW4 were taken from a monitoring well located southeast of the base of the mound. Sample GW5 was taken from a monitoring well located northeast of the mound. Samples GW2 through GW5 were collected to determine whether ISITAL compounds or analytas had migrated from the site to ground water.

In accordance with Indiana Department of Environmental Management (IDEM) CERCLIS quality assurance/quality control (QA/QC) requirements, a duplicate monitoring well sample and field blank were collected. Samples GW3 and GW4 were collected as duplicate samples. The field blank sample designated GW6 was collected from IDEM air monitoring laboratory, Indianapolis, Indiana.

All monitoring wells were purged of three to five volumes of standing water prior to the collection of each sample. All monitoring well samples were collected from teflon bailers that had been scrubbed with a solution of detergent (Alconox) and distilled water, and triple-rinsed with distilled water prior to the collection of each sample.

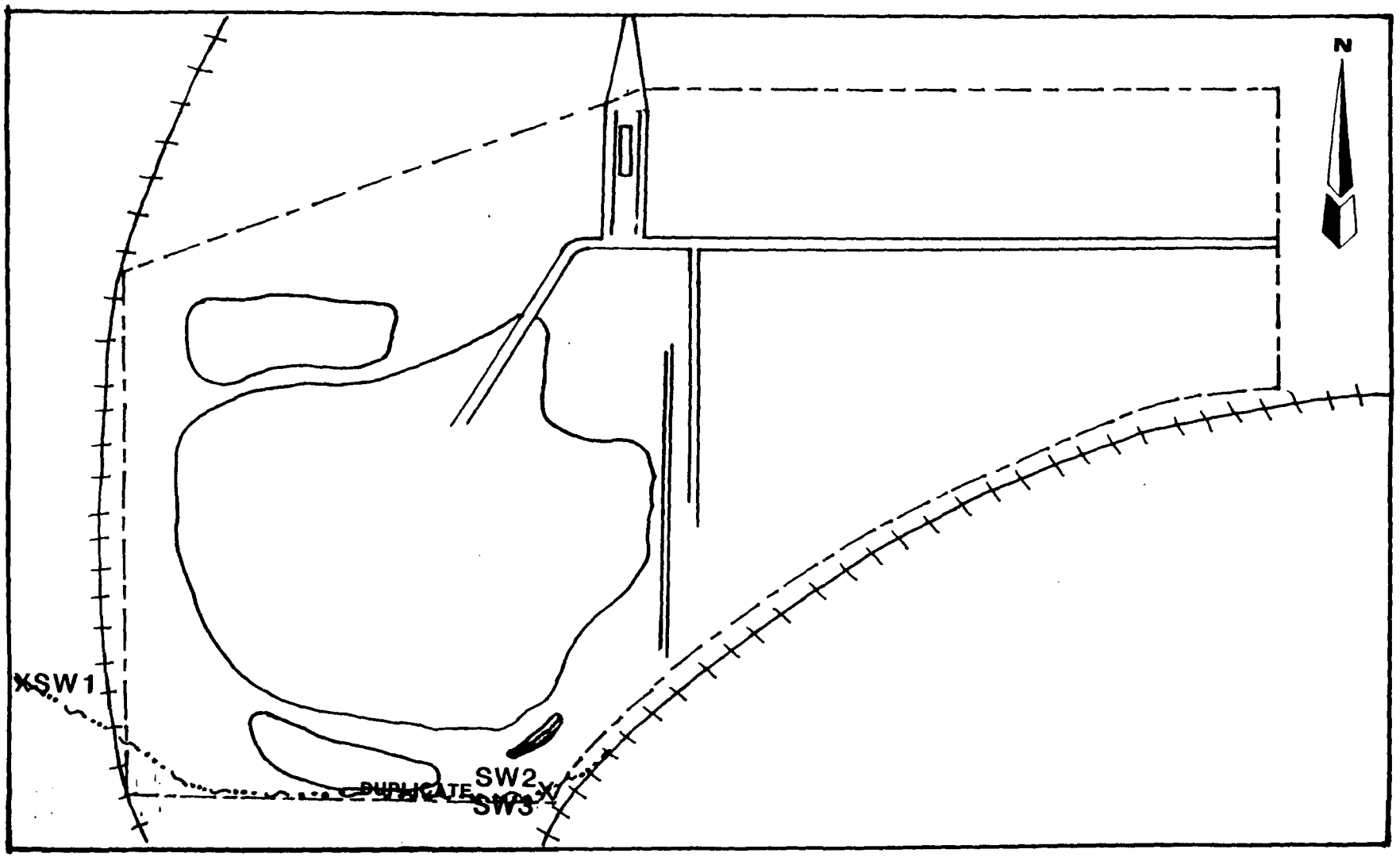


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FIGURE 3-3 SURFACE WATER SAMPLING LOCATIONS

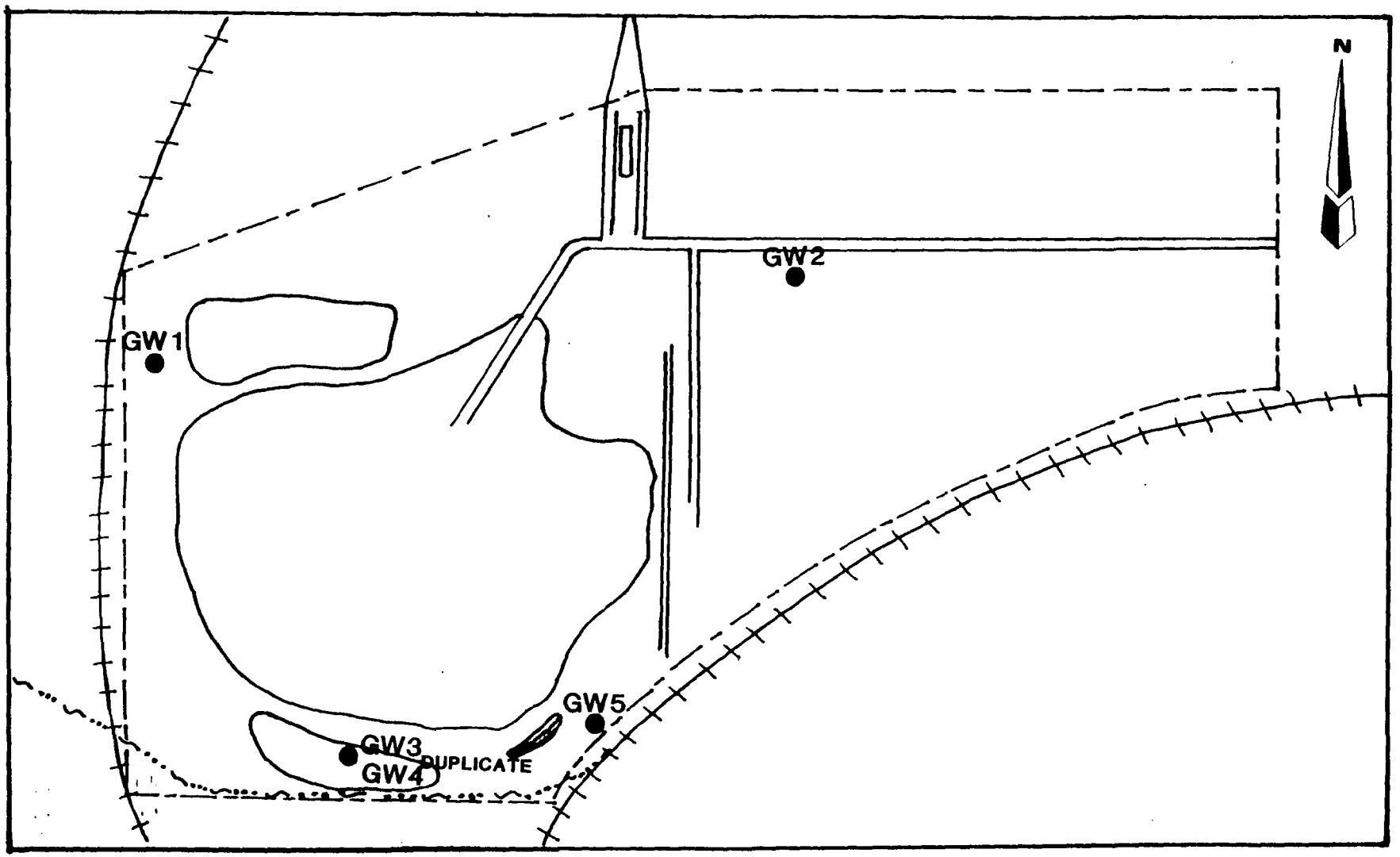

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FIGURE 3-4 MONITORING WELL SAMPLIG LOCATIONS

Table 3-1

Monitoring Well Data

Well	Well Depth (feet)	Depth to Water (feet)
MW1 - GW1	48.25	32.20
MW2 - GW2	24.20	4.56
MW3 - GW3	21.85	12.60
GW4 (duplicate)		
MW4 - GW5	14.15	4.80

Source: Indiana Department of Environmental Management

Section IV

Analytical Results

4.1 Introduction

This section includes the results of chemical analysis of soil, surface water, and monitoring well samples collected during the Wabash Valley Landfill SSI, May 23, 1990. Soil samples were analyzed for the presence of semi-volatile organic compounds, routine metals, PCBs, pesticides, phenols, cyanide, and total solids. All water samples were analyzed for the presence of volatile organic compounds, routine metals, phenols, and cyanide.

4.2 Results of Chemical Analysis of Collected Samples

The laboratory results were reviewed and evaluated for the quality criteria contained in the Indiana Quality Assurance Project Plan (QAPP). The results were determined to be acceptable for use.

Field duplicate samples were used to establish and document the representativeness of the sampling (i.e., sampling error and/or sample homogeneity). The field duplicates (for soils S5 and S6, for surface water SW2 and SW3, and groundwater GW3 and GW4) compare well.

The laboratory results from sampling of Wabash Valley Landfill for volatile organic compounds, routine metals, PCBs, and cyanide did not indicate elevated concentrations. All can be found in comparable amounts in soil and water throughout the State. Low concentrations of phenols were detected in monitoring well sample GW4 (0.03 ppm) and soil sample S2 (0.96 ppm). None of the concentrations detected appear to be a cause for concern at this time.

Background sample results were generally higher than corresponding results from the site itself.

As discussed in the chemical review, all soil semi-volatile results were unusable, due to the laboratory's neglect to perform MS/MSD analysis as required. This oversight cast a matrix-specific uncertainty upon all soil semi-volatile results.

The chemical worksheets prepared by the QA/QC officer are provided in Tables 4-1 through 4-4. Laboratory analytical data of the sample analysis are provided in Appendix D.

To: Monica Hartke
Site Investigation

Date: 8-14-90

From: Pat Austin PA 8-15-90
Chemical Evaluation

Thru: David Harrison
Harry Atkinson

Re: Review of laboratory results for Wabash Valley Landfill.
Sample #s S444-S460 (EMS A207203-A207226), collected 5-23-90.

I have reviewed the attached laboratory results and have determined that they are acceptable for use. These results have been evaluated for the quality criteria contained in the Indiana Quality Assurance Project Plan (QAPP). Any exception to the acceptance of this data will be identified in this memorandum and should remain attached to the original results.

Results for the following inorganic analytes in soil are estimated: Ag, Sb, Mn, and Ti, due to high (Mn, Ti) and low (Ag, Sb) percent recoveries of matrix spikes and/or lab control samples; Ba, Co, Ni, Pb, and Zn, due to contamination of the preparation blank.

Results for the following inorganic analytes in water are estimated: Sb, due to low percent recoveries of matrix spike and lab control samples; Zn, due to preparation blank contamination; Cr and Fe, due to high percent recovery of CRDL standards.

Analyses for PCBs and pesticides were in control. In spite of the poor quality of the chromatograms, no Aroclor patterns were evident.

Analyses for VOAs were in control, except for estimated acetone run on 6-5-90, due to continuing calibration problems.

All soil SVOA results are out of control. The laboratory neglected to perform MS/MSD analyses as required. This oversight casts matrix-specific uncertainty upon all soil SVOAs.

Field duplicate samples are used to establish the representativeness of sampling, in consideration of sampling error and/or sample heterogeneity. The field duplicates compare well, except for Mg in soils and aluminum and diethyl ether in water.

Analytes of interest detected include the following: As in S447 (and its duplicate S448); Mn in S446, S447, S451 (and duplicates S448 and S452). VOAs detected suffer the following setbacks: out of control (see above); not duplicated (diethyl ether in S448); too close to detection limits to be considered quantitative (methylene chloride in S444, carbon disulfide in S449). No PCBs or pesticides were detected.

TABLE 4-1 TARGET ANALYTES DETECTED

SITE INVESTIGATION SECTION

TARGET ANALYTES DETECTED

Site Name: Wabash Valley Landfill Prepared By: Pat Austin

te Sampled: 5/23/90 Date Reported : __/__/__ Lab: EMS

Sample Number	Type & ID #	Total Solids	Phenols	Cyanide	As	Cd	Pb	Se	Tl	Al
		Milligrams/Liter								
Lab / IDEM		%								
Notes:										
A207203/5444	Trip Blank	NR								
A207204/5445	MW-1	"					0.0073			1.6
A207205/5446	MW-2	"			0.034	0.0027	0.052			20
A207206/5447	MW-3	"			0.12		0.022			5.1
A207207/5448	Dupe MW-3	"			0.13		0.027			9.7
A207208/5449	MW-4	"	0.03*		0.011					14
A207209/5450	SW-1	"					0.0072			1.8
A207210/5451	SW-2	"			0.019	0.0012	0.031			14
7211/5452	Dupe SW-2	"			0.019	0.0013	0.032			18
/										
A207216/5454	Backgrd S/SD-1	81			5.2	4.7	19			7000
A207217/5455	S/SD-2	78	0.96		2.8	3.5	8.0			5200
A207218/5456	S/SD-3	85			12	2.0				2800
A207219/5457	S/SD-4	64			12	4.6	11			6300
A207220/5458	S/SD-5	77	0.47		7.0	3.9	9.0			5200
A207225/5459	Dupe S/SD-5	77	0.49		4.6	3.8	8.0			5000
A207226/5460	S/SD-6				4.8	4.8	6.0			3500
/										
/										

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‡=> Field Duplicate Signed: _____ Date: __/__/__

Dupe, high RPD

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SITE INVESTIGATION SECTION

TARGET ANALYTES DETECTED

Site Name: _____ Prepared By: _____

ıte Sampled: __/__/__ Date Reported :__/__/__ Lab: _____

Sample Number	Type &	Milligrams/Liter								
		Sb	Ba	Be	Ca	Cr	Co	Cu	Fe	Li
Lab / IDEM	ID #									
Notes:										
A207203 / 5444	Trip Blank									
A207204 / 5445	MW-1		0.18		110				5.9	
A207205 / 5446	MW-2		0.43		470	0.04		0.08	54	0.04
A207206 / 5447	MW-3		1.6		270				50	0.02
A207207 / 5448	MW-3, Dupe		1.6		280	0.02			56	0.03
A207208 / 5449	MW-4		0.38		230	0.02	0.03	0.03	29	0.04
A207209 / 5450	SW-1		0.09		110				5.4	
A207210 / 5451	SW-2		0.33		220	0.02	0.02	0.07	32	0.03
07211 / 5452	Dupe SW-2		0.39		260	0.030		0.075	38	0.041
/										
A207216 / 5454	Background S/SD-1		61		2600	11	12	20	14000	7.0
A207217 / 5455	S/SD-2		33		52000	9.0	11	17	11000	7.0
A207218 / 5456	S/SD-3		17		64000	6.0	7.0	23	6700	4.0
A207219 / 5457	S/SD-4		47		29000	9.0	9.0	22	14000	7.0
A207220 / 5458	S/SD-5		40		25000	8.0	10	11	13000	5.0
A207225 / 5459	Dupe S/SD-5		37		33000	8.0	10	13	12000	6.0
A207226 / 5460	S/SD-6		150		67000	8.0	10	10	16000	6.0
/										
/										

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SITE INVESTIGATION SECTION

TARGET ANALYTES DETECTED

Site Name: _____ Prepared By: _____

ıte Sampled: __/__/__ Date Reported : __/__/__ Lab: _____

Sample Number / Lab / IDEM	Type & ID #	Milligrams/Liter Mg	Mn	Hg	Mo	Ni	K / Ag	Na / Sr	Sn / Ti	V / Zn
Notes:										
A207203 / 5444	Trip Blank							0.49		0.03
A207204 / 5445	MW-1	35	0.12				1.4	6.2 / 0.25	0.04	0.05
A207205 / 5446	MW-2	190	3.3			0.08	7.2	12 / 0.48	0.57	0.05 / 0.26
A207206 / 5447	MW-3	130	0.99			0.06	26	83 / 0.72	0.19	0.02 / 0.09
A207207 / 5448	MW-3, Dupe	140	1.1			0.06	28	83 / 0.73	0.43	0.03 / 0.11
A207208 / 5449	MW-4	93				0.03	11	19 / 0.91	0.13	0.31
A207209 / 5450	SW-1	28	0.52				1.7	6.2 / 0.17	0.05	0.06
A207210 / 5451	SW-2	66	1.4			0.04	4.8	22 / 0.47	0.31	0.04 / 0.17
17211 / 5452	Dupe SW-2	69	1.9			0.048	6.3	25 / 0.48	0.40	0.04 / 0.18
/										
A207216 / 5454	Background S/SD-1	2000	490	0.051	2.0	15	680	36 / 7.0	10 / 89	18 / 62
A207217 / 5455	S/SD-2	14000	320			17	840	210 / 44	18 / 42	14 / 39
A207218 / 5456	S/SD-3	15000	250			7.0	440	97 / 46	28 / 88	9.0 / 24
A207219 / 5457	S/SD-4	13000	300			12	1300	92 / 20	15 / 61	15 / 77
A207220 / 5458	S/SD-5	69000	370		2.0	13	600	260 / 35	17 / 98	14 / 40
A207225 / 5459	Dupe S/SD-5	8200	340		2.0	14	570	240 / 31	18 / 86	14 / 44
A207226 / 5460	S/SD-6	17000	930		4.0	14	670	92 / 63	19 / 82	16 / 27
/										
/										

Empty Box indicates NON-DETECTABLE NR=> NOT RUN

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‡=> Field Duplicate Signed: _____ Date: __/__/__

TABLE 4-2 VOLATILE ORGANIC COMPOUNDS

VOLATILE ORGANIC COMPOUNDS

Site Name: _____ Prepared By: _____

Date Sampled: __/__/__ Date Reported: __/__/__ Lab: _____

Sample Number Lab / IDEM	Type & ID #	Surogate Recovery ave%R	I.S. area summary	Micrograms/Liter Methylene Chloride	Diethylether	Acetone	Carbon Disulfide				
Notes:											
A207203/ 5444	Trip Blank	OK	OK	6							
A207204/ 5445	MW-1	"	"								
A207205/ 5446	MW-2	"	"								
A207206/ 5447	MW-3	"	"								
A207207/ 5448	Dupe MW-3	"	OK		62						
A207208/ 5449	MW-4	"	"			120	12				
A207209/ 5450	SW-1	"	"								
A207210/ 5451	SW-2	"	"								
A207211/ 5452	Dupe SW-2	"	"								
/											
/											
/											
/											
/											
/											
/											
/											
/											

Empty Box indicates NON-DETECTABLE @ Matrix Spike
-=> _____ Blank (Type) NR=> NOT RUN
=> Field Duplicate Signed: _____ Date: __/__/__

TABLE 4-3 SEMI-VOLATILE ORGANIC COMPOUNDS

Semi-VOLATILE ORGANIC COMPOUNDS

Site Name: _____ Prepared By: _____

Date Sampled: __/__/__ Date Reported: __/__/__ Lab: _____

Sample Number Lab / IDEM	Type & ID #	Surogate Recovery ave%R	I.S. area summary	Diethylphthalate	Di-n-octyl-phthalate	4-methyl-phenol	phenol	Bis(2-ethyl-hexyl)phthalate				
				Micrograms/Liter								
Notes:												
A207216/ 5454	S/SD-1	OK	OK									
A207217/ 5455	S/SD-2	"	OK	420 / 750		1400 / 530						
A207218/ 5456	S/SD-3	"	OK	/ 2900				7900				
A207219/ 5457	S/SD-4	"	"									
A207220/ 5458	S/SD-5	"	"			1800 / (330)		1100				
A207225/ 5459	Dupe S/SD-5	"	"	/ 2600		1200 / (230)		430				
A207226/ 5460	S/SD-6	"	"									
/												
/												
/												
/												
/												
/												
/												
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/												
/												
/												

Empty Box indicates NON-DETECTABLE @ Matrix Spike
=> _____ Blank (Type) NR=> NOT RUN
=> Field Duplicate Signed: _____ Date: __/__/__

( ) → Estimated

4

TABLE 4-4 PCBs and PESTICIDES

PCBs and PESTICIDES

Site _____ LOCATION _____

Date Sampled: __/__/__ Date Reported : __/__/__ Lab: _____

Sample Number Lab / IDEM	Type & ID #	SURRO-GATES	DETECTED							
			Milligrams/Liter							
LIMITS OF DETECTION →	→	AV. % R	?							
A207216 / 5454	S/SD-1	OK								
A207217 / 5455	S/SD-2	"								
A207218 / 5456	S/SD-3	"								
A207219 / 5457	S/SD-4	"								
A207220 / 5458	S/SD-5	"								
A207225 / 5459	Dupe S/SD-5	"								
A207226 / 5460	S/SD-6	"								
/										
/										
/										
/										
/										
/										
/										
/										
/										
/										
/										
/										
/										
/										

ND = Non Detectable

≠ _____ Blank

* Field Duplicate

Signed: _____ Date: __ __ __

Section V

Migration Pathways

5.1 Introduction

This section provides a discussion of potential migration pathways for contaminants emanating from Wabash Valley Landfill. Potential contaminant migration through groundwater, surface water and air is evaluated as well as the potential for harmful human and environmental exposure through the fire and explosion and direct contact routes.

5.2 Groundwater

The Wabash Valley Landfill SSI focused on characterizing the condition of groundwater in the vicinity of the site and on permeability of soils, waste disposal practices, and depth to groundwater. The potential for contaminants to migrate to groundwater in the vicinity of the site is based on the following geological information.

The bedrock that underlies the site consists of extensively fractured and weathered dolomite of Middle Silurian age. The site is located near the crest of the Kankakee Arch and the layered sedimentary bedrock is flat lying or dips slightly toward the northeast into the Michigan basin. Bedrock is exposed along the drainage swale in the south-central part of the property and along the break in slope in the eastern part.

Unconsolidated material, glacial till and alluvium and perhaps some thin glacial outwash from 0 to 22 feet thick, overlie the bedrock. The western edge of the site is underlain by glacial till (sandy and silty clays) of the Mississinewa Moraine. The remainder of the property is underlain by pleiztocene and recent mixtures and layers and lenses of clay, silt, sand, and gravel outwash and alluvium.

Groundwater use near the landfill is moderate and nearly all water is withdrawn from the bedrock. Wells commonly range from 60 to 258 feet in depth. The local hydraulic gradient appears to slope to the southeast through most the site toward the small stream bordering the southern edge of the property. The regional flow gradient, however, is south and southwest toward the Wabash River (Giles 1988).

The potential targets of groundwater contamination include the approximately 15,800 persons who are served by wells drawing from the aquifer of concern within a 3-mile radius of the site. This target population was calculated by counting houses on the United States Geological Survey (U.S.G.S.) topographic maps of the area (U.S.G.S. 1963, 1969). The counted houses (309) were then multiplied by the persons-per-household average of 2.8 for Wabash County (U.S. Bureau of the Census 1982). The resulting population figure was added to the approximately 15,000 persons served by the Indiana Cities Water Department municipal wells.

5.3 Surface Water

Surface water drains from the landfill toward the Wabash River. The Wabash River flows from east to west and is located less the one-half mile southeast of the site; however, the site is not within the 100-year flood frequency elevation of the river. The potential, therefore exists for contaminants from the site to reach the Wabash River via general surface water runoff pathways. There are no surface water diversion structures present at the site.

The population potentially affected by contaminants migrating off-site includes persons who use the Wabash River for fishing and recreational purposes. No drinking water intakes are known to exist in surface water bodies within 15 miles downstream of the site.

5.4 Air

No potential for a significant release of contaminants to air was noted during the Wabash Valley Landfill SSI. Any hazardous materials present on-site would be buried, lessening the possibility of a large scale release to air. An HNu photoionization detector failed to reveal any elevated concentrations of volatile organic compounds in ambient air on-site.

5.5 Fire and Explosion

No evidence of fire was found during the reconnaissance survey or during previous site visits. Staff did not observe the presence of flammable substances on-site that would indicate the threat of fire and/or explosion exists.

5.6 Direct Contact

There are three homes located approximately 2,000 feet northwest of the site entrance. The site is not restricted; residents have direct access to the site and the wastes. Workers at the Wabash Valley Landfill may come into contact with hazardous wastes during daily work activities.

Section VI

References

Austin, Pat, Chemist-Indiana Department of Environmental Management. Review of Laboratory Results for Wabash Valley Landfill, August 14, 1990.

King, Jim, Geologist-Indiana Department of Environmental Management. Geological Description and Evaluation, March 15, 1978.

Giles, Billy, Geologist-Indiana Department of Environmental Management. Geological Assessment for Wabash Valley Landfill, November 29, 1988.

Indiana Department of Environmental Management. Potential Hazardous Waste Site Preliminary Assessment for Wabash Valley Landfill, Wabash, Indiana, U.S. EPA ID: IND 000780494, February 4, 1987, prepared by Ms. Mary Anne Hunter.

Indiana Department of Environmental Management. Site Inspection Workplan. Site Investigation Section for Wabash Valley Landfill, April 4, 1990, completed by Ms. Monica Hartke.

Indiana Department of Natural Resources, 1982. The 1981 Survey of Public Water Supply Service Areas in Indiana. Indianapolis, Indiana.

U.S. Bureau of the Census, 1982. 1980 Census of Population, Characteristics of the Population, General Population Characteristics, Indiana. Washington, D.C.

U.S. Geological Survey Topographical Maps, Wabash-1963 (rev. 1981), Lagro-1969, Servia-1961, North Manchester South-1961, 7.5 minute series: 1:24,000.

APPENDIX A

SITE 4 - MILE RADIUS MAP

SDMS US EPA Region V

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OVERSIZE MAP – 4 MILE RADIUS MAP

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APPENDIX B

U.S. EPA FORM 2070-13

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	000780494

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Wabash Valley Landfill	1151 Manchester Avenue

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Wabash	IN	46992	Wabash	169	04

09 COORDINATES — LATITUDE 40° 49' 04" N — LONGITUDE 85° 48' 00" W

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

III. INSPECTION INFORMATION

01 DATE OF INSPECTION: 5 / 23 / 90 (MONTH DAY YEAR)

02 SITE STATUS: ☒ ACTIVE ☐ INACTIVE

03 YEARS OF OPERATION: 1974 (BEGINNING YEAR) / present (ENDING YEAR) — UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply): ☐ A. EPA ☐ B. EPA CONTRACTOR (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR (Name of firm) ☒ E. STATE ☐ F. STATE CONTRACTOR (Name of firm) ☐ G. OTHER (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Monica Hartke	Environmental Scientist	IDEM	(317) 232-8927

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Harry E. Atkinson	Section Chief, Site Investigation	IDEM	(317) 232-8928
Pat Austin	Chemist	IDEM	(317) 232-8874
Billy Giles	Geologist	IDEM	(317) 232-8725
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
John Hoffman	Operator	P.O. Box 406	(219 563-8479
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	8:10 AM	Sunny, warm

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Harry E. Atkinson	IDEM/OER	(317) 232-8928

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Monica Hartke	IDEM	OER	317/232-8927	8 / 16 / 90 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	000780494

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES *(Check all that apply)*

- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. OTHER _____ *(Specify)*
- ☐ E. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS

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

TONS _____

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS *(Check all that apply)*

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

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS	unknown		
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
OCC	phenols	108-95-2	landfilled	960	ug/l

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)*

SSI conducted on May 23, 1990

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IND	000780494

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION — 02 [ ] OBSERVED (DATE: _____) [X] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 15,800 — 04 NARRATIVE DESCRIPTION

The permeability of soils, waste disposal practices and depth to groundwater are all conducive to groundwater contamination. Municipal wells are located within a 3 mile radius of the site.

01 [X] B. SURFACE WATER CONTAMINATION — 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

The Wabash River is located within 1 mile of the site. A potential exists for contaminants from the site to reach the Wabash River via general surface water runoff pathways. Leachate seeps have been observed at this site since 1975. The population potentially affected includes persons who use surface water in the vicinity for fishing and recreational purposes.

01 [X] C. CONTAMINATION OF AIR — 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

No recent air contamination has been reported. HNu photoionizer failed to detect ambient concentrations of volatiles above background levels.

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

All landfills will create methane gas (the explosive level of methane is in the range of 5-15 percent in air mixture). Not detected.

01 [X] E. DIRECT CONTACT — 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

Site access is not restricted.

01 [ ] F. CONTAMINATION OF SOIL — 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres) — 04 NARRATIVE DESCRIPTION

Some low level contamination was detected in subsurface soils. Concentrations, if accurate, are not of significant concern.

01 [X] G. DRINKING WATER CONTAMINATION — 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

See item A.

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

None reported.

01 [ ] I. POPULATION EXPOSURE/INJURY — 02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ — 04 NARRATIVE DESCRIPTION

None reported.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IND	000780494

II. HAZARDOUS CONDITIONS AND INCIDENTS *(Continued)*

01 ☒ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
The site is largely devoid of vegetation but activities at the site may be responsible for this, rather than the soil contamination.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION *(Include name(s) of species)*
None reported.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None reported.

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES *(Spills/Runoff/Standing liquids, Leaking drums)* — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
Clay ditches for leachate and pond are clay lined, earthen liners only. Leachate seeps and high groundwater are present.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None reported.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
None reported.

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Anonymous complaints and reports of covered trucks and tankers entering landfill late at night/early morning hours.

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

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS
Chemical analysis revealed low level contaminants, concentrations, if accurate, are not significant concern. This site does not appear to warrant further investigation at this time.

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

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	000780494

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)	OPP 85-01	Jan 1985	in renewal	landfill operating permit
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)	SW 157	April 1987	_	construction plan permit
☐ J. NONE				

III. SITE DESCRIPTION

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

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

05 OTHER
- ☐ A. BUILDINGS ON SITE

1 trailer

06 AREA OF SITE: 54 (Acres)

07 COMMENTS

As a result of the uncontrolled nature of past waste disposal operations at the site, very little information is available concerning type and quantities of wastes that have been deposited.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

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

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

Leachate collection pond is now used. Earthen liners only. Leachate seeps and high groundwater are present.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

The site is not fenced. Access is not restricted.

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

IDEM State files.
SSI conducted on May 23, 1990

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	000780494

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☐	B. ☒
NON-COMMUNITY	C. ☐	D. ☒

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ☒
D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE

A. 3 (mi)
B. 1,000 ft [redacted]

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

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

02 POPULATION SERVED BY GROUND WATER 15,800

03 DISTANCE TO NEAREST DRINKING WATER WELL ~1,000 ft [redacted]

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
1-4 ft low areas 15-20 ft higher [redacted] elevations	assumed south	60 (ft)	unknown (gpd)	☐ YES ☒ NO

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

Two municipal well fields exist. A total of 9 wells, 7 within 3 miles south of the site. They are 60 ft deep and drawl water from a standard gravel aquifer. Two other wells are located approx. 5 miles southwest of the site. They are 190 ft deep and drawl water from river valley in the limestone bedrock. Most residential wells draw from the bedrock aquifer.

10 RECHARGE AREA

☒ YES
☐ NO

COMMENTS: Moderate permeability of soil

11 DISCHARGE AREA

☐ YES
☐ NO

COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

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

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Wabash River	☐	½ - 1 (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. ~3,000 NO. OF PERSONS	B. ~15,300 NO. OF PERSONS	C. ~15,800 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION

~1,000 ft [redacted]

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

~3,500

04 DISTANCE TO NEAREST OFF-SITE BUILDING

~1,000 ft [redacted]

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

The site is located less than ½ mile out of city limits.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	000780494

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

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

02 PERMEABILITY OF BEDROCK (Check one)

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

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
≈ 100 (ft)	unknown (ft)	unknown

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
5 (in)	2.4 (in)	0-2 ~~0-12~~ %	surface slopes primarily to the south	unknown %

09 FLOOD POTENTIAL	10
SITE IS IN > 100 YEAR FLOODPLAIN	☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)		12 DISTANCE TO CRITICAL HABITAT (of endangered species)
ESTUARINE	OTHER	> 3 (mi)
A. N/A (mi)	B. < 3 (mi)	ENDANGERED SPECIES: N/A

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. < 3,000 ft	B. < 1,000 ft	C. unknown (mi)	D. 3/4 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The Wabash Valley Landfill is a site with variable geological and pedological conditions because it is situated along the margin the Wabash River floodplain. The site includes areas of floodplain, the valley-side slope, and the upland of the Mississinewa Morainal Ridge.

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

Soil Survey of Wabash County Indiana
State files
Geological assessment completed by Mr. Billy Giles.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	000780494

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	5	EMS Laboratory, Indianapolis, IN	5-23-90
SURFACE WATER	3	EMS Laboratory, Indianapolis, IN	5-23-90
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	7	EMS Laboratory, Indianapolis, IN	5-23-90
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
HNu Photoionizer	Detector- No concentration above background were noted.

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL

02 IN CUSTODY OF Indiana Dept. of Environemntal Management
(Name of organization or individual)

03 MAPS ☒ YES ☐ NO

04 LOCATION OF MAPS Included in report.

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

N/A

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

All the above information was obtained during or in preparation for the SSI by Ms. Monica Hartke, IDEM.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IND	000780494

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Mr. John Hoffman		P.O. Box 406		Wabash	IN	46992

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE
Wabash Valley Co., Ltd.		99 West Canal Street		Wabash	IN	46992

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

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Mr. Ray Gill		R.R. 2 Box 50	46992	Wabash	IN	46992

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

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE

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

State files
Person al Communication with Mr. John Hoffman

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IND	000780494

II. CURRENT OPERATOR (Provide if different from owner)			OPERATOR'S PARENT COMPANY (If applicable)		
01 NAME: Mr. John Hoffman		02 D+B NUMBER:	10 NAME: Wabash Valley Ldfl Co., Ltd.		11 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.): P.O. Box 406		04 SIC CODE:	12 STREET ADDRESS (P.O. Box, RFD #, etc.): 99 West Canal Street		13 SIC CODE:
05 CITY: Wabash	06 STATE: IN	07 ZIP CODE: 46992	14 CITY: Wabash	15 STATE: IN	16 ZIP CODE: 46992
08 YEARS OF OPERATION: 2	09 NAME OF OWNER: Mr. John Hoffman, President				

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)			PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)		
01 NAME: Mr. Ray Gill		02 D+B NUMBER:	10 NAME:		11 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.): R.R. 2 Box 50		04 SIC CODE:	12 STREET ADDRESS (P.O. Box, RFD #, etc.):		13 SIC CODE:
05 CITY: Wabash	06 STATE: IN	07 ZIP CODE: 46992	14 CITY:	15 STATE:	16 ZIP CODE:
08 YEARS OF OPERATION: 13	09 NAME OF OWNER DURING THIS PERIOD: Mr. Ray Gill				
01 NAME:		02 D+B NUMBER:	10 NAME:		11 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.):		04 SIC CODE:	12 STREET ADDRESS (P.O. Box, RFD #, etc.):		13 SIC CODE:
05 CITY:	06 STATE:	07 ZIP CODE:	14 CITY:	15 STATE:	16 ZIP CODE:
08 YEARS OF OPERATION:	09 NAME OF OWNER DURING THIS PERIOD:				
01 NAME:		02 D+B NUMBER:	10 NAME:		11 D+B NUMBER:
03 STREET ADDRESS (P.O. Box, RFD #, etc.):		04 SIC CODE:	12 STREET ADDRESS (P.O. Box, RFD #, etc.):		13 SIC CODE:
05 CITY:	06 STATE:	07 ZIP CODE:	14 CITY:	15 STATE:	16 ZIP CODE:
08 YEARS OF OPERATION:	09 NAME OF OWNER DURING THIS PERIOD:				

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

State files
Person al communication with Mr. John Hoffman

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IND	000780494

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
N/A	

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

05 CITY	06 STATE	07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
GenCorp Automotive		Celotex Corp.	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
One General Street P.O. Box 507		Lagro Plant P.O. Box 157	

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
Wabash	IN	46992	Lagro	IN	46941

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
North Manchester Foundry		Wabash County Hospital	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
205 Wabash Road		710 North East Street	

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
North Manchester	IN	46962	Wabash	IN	46992

IV. TRANSPORTER(S)

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

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

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

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

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

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

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

State files

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IND	000780494

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IND	000780494

II PAST RESPONSE ACTIVITIES *(Continued)*

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

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

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

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

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

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

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

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

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
N/A

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

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

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

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

State files

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IND	000780494

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

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

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

APPENDIX C

SITE PHOTOGRAPHS

PHOTOGRAPHY LOG SHEET

SITE Wabash Valley Landfill

DATE 5-23-90

TIME 12:50A

DIRECTION

WEATHER sunny, warm

PHOTOGRAPHED BY:

H. Atkinson

SAMPLE ID # (IF APPLICABLE)

S445

DESCRIPTION: upgradient well, well labeled #1, located NW of fill area

SITE Wabash Valley Landfill

DATE 5-23-90

TIME 1:30p

DIRECTION

WEATHER sunny, warm

PHOTOGRAPHED BY:

M. Hartke

SAMPLE ID # (IF APPLICABLE)

DESCRIPTION: location of monitoring well #2 back in wooded area, south of fill area

PHOTOGRAPHY LOG SHEET

Page _____

SITE Wabash Valley Landfill

DATE 5-23-90

TIME 11:02 A

DIRECTION

WEATHER sunny, warm

PHOTOGRAPHED BY:

B. Giles

SAMPLE ID # (IF APPLICABLE)

S446

DESCRIPTION: monitoring well labeled #2, mid south of fill area

SITE Wabash Valley landfill

DATE 5-23-90

TIME 1:15 P

DIRECTION

WEATHER sunny, warm

PHOTOGRAPHED BY:

M. Hartke

SAMPLE ID # (IF APPLICABLE)

DESCRIPTION: location of monitoring well #3, south of fill area

PHOTOGRAPHY LOG SHEET

SITE Wabash Valley Landfill

DATE 5-23-90

TIME 10:42A

DIRECTION

WEATHER sunny warm

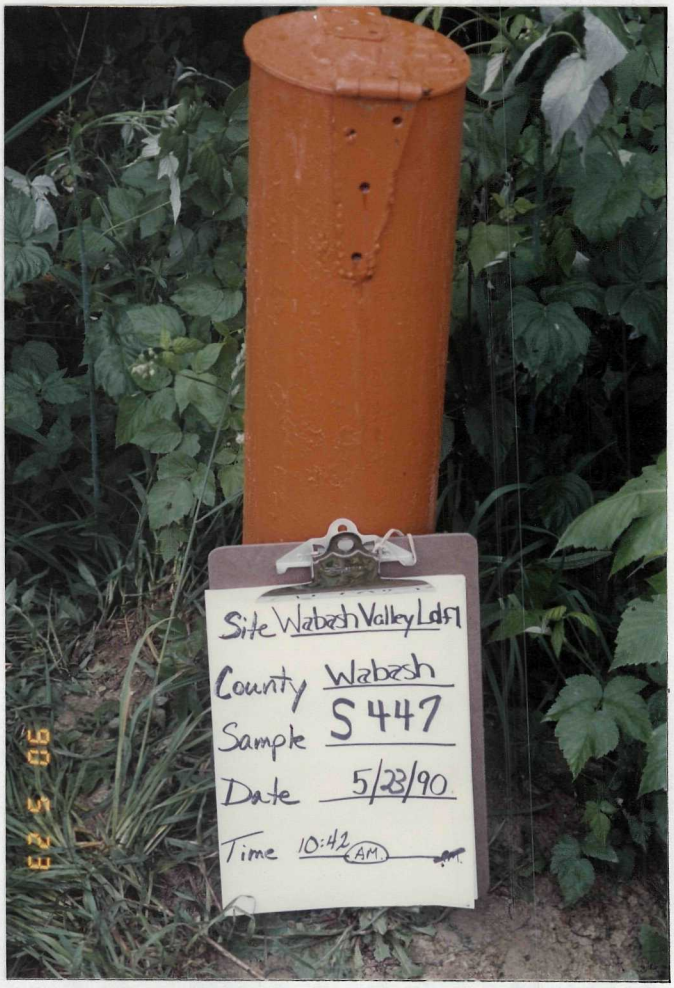
PHOTOGRAPHED BY:

H. Atkinson

SAMPLE ID # (IF APPLICABLE)

S447

DESCRIPTION: SW of fill area, north of railroad tracks, well #3



SITE Wabash Valley Landfill

DATE 5-23-90

TIME 10:47A

DIRECTION

WEATHER sunny, warm

PHOTOGRAPHED BY:

H. Atkinson

SAMPLE ID # (IF APPLICABLE)

S448

DESCRIPTION: same as above.

PHOTOGRAPHY LOG SHEET

SITE Wabash Valley Landfill

DATE 5-23-90

TIME 11:50 a

DIRECTION

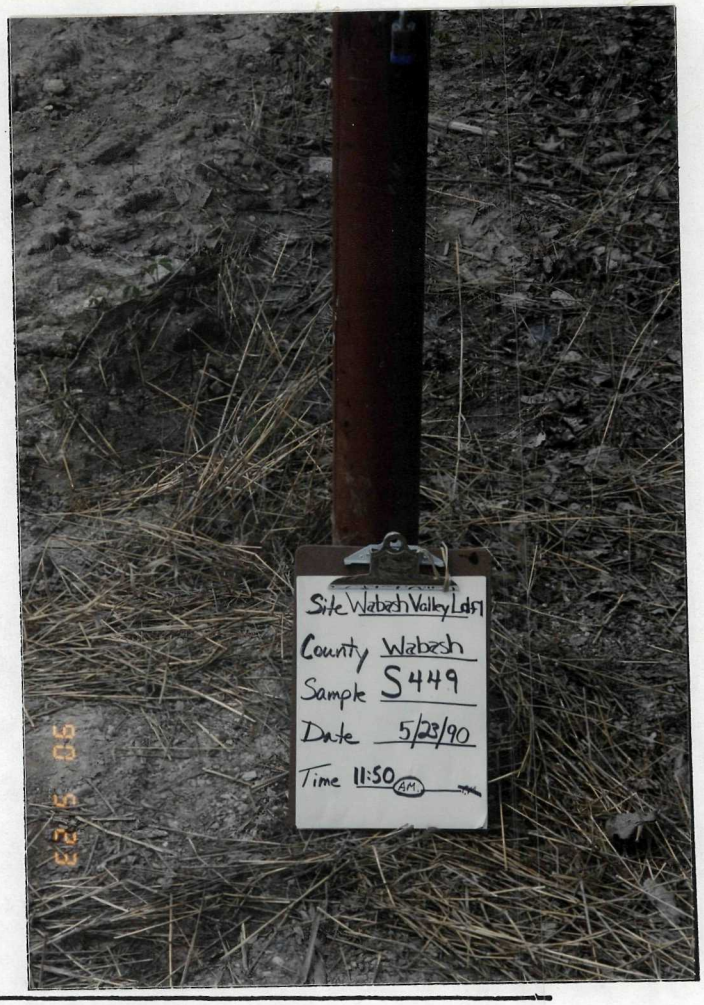
WEATHER sunny, warm

PHOTOGRAPHED BY:

B. Giles

SAMPLE ID # (IF APPLICABLE)

S449



DESCRIPTION: SE of fill area and north of railroad tracks, well labeled #4.

SITE Wabash Valley Landfill

DATE 5-23-90

TIME 12:05 p

DIRECTION

WEATHER sunny, warm

PHOTOGRAPHED BY:

M. Hartke

SAMPLE ID # (IF APPLICABLE)

DESCRIPTION: SE of fill area, leading to sample S451

PHOTOGRAPHY LOG SHEET

Page _____

SITE Wabash Valley landfill

DATE 5-23-90

TIME 12:10 p

DIRECTION

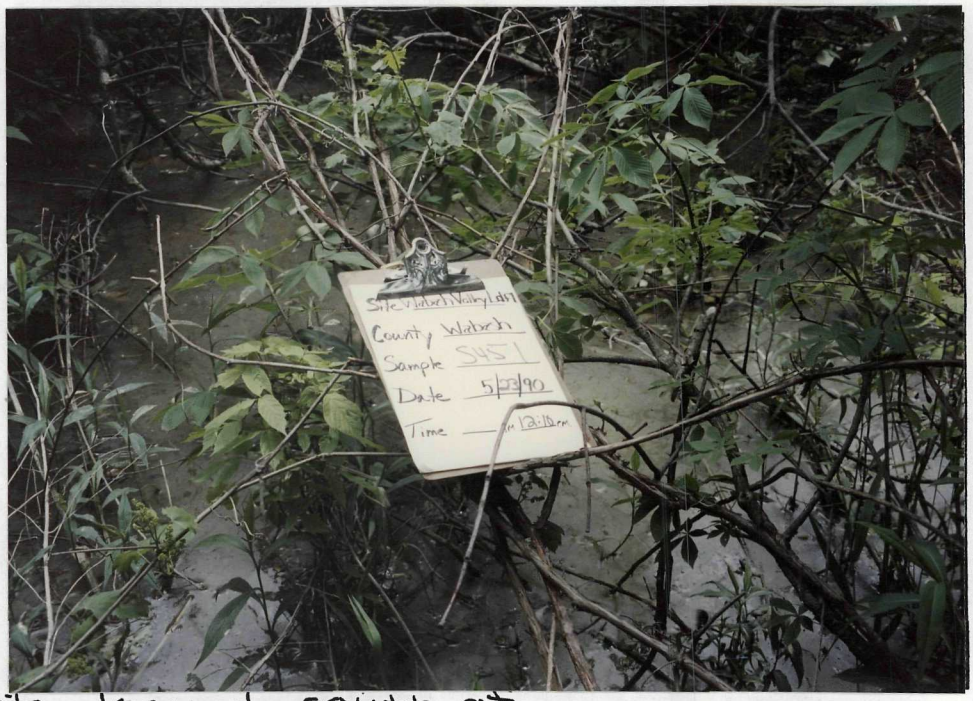
WEATHER sunny, warm

PHOTOGRAPHED BY:

M. Hartke

SAMPLE ID # (IF APPLICABLE)

S451



DESCRIPTION: mid-SE of site, located south of leachate collection pond

SITE Wabash Valley landfill

DATE 5-23-90

TIME 11:40 A

DIRECTION

WEATHER sunny, warm

PHOTOGRAPHED BY:

M. Hartke

SAMPLE ID # (IF APPLICABLE)

S450

DESCRIPTION: Background sample, SW of site in woods

PHOTOGRAPHY LOG SHEET

Page _____

SITE Wabash Valley Landfill

DATE 5-23-90

TIME 12:10p

DIRECTION

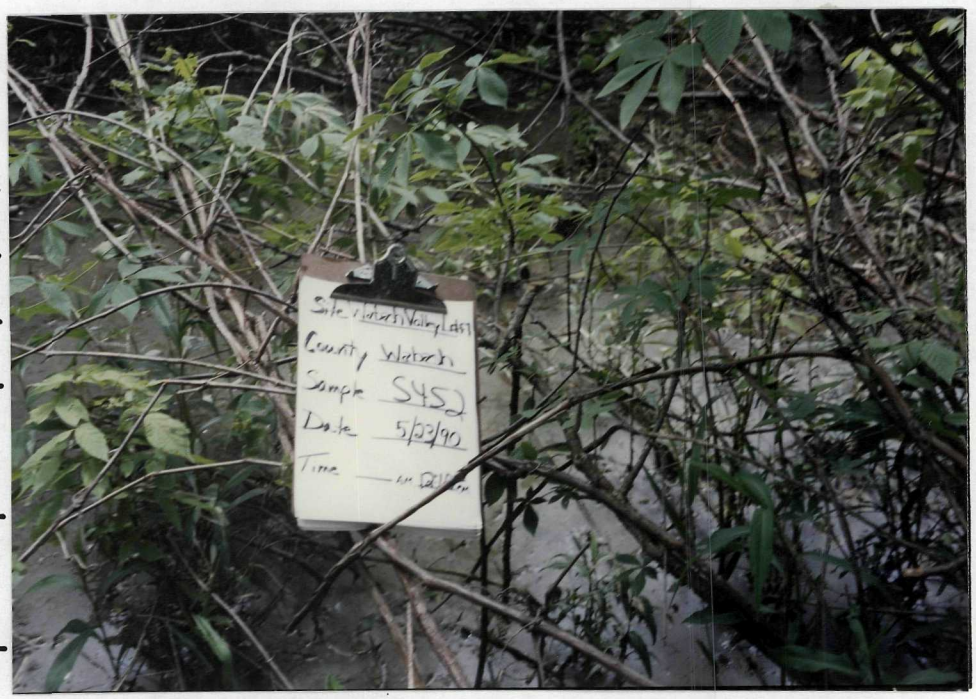
WEATHER Sunny, warm

PHOTOGRAPHED BY:

M. Hartke

SAMPLE ID # (IF APPLICABLE)

S452



DESCRIPTION: Duplicate of S451, mid-SE of site, located south of leachate collection pond

SITE Wabash Valley Landfill

DATE 5-23-90

TIME 12:15p

DIRECTION

WEATHER Sunny, warm

PHOTOGRAPHED BY:

M. Hartke

SAMPLE ID # (IF APPLICABLE)

DESCRIPTION: A picture of sample area of S451 and S452

PHOTOGRAPHY LOG SHEET

Page _____

SITE Wabash Valley Landfill

DATE 5-22-90

TIME 5:30p

DIRECTION

WEATHER sunny, warm

PHOTOGRAPHED BY:

P. Austin

SAMPLE ID # (IF APPLICABLE)

S454

DESCRIPTION: Sample labeled wrong, background sample, collected 1/2 mi south of site behind Miller's Merry Manor just E off of Manchester Rd.

SITE Wabash Valley Landfill

DATE 5-23-90

TIME 2:20p

DIRECTION

WEATHER sunny, warm

PHOTOGRAPHED BY:

B. Giles

SAMPLE ID # (IF APPLICABLE)

S455

DESCRIPTION: Just west of fill area

PHOTOGRAPHY LOG SHEET

Page _____

SITE Wabash Valley Landfill

DATE 5-23-90

TIME 12:58p

DIRECTION

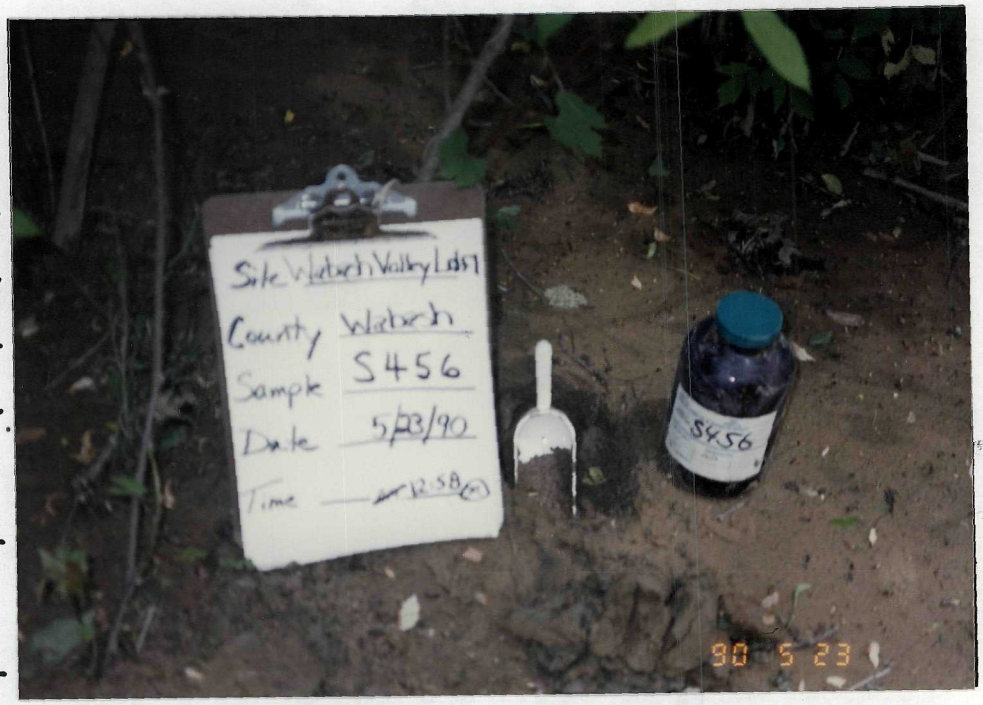
WEATHER sunny, warm

PHOTOGRAPHED BY:

H. Atkinson

SAMPLE ID # (IF APPLICABLE)

S456



DESCRIPTION: Mid to SE section of fill area, Drainage relief area to base of Ldfl.

SITE Wabash Valley Landfill

DATE 5-23-90

TIME 1:15p

DIRECTION

WEATHER sunny, warm

PHOTOGRAPHED BY:

M. Hartke

SAMPLE ID # (IF APPLICABLE)

DESCRIPTION: mid-SE of fill area, leachate from which S458 was collected

PHOTOGRAPHY LOG SHEET

Page _____

SITE Wabash Valley landfill

DATE 5-23-90

TIME 12:45 p

DIRECTION

WEATHER sunny, warm

PHOTOGRAPHED BY:

H. Atkinson

SAMPLE ID # (IF APPLICABLE)

S457

DESCRIPTION: mid to SE section of fill area, leachate seep in direction of creek & railroad tracks.

SITE Wabash Valley landfill

DATE 5-23-90

TIME 1:00 p

DIRECTION

WEATHER sunny, warm

PHOTOGRAPHED BY:

M. Hartke

SAMPLE ID # (IF APPLICABLE)

S458

DESCRIPTION: SE section of fill area, just north of leachate pond

PHOTOGRAPHY LOG SHEET

Page _____

SITE Wabash Valley Landfill

DATE 5-23-90

TIME 1:00p

DIRECTION

WEATHER sunny warm

PHOTOGRAPHED BY:

M. Hartke

SAMPLE ID # (IF APPLICABLE)

S458

DESCRIPTION: same as previous picture labled Sample S458.

SITE Wabash Valley Landfill

DATE 5-23-90

TIME 1:00p

DIRECTION

WEATHER sunny, warm

PHOTOGRAPHED BY:

M. Hartke

SAMPLE ID # (IF APPLICABLE)

S459

DESCRIPTION: duplicate sample of S458

PHOTOGRAPHY LOG SHEET

Page _____

SITE Wabash Valley Landfill

DATE 5-23-90

TIME 12:10p

DIRECTION

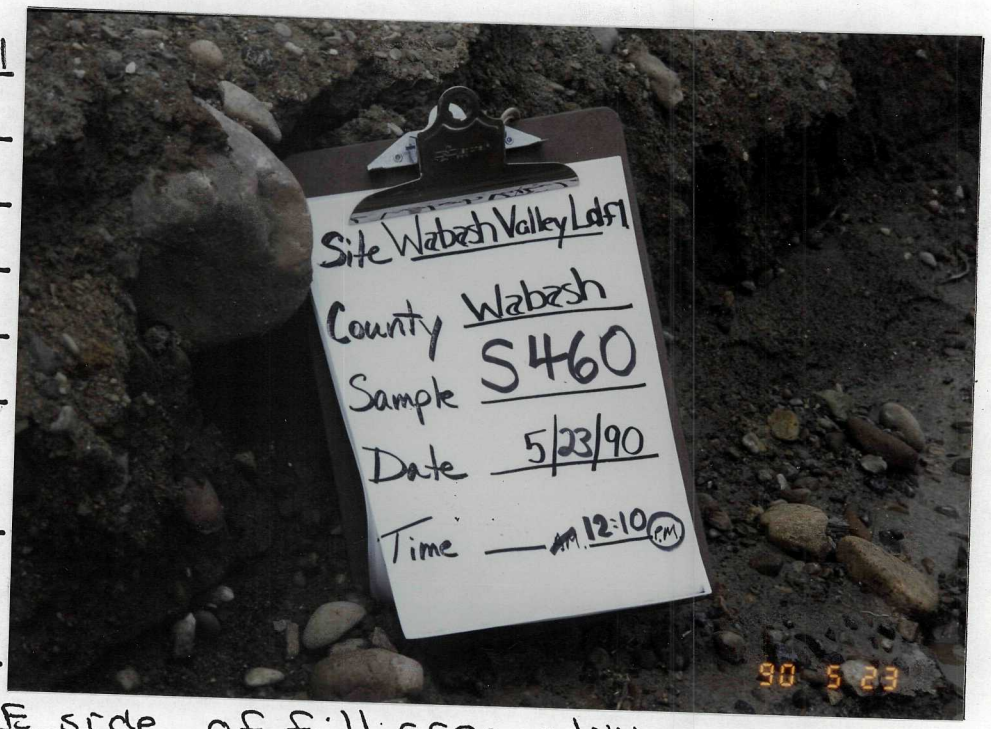
WEATHER sunny, warm

PHOTOGRAPHED BY:

B. Giles

SAMPLE ID # (IF APPLICABLE)

S460



DESCRIPTION: In ditch of NE side of fill area, a little more than 1/2 way to railroad tracks

SITE Wabash Valley Landfill

DATE 5-23-90

TIME 1:20p

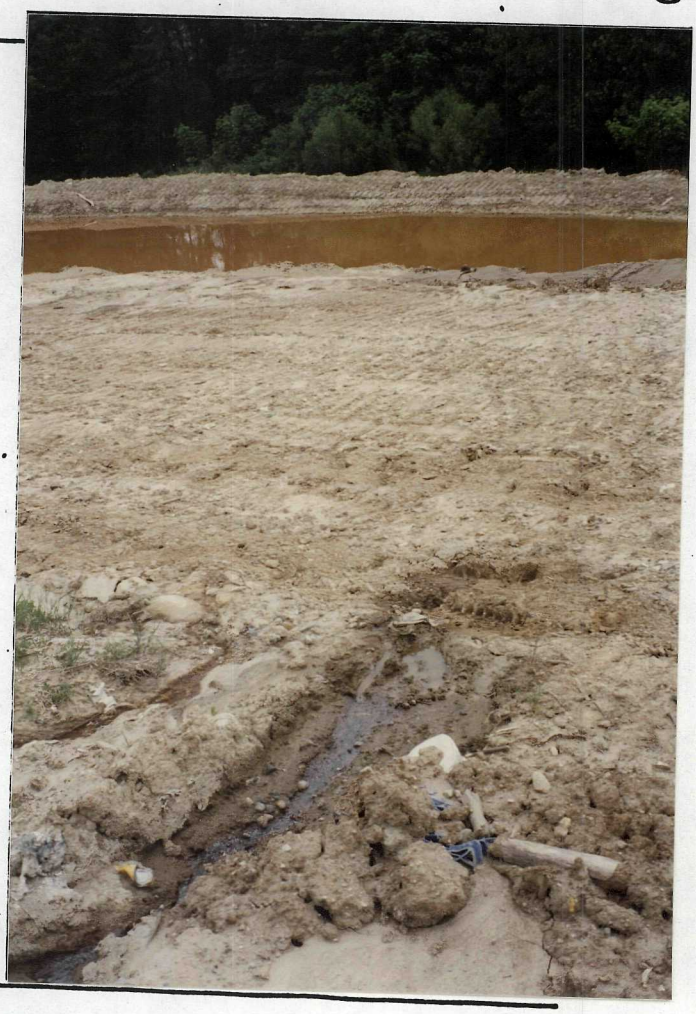
DIRECTION

WEATHER sunny, warm

PHOTOGRAPHED BY:

M. Hartke

SAMPLE ID # (IF APPLICABLE)



DESCRIPTION: leachate collection pond located SE of fill area

APPENDIX D

CHEMICAL ANALYSIS DATA

C E R T I F I C A T E O F A N A L Y S I S

-------- CORRESPOND TO ---------- SAMPLE ----------

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

LAB SAMPLE ID: A207203
DATE PRINTED : 25-JUN-90
DATE RECEIVED: 23-MAY-90
DATE COMPLETE: 25-JUN-90

---------- REPORT TO ---------- BILL TO ----------

ATTN: PAT AUSTIN
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
105 SOUTH MERIDIAN
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

ATTN: CARLA HATTON
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

---------- DESCRIPTION ----------

DATE SAMPLED : 22-MAY-90 TIME : 07:45:00 PO NUMBER : 89602536-34E
DESCRIPTION : IDEM CERCLA
IDEM CONTROL NO. : S444

---------- ANALYSIS ----------

ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020
ANALYST : S. HALLORAN DATE : 13-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME		
FINAL WEIGHT OR VOLUME		

ARSENIC GFAA SW846-7060
ANALYST : P. SIMS DATE : 18-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
ARSENIC	BDL MG/L	0.0050

CADMIUM GFAA SW846-7131
ANALYST : S. O'NEAL DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
CADMIUM	BDL MG/L	0.0010

LEAD GFAA SW846-7421
ANALYST : M. BAUER DATE : 21-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
LEAD	BDL MG/L	0.0050

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 21-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/L	0.0050

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/L	0.0050

ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005
ANALYST : M. SCROGHAM DATE : 19-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	50 ML	
FINAL WEIGHT OR VOLUME	50 ML	

ALUMINUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ALUMINUM	BDL MG/L	0.05

ANTIMONY ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/L	0.03

BARIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BARIUM	BDL MG/L	0.01

BERYLLIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/L	0.005

CALCIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CALCIUM	0.21 MG/L	0.05

CHROMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CHROMIUM	BDL MG/L	0.01

COBALT ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COBALT	BDL MG/L	0.01

COPPER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COPPER	BDL MG/L	0.02

IRON ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
IRON	BDL MG/L	0.02

LITHIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
LITHIUM	BDL MG/L	0.010

MAGNESIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MAGNESIUM	0.07 MG/L	0.02

MANGANESE ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MANGANESE	BDL MG/L	0.01

ACID DIGESTION FOR CVAA ANALYSIS EPA 245.1
ANALYST : S. STRUEWING DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	100 ML	
FINAL VOLUME	100 ML	

MERCURY CVAA SW846-7470
ANALYST : R. BYERS DATE : 05-JUN-90 INSTRUMENT : CVAA REP : 0
PREP : ACID DIGESTION FOR CVAA ANALYSIS EPA 245.1

PARAMETER	RESULT	DET LIM
MERCURY	BDL MG/L	0.0002

MOLYBDENUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MOLYBDENUM	BDL MG/L	0.010

NICKEL ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
NICKEL	BDL MG/L	0.01

POTASSIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
POTASSIUM	BDL MG/L	0.2

SILVER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
SILVER	BDL MG/L	0.01

SODIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
SODIUM	0.49 MG/L	0.1

STRONTIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
STRONTIUM	BDL MG/L	0.010

TIN ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TIN	BDL MG/L	0.050

TITANIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TITANIUM	BDL MG/L	0.010

VANADIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
VANADIUM	BDL MG/L	0.01

ZINC ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ZINC	0.03 MG/L	0.02

CYANIDE DISTILLATION SW846-9010
ANALYST : K. SCOTT DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	250 ML	
FINAL VOLUME	250 ML	

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	BDL MG/L	0.01

PHENOLS 4AAP SW846-9066
ANALYST : B. WOOD DATE : 11-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0

PARAMETER	RESULT	DET LIM
PHENOLS	BDL MG/L	0.01

IDEM VOLATILE ORGANICS TARGET COMPOUND LIST SW846-8240
ANALYST : H. WILLIAMS DATE : 07-JUN-90 INSTRUMENT : GC/MS VOA REP : 0

PARAMETER	RESULT	DET LIM
ACETONE	BDL UG/L	20
ACROLEIN	BDL UG/L	50
ACRYLONITRILE	BDL UG/L	70
BENZENE	BDL UG/L	5
BROMODICHLOROMETHANE	BDL UG/L	5
BROMOFORM	BDL UG/L	5
BROMOMETHANE	BDL UG/L	10
CARBON DISULFIDE	BDL UG/L	5
CARBON TETRACHLORIDE	BDL UG/L	5
CHLOROBENZENE	BDL UG/L	5
CHLOROETHANE	BDL UG/L	10
CHLOROFORM	BDL UG/L	5
CHLOROMETHANE	BDL UG/L	10
DIBROMOCHLOROMETHANE	BDL UG/L	5
CIS-1,3-DICHLOROPROPENE	BDL UG/L	5
DICHLORODIFLUOROMETHANE	BDL UG/L	5
1,1-DICHLOROETHANE	BDL UG/L	5
1,2-DICHLOROETHANE	BDL UG/L	5
1,1-DICHLOROETHENE	BDL UG/L	5
1,2-DICHLOROPROPANE	BDL UG/L	5
ETHYLBENZENE	BDL UG/L	5
FLUOROTRICHLOROMETHANE	BDL UG/L	5
2-HEXANONE	BDL UG/L	10
METHYLENE CHLORIDE	6 UG/L	5
METHYL ETHYL KETONE	BDL UG/L	10
4-METHYL-2-PENTANONE	BDL UG/L	10
STYRENE	BDL UG/L	5
1,1,2,2-TETRACHLOROETHANE	BDL UG/L	5
TETRACHLOROETHENE	BDL UG/L	5
TETRAHYDROFURAN	BDL UG/L	25
TOLUENE	BDL UG/L	5
1,2-DICHLOROETHENE (TOTAL)	BDL UG/L	5
TRANS-1,3-DICHLOROPROPENE	BDL UG/L	5
1,1,1-TRICHLOROETHANE	BDL UG/L	5
1,1,2-TRICHLOROETHANE	BDL UG/L	5
TRICHLOROETHENE	BDL UG/L	5
VINYL ACETATE	BDL UG/L	10

VINYL CHLORIDE	BDL UG/L	10
XYLENE (TOTAL)	BDL UG/L	5
2-CHLOROETHYLVINYLETHER	BDL UG/L	10
DIETHYLETHER	BDL UG/L	5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	BDL UG/L	5
ETHYL ACETATE	BDL UG/L	5
SURROGATE RECOVERY		SPIKED CONC
DICHLOROETHANE-D4	92 % RECOVERY	50
TOLUENE-D8	100 % RECOVERY	50
BROMOFLUOROBENZENE	98 % RECOVERY	50

BDL BELOW DETECTABLE LIMITS

QUALITY ASSURANCE OFFICER: G. A. Busch

C E R T I F I C A T E O F A N A L Y S I S

-------- CORRESPOND TO ---------- SAMPLE ----------

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

LAB SAMPLE ID: A207204
DATE PRINTED : 25-JUN-90
DATE RECEIVED: 23-MAY-90
DATE COMPLETE: 25-JUN-90

---------- REPORT TO ---------- BILL TO ----------

ATTN: PAT AUSTIN
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
105 SOUTH MERIDIAN
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

ATTN: CARLA HATTON
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

---------- DESCRIPTION ----------

DATE SAMPLED : 23-MAY-90 TIME : NONE PO NUMBER : 89602536-34E
DESCRIPTION : IDEM CERCLA
IDEM CONTROL NO. : S445

---------- ANALYSIS ----------

ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020
ANALYST : S. HALLORAN DATE : 17-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	50 ML	
FINAL WEIGHT OR VOLUME	50 ML	

ARSENIC GFAA SW846-7060
ANALYST : P. SIMS DATE : 23-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
ARSENIC	BDL MG/L	0.0050

CADMIUM GFAA SW846-7131
ANALYST : S. O'NEAL DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
CADMIUM	BDL MG/L	0.0010

LEAD GFAA SW846-7421
ANALYST : M. BAUER DATE : 21-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
LEAD	0.0073 MG/L	0.0050

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 19-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/L	0.0050

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/L	0.0050

ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005
ANALYST : M. SCROGHAM DATE : 19-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	50 ML	
FINAL WEIGHT OR VOLUME	50 ML	

ALUMINUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ALUMINUM	1.6 MG/L	0.05

ANTIMONY ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/L	0.03

BARIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BARIUM	0.18 MG/L	0.01

BERYLLIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/L	0.005

CALCIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CALCIUM	110 MG/L	0.05

CHROMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CHROMIUM	BDL MG/L	0.01

COBALT ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COBALT	BDL MG/L	0.01

COPPER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COPPER	BDL MG/L	0.02

IRON ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
IRON	5.9 MG/L	0.02

LITHIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
LITHIUM	BDL MG/L	0.010

MAGNESIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MAGNESIUM	35 MG/L	0.02

MANGANESE ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MANGANESE	0.12 MG/L	0.01

ACID DIGESTION FOR CVAA ANALYSIS EPA 245.1
ANALYST : S. STRUEWING DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	100 ML	
FINAL VOLUME	100 ML	

MERCURY CVAA SW846-7470
ANALYST : R. BYERS DATE : 05-JUN-90 INSTRUMENT : CVAA REP : 0
PREP : ACID DIGESTION FOR CVAA ANALYSIS EPA 245.1

PARAMETER	RESULT	DET LIM
MERCURY	BDL MG/L	0.0002

MOLYBDENUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MOLYBDENUM	BDL MG/L	0.010

NICKEL ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
NICKEL	BDL MG/L	0.01

POTASSIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
POTASSIUM	1.4 MG/L	0.2

SILVER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
SILVER	BDL MG/L	0.01

SODIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
SODIUM	6.2 MG/L	0.1

STRONTIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
STRONTIUM	0.25 MG/L	0.010

TIN ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TIN	BDL MG/L	0.050

TITANIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TITANIUM	0.04 MG/L	0.010

VANADIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
VANADIUM	BDL MG/L	0.01

ZINC ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ZINC	0.05 MG/L	0.02

CYANIDE DISTILLATION SW846-9010
ANALYST : K. SCOTT DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	250 ML	
FINAL VOLUME	250 ML	

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	BDL MG/L	0.01

PHENOLS 4AAP SW846-9066
ANALYST : B. WOOD DATE : 11-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0

PARAMETER	RESULT	DET LIM
PHENOLS	BDL MG/L	0.01

IDEM VOLATILE ORGANICS TARGET COMPOUND LIST SW846-8240
ANALYST : H. WILLIAMS DATE : 07-JUN-90 INSTRUMENT : GC/MS VOA REP : 0

PARAMETER	RESULT	DET LIM
ACETONE	BDL UG/L	20
ACROLEIN	BDL UG/L	50
ACRYLONITRILE	BDL UG/L	70
BENZENE	BDL UG/L	5
BROMODICHLOROMETHANE	BDL UG/L	5
BROMOFORM	BDL UG/L	5
BROMOMETHANE	BDL UG/L	10
CARBON DISULFIDE	BDL UG/L	5
CARBON TETRACHLORIDE	BDL UG/L	5
CHLOROBENZENE	BDL UG/L	5
CHLOROETHANE	BDL UG/L	10
CHLOROFORM	BDL UG/L	5
CHLOROMETHANE	BDL UG/L	10
DIBROMOCHLOROMETHANE	BDL UG/L	5
CIS-1,3-DICHLOROPROPENE	BDL UG/L	5
DICHLORODIFLUOROMETHANE	BDL UG/L	5
1,1-DICHLOROETHANE	BDL UG/L	5
1,2-DICHLOROETHANE	BDL UG/L	5
1,1-DICHLOROETHENE	BDL UG/L	5
1,2-DICHLOROPROPANE	BDL UG/L	5
ETHYLBENZENE	BDL UG/L	5
FLUOROTRICHLOROMETHANE	BDL UG/L	5
2-HEXANONE	BDL UG/L	10
METHYLENE CHLORIDE	BDL UG/L	5
METHYL ETHYL KETONE	BDL UG/L	10
4-METHYL-2-PENTANONE	BDL UG/L	10
STYRENE	BDL UG/L	5
1,1,2,2-TETRACHLOROETHANE	BDL UG/L	5
TETRACHLOROETHENE	BDL UG/L	5
TETRAHYDROFURAN	BDL UG/L	25
TOLUENE	BDL UG/L	5
1,2-DICHLOROETHENE (TOTAL)	BDL UG/L	5
TRANS-1,3-DICHLOROPROPENE	BDL UG/L	5
1,1,1-TRICHLOROETHANE	BDL UG/L	5
1,1,2-TRICHLOROETHANE	BDL UG/L	5
TRICHLOROETHENE	BDL UG/L	5
VINYL ACETATE	BDL UG/L	10

VINYL CHLORIDE	BDL UG/L	10
XYLENE (TOTAL)	BDL UG/L	5
2-CHLOROETHYLVINYLETHER	BDL UG/L	10
DIETHYLETHER	BDL UG/L	5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	BDL UG/L	5
ETHYL ACETATE	BDL UG/L	5
SURROGATE RECOVERY		SPIKED CONC
DICHLOROETHANE-D4	90 % RECOVERY	50
TOLUENE-D8	97 % RECOVERY	50
BROMOFLUOROBENZENE	94 % RECOVERY	50
ALSO DETECTED		
*UNKNOWN	EST 8 RT=2.22	

NOTE: * ALSO DETECTED IN BLANK

BDL BELOW DETECTABLE LIMITS
EST ESTIMATED VALUE
RT RETENTION TIME

QUALITY ASSURANCE OFFICER: G. A. Busch

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 24-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/L	0.010

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/L	0.0050

ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005
ANALYST : M. SCROGHAM DATE : 19-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	50 ML	
FINAL WEIGHT OR VOLUME	50 ML	

ALUMINUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ALUMINUM	20 MG/L	0.05

ANTIMONY ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/L	0.03

BARIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BARIUM	0.43 MG/L	0.01

BERYLLIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/L	0.005

CALCIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CALCIUM	470 MG/L	0.05

CHROMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CHROMIUM	0.04 MG/L	0.01

COBALT ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COBALT	BDL MG/L	0.01

COPPER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COPPER	0.08 MG/L	0.02

IRON ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
IRON	54 MG/L	0.02

LITHIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
LITHIUM	0.04 MG/L	0.010

MAGNESIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MAGNESIUM	190 MG/L	0.02

MANGANESE ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MANGANESE	3.3 MG/L	0.01

ACID DIGESTION FOR CVAA ANALYSIS EPA 245.1
ANALYST : S. STRUEWING DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	100 ML	
FINAL VOLUME	100 ML	

MERCURY CVAA SW846-7470
ANALYST : R. BYERS DATE : 05-JUN-90 INSTRUMENT : CVAA REP : 0
PREP : ACID DIGESTION FOR CVAA ANALYSIS EPA 245.1

PARAMETER	RESULT	DET LIM
MERCURY	BDL MG/L	0.0002

MOLYBDENUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MOLYBDENUM	BDL MG/L	0.010

NICKEL ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
NICKEL	0.08 MG/L	0.01

POTASSIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
POTASSIUM	7.2 MG/L	0.2

SILVER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
SILVER	BDL MG/L	0.01

SODIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
SODIUM	12 MG/L	0.1

STRONTIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
STRONTIUM	0.48 MG/L	0.010

TIN ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TIN	BDL MG/L	0.050

TITANIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TITANIUM	0.57 MG/L	0.010

VANADIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
VANADIUM	0.05 MG/L	0.01

ZINC ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ZINC	0.26 MG/L	0.02

CYANIDE DISTILLATION SW846-9010
ANALYST : K. SCOTT DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	250 ML	
FINAL VOLUME	250 ML	

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	BDL MG/L	0.01

PHENOLS 4AAP SW846-9066
ANALYST : B. WOOD DATE : 11-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0

PARAMETER	RESULT	DET LIM
PHENOLS	BDL MG/L	0.01

IDEM VOLATILE ORGANICS TARGET COMPOUND LIST SW846-8240
ANALYST : H. WILLIAMS DATE : 07-JUN-90 INSTRUMENT : GC/MS VOA REP : 0

PARAMETER	RESULT	DET LIM
ACETONE	BDL UG/L	20
ACROLEIN	BDL UG/L	50
ACRYLONITRILE	BDL UG/L	70
BENZENE	BDL UG/L	5
BROMODICHLOROMETHANE	BDL UG/L	5
BROMOFORM	BDL UG/L	5
BROMOMETHANE	BDL UG/L	10
CARBON DISULFIDE	BDL UG/L	5
CARBON TETRACHLORIDE	BDL UG/L	5
CHLOROBENZENE	BDL UG/L	5
CHLOROETHANE	BDL UG/L	10
CHLOROFORM	BDL UG/L	5
CHLOROMETHANE	BDL UG/L	10
DIBROMOCHLOROMETHANE	BDL UG/L	5
CIS-1,3-DICHLOROPROPENE	BDL UG/L	5
DICHLORODIFLUOROMETHANE	BDL UG/L	5
1,1-DICHLOROETHANE	BDL UG/L	5
1,2-DICHLOROETHANE	BDL UG/L	5
1,1-DICHLOROETHENE	BDL UG/L	5
1,2-DICHLOROPROPANE	BDL UG/L	5
ETHYLBENZENE	BDL UG/L	5
FLUOROTRICHLOROMETHANE	BDL UG/L	5
2-HEXANONE	BDL UG/L	10
METHYLENE CHLORIDE	BDL UG/L	5
METHYL ETHYL KETONE	BDL UG/L	10
4-METHYL-2-PENTANONE	BDL UG/L	10
STYRENE	BDL UG/L	5
1,1,2,2-TETRACHLOROETHANE	BDL UG/L	5
TETRACHLOROETHENE	BDL UG/L	5
TETRAHYDROFURAN	BDL UG/L	25
TOLUENE	BDL UG/L	5
1,2-DICHLOROETHENE (TOTAL)	BDL UG/L	5
TRANS-1,3-DICHLOROPROPENE	BDL UG/L	5
1,1,1-TRICHLOROETHANE	BDL UG/L	5
1,1,2-TRICHLOROETHANE	BDL UG/L	5
TRICHLOROETHENE	BDL UG/L	5
VINYL ACETATE	BDL UG/L	10

EMS LABORATORIES, INC. SAMPLE ID: A207205

VINYL CHLORIDE	BDL UG/L	10
XYLENE (TOTAL)	BDL UG/L	5
2-CHLOROETHYLVINYLETHER	BDL UG/L	10
DIETHYLETHER	BDL UG/L	5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	BDL UG/L	5
ETHYL ACETATE	BDL UG/L	5
SURROGATE RECOVERY		SPIKED CONC
DICHLOROETHANE-D4	88 % RECOVERY	50
TOLUENE-D8	99 % RECOVERY	50
BROMOFLUOROBENZENE	96 % RECOVERY	50
ALSO DETECTED		
*UNKNOWN	EST 21 RT=2.11	
UNKNOWN	EST 35 RT=13.23	

NOTE: * ALSO DETECTED IN BLANK

BDL BELOW DETECTABLE LIMITS
EST ESTIMATED VALUE
RT RETENTION TIME

QUALITY ASSURANCE OFFICER: G. A. Busch

C E R T I F I C A T E O F A N A L Y S I S

-------- CORRESPOND TO ---------- SAMPLE ----------

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

LAB SAMPLE ID: A207206
DATE PRINTED : 25-JUN-90
DATE RECEIVED: 23-MAY-90
DATE COMPLETE: 25-JUN-90

---------- REPORT TO ---------- BILL TO ----------

ATTN: PAT AUSTIN
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
105 SOUTH MERIDIAN
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

ATTN: CARLA HATTON
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

---------- DESCRIPTION ----------

DATE SAMPLED : 23-MAY-90 TIME : NONE PO NUMBER : 89602536-34E
DESCRIPTION : IDEM CERCLA
IDEM CONTROL NO. : S447

---------- ANALYSIS ----------

ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020
ANALYST : S. HALLORAN DATE : 17-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	50 ML	
FINAL WEIGHT OR VOLUME	50 ML	

ARSENIC GFAA SW846-7060
ANALYST : P. SIMS DATE : 23-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
ARSENIC	0.12 MG/L	0.050

CADMIUM GFAA SW846-7131
ANALYST : S. O'NEAL DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
CADMIUM	BDL MG/L	0.0010

LEAD GFAA SW846-7421
ANALYST : M. BAUER DATE : 21-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
LEAD	0.022 MG/L	0.0050

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 19-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/L	0.0050

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/L	0.010

ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005
ANALYST : M. SCROGHAM DATE : 19-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	50 ML	
FINAL WEIGHT OR VOLUME	50 ML	

ALUMINUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ALUMINUM	5.1 MG/L	0.05

ANTIMONY ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/L	0.03

BARIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BARIUM	1.6 MG/L	0.01

BERYLLIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/L	0.005

CALCIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CALCIUM	270 MG/L	0.05

CHROMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CHROMIUM	BDL MG/L	0.01

COBALT ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COBALT	BDL MG/L	0.01

COPPER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COPPER	BDL MG/L	0.02

IRON ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
IRON	50 MG/L	0.02

LITHIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
LITHIUM	0.02 MG/L	0.010

MAGNESIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MAGNESIUM	130 MG/L	0.02

MANGANESE ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MANGANESE	0.99 MG/L	0.01

ACID DIGESTION FOR CVAA ANALYSIS EPA 245.1
ANALYST : S. STRUEWING DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	100 ML	
FINAL VOLUME	100 ML	

MERCURY CVAA SW846-7470
ANALYST : R. BYERS DATE : 05-JUN-90 INSTRUMENT : CVAA REP : 0
PREP : ACID DIGESTION FOR CVAA ANALYSIS EPA 245.1

PARAMETER	RESULT	DET LIM
MERCURY	BDL MG/L	0.0002

MOLYBDENUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MOLYBDENUM	BDL MG/L	0.010

NICKEL ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
NICKEL	0.06 MG/L	0.01

POTASSIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
POTASSIUM	26 MG/L	0.2

SILVER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
SILVER	BDL MG/L	0.01

SODIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
SODIUM	83 MG/L	0.1

STRONTIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
STRONTIUM	0.72 MG/L	0.010

TIN ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TIN	BDL MG/L	0.050

TITANIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TITANIUM	0.19 MG/L	0.010

VANADIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
VANADIUM	0.02 MG/L	0.01

ZINC ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ZINC	0.09 MG/L	0.02

CYANIDE DISTILLATION SW846-9010
ANALYST : K. SCOTT DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	250 ML	
FINAL VOLUME	250 ML	

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	BDL MG/L	0.01

PHENOLS 4AAP SW846-9066
ANALYST : B. WOOD DATE : 11-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0

PARAMETER	RESULT	DET LIM
PHENOLS	BDL MG/L	0.01

IDEM VOLATILE ORGANICS TARGET COMPOUND LIST SW846-8240
ANALYST : H. WILLIAMS DATE : 07-JUN-90 INSTRUMENT : GC/MS VOA REP : 0

PARAMETER	RESULT	DET LIM
ACETONE	BDL UG/L	20
ACROLEIN	BDL UG/L	50
ACRYLONITRILE	BDL UG/L	70
BENZENE	BDL UG/L	5
BROMODICHLOROMETHANE	BDL UG/L	5
BROMOFORM	BDL UG/L	5
BROMOMETHANE	BDL UG/L	10
CARBON DISULFIDE	BDL UG/L	5
CARBON TETRACHLORIDE	BDL UG/L	5
CHLOROBENZENE	BDL UG/L	5
CHLOROETHANE	BDL UG/L	10
CHLOROFORM	BDL UG/L	5
CHLOROMETHANE	BDL UG/L	10
DIBROMOCHLOROMETHANE	BDL UG/L	5
CIS-1,3-DICHLOROPROPENE	BDL UG/L	5
DICHLORODIFLUOROMETHANE	BDL UG/L	5
1,1-DICHLOROETHANE	BDL UG/L	5
1,2-DICHLOROETHANE	BDL UG/L	5
1,1-DICHLOROETHENE	BDL UG/L	5
1,2-DICHLOROPROPANE	BDL UG/L	5
ETHYLBENZENE	BDL UG/L	5
FLUOROTRICHLOROMETHANE	BDL UG/L	5
2-HEXANONE	BDL UG/L	10
METHYLENE CHLORIDE	BDL UG/L	5
METHYL ETHYL KETONE	BDL UG/L	10
4-METHYL-2-PENTANONE	BDL UG/L	10
STYRENE	BDL UG/L	5
1,1,2,2-TETRACHLOROETHANE	BDL UG/L	5
TETRACHLOROETHENE	BDL UG/L	5
TETRAHYDROFURAN	BDL UG/L	25
TOLUENE	BDL UG/L	5
1,2-DICHLOROETHENE (TOTAL)	BDL UG/L	5
TRANS-1,3-DICHLOROPROPENE	BDL UG/L	5
1,1,1-TRICHLOROETHANE	BDL UG/L	5
1,1,2-TRICHLOROETHANE	BDL UG/L	5
TRICHLOROETHENE	BDL UG/L	5
VINYL ACETATE	BDL UG/L	10

EMS LABORATORIES, INC. SAMPLE ID: A207206

VINYL CHLORIDE	BDL UG/L	10
XYLENE (TOTAL)	BDL UG/L	5
2-CHLOROETHYLVINYLETHER	BDL UG/L	10
DIETHYLETHER	BDL UG/L	5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	BDL UG/L	5
ETHYL ACETATE	BDL UG/L	5
SURROGATE RECOVERY		SPIKED CONC
DICHLOROETHANE-D4	92 % RECOVERY	50
TOLUENE-D8	100 % RECOVERY	50
BROMOFLUOROBENZENE	92 % RECOVERY	50
ALSO DETECTED		
*UNKNOWN	EST 8 RT=2.33	

NOTE: * ALSO DETECTED IN BLANK

BDL BELOW DETECTABLE LIMITS
EST ESTIMATED VALUE
RT RETENTION TIME

QUALITY ASSURANCE OFFICER: G. A. Busch

C E R T I F I C A T E O F A N A L Y S I S

-------- CORRESPOND TO ---------- SAMPLE ----------

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

LAB SAMPLE ID: A207207
DATE PRINTED : 25-JUN-90
DATE RECEIVED: 23-MAY-90
DATE COMPLETE: 25-JUN-90

---------- REPORT TO ---------- BILL TO ----------

ATTN: PAT AUSTIN
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
105 SOUTH MERIDIAN
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

ATTN: CARLA HATTON
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

---------- DESCRIPTION ----------

DATE SAMPLED : 23-MAY-90 TIME : NONE PO NUMBER : 89602536-34E
DESCRIPTION : IDEM CERCLA
IDEM CONTROL NO. : S448

---------- ANALYSIS ----------

ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020
ANALYST : S. HALLORAN DATE : 17-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	50 ML	
FINAL WEIGHT OR VOLUME	50 ML	

ARSENIC GFAA SW846-7060
ANALYST : P. SIMS DATE : 23-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
ARSENIC	0.13 MG/L	0.025

CADMIUM GFAA SW846-7131
ANALYST : S. O'NEAL DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
CADMIUM	BDL MG/L	0.0010

LEAD GFAA SW846-7421
ANALYST : M. BAUER DATE : 21-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
LEAD	0.027 MG/L	0.0050

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 21-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/L	0.0050

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/L	0.010

ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005
ANALYST : M. SCROGHAM DATE : 19-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	50 ML	
FINAL WEIGHT OR VOLUME	50 ML	

ALUMINUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ALUMINUM	9.7 MG/L	0.05

ANTIMONY ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/L	0.03

BARIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BARIUM	1.6 MG/L	0.01

BERYLLIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/L	0.005

CALCIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CALCIUM	280 MG/L	0.05

CHROMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CHROMIUM	0.02 MG/L	0.01

COBALT ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COBALT	BDL MG/L	0.01

COPPER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COPPER	BDL MG/L	0.02

IRON ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
IRON	56 MG/L	0.02

LITHIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
LITHIUM	0.03 MG/L	0.010

MAGNESIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MAGNESIUM	140 MG/L	0.02

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	BDL MG/L	0.01
MATRIX SPIKE EXHIBITED HIGH RECOVERY		

The matrix spike for sample #A207207 exhibits high recovery.

PHENOLS 4AAP SW846-9066
ANALYST : B. WOOD DATE : 11-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0

PARAMETER	RESULT	DET LIM
PHENOLS	BDL MG/L	0.01

IDEM VOLATILE ORGANICS TARGET COMPOUND LIST SW846-8240
ANALYST : H. WILLIAMS DATE : 04-JUN-90 INSTRUMENT : GC/MS VOA REP : 0

PARAMETER	RESULT	DET LIM
ACETONE	BDL UG/L	20
ACROLEIN	BDL UG/L	50
ACRYLONITRILE	BDL UG/L	70
BENZENE	BDL UG/L	5
BROMODICHLOROMETHANE	BDL UG/L	5
BROMOFORM	BDL UG/L	5
BROMOMETHANE	BDL UG/L	10
CARBON DISULFIDE	BDL UG/L	5
CARBON TETRACHLORIDE	BDL UG/L	5
CHLOROBENZENE	BDL UG/L	5
CHLOROETHANE	BDL UG/L	10
CHLOROFORM	BDL UG/L	5
CHLOROMETHANE	BDL UG/L	10
DIBROMOCHLOROMETHANE	BDL UG/L	5
CIS-1,3-DICHLOROPROPENE	BDL UG/L	5
DICHLORODIFLUOROMETHANE	BDL UG/L	5
1,1-DICHLOROETHANE	BDL UG/L	5
1,2-DICHLOROETHANE	BDL UG/L	5
1,1-DICHLOROETHENE	BDL UG/L	5
1,2-DICHLOROPROPANE	BDL UG/L	5
ETHYLBENZENE	BDL UG/L	5
FLUOROTRICHLOROMETHANE	BDL UG/L	5
2-HEXANONE	BDL UG/L	10
METHYLENE CHLORIDE	BDL UG/L	5
METHYL ETHYL KETONE	BDL UG/L	10
4-METHYL-2-PENTANONE	BDL UG/L	10
STYRENE	BDL UG/L	5
1,1,2,2-TETRACHLOROETHANE	BDL UG/L	5
TETRACHLOROETHENE	BDL UG/L	5
TETRAHYDROFURAN	BDL UG/L	25
TOLUENE	BDL UG/L	5
1,2-DICHLOROETHENE (TOTAL)	BDL UG/L	5
TRANS-1,3-DICHLOROPROPENE	BDL UG/L	5
1,1,1-TRICHLOROETHANE	BDL UG/L	5

EMS LABORATORIES, INC. SAMPLE ID: A207207

1,1,2-TRICHLOROETHANE	BDL UG/L	5
TRICHLOROETHENE	BDL UG/L	5
VINYL ACETATE	BDL UG/L	10
VINYL CHLORIDE	BDL UG/L	10
XYLENE (TOTAL)	BDL UG/L	5
2-CHLOROETHYLVINYLETHER	BDL UG/L	10
DIETHYLETHER	62 UG/L	5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	BDL UG/L	5
ETHYL ACETATE	BDL UG/L	5
SURROGATE RECOVERY		SPIKED CONC
DICHLOROETHANE-D4	106 % RECOVERY	50
TOLUENE-D8	98 % RECOVERY	50
BROMOFLUOROBENZENE	106 % RECOVERY	50
ALSO DETECTED		
UNKNOWN	EST 18 RT=2.12	

BDL BELOW DETECTABLE LIMITS
EST ESTIMATED VALUE
RT RETENTION TIME

QUALITY ASSURANCE OFFICER: G. A. Busch

C E R T I F I C A T E O F A N A L Y S I S

-------- CORRESPOND TO ---------- SAMPLE ----------

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

LAB SAMPLE ID: A207208
DATE PRINTED : 25-JUN-90
DATE RECEIVED: 23-MAY-90
DATE COMPLETE: 25-JUN-90

---------- REPORT TO ---------- BILL TO ----------

ATTN: PAT AUSTIN
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
105 SOUTH MERIDIAN
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

ATTN: CARLA HATTON
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

---------- DESCRIPTION ----------

DATE SAMPLED : 23-MAY-90 TIME : NONE PO NUMBER : 89602536-34E
DESCRIPTION : IDEM CERCLA
IDEM CONTROL NO. : S449

---------- ANALYSIS ----------

ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020
ANALYST : S. HALLORAN DATE : 17-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	25 ML	
FINAL WEIGHT OR VOLUME	25 ML	

ARSENIC GFAA SW846-7060
ANALYST : P. SIMS DATE : 23-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
ARSENIC	0.011 MG/L	0.0050

CADMIUM GFAA SW846-7131
ANALYST : S. O'NEAL DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
CADMIUM	BDL MG/L	0.0010

LEAD GFAA SW846-7421
ANALYST : S. O'NEAL DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
LEAD	BDL MG/L	0.15

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 24-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/L	0.010

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/L	0.0050

ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005
ANALYST : M. SCROGHAM DATE : 19-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	50 ML	
FINAL WEIGHT OR VOLUME	50 ML	

ALUMINUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ALUMINUM	14 MG/L	0.05

ANTIMONY ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/L	0.03

BARIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BARIUM	0.38 MG/L	0.01

BERYLLIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/L	0.005

CALCIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CALCIUM	230 MG/L	0.05

CHROMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CHROMIUM	0.02 MG/L	0.01

COBALT ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COBALT	0.03 MG/L	0.01

COPPER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COPPER	0.03 MG/L	0.02

IRON ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
IRON	29 MG/L	0.02

LITHIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
LITHIUM	0.04 MG/L	0.010

MAGNESIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MAGNESIUM	93 MG/L	0.02

MANGANESE ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MANGANESE	BDL MG/L	0.01

ACID DIGESTION FOR CVAA ANALYSIS EPA 245.1
ANALYST : S. STRUEWING DATE : 05-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	100 ML	
FINAL VOLUME	100 ML	

MERCURY CVAA SW846-7470
ANALYST : R. BYERS DATE : 05-JUN-90 INSTRUMENT : CVAA REP : 0
PREP : ACID DIGESTION FOR CVAA ANALYSIS EPA 245.1

PARAMETER	RESULT	DET LIM
MERCURY	BDL MG/L	0.0002

MOLYBDENUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MOLYBDENUM	BDL MG/L	0.010

NICKEL ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
NICKEL	0.03 MG/L	0.01

POTASSIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
POTASSIUM	11 MG/L	0.2

SILVER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
SILVER	BDL MG/L	0.01

SODIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
SODIUM	19 MG/L	0.1

STRONTIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
STRONTIUM	0.91 MG/L	0.010

TIN ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TIN	BDL MG/L	0.050

TITANIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TITANIUM	0.13 MG/L	0.010

VANADIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
VANADIUM	BDL MG/L	0.01

ZINC ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ZINC	0.31 MG/L	0.02

CYANIDE DISTILLATION SW846-9010
ANALYST : K. SCOTT DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	250 ML	
FINAL VOLUME	250 ML	

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	0.03 MG/L	0.01
PREPPED DUPLICATE EXHIBITS HIGH RPD		

PHENOLS 4AAP SW846-9066
ANALYST : B. WOOD DATE : 11-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0

PARAMETER	RESULT	DET LIM
PHENOLS	BDL MG/L	0.01

IDEM VOLATILE ORGANICS TARGET COMPOUND LIST SW846-8240
ANALYST : H. WILLIAMS DATE : 05-JUN-90 INSTRUMENT : GC/MS VOA REP : 0

PARAMETER	RESULT	DET LIM
ACETONE	120 UG/L	20
ACROLEIN	BDL UG/L	50
ACRYLONITRILE	BDL UG/L	70
BENZENE	BDL UG/L	5
BROMODICHLOROMETHANE	BDL UG/L	5
BROMOFORM	BDL UG/L	5
BROMOMETHANE	BDL UG/L	10
CARBON DISULFIDE	12 UG/L	5
CARBON TETRACHLORIDE	BDL UG/L	5
CHLOROBENZENE	BDL UG/L	5
CHLOROETHANE	BDL UG/L	10
CHLOROFORM	BDL UG/L	5
CHLOROMETHANE	BDL UG/L	10
DIBROMOCHLOROMETHANE	BDL UG/L	5
CIS-1,3-DICHLOROPROPENE	BDL UG/L	5
DICHLORODIFLUOROMETHANE	BDL UG/L	5
1,1-DICHLOROETHANE	BDL UG/L	5
1,2-DICHLOROETHANE	BDL UG/L	5
1,1-DICHLOROETHENE	BDL UG/L	5
1,2-DICHLOROPROPANE	BDL UG/L	5
ETHYLBENZENE	BDL UG/L	5
FLUOROTRICHLOROMETHANE	BDL UG/L	5
2-HEXANONE	BDL UG/L	10
METHYLENE CHLORIDE	BDL UG/L	5
METHYL ETHYL KETONE	BDL UG/L	10
4-METHYL-2-PENTANONE	BDL UG/L	10
STYRENE	BDL UG/L	5
1,1,2,2-TETRACHLOROETHANE	BDL UG/L	5
TETRACHLOROETHENE	BDL UG/L	5
TETRAHYDROFURAN	BDL UG/L	25
TOLUENE	BDL UG/L	5
1,2-DICHLOROETHENE (TOTAL)	BDL UG/L	5
TRANS-1,3-DICHLOROPROPENE	BDL UG/L	5
1,1,1-TRICHLOROETHANE	BDL UG/L	5
1,1,2-TRICHLOROETHANE	BDL UG/L	5
TRICHLOROETHENE	BDL UG/L	5

VINYL ACETATE	BDL UG/L	10
VINYL CHLORIDE	BDL UG/L	10
XYLENE (TOTAL)	BDL UG/L	5
2-CHLOROETHYLVINYLETHER	BDL UG/L	10
DIETHYLETHER	BDL UG/L	5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	BDL UG/L	5
ETHYL ACETATE	BDL UG/L	5
SURROGATE RECOVERY		SPIKED CONC
DICHLOROETHANE-D4	108 % RECOVERY	50
TOLUENE-D8	99 % RECOVERY	50
BROMOFLUOROBENZENE	104 % RECOVERY	50
ALSO DETECTED		
UNKNOWN	EST 6 RT=2.39	

BDL BELOW DETECTABLE LIMITS
EST ESTIMATED VALUE
RT RETENTION TIME

QUALITY ASSURANCE OFFICER: G. A. Busck

CERTIFICATE OF ANALYSIS

-------- CORRESPOND TO ---------- SAMPLE ----------

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

LAB SAMPLE ID: A207209
DATE PRINTED : 25-JUN-90
DATE RECEIVED: 23-MAY-90
DATE COMPLETE: 25-JUN-90

---------- REPORT TO ---------- BILL TO ----------

ATTN: PAT AUSTIN
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
105 SOUTH MERIDIAN
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

ATTN: CARLA HATTON
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

---------- DESCRIPTION ----------

DATE SAMPLED : 23-MAY-90 TIME : NONE PO NUMBER : 89602536-34E
DESCRIPTION : IDEM CERCLA
IDEM CONTROL NO. : S450

---------- ANALYSIS ----------

ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020
ANALYST : S. HALLORAN DATE : 17-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	25 ML	
FINAL WEIGHT OR VOLUME	25 ML	

ARSENIC GFAA SW846-7060
ANALYST : P. SIMS DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
ARSENIC	BDL MG/L	0.0050

CADMIUM GFAA SW846-7131
ANALYST : S. O'NEAL DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
CADMIUM	BDL MG/L	0.0010

LEAD GFAA SW846-7421
ANALYST : S. O'NEAL DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
LEAD	0.0072 MG/L	0.0050

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 24-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/L	0.0050

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/L	0.0050

ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005
ANALYST : M. SCROGHAM DATE : 19-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	50 ML	
FINAL WEIGHT OR VOLUME	50 ML	

ALUMINUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ALUMINUM	1.8 MG/L	0.05

ANTIMONY ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/L	0.03

BARIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BARIUM	0.09 MG/L	0.01

BERYLLIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/L	0.005

CALCIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CALCIUM	110 MG/L	0.05

CHROMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CHROMIUM	BDL MG/L	0.01

COBALT ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COBALT	BDL MG/L	0.01

COPPER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COPPER	BDL MG/L	0.02

IRON ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
IRON	5.4 MG/L	0.02

LITHIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
LITHIUM	BDL MG/L	0.010

MAGNESIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MAGNESIUM	28 MG/L	0.02

MANGANESE ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MANGANESE	0.52 MG/L	0.01

ACID DIGESTION FOR CVAA ANALYSIS EPA 245.1
ANALYST : S. STRUEWING DATE : 05-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	100 ML	
FINAL VOLUME	100 ML	

MERCURY CVAA SW846-7470
ANALYST : R. BYERS DATE : 05-JUN-90 INSTRUMENT : CVAA REP : 0
PREP : ACID DIGESTION FOR CVAA ANALYSIS EPA 245.1

PARAMETER	RESULT	DET LIM
MERCURY	BDL MG/L	0.0002

MOLYBDENUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MOLYBDENUM	BDL MG/L	0.010

NICKEL ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
NICKEL	BDL MG/L	0.01

POTASSIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
POTASSIUM	1.7 MG/L	0.2

SILVER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
SILVER	BDL MG/L	0.01

SODIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
SODIUM	6.2 MG/L	0.1

STRONTIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
STRONTIUM	0.17 MG/L	0.010

TIN ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TIN	BDL MG/L	0.050

TITANIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TITANIUM	0.05 MG/L	0.010

VANADIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
VANADIUM	BDL MG/L	0.01

ZINC ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ZINC	0.06 MG/L	0.02

CYANIDE DISTILLATION SW846-9010
ANALYST : K. SCOTT DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	250 ML	
FINAL VOLUME	250 ML	

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	BDL MG/L	0.01

PHENOLS 4AAP SW846-9066
ANALYST : B. WOOD DATE : 11-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0

PARAMETER	RESULT	DET LIM
PHENOLS	BDL MG/L	0.01

IDEM VOLATILE ORGANICS TARGET COMPOUND LIST SW846-8240
ANALYST : H. WILLIAMS DATE : 05-JUN-90 INSTRUMENT : GC/MS VOA REP : 0

PARAMETER	RESULT	DET LIM
ACETONE	BDL UG/L	20
ACROLEIN	BDL UG/L	50
ACRYLONITRILE	BDL UG/L	70
BENZENE	BDL UG/L	5
BROMODICHLOROMETHANE	BDL UG/L	5
BROMOFORM	BDL UG/L	5
BROMOMETHANE	BDL UG/L	10
CARBON DISULFIDE	BDL UG/L	5
CARBON TETRACHLORIDE	BDL UG/L	5
CHLOROBENZENE	BDL UG/L	5
CHLOROETHANE	BDL UG/L	10
CHLOROFORM	BDL UG/L	5
CHLOROMETHANE	BDL UG/L	10
DIBROMOCHLOROMETHANE	BDL UG/L	5
CIS-1,3-DICHLOROPROPENE	BDL UG/L	5
DICHLORODIFLUOROMETHANE	BDL UG/L	5
1,1-DICHLOROETHANE	BDL UG/L	5
1,2-DICHLOROETHANE	BDL UG/L	5
1,1-DICHLOROETHENE	BDL UG/L	5
1,2-DICHLOROPROPANE	BDL UG/L	5
ETHYLBENZENE	BDL UG/L	5
FLUOROTRICHLOROMETHANE	BDL UG/L	5
2-HEXANONE	BDL UG/L	10
METHYLENE CHLORIDE	BDL UG/L	5
METHYL ETHYL KETONE	BDL UG/L	10
4-METHYL-2-PENTANONE	BDL UG/L	10
STYRENE	BDL UG/L	5
1,1,2,2-TETRACHLOROETHANE	BDL UG/L	5
TETRACHLOROETHENE	BDL UG/L	5
TETRAHYDROFURAN	BDL UG/L	25
TOLUENE	BDL UG/L	5
1,2-DICHLOROETHENE (TOTAL)	BDL UG/L	5
TRANS-1,3-DICHLOROPROPENE	BDL UG/L	5
1,1,1-TRICHLOROETHANE	BDL UG/L	5
1,1,2-TRICHLOROETHANE	BDL UG/L	5
TRICHLOROETHENE	BDL UG/L	5
VINYL ACETATE	BDL UG/L	10

VINYL CHLORIDE	BDL UG/L	10
XYLENE (TOTAL)	BDL UG/L	5
2-CHLOROETHYLVINYLETHER	BDL UG/L	10
DIETHYLETHER	BDL UG/L	5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	BDL UG/L	5
ETHYL ACETATE	BDL UG/L	5
SURROGATE RECOVERY		SPIKED CONC
DICHLOROETHANE-D4	111 % RECOVERY	50
TOLUENE-D8	101 % RECOVERY	50
BROMOFLUOROBENZENE	104 % RECOVERY	50

BDL BELOW DETECTABLE LIMITS

QUALITY ASSURANCE OFFICER: G. A. Brock

C E R T I F I C A T E O F A N A L Y S I S

-------- CORRESPOND TO ---------- SAMPLE ----------

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

LAB SAMPLE ID: A207210
DATE PRINTED : 25-JUN-90
DATE RECEIVED: 23-MAY-90
DATE COMPLETE: 25-JUN-90

---------- REPORT TO ---------- BILL TO ----------

ATTN: PAT AUSTIN
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
105 SOUTH MERIDIAN
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

ATTN: CARLA HATTON
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

---------- DESCRIPTION ----------

DATE SAMPLED : 23-MAY-90 TIME : NONE PO NUMBER : 89602536-34E
DESCRIPTION : IDEM CERCLA
IDEM CONTROL NO. : S451

---------- ANALYSIS ----------

ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020
ANALYST : S. HALLORAN DATE : 17-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	50 ML	
FINAL WEIGHT OR VOLUME	50 ML	

ARSENIC GFAA SW846-7060
ANALYST : P. SIMS DATE : 23-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
ARSENIC	0.019 MG/L	0.0100

CADMIUM GFAA SW846-7131
ANALYST : S. O'NEAL DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
CADMIUM	0.0012 MG/L	0.0010

LEAD GFAA SW846-7421
ANALYST : M. BAUER DATE : 21-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
LEAD	0.031 MG/L	0.0050

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 21-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/L	0.0050

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/L	0.010

ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005
ANALYST : M. SCROGHAM DATE : 19-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	50 ML	
FINAL WEIGHT OR VOLUME	50 ML	

ALUMINUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ALUMINUM	14 MG/L	0.05

ANTIMONY ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/L	0.03

BARIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BARIUM	0.33 MG/L	0.01

BERYLLIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/L	0.005

CALCIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CALCIUM	220 MG/L	0.05

CHROMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CHROMIUM	0.02 MG/L	0.01

COBALT ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COBALT	0.02 MG/L	0.01

COPPER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COPPER	0.07 MG/L	0.02

IRON ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
IRON	32 MG/L	0.02

LITHIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
LITHIUM	0.03 MG/L	0.010

MAGNESIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MAGNESIUM	66 MG/L	0.02

MANGANESE ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MANGANESE	1.4 MG/L	0.01

ACID DIGESTION FOR CVAA ANALYSIS EPA 245.1
ANALYST : S. STRUEWING DATE : 05-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	100 ML	
FINAL VOLUME	100 ML	

MERCURY CVAA SW846-7470
ANALYST : R. BYERS DATE : 05-JUN-90 INSTRUMENT : CVAA REP : 0
PREP : ACID DIGESTION FOR CVAA ANALYSIS EPA 245.1

PARAMETER	RESULT	DET LIM
MERCURY	BDL MG/L	0.0002

MOLYBDENUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MOLYBDENUM	BDL MG/L	0.010

NICKEL ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
NICKEL	0.04 MG/L	0.01

POTASSIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
POTASSIUM	4.8 MG/L	0.2

SILVER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
SILVER	BDL MG/L	0.01

SODIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
SODIUM	22 MG/L	0.1

STRONTIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
STRONTIUM	0.47 MG/L	0.010

TIN ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TIN	BDL MG/L	0.050

TITANIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TITANIUM	0.31 MG/L	0.010

VANADIUM ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
VANADIUM	0.04 MG/L	0.01

ZINC ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ZINC	0.17 MG/L	0.02

CYANIDE DISTILLATION SW846-9010
ANALYST : K. SCOTT DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	250 ML	
FINAL VOLUME	250 ML	

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	BDL MG/L	0.01

PHENOLS 4AAP SW846-9066
ANALYST : B. WOOD DATE : 11-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0

PARAMETER	RESULT	DET LIM
PHENOLS	BDL MG/L	0.01

IDEM VOLATILE ORGANICS TARGET COMPOUND LIST SW846-8240
ANALYST : H. WILLIAMS DATE : 05-JUN-90 INSTRUMENT : GC/MS VOA REP : 0

PARAMETER	RESULT	DET LIM
ACETONE	BDL UG/L	20
ACROLEIN	BDL UG/L	50
ACRYLONITRILE	BDL UG/L	70
BENZENE	BDL UG/L	5
BROMODICHLOROMETHANE	BDL UG/L	5
BROMOFORM	BDL UG/L	5
BROMOMETHANE	BDL UG/L	10
CARBON DISULFIDE	BDL UG/L	5
CARBON TETRACHLORIDE	BDL UG/L	5
CHLOROBENZENE	BDL UG/L	5
CHLOROETHANE	BDL UG/L	10
CHLOROFORM	BDL UG/L	5
CHLOROMETHANE	BDL UG/L	10
DIBROMOCHLOROMETHANE	BDL UG/L	5
CIS-1,3-DICHLOROPROPENE	BDL UG/L	5
DICHLORODIFLUOROMETHANE	BDL UG/L	5
1,1-DICHLOROETHANE	BDL UG/L	5
1,2-DICHLOROETHANE	BDL UG/L	5
1,1-DICHLOROETHENE	BDL UG/L	5
1,2-DICHLOROPROPANE	BDL UG/L	5
ETHYLBENZENE	BDL UG/L	5
FLUOROTRICHLOROMETHANE	BDL UG/L	5
2-HEXANONE	BDL UG/L	10
METHYLENE CHLORIDE	BDL UG/L	5
METHYL ETHYL KETONE	BDL UG/L	10
4-METHYL-2-PENTANONE	BDL UG/L	10
STYRENE	BDL UG/L	5
1,1,2,2-TETRACHLOROETHANE	BDL UG/L	5
TETRACHLOROETHENE	BDL UG/L	5
TETRAHYDROFURAN	BDL UG/L	25
TOLUENE	BDL UG/L	5
1,2-DICHLOROETHENE (TOTAL)	BDL UG/L	5
TRANS-1,3-DICHLOROPROPENE	BDL UG/L	5
1,1,1-TRICHLOROETHANE	BDL UG/L	5
1,1,2-TRICHLOROETHANE	BDL UG/L	5
TRICHLOROETHENE	BDL UG/L	5
VINYL ACETATE	BDL UG/L	10

EMS LABORATORIES, INC. SAMPLE ID: A207210

VINYL CHLORIDE	BDL UG/L	10
XYLENE (TOTAL)	BDL UG/L	5
2-CHLOROETHYLVINYLETHER	BDL UG/L	10
DIETHYLETHER	BDL UG/L	5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	BDL UG/L	5
ETHYL ACETATE	BDL UG/L	5
SURROGATE RECOVERY		SPIKED CONC
DICHLOROETHANE-D4	109 % RECOVERY	50
TOLUENE-D8	101 % RECOVERY	50
BROMOFLUOROBENZENE	103 % RECOVERY	50

BDL BELOW DETECTABLE LIMITS

QUALITY ASSURANCE OFFICER: G. A. Busch

C E R T I F I C A T E O F A N A L Y S I S

-------- CORRESPOND TO ---------- SAMPLE ----------

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

LAB SAMPLE ID: A207211
DATE PRINTED : 25-JUN-90
DATE RECEIVED: 23-MAY-90
DATE COMPLETE: 25-JUN-90

---------- REPORT TO ---------- BILL TO ----------

ATTN: PAT AUSTIN
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
105 SOUTH MERIDIAN
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

ATTN: CARLA HATTON
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

---------- DESCRIPTION ----------

DATE SAMPLED : 23-MAY-90 TIME : NONE PO NUMBER : 89602536-34E
DESCRIPTION : IDEM CERCLA
IDEM CONTROL NO. : S452

---------- ANALYSIS ----------

ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020
ANALYST : S. HALLORAN DATE : 17-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	25 ML	
FINAL WEIGHT OR VOLUME	25 ML	

ARSENIC GFAA SW846-7060
ANALYST : P. SIMS DATE : 23-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
ARSENIC	0.019 MG/L	0.0050

CADMIUM GFAA SW846-7131
ANALYST : S. O'NEAL DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
CADMIUM	0.0013 MG/L	0.0010

LEAD GFAA SW846-7421
ANALYST : S. O'NEAL DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
LEAD	0.032 MG/L	0.010

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 24-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/L	0.0050

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 22-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR GFAA SW846-3020

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/L	0.010

ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005
ANALYST : M. SCROGHAM DATE : 19-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	50 ML	
FINAL WEIGHT OR VOLUME	50 ML	

ALUMINUM ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ALUMINUM	18 MG/L	0.05

ANTIMONY ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/L	0.03

BARIUM ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BARIUM	0.39 MG/L	0.01

BERYLLIUM ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/L	0.005

CALCIUM ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CALCIUM	260 MG/L	0.05

CHROMIUM ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
CHROMIUM	0.030 MG/L	0.01

COBALT ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COBALT	BDL MG/L	0.01

COPPER ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
COPPER	0.075 MG/L	0.02

IRON ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
IRON	38 MG/L	0.02

LITHIUM ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
LITHIUM	0.041 MG/L	0.010

MAGNESIUM ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
MAGNESIUM	69 MG/L	0.05

SODIUM ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
SODIUM	25 MG/L	0.15

STRONTIUM ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
STRONTIUM	0.48 MG/L	0.010

TIN ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TIN	BDL MG/L	0.050

TITANIUM ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
TITANIUM	0.40 MG/L	0.010

VANADIUM ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
VANADIUM	0.041 MG/L	0.01

ZINC ICP SW846-6010
ANALYST : A. STOCKBURGER DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF AQUEOUS SAMPLES FOR FAA OR ICP SW846-3005

PARAMETER	RESULT	DET LIM
ZINC	0.18 MG/L	0.02

CYANIDE DISTILLATION SW846-9010
ANALYST : K. SCOTT DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	250 ML	
FINAL VOLUME	250 ML	

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	BDL MG/L	0.01

PHENOLS 4AAP SW846-9066
ANALYST : B. WOOD DATE : 11-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0

PARAMETER	RESULT	DET LIM
PHENOLS	BDL MG/L	0.01

IDEM VOLATILE ORGANICS TARGET COMPOUND LIST SW846-8240
ANALYST : H. WILLIAMS DATE : 05-JUN-90 INSTRUMENT : GC/MS VOA REP : 0

PARAMETER	RESULT	DET LIM
ACETONE	BDL UG/L	20
ACROLEIN	BDL UG/L	50
ACRYLONITRILE	BDL UG/L	70
BENZENE	BDL UG/L	5
BROMODICHLOROMETHANE	BDL UG/L	5
BROMOFORM	BDL UG/L	5
BROMOMETHANE	BDL UG/L	10
CARBON DISULFIDE	BDL UG/L	5
CARBON TETRACHLORIDE	BDL UG/L	5
CHLOROBENZENE	BDL UG/L	5
CHLOROETHANE	BDL UG/L	10
CHLOROFORM	BDL UG/L	5
CHLOROMETHANE	BDL UG/L	10
DIBROMOCHLOROMETHANE	BDL UG/L	5
CIS-1,3-DICHLOROPROPENE	BDL UG/L	5
DICHLORODIFLUOROMETHANE	BDL UG/L	5
1,1-DICHLOROETHANE	BDL UG/L	5
1,2-DICHLOROETHANE	BDL UG/L	5
1,1-DICHLOROETHENE	BDL UG/L	5
1,2-DICHLOROPROPANE	BDL UG/L	5
ETHYLBENZENE	BDL UG/L	5
FLUOROTRICHLOROMETHANE	BDL UG/L	5
2-HEXANONE	BDL UG/L	10
METHYLENE CHLORIDE	BDL UG/L	5
METHYL ETHYL KETONE	BDL UG/L	10
4-METHYL-2-PENTANONE	BDL UG/L	10
STYRENE	BDL UG/L	5
1,1,2,2-TETRACHLOROETHANE	BDL UG/L	5
TETRACHLOROETHENE	BDL UG/L	5
TETRAHYDROFURAN	BDL UG/L	25
TOLUENE	BDL UG/L	5
1,2-DICHLOROETHENE (TOTAL)	BDL UG/L	5
TRANS-1,3-DICHLOROPROPENE	BDL UG/L	5
1,1,1-TRICHLOROETHANE	BDL UG/L	5
1,1,2-TRICHLOROETHANE	BDL UG/L	5
TRICHLOROETHENE	BDL UG/L	5
VINYL ACETATE	BDL UG/L	10

VINYL CHLORIDE	BDL UG/L	10
XYLENE (TOTAL)	BDL UG/L	5
2-CHLOROETHYLVINYLETHER	BDL UG/L	10
DIETHYLETHER	BDL UG/L	5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	BDL UG/L	5
ETHYL ACETATE	BDL UG/L	5
SURROGATE RECOVERY		SPIKED CONC
DICHLOROETHANE-D4	107 % RECOVERY	50
TOLUENE-D8	101 % RECOVERY	50
BROMOFLUOROBENZENE	113 % RECOVERY	50

BDL BELOW DETECTABLE LIMITS

JALITY ASSURANCE OFFICER: G.A. Busch

C E R T I F I C A T E O F A N A L Y S I S

-------- CORRESPOND TO ---------- SAMPLE ----------

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

LAB SAMPLE ID: A207216
DATE PRINTED : 25-JUN-90
DATE RECEIVED: 23-MAY-90
DATE COMPLETE: 25-JUN-90

---------- REPORT TO ---------- BILL TO ----------

ATTN: PAT AUSTIN
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
105 SOUTH MERIDIAN
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

ATTN: CARLA HATTON
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

---------- DESCRIPTION ----------

DATE SAMPLED : 22-MAY-90 TIME : 17:30:00 PO NUMBER : 89602536-34E
DESCRIPTION : IDEM CERCLA
IDEM CONTROL # : S454

---------- ANALYSIS ----------

ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050
ANALYST : S. KENNEDY DATE : 31-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	1 GRAMS	
FINAL WEIGHT OR VOLUME	100 ML	

ARSENIC GFAA SW846-7060
ANALYST : P. SIMS DATE : 23-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ARSENIC	5.2 MG/KG	2.5

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 19-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/KG	0.50

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 19-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/KG	0.50

ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050
ANALYST : S. KENNEDY DATE : 31-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	1 GRAMS	
FINAL WEIGHT OR VOLUME	100 ML	

ALUMINUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ALUMINUM	7000 MG/KG	5

ANTIMONY ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/KG	30

BARIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
BARIUM	61 MG/KG	1.0

BERYLLIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/KG	0.5

CADMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CADMIUM	4.7 MG/KG	0.5

CALCIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CALCIUM	2600 MG/KG	5

CHROMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CHROMIUM	11 MG/KG	1.0

COBALT ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
COBALT	12 MG/KG	1.0

COPPER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
COPPER	20 MG/KG	2.0

IRON ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
IRON	14000 MG/KG	2.0

LEAD ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
LEAD	19 MG/KG	5.0

LITHIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
LITHIUM	7.0 MG/KG	1.0

MAGNESIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MAGNESIUM	2000 MG/KG	2.0

MANGANESE ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MANGANESE	490 MG/KG	1.0

MOLYBDENUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MOLYBDENUM	2.0 MG/KG	1.0

NICKEL ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
NICKEL	15 MG/KG	1.0

POTASSIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
POTASSIUM	680 MG/KG	20

SILVER ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SILVER	BDL MG/KG	1.0

SODIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SODIUM	36 MG/KG	10

STRONTIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
STRONTIUM	7.0 MG/KG	1.0

TIN ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
TIN	10 MG/KG	5.0

TITANIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
TITANIUM	89 MG/KG	1.0

VANADIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
VANADIUM	18 MG/KG	1.0

ZINC ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ZINC	62 MG/KG	2.0

ACID DIGESTION OF S/S/S FOR CVAA ANALYSIS SW846-7471
ANALYST : R. BYERS DATE : 06-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	0.4 GRAMS	
FINAL VOLUME	100 ML	

MERCURY CVAA SW846-7471
ANALYST : S. STRUEWING DATE : 06-JUN-90 INSTRUMENT : CVAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR CVAA ANALYSIS SW846-7471

PARAMETER	RESULT	DET LIM
MERCURY	0.051 MG/KG	0.050

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	BDL MG/KG	0.25

CYANIDE DISTILLATION SW846-9010
ANALYST : K. SCOTT DATE : 05-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	10 GRAMS	
FINAL VOLUME	250 ML	

SONICATION EXTRACTION FOR ORGANICS SW846-3550
ANALYST : R. BRANCH DATE : 24-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	30 GRAMS	
FINAL VOLUME	1 ML	

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL ACID FRACTIONS) SW846-8270
ANALYST : K. STONER DATE : 19-JUN-90 INSTRUMENT : GC/MS SVOA REP : 0
PREP : SONICATION EXTRACTION FOR ORGANICS SW846-3550

PARAMETER	RESULT	DET LIM
ACENAPHTHENE	BDL UG/KG	330
ACENAPHTHYLENE	BDL UG/KG	330
ANTHRACENE	BDL UG/KG	330
BENZ(A)ANTHRACENE	BDL UG/KG	330
BENZO(A)PYRENE	BDL UG/KG	330
BENZO(B)FLUORANTHENE	BDL UG/KG	330
BENZO(G,H,I)PERYLENE	BDL UG/KG	330
BENZO(K)FLUORANTHENE	BDL UG/KG	330
BENZYL ALCOHOL	BDL UG/KG	330
BENZYLBUTYLPHTHALATE	BDL UG/KG	330
BIS(2-CHLOROETHOXY)METHANE	BDL UG/KG	330
BIS(2-CHLOROETHYL)ETHER	BDL UG/KG	330
BIS(2-CHLOROISOPROPYL)ETHER	BDL UG/KG	330
BIS(2-ETHYLHEXYL)PHTHALATE	BDL UG/KG	330
4-BROMOPHENYLPHENYLETHER	BDL UG/KG	330
CARBAZOLE	BDL UG/KG	330
4-CHLOROANILINE	BDL UG/KG	330
2-CHLORONAPHTHALENE	BDL UG/KG	330
4-CHLOROPHENYLPHENYLETHER	BDL UG/KG	330
CHRYSENE	BDL UG/KG	330
DIBENZ(A,H)ANTHRACENE	BDL UG/KG	330
DIBENZOFURAN	BDL UG/KG	330
1,2-DICHLOROBENZENE	BDL UG/KG	330
1,3-DICHLOROBENZENE	BDL UG/KG	330
1,4-DICHLOROBENZENE	BDL UG/KG	330
3,3'-DICHLOROBENZIDINE	BDL UG/KG	660
DIETHYLPHTHALATE	BDL UG/KG	330
DIMETHYLPHTHALATE	BDL UG/KG	330
DI-N-BUTYLPHTHALATE	BDL UG/KG	330
DINITROBENZENES	BDL UG/KG	330
2,4-DINITROTOLUENE	BDL UG/KG	330
2,6-DINITROTOLUENE	BDL UG/KG	330
DI-N-OCTYLPHTHALATE	BDL UG/KG	330
FLUORANTHENE	BDL UG/KG	330
FLUORENE	BDL UG/KG	330

HEXACHLOROBENZENE	BDL UG/KG	330
HEXACHLOROBUTADIENE	BDL UG/KG	330
HEXACHLOROCYCLOPENTADIENE	BDL UG/KG	330
HEXACHLOROETHANE	BDL UG/KG	330
INDENO(1,2,3-CD)PYRENE	BDL UG/KG	330
ISOPHORONE	BDL UG/KG	330
2-METHYLNAPHTHALENE	BDL UG/KG	330
NAPHTHALENE	BDL UG/KG	330
2-NITROANILINE	BDL UG/KG	1600
3-NITROANILINE	BDL UG/KG	1600
4-NITROANILINE	BDL UG/KG	1600
NITROBENZENE	BDL UG/KG	330
N-NITROSO-DIPHENYLAMINE	BDL UG/KG	330
N-NITROSO-DI-N-PROPYLAMINE	BDL UG/KG	330
PHENANTHRENE	BDL UG/KG	330
2-PICOLINE	BDL UG/KG	1600
PYRENE	BDL UG/KG	330
PYRIDINE	BDL UG/KG	1600
TETRACHLOROBENZENES	BDL UG/KG	330
TOLUENEDIAMINE	BDL UG/KG	1600
1,2,4-TRICHLOROBENZENE	BDL UG/KG	330
BENZOIC ACID	BDL UG/KG	1600
4-CHLORO-3-METHYLPHENOL	BDL UG/KG	330
2-CHLOROPHENOL	BDL UG/KG	330
2,4-DICHLOROPHENOL	BDL UG/KG	330
2,4-DIMETHYLPHENOL	BDL UG/KG	330
4,6-DINITRO-2-METHYLPHENOL	BDL UG/KG	1600
2,4-DINITROPHENOL	BDL UG/KG	1600
2-METHYLPHENOL	BDL UG/KG	330
4-METHYLPHENOL	BDL UG/KG	330
2-NITROPHENOL	BDL UG/KG	330
4-NITROPHENOL	BDL UG/KG	1600
PENTACHLOROPHENOL	BDL UG/KG	1600
PHENOL	BDL UG/KG	330
TETRACHLOROPHENOL	BDL UG/KG	330
2,4,5-TRICHLOROPHENOL	BDL UG/KG	1600
2,4,6-TRICHLOROPHENOL	BDL UG/KG	330

SURROGATE RECOVERY		SPIKED CONC
2-FLUOROPHENOL	87 % RECOVERY	3300
PHENOL-D5	94 % RECOVERY	3300
NITROBENZENE-D5	91 % RECOVERY	1600
2-FLUOROBIPHENYL	99 % RECOVERY	1600
2,4,6-TRIBROMOPHENOL	99 % RECOVERY	3300
TERPHENYL-D14	95 % RECOVERY	1600

ALSO DETECTED	
UNKNOWN	EST 170 RT=2.51
UNKNOWN	EST 500 RT=2.81
UNKNOWN	EST 13000 RT=3.41
UNKNOWN	EST 730 RT=5.45
UNKNOWN	EST 130 RT=36.97
UNKNOWN HYDROCARBON	EST 590 RT=39.39
UNKNOWN	EST 200 RT=39.83
UNKNOWN	EST 20 RT=41.11

PHENOLS DISTILLATION SW846-9065
ANALYST : S. RANKIN DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	10 GRAMS	
FINAL VOLUME	100 ML	

PHENOLS 4AAP SW846-9066
ANALYST : T. BARNES DATE : 07-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : PHENOLS DISTILLATION SW846-9065

PARAMETER	RESULT	DET LIM
PHENOLS	BDL MG/KG	0.1

TOTAL SOLIDS EPA 160.3
ANALYST : K. SCOTT DATE : 01-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
SOLIDS	81 PERCENT	1

SONICATION EXTRACTION FOR ORGANICS SW846-3550
ANALYST : T. WIEGAND DATE : 24-MAY-90 INSTRUMENT : MANUAL REP : 1

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	30.15 GRAMS	
FINAL VOLUME	10 ML	

PCB/PESTICIDE SCAN GC:ECD SW846-8080
ANALYST : A. HOAGLAND DATE : 17-JUN-90 INSTRUMENT : GC/ECD REP : 0
PREP : SONICATION EXTRACTION FOR ORGANICS SW846-3550

PARAMETER	RESULT	DET LIM
ALPHA-BHC	BDL MG/KG	.016
BETA-BHC	BDL MG/KG	.016
DELTA-BHC	BDL MG/KG	.016
GAMMA-BHC (LINDANE)	BDL MG/KG	.016
HEPTACHLOR	BDL MG/KG	.016
ALDRIN	BDL MG/KG	.016
HEPTACHLOR EPOXIDE	BDL MG/KG	.016
ENDOSULFAN I	BDL MG/KG	.016
DIELDRIN	BDL MG/KG	.032
4,4'-DDE	BDL MG/KG	.032
ENDRIN	BDL MG/KG	.032
ENDOSULFAN II	BDL MG/KG	.032
4,4'-DDD	BDL MG/KG	.032
ENDOSULFAN SULFATE	BDL MG/KG	.032
4,4'-DDT	BDL MG/KG	.032
METHOXYCHLOR	BDL MG/KG	.16
ENDRIN KETONE	BDL MG/KG	.032
ALPHA-CHLORDANE	BDL MG/KG	.16
GAMMA-CHLORDANE	BDL MG/KG	.16
TOXAPHENE	BDL MG/KG	.32

EMS LABORATORIES, INC. SAMPLE ID: A207216

PCB AROCHLOR 1016	BDL MG/KG	.16
PCB AROCHLOR 1221	BDL MG/KG	.16
PCB AROCHLOR 1232	BDL MG/KG	.16
PCB AROCHLOR 1242	BDL MG/KG	.16
PCB AROCHLOR 1248	BDL MG/KG	.16
PCB AROCHLOR 1254	BDL MG/KG	.32
PCB AROCHLOR 1260	BDL MG/KG	.32
DBC	65 PERCENT	

BDL BELOW DETECTABLE LIMITS
EST ESTIMATED VALUE
RT RETENTION TIME

QUALITY ASSURANCE OFFICER: G.A. Busch

C E R T I F I C A T E O F A N A L Y S I S

-------- CORRESPOND TO ---------- SAMPLE ----------

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

LAB SAMPLE ID: A207217
DATE PRINTED : 25-JUN-90
DATE RECEIVED: 23-MAY-90
DATE COMPLETE: 25-JUN-90

---------- REPORT TO ---------- BILL TO ----------

ATTN: PAT AUSTIN
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
105 SOUTH MERIDIAN
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

ATTN: CARLA HATTON
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

---------- DESCRIPTION ----------

DATE SAMPLED : 23-MAY-90 TIME : NONE PO NUMBER : 89602536-34E
DESCRIPTION : IDEM CERCLA
IDEM CONTROL # : S455

---------- ANALYSIS ----------

ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050
ANALYST : S. KENNEDY DATE : 31-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	1 GRAMS	
FINAL WEIGHT OR VOLUME	100 ML	

ARSENIC GFAA SW846-7060
ANALYST : P. SIMS DATE : 23-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ARSENIC	2.8 MG/KG	0.50

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 19-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/KG	0.50

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 19-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/KG	0.50

ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050
ANALYST : S. KENNEDY DATE : 31-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	1 GRAMS	
FINAL WEIGHT OR VOLUME	100 ML	

ALUMINUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ALUMINUM	5200 MG/KG	5

ANTIMONY ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/KG	30

BARIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
BARIUM	33 MG/KG	1.0

BERYLLIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/KG	0.5

CADMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CADMIUM	3.5 MG/KG	0.5

CALCIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CALCIUM	52000 MG/KG	5

CHROMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CHROMIUM	9.0 MG/KG	1.0

COBALT ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
COBALT	11 MG/KG	1.0

COPPER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
COPPER	17 MG/KG	2.0

IRON ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
IRON	11000 MG/KG	2.0

LEAD ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
LEAD	8.0 MG/KG	5.0

LITHIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
LITHIUM	7.0 MG/KG	1.0

MAGNESIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MAGNESIUM	14000 MG/KG	2.0

MANGANESE ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MANGANESE	320 MG/KG	1.0

MOLYBDENUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MOLYBDENUM	BDL MG/KG	1.0

NICKEL ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
NICKEL	17 MG/KG	1.0

POTASSIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
POTASSIUM	840 MG/KG	20

SILVER ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SILVER	BDL MG/KG	1.0

SODIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SODIUM	210 MG/KG	10

STRONTIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
STRONTIUM	44 MG/KG	1.0

TIN ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
TIN	18 MG/KG	5.0

TITANIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
TITANIUM	42 MG/KG	1.0

VANADIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
VANADIUM	14 MG/KG	1.0

ZINC ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ZINC	39 MG/KG	2.0

ACID DIGESTION OF S/S/S FOR CVAA ANALYSIS SW846-7471
ANALYST : R. BYERS DATE : 06-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	0.4 GRAMS	
FINAL VOLUME	100 ML	

MERCURY CVAA SW846-7471
ANALYST : S. STRUEWING DATE : 06-JUN-90 INSTRUMENT : CVAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR CVAA ANALYSIS SW846-7471

PARAMETER	RESULT	DET LIM
MERCURY	BDL MG/KG	0.05

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	BDL MG/KG	0.25

CYANIDE DISTILLATION SW846-9010
ANALYST : K. SCOTT DATE : 05-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	10 GRAMS	
FINAL VOLUME	250 ML	

SONICATION EXTRACTION FOR ORGANICS SW846-3550
ANALYST : R. BRANCH DATE : 24-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	30 GRAMS	
FINAL VOLUME	1 ML	

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL ACID FRACTIONS) SW846-8270
ANALYST : K. STONER DATE : 19-JUN-90 INSTRUMENT : GC/MS SVOA REP : 0
PREP : SONICATION EXTRACTION FOR ORGANICS SW846-3550

PARAMETER	RESULT	DET LIM
ACENAPHTHENE	BDL UG/KG	330
ACENAPHTHYLENE	BDL UG/KG	330
ANTHRACENE	BDL UG/KG	330
BENZ(A)ANTHRACENE	BDL UG/KG	330
BENZO(A)PYRENE	BDL UG/KG	330
BENZO(B)FLUORANTHENE	BDL UG/KG	330
BENZO(G,H,I)PERYLENE	BDL UG/KG	330
BENZO(K)FLUORANTHENE	BDL UG/KG	330
BENZYL ALCOHOL	BDL UG/KG	330
BENZYLBUTYLPHTHALATE	BDL UG/KG	330
BIS(2-CHLOROETHOXY)METHANE	BDL UG/KG	330
BIS(2-CHLOROETHYL)ETHER	BDL UG/KG	330
BIS(2-CHLOROISOPROPYL)ETHER	BDL UG/KG	330
BIS(2-ETHYLHEXYL)PHTHALATE	BDL UG/KG	330
4-BROMOPHENYLPHENYLETHER	BDL UG/KG	330
CARBAZOLE	BDL UG/KG	330
4-CHLOROANILINE	BDL UG/KG	330
2-CHLORONAPHTHALENE	BDL UG/KG	330
4-CHLOROPHENYLPHENYLETHER	BDL UG/KG	330
CHRYSENE	BDL UG/KG	330
DIBENZ(A,H)ANTHRACENE	BDL UG/KG	330
DIBENZOFURAN	BDL UG/KG	330
1,2-DICHLOROBENZENE	BDL UG/KG	330
1,3-DICHLOROBENZENE	BDL UG/KG	330
1,4-DICHLOROBENZENE	BDL UG/KG	330
3,3'-DICHLOROBENZIDINE	BDL UG/KG	660
DIETHYLPHTHALATE	420 UG/KG	330
DIMETHYLPHTHALATE	BDL UG/KG	330
DI-N-BUTYLPHTHALATE	BDL UG/KG	330
DINITROBENZENES	BDL UG/KG	330
2,4-DINITROTOLUENE	BDL UG/KG	330
2,6-DINITROTOLUENE	BDL UG/KG	330
DI-N-OCTYLPHTHALATE	750 UG/KG	330
FLUORANTHENE	BDL UG/KG	330
FLUORENE	BDL UG/KG	330

HEXACHLOROBENZENE	BDL UG/KG	330
HEXACHLOROBUTADIENE	BDL UG/KG	330
HEXACHLOROCYCLOPENTADIENE	BDL UG/KG	330
HEXACHLOROETHANE	BDL UG/KG	330
INDENO(1,2,3-CD)PYRENE	BDL UG/KG	330
ISOPHORONE	BDL UG/KG	330
2-METHYLNAPHTHALENE	BDL UG/KG	330
NAPHTHALENE	BDL UG/KG	330
2-NITROANILINE	BDL UG/KG	1600
3-NITROANILINE	BDL UG/KG	1600
4-NITROANILINE	BDL UG/KG	1600
NITROBENZENE	BDL UG/KG	330
N-NITROSO-DIPHENYLAMINE	BDL UG/KG	330
N-NITROSO-DI-N-PROPYLAMINE	BDL UG/KG	330
PHENANTHRENE	BDL UG/KG	330
2-PICOLINE	BDL UG/KG	1600
PYRENE	BDL UG/KG	330
PYRIDINE	BDL UG/KG	1600
TETRACHLOROBENZENES	BDL UG/KG	330
TOLUENEDIAMINE	BDL UG/KG	1600
1,2,4-TRICHLOROBENZENE	BDL UG/KG	330
BENZOIC ACID	BDL UG/KG	1600
4-CHLORO-3-METHYLPHENOL	BDL UG/KG	330
2-CHLOROPHENOL	BDL UG/KG	330
2,4-DICHLOROPHENOL	BDL UG/KG	330
2,4-DIMETHYLPHENOL	BDL UG/KG	330
4,6-DINITRO-2-METHYLPHENOL	BDL UG/KG	1600
2,4-DINITROPHENOL	BDL UG/KG	1600
2-METHYLPHENOL	BDL UG/KG	330
4-METHYLPHENOL	1400 UG/KG	330
2-NITROPHENOL	BDL UG/KG	330
4-NITROPHENOL	BDL UG/KG	1600
PENTACHLOROPHENOL	BDL UG/KG	1600
PHENOL	530 UG/KG	330
TETRACHLOROPHENOL	BDL UG/KG	330
2,4,5-TRICHLOROPHENOL	BDL UG/KG	1600
2,4,6-TRICHLOROPHENOL	BDL UG/KG	330

SURROGATE RECOVERY		SPIKED CONC
2-FLUOROPHENOL	84 % RECOVERY	3300
PHENOL-D5	97 % RECOVERY	3300
NITROBENZENE-D5	82 % RECOVERY	1600
2-FLUOROBIPHENYL	90 % RECOVERY	1600
2,4,6-TRIBROMOPHENOL	79 % RECOVERY	3300
TERPHENYL-D14	85 % RECOVERY	1600

ALSO DETECTED	
UNKNOWN	RT=2.47
UNKNOWN	RT=2.99
UNKNOWN	RT=3.4
UNKNOWN	RT=4.03
UNKNOWN	RT=4.67
UNKNOWN	RT=7.82
UNKNOWN	400 RT=8
HEXANOIC ACID	RT=8.72
UNKNOWN	EST 630 RT=10.93
HEPTANOIC ACID	EST 560 RT=12.26
UNKNOWN	EST 500 RT=13.9

UNKNOWN	EST 400 RT=15.35
N,N-DIETHYL-3-METHYL BENZAMIDE	EST 200 RT=24.02
S8 MOLECULAR SULFUR	EST 630 RT=30.68
UNKNOWN PHTHALATE	EST 330 RT=39.21
UNKNOWN PHTHALATE	EST 1000 RT=39.39
UNKNOWN PHTHALATE	EST 1000 RT=39.5
UNKNOWN PHTHALATE	EST 890 RT=39.76
UNKNOWN	EST 9600 RT=44.1

NOTE: ESTIMATED CONCENTRATIONS NOT REPORTED FOR SOME TIC'S DUE TO POOR PEAK SHAPE. SEE CHROMATOGRAM.

PHENOLS DISTILLATION SW846-9065

ANALYST : S. RANKIN DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	10 GRAMS	
FINAL VOLUME	104 ML	

PHENOLS 4AAP SW846-9066

ANALYST : T. BARNES DATE : 07-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0

PREP : PHENOLS DISTILLATION SW846-9065

PARAMETER	RESULT	DET LIM
PHENOLS	0.96 MG/KG	0.1

TOTAL SOLIDS EPA 160.3

ANALYST : K. SCOTT DATE : 01-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
SOLIDS	78 PERCENT	1

SONICATION EXTRACTION FOR ORGANICS SW846-3550

ANALYST : T. WIEGAND DATE : 24-MAY-90 INSTRUMENT : MANUAL REP : 1

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	30.56 GRAMS	
FINAL VOLUME	10 ML	

PCB/PESTICIDE SCAN GC:ECD SW846-8080

ANALYST : A. HOAGLAND DATE : 17-JUN-90 INSTRUMENT : GC/ECD REP : 0

PREP : SONICATION EXTRACTION FOR ORGANICS SW846-3550

PARAMETER	RESULT	DET LIM
ALPHA-BHC	BDL MG/KG	.016
BETA-BHC	BDL MG/KG	.016
DELTA-BHC	BDL MG/KG	.016
GAMMA-BHC (LINDANE)	BDL MG/KG	.016
HEPTACHLOR	BDL MG/KG	.016
ALDRIN	BDL MG/KG	.016
HEPTACHLOR EPOXIDE	BDL MG/KG	.016
ENDOSULFAN I	BDL MG/KG	.016
DIELDRIN	BDL MG/KG	.032

4,4'-DDE	BDL MG/KG	.032
ENDRIN	BDL MG/KG	.032
ENDOSULFAN II	BDL MG/KG	.032
4,4'-DDD	BDL MG/KG	.032
ENDOSULFAN SULFATE	BDL MG/KG	.032
4,4'-DDT	BDL MG/KG	.032
METHOXYCHLOR	BDL MG/KG	.16
ENDRIN KETONE	BDL MG/KG	.032
ALPHA-CHLORDANE	BDL MG/KG	.16
GAMMA-CHLORDANE	BDL MG/KG	.16
TOXAPHENE	BDL MG/KG	.32
PCB AROCHLOR 1016	BDL MG/KG	.16
PCB AROCHLOR 1221	BDL MG/KG	.16
PCB AROCHLOR 1232	BDL MG/KG	.16
PCB AROCHLOR 1242	BDL MG/KG	.16
PCB AROCHLOR 1248	BDL MG/KG	.16
PCB AROCHLOR 1254	BDL MG/KG	.32
PCB AROCHLOR 1260	BDL MG/KG	.32
DBC	49 PERCENT	

BDL BELOW DETECTABLE LIMITS
EST ESTIMATED VALUE
RT RETENTION TIME

QUALITY ASSURANCE OFFICER: G. A. Busch

C E R T I F I C A T E O F A N A L Y S I S

-------- CORRESPOND TO ---------- SAMPLE ----------

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

LAB SAMPLE ID: A207218
DATE PRINTED : 25-JUN-90
DATE RECEIVED: 23-MAY-90
DATE COMPLETE: 25-JUN-90

---------- REPORT TO ---------- BILL TO ----------

ATTN: PAT AUSTIN
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
105 SOUTH MERIDIAN
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

ATTN: CARLA HATTON
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

---------- DESCRIPTION ----------

DATE SAMPLED : 23-MAY-90 TIME : NONE PO NUMBER : 89602536-34E
DESCRIPTION : IDEM CERCLA
IDEM CONTROL # : S456

---------- ANALYSIS ----------

ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050
ANALYST : S. KENNEDY DATE : 31-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	1 GRAMS	
FINAL WEIGHT OR VOLUME	100 ML	

ARSENIC GFAA SW846-7060
ANALYST : P. SIMS DATE : 23-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ARSENIC	12 MG/KG	2.5

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 19-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/KG	0.50

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 19-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/KG	0.50

ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050
ANALYST : S. KENNEDY DATE : 31-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	1 GRAMS	
FINAL WEIGHT OR VOLUME	100 ML	

ALUMINUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ALUMINUM	2800 MG/KG	5

ANTIMONY ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/KG	30

BARIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
BARIUM	17 MG/KG	1.0

BERYLLIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/KG	0.5

CADMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CADMIUM	2.0 MG/KG	0.5

CALCIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CALCIUM	64000 MG/KG	5

CHROMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CHROMIUM	6.0 MG/KG	1.0

COBALT ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
COBALT	7.0 MG/KG	1.0

COPPER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
COPPER	23 MG/KG	2.0

IRON ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
IRON	6700 MG/KG	2.0

LEAD ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
LEAD	BDL MG/KG	5.0

LITHIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
LITHIUM	4.0 MG/KG	1.0

MAGNESIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MAGNESIUM	15000 MG/KG	2.0

MANGANESE ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MANGANESE	250 MG/KG	1.0

MOLYBDENUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MOLYBDENUM	BDL MG/KG	1.0

NICKEL ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
NICKEL	7.0 MG/KG	1.0

POTASSIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
POTASSIUM	440 MG/KG	20

SILVER ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SILVER	BDL MG/KG	1.0

SODIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SODIUM	97 MG/KG	10

STRONTIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
STRONTIUM	46 MG/KG	1.0

TIN ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
TIN	28 MG/KG	5.0

TITANIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
TITANIUM	88 MG/KG	1.0

VANADIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
VANADIUM	9.0 MG/KG	1.0

ZINC ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ZINC	24 MG/KG	2.0

ACID DIGESTION OF S/S/S FOR CVAA ANALYSIS SW846-7471
ANALYST : R. BYERS DATE : 06-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	0.4 GRAMS	
FINAL VOLUME	100 ML	

MERCURY CVAA SW846-7471
ANALYST : S. STRUEWING DATE : 06-JUN-90 INSTRUMENT : CVAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR CVAA ANALYSIS SW846-7471

PARAMETER	RESULT	DET LIM
MERCURY	BDL MG/KG	0.050

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	BDL MG/KG	0.25

CYANIDE DISTILLATION SW846-9010
ANALYST : K. SCOTT DATE : 05-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	10 GRAMS	
FINAL VOLUME	250 ML	

SONICATION EXTRACTION FOR ORGANICS SW846-3550
ANALYST : R. BRANCH DATE : 24-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	30 GRAMS	
FINAL VOLUME	1 ML	

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL ACID FRACTIONS) SW846-8270
ANALYST : M. DONOFRIO DATE : 15-JUN-90 INSTRUMENT : GC/MS SVOA REP : 0
PREP : SONICATION EXTRACTION FOR ORGANICS SW846-3550

PARAMETER	RESULT	DET LIM
ACENAPHTHENE	BDL UG/KG	330
ACENAPHTHYLENE	BDL UG/KG	330
ANTHRACENE	BDL UG/KG	330
BENZ(A)ANTHRACENE	BDL UG/KG	330
BENZO(A)PYRENE	BDL UG/KG	330
BENZO(B)FLUORANTHENE	BDL UG/KG	330
BENZO(G,H,I)PERYLENE	BDL UG/KG	330
BENZO(K)FLUORANTHENE	BDL UG/KG	330
BENZYL ALCOHOL	BDL UG/KG	330
BENZYLBUTYLPHTHALATE	BDL UG/KG	330
BIS(2-CHLOROETHOXY)METHANE	BDL UG/KG	330
BIS(2-CHLOROETHYL)ETHER	BDL UG/KG	330
BIS(2-CHLOROISOPROPYL)ETHER	BDL UG/KG	330
BIS(2-ETHYLHEXYL)PHTHALATE	* 7900 UG/KG	660
4-BROMOPHENYLPHENYLETHER	BDL UG/KG	330
CARBAZOLE	BDL UG/KG	330
4-CHLOROANILINE	BDL UG/KG	330
2-CHLORONAPHTHALENE	BDL UG/KG	330
4-CHLOROPHENYLPHENYLETHER	BDL UG/KG	330
CHRYSENE	BDL UG/KG	330
DIBENZ(A,H)ANTHRACENE	BDL UG/KG	330
DIBENZOFURAN	BDL UG/KG	330
1,2-DICHLOROBENZENE	BDL UG/KG	330
1,3-DICHLOROBENZENE	BDL UG/KG	330
1,4-DICHLOROBENZENE	BDL UG/KG	330
3,3'-DICHLOROBENZIDINE	BDL UG/KG	660
DIETHYLPHTHALATE	BDL UG/KG	330
DIMETHYLPHTHALATE	BDL UG/KG	330
DI-N-BUTYLPHTHALATE	BDL UG/KG	330
DINITROBENZENES	BDL UG/KG	330
2,4-DINITROTOLUENE	BDL UG/KG	330
2,6-DINITROTOLUENE	BDL UG/KG	330
DI-N-OCTYLPHTHALATE	2900 UG/KG	330
FLUORANTHENE	BDL UG/KG	330
FLUORENE	BDL UG/KG	330

HEXACHLOROBENZENE	BDL UG/KG	330
HEXACHLOROBUTADIENE	BDL UG/KG	330
HEXACHLOROCYCLOPENTADIENE	BDL UG/KG	330
HEXACHLOROETHANE	BDL UG/KG	330
INDENO(1,2,3-CD)PYRENE	BDL UG/KG	330
ISOPHORONE	BDL UG/KG	330
2-METHYLNAPHTHALENE	BDL UG/KG	330
NAPHTHALENE	BDL UG/KG	330
2-NITROANILINE	BDL UG/KG	1600
3-NITROANILINE	BDL UG/KG	1600
4-NITROANILINE	BDL UG/KG	1600
NITROBENZENE	BDL UG/KG	330
N-NITROSO-DIPHENYLAMINE	BDL UG/KG	330
N-NITROSO-DI-N-PROPYLAMINE	BDL UG/KG	330
PHENANTHRENE	BDL UG/KG	330
2-PICOLINE	BDL UG/KG	1600
PYRENE	BDL UG/KG	330
PYRIDINE	BDL UG/KG	1600
TETRACHLOROBENZENES	BDL UG/KG	330
TOLUENEDIAMINE	BDL UG/KG	1600
1,2,4-TRICHLOROBENZENE	BDL UG/KG	330
BENZOIC ACID	BDL UG/KG	1600
4-CHLORO-3-METHYLPHENOL	BDL UG/KG	330
2-CHLOROPHENOL	BDL UG/KG	330
2,4-DICHLOROPHENOL	BDL UG/KG	330
2,4-DIMETHYLPHENOL	BDL UG/KG	330
4,6-DINITRO-2-METHYLPHENOL	BDL UG/KG	1600
2,4-DINITROPHENOL	BDL UG/KG	1600
2-METHYLPHENOL	BDL UG/KG	330
4-METHYLPHENOL	BDL UG/KG	330
2-NITROPHENOL	BDL UG/KG	330
4-NITROPHENOL	BDL UG/KG	1600
PENTACHLOROPHENOL	BDL UG/KG	1600
PHENOL	BDL UG/KG	330
TETRACHLOROPHENOL	BDL UG/KG	330
2,4,5-TRICHLOROPHENOL	BDL UG/KG	1600
2,4,6-TRICHLOROPHENOL	BDL UG/KG	330

SURROGATE RECOVERY		SPIKED CONC
2-FLUOROPHENOL	73 % RECOVERY	3300
PHENOL-D5	89 % RECOVERY	3300
NITROBENZENE-D5	84 % RECOVERY	1600
2-FLUOROBIPHENYL	91 % RECOVERY	1600
2,4,6-TRIBROMOPHENOL	54 % RECOVERY	3300
TERPHENYL-D14	104 % RECOVERY	1600

ALSO DETECTED	
UNKNOWN	EST 530 RT=3.75
SULFUR	EST 230 RT=26.53
UNKNOWN PHTHALATE	EST 170 RT=33.1
BIS(1-METHYLHEPTYL)PHTHALATE	EST 200 RT=35.07
UNKNOWN PHTHALATE	EST 760 RT=35.59
UNKNOWN PHTHALATE	EST 260 RT=36.58
UNKNOWN PHTHALATE	EST 200 RT=37.27

NOTE: * RUN AT 1:2 DILUTION

PHENOLS DISTILLATION SW846-9065
ANALYST : S. RANKIN DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	10 GRAMS	
FINAL VOLUME	100 ML	

PHENOLS 4AAP SW846-9066
ANALYST : T. BARNES DATE : 07-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : PHENOLS DISTILLATION SW846-9065

PARAMETER	RESULT	DET LIM
PHENOLS	BDL MG/KG	0.1

TOTAL SOLIDS EPA 160.3
ANALYST : K. SCOTT DATE : 01-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
SOLIDS	85 PERCENT	1

SONICATION EXTRACTION FOR ORGANICS SW846-3550
ANALYST : T. WIEGAND DATE : 24-MAY-90 INSTRUMENT : MANUAL REP : 1

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	30.58 GRAMS	
FINAL VOLUME	10 ML	

PCB/PESTICIDE SCAN GC:ECD SW846-8080
ANALYST : A. HOAGLAND DATE : 17-JUN-90 INSTRUMENT : GC/ECD REP : 0
PREP : SONICATION EXTRACTION FOR ORGANICS SW846-3550

PARAMETER	RESULT	DET LIM
ALPHA-BHC	BDL MG/KG	.016
BETA-BHC	BDL MG/KG	.016
DELTA-BHC	BDL MG/KG	.016
GAMMA-BHC (LINDANE)	BDL MG/KG	.016
HEPTACHLOR	BDL MG/KG	.016
ALDRIN	BDL MG/KG	.016
HEPTACHLOR EPOXIDE	BDL MG/KG	.016
ENDOSULFAN I	BDL MG/KG	.016
DIELDRIN	BDL MG/KG	.032
4,4'-DDE	BDL MG/KG	.032
ENDRIN	BDL MG/KG	.032
ENDOSULFAN II	BDL MG/KG	.032
4,4'-DDD	BDL MG/KG	.032
ENDOSULFAN SULFATE	BDL MG/KG	.032
4,4'-DDT	BDL MG/KG	.032
METHOXYCHLOR	BDL MG/KG	.16
ENDRIN KETONE	BDL MG/KG	.032
ALPHA-CHLORDANE	BDL MG/KG	.16
GAMMA-CHLORDANE	BDL MG/KG	.16
TOXAPHENE	BDL MG/KG	.32

PCB AROCHLOR 1016	BDL MG/KG	.16
PCB AROCHLOR 1221	BDL MG/KG	.16
PCB AROCHLOR 1232	BDL MG/KG	.16
PCB AROCHLOR 1242	BDL MG/KG	.16
PCB AROCHLOR 1248	BDL MG/KG	.16
PCB AROCHLOR 1254	BDL MG/KG	.32
PCB AROCHLOR 1260	BDL MG/KG	.32
DBC	48 PERCENT	

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*	SEE NOTE FOR PARAMETER
BDL	BELOW DETECTABLE LIMITS
EST	ESTIMATED VALUE
RT	RETENTION TIME

QUALITY ASSURANCE OFFICER: G.A. Busch

C E R T I F I C A T E O F A N A L Y S I S

-------- CORRESPOND TO ---------- SAMPLE ----------

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

LAB SAMPLE ID: A207219
DATE PRINTED : 25-JUN-90
DATE RECEIVED: 23-MAY-90
DATE COMPLETE: 25-JUN-90

---------- REPORT TO ---------- BILL TO ----------

ATTN: PAT AUSTIN
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
105 SOUTH MERIDIAN
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

ATTN: CARLA HATTON
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

---------- DESCRIPTION ----------

DATE SAMPLED : 23-MAY-90 TIME : NONE PO NUMBER : 89602536-34E
DESCRIPTION : IDEM CERCLA
IDEM CONTROL # : S457

---------- ANALYSIS ----------

ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050
ANALYST : S. KENNEDY DATE : 31-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	1 GRAMS	
FINAL WEIGHT OR VOLUME	100 ML	

ARSENIC GFAA SW846-7060
ANALYST : P. SIMS DATE : 23-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ARSENIC	12 MG/KG	2.5

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 19-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/KG	0.50

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 19-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/KG	0.50

ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050
ANALYST : S. KENNEDY DATE : 31-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	1 GRAMS	
FINAL WEIGHT OR VOLUME	100 ML	

ALUMINUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ALUMINUM	6300 MG/KG	5

ANTIMONY ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/KG	30

BARIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
BARIUM	47 MG/KG	1.0

BERYLLIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/KG	0.5

CADMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CADMIUM	4.6 MG/KG	0.5

CALCIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CALCIUM	29000 MG/KG	5

CHROMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CHROMIUM	9.0 MG/KG	1.0

COBALT ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
COBALT	9.0 MG/KG	1.0

COPPER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
COPPER	22 MG/KG	2.0

IRON ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
IRON	14000 MG/KG	2.0

LEAD ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
LEAD	11 MG/KG	5.0

LITHIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
LITHIUM	7.0 MG/KG	1.0

MAGNESIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MAGNESIUM	13000 MG/KG	2.0

MANGANESE ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MANGANESE	300 MG/KG	1.0

MOLYBDENUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MOLYBDENUM	BDL MG/KG	1.0

NICKEL ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
NICKEL	12 MG/KG	1.0

POTASSIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
POTASSIUM	1300 MG/KG	20

SILVER ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SILVER	BDL MG/KG	1.0

SODIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SODIUM	92 MG/KG	10

STRONTIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
STRONTIUM	20 MG/KG	1.0

TIN ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
TIN	15 MG/KG	5.0

TITANIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
TITANIUM	61 MG/KG	1.0

VANADIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
VANADIUM	15 MG/KG	1.0

ZINC ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ZINC	77 MG/KG	2.0

ACID DIGESTION OF S/S/S FOR CVAA ANALYSIS SW846-7471
ANALYST : R. BYERS DATE : 06-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	0.4 GRAMS	
FINAL VOLUME	100 ML	

MERCURY CVAA SW846-7471
ANALYST : S. STRUEWING DATE : 06-JUN-90 INSTRUMENT : CVAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR CVAA ANALYSIS SW846-7471

PARAMETER	RESULT	DET LIM
MERCURY	BDL MG/KG	0.050

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	BDL MG/KG	0.25

CYANIDE DISTILLATION SW846-9010
ANALYST : K. SCOTT DATE : 05-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	10 GRAMS	
FINAL VOLUME	250 ML	

SONICATION EXTRACTION FOR ORGANICS SW846-3550
ANALYST : R. BRANCH DATE : 24-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	30 GRAMS	
FINAL VOLUME	1 ML	

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL ACID FRACTIONS) SW846-8270
ANALYST : M. DONOFRIO DATE : 15-JUN-90 INSTRUMENT : GC/MS SVOA REP : 0
PREP : SONICATION EXTRACTION FOR ORGANICS SW846-3550

PARAMETER	RESULT	DET LIM
ACENAPHTHENE	BDL UG/KG	330
ACENAPHTHYLENE	BDL UG/KG	330
ANTHRACENE	BDL UG/KG	330
BENZ(A)ANTHRACENE	BDL UG/KG	330
BENZO(A)PYRENE	BDL UG/KG	330
BENZO(B)FLUORANTHENE	BDL UG/KG	330
BENZO(G,H,I)PERYLENE	BDL UG/KG	330
BENZO(K)FLUORANTHENE	BDL UG/KG	330
BENZYL ALCOHOL	BDL UG/KG	330
BENZYLBUTYLPHTHALATE	BDL UG/KG	330
BIS(2-CHLOROETHOXY)METHANE	BDL UG/KG	330
BIS(2-CHLOROETHYL)ETHER	BDL UG/KG	330
BIS(2-CHLOROISOPROPYL)ETHER	BDL UG/KG	330
BIS(2-ETHYLHEXYL)PHTHALATE	BDL UG/KG	330
4-BROMOPHENYLPHENYLETHER	BDL UG/KG	330
CARBAZOLE	BDL UG/KG	330
4-CHLOROANILINE	BDL UG/KG	330
2-CHLORONAPHTHALENE	BDL UG/KG	330
4-CHLOROPHENYLPHENYLETHER	BDL UG/KG	330
CHRYSENE	BDL UG/KG	330
DIBENZ(A,H)ANTHRACENE	BDL UG/KG	330
DIBENZOFURAN	BDL UG/KG	330
1,2-DICHLOROBENZENE	BDL UG/KG	330
1,3-DICHLOROBENZENE	BDL UG/KG	330
1,4-DICHLOROBENZENE	BDL UG/KG	330
3,3'-DICHLOROBENZIDINE	BDL UG/KG	660
DIETHYLPHTHALATE	BDL UG/KG	330
DIMETHYLPHTHALATE	BDL UG/KG	330
DI-N-BUTYLPHTHALATE	BDL UG/KG	330
DINITROBENZENES	BDL UG/KG	330
2,4-DINITROTOLUENE	BDL UG/KG	330
2,6-DINITROTOLUENE	BDL UG/KG	330
DI-N-OCTYLPHTHALATE	BDL UG/KG	330
FLUORANTHENE	BDL UG/KG	330
FLUORENE	BDL UG/KG	330

HEXACHLOROBENZENE	BDL UG/KG	330
HEXACHLOROBUTADIENE	BDL UG/KG	330
HEXACHLOROCYCLOPENTADIENE	BDL UG/KG	330
HEXACHLOROETHANE	BDL UG/KG	330
INDENO(1,2,3-CD)PYRENE	BDL UG/KG	330
ISOPHORONE	BDL UG/KG	330
2-METHYLNAPHTHALENE	BDL UG/KG	330
NAPHTHALENE	BDL UG/KG	330
2-NITROANILINE	BDL UG/KG	1600
3-NITROANILINE	BDL UG/KG	1600
4-NITROANILINE	BDL UG/KG	1600
NITROBENZENE	BDL UG/KG	330
N-NITROSO-DIPHENYLAMINE	BDL UG/KG	330
N-NITROSO-DI-N-PROPYLAMINE	BDL UG/KG	330
PHENANTHRENE	BDL UG/KG	330
2-PICOLINE	BDL UG/KG	1600
PYRENE	BDL UG/KG	330
PYRIDINE	BDL UG/KG	1600
TETRACHLOROBENZENES	BDL UG/KG	330
TOLUENEDIAMINE	BDL UG/KG	1600
1,2,4-TRICHLOROBENZENE	BDL UG/KG	330
BENZOIC ACID	BDL UG/KG	1600
4-CHLORO-3-METHYLPHENOL	BDL UG/KG	330
2-CHLOROPHENOL	BDL UG/KG	330
2,4-DICHLOROPHENOL	BDL UG/KG	330
2,4-DIMETHYLPHENOL	BDL UG/KG	330
4,6-DINITRO-2-METHYLPHENOL	BDL UG/KG	1600
2,4-DINITROPHENOL	BDL UG/KG	1600
2-METHYLPHENOL	BDL UG/KG	330
4-METHYLPHENOL	BDL UG/KG	330
2-NITROPHENOL	BDL UG/KG	330
4-NITROPHENOL	BDL UG/KG	1600
PENTACHLOROPHENOL	BDL UG/KG	1600
PHENOL	BDL UG/KG	330
TETRACHLOROPHENOL	BDL UG/KG	330
2,4,5-TRICHLOROPHENOL	BDL UG/KG	1600
2,4,6-TRICHLOROPHENOL	BDL UG/KG	330

SURROGATE RECOVERY		SPIKED CONC
2-FLUOROPHENOL	87 % RECOVERY	3300
PHENOL-D5	89 % RECOVERY	3300
NITROBENZENE-D5	80 % RECOVERY	1600
2-FLUOROBIPHENYL	85 % RECOVERY	1600
2,4,6-TRIBROMOPHENOL	106 % RECOVERY	3300
TERPHENYL-D14	96 % RECOVERY	1600

ALSO DETECTED	
UNKNOWN	EST 130 RT=2.21
UNKNOWN	EST 460 RT=3.75
4-METHYL-1-(1-METHYLETHYL)-BICYCLOHEX-2-ENE	EST 690 RT=8.16
SULFUR	EST 260 RT=26.53
UNKNOWN HYDROCARBON/UNKNOWN PHTHALATE	EST 170 RT=33.42
UNKNOWN PHTHALATE	EST 300 RT=33.83
UNKNOWN PHTHALATE	EST 200 RT=34.33
UNKNOWN PHTHALATE/UNKNOWN HYDROCARBON	EST 330 RT=35.23
UNKNOWN	EST 330 RT=35.84
UNKNOWN	EST 430 RT=36.68
UNKNOWN HYDROCARBON	EST 460 RT=36.93

TETRADECANOIC ACID,HEXADECYLESTER..... EST 690 RT=37.54.....
UNKNOWN..... EST 230 RT=38.51.....

PHENOLS DISTILLATION SW846-9065
ANALYST : S. RANKIN DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	10 GRAMS	
FINAL VOLUME	100 ML	

PHENOLS 4AAP SW846-9066
ANALYST : T. BARNES DATE : 07-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : PHENOLS DISTILLATION SW846-9065

PARAMETER	RESULT	DET LIM
PHENOLS	BDL MG/KG	0.1

TOTAL SOLIDS EPA 160.3
ANALYST : K. SCOTT DATE : 01-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
SOLIDS	64 PERCENT	1

SONICATION EXTRACTION FOR ORGANICS SW846-3550
ANALYST : T. WIEGAND DATE : 24-MAY-90 INSTRUMENT : MANUAL REP : 1

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	30.79 GRAMS	
FINAL VOLUME	10 ML	

PCB/PESTICIDE SCAN GC:ECD SW846-8080
ANALYST : A. HOAGLAND DATE : 17-JUN-90 INSTRUMENT : GC/ECD REP : 0
PREP : SONICATION EXTRACTION FOR ORGANICS SW846-3550

PARAMETER	RESULT	DET LIM
ALPHA-BHC	BDL MG/KG	.016
BETA-BHC	BDL MG/KG	.016
DELTA-BHC	BDL MG/KG	.016
GAMMA-BHC (LINDANE)	BDL MG/KG	.016
HEPTACHLOR	BDL MG/KG	.016
ALDRIN	BDL MG/KG	.016
HEPTACHLOR EPOXIDE	BDL MG/KG	.016
ENDOSULFAN I	BDL MG/KG	.016
DIELDRIN	BDL MG/KG	.032
4,4'-DDE	BDL MG/KG	.032
ENDRIN	BDL MG/KG	.032
ENDOSULFAN II	BDL MG/KG	.032
4,4'-DDD	BDL MG/KG	.032
ENDOSULFAN SULFATE	BDL MG/KG	.032
4,4'-DDT	BDL MG/KG	.032
METHOXYCHLOR	BDL MG/KG	.16
ENDRIN KETONE	BDL MG/KG	.032
ALPHA-CHLORDANE	BDL MG/KG	.16

GAMMA-CHLORDANE	BDL MG/KG	.16
TOXAPHENE	BDL MG/KG	.32
PCB AROCHLOR 1016	BDL MG/KG	.16
PCB AROCHLOR 1221	BDL MG/KG	.16
PCB AROCHLOR 1232	BDL MG/KG	.16
PCB AROCHLOR 1242	BDL MG/KG	.16
PCB AROCHLOR 1248	BDL MG/KG	.16
PCB AROCHLOR 1254	BDL MG/KG	.32
PCB AROCHLOR 1260	BDL MG/KG	.32
DBC	62 PERCENT	

BDL BELOW DETECTABLE LIMITS
EST ESTIMATED VALUE
RT RETENTION TIME

QUALITY ASSURANCE OFFICER: G. A. Busch

C E R T I F I C A T E O F A N A L Y S I S

-------- CORRESPOND TO ---------- SAMPLE ----------

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

LAB SAMPLE ID: A207220
DATE PRINTED : 25-JUN-90
DATE RECEIVED: 23-MAY-90
DATE COMPLETE: 25-JUN-90

---------- REPORT TO ---------- BILL TO ----------

ATTN: PAT AUSTIN
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
105 SOUTH MERIDIAN
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

ATTN: CARLA HATTON
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

---------- DESCRIPTION ----------

DATE SAMPLED : 23-MAY-90 TIME : NONE PO NUMBER : 89602536-34E
DESCRIPTION : IDEM CERCLA
IDEM CONTROL # : S458

---------- ANALYSIS ----------

ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050
ANALYST : S. KENNEDY DATE : 31-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	1 GRAMS	
FINAL WEIGHT OR VOLUME	100 ML	

ARSENIC GFAA SW846-7060
ANALYST : P. SIMS DATE : 23-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ARSENIC	7.0 MG/KG	2.5

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 21-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/KG	0.50

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 19-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/KG	0.50

ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050
ANALYST : S. KENNEDY DATE : 31-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	1 GRAMS	
FINAL WEIGHT OR VOLUME	100 ML	

ALUMINUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ALUMINUM	5200 MG/KG	5

ANTIMONY ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/KG	30

BARIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
BARIUM	40 MG/KG	1.0

BERYLLIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/KG	0.5

CADMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CADMIUM	3.9 MG/KG	0.5

CALCIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CALCIUM	25000 MG/KG	5

CHROMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CHROMIUM	8.0 MG/KG	1.0

COBALT ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
COBALT	10 MG/KG	1.0

COPPER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
COPPER	11 MG/KG	2.0

IRON ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
IRON	13000 MG/KG	2.0

LEAD ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
LEAD	9.0 MG/KG	5.0

LITHIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
LITHIUM	5.0 MG/KG	1.0

MAGNESIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MAGNESIUM	6900 MG/KG	2.0

MANGANESE ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MANGANESE	370 MG/KG	1.0

MOLYBDENUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MOLYBDENUM	2.0 MG/KG	1.0

NICKEL ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
NICKEL	13 MG/KG	1.0

POTASSIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
POTASSIUM	600 MG/KG	20

SILVER ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SILVER	BDL MG/KG	1.0

SODIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SODIUM	260 MG/KG	10

STRONTIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
STRONTIUM	35 MG/KG	1.0

TIN ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
TIN	17 MG/KG	5.0

TITANIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
TITANIUM	98 MG/KG	1.0

VANADIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
VANADIUM	14 MG/KG	1.0

ZINC ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ZINC	40 MG/KG	2.0

ACID DIGESTION OF S/S/S FOR CVAA ANALYSIS SW846-7471
ANALYST : R. BYERS DATE : 06-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	0.4 GRAMS	
FINAL VOLUME	100 ML	

MERCURY CVAA SW846-7471
ANALYST : S. STRUEWING DATE : 06-JUN-90 INSTRUMENT : CVAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR CVAA ANALYSIS SW846-7471

PARAMETER	RESULT	DET LIM
MERCURY	BDL MG/KG	0.050

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	BDL MG/KG	0.25

CYANIDE DISTILLATION SW846-9010
ANALYST : K. SCOTT DATE : 05-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	10 GRAMS	
FINAL VOLUME	250 ML	

SONICATION EXTRACTION FOR ORGANICS SW846-3550
ANALYST : R. BRANCH DATE : 24-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	30 GRAMS	
FINAL VOLUME	1 ML	

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL ACID FRACTIONS) SW846-8270
ANALYST : M. DONOFRIO DATE : 15-JUN-90 INSTRUMENT : GC/MS SVOA REP : 0
PREP : SONICATION EXTRACTION FOR ORGANICS SW846-3550

PARAMETER	RESULT	DET LIM
ACENAPHTHENE	BDL UG/KG	330
ACENAPHTHYLENE	BDL UG/KG	330
ANTHRACENE	BDL UG/KG	330
BENZ(A)ANTHRACENE	BDL UG/KG	330
BENZO(A)PYRENE	BDL UG/KG	330
BENZO(B)FLUORANTHENE	BDL UG/KG	330
BENZO(G,H,I)PERYLENE	BDL UG/KG	330
BENZO(K)FLUORANTHENE	BDL UG/KG	330
BENZYL ALCOHOL	BDL UG/KG	330
BENZYLBUTYLPHTHALATE	BDL UG/KG	330
BIS(2-CHLOROETHOXY)METHANE	BDL UG/KG	330
BIS(2-CHLOROETHYL)ETHER	BDL UG/KG	330
BIS(2-CHLOROISOPROPYL)ETHER	BDL UG/KG	330
BIS(2-ETHYLHEXYL)PHTHALATE	1100 UG/KG	330
4-BROMOPHENYLPHENYLETHER	BDL UG/KG	330
CARBAZOLE	BDL UG/KG	330
4-CHLOROANILINE	BDL UG/KG	330
2-CHLORONAPHTHALENE	BDL UG/KG	330
4-CHLOROPHENYLPHENYLETHER	BDL UG/KG	330
CHRYSENE	BDL UG/KG	330
DIBENZ(A,H)ANTHRACENE	BDL UG/KG	330
DIBENZOFURAN	BDL UG/KG	330
1,2-DICHLOROBENZENE	BDL UG/KG	330
1,3-DICHLOROBENZENE	BDL UG/KG	330
1,4-DICHLOROBENZENE	BDL UG/KG	330
3,3'-DICHLOROBENZIDINE	BDL UG/KG	660
DIETHYLPHTHALATE	BDL UG/KG	330
DIMETHYLPHTHALATE	BDL UG/KG	330
DI-N-BUTYLPHTHALATE	BDL UG/KG	330
DINITROBENZENES	BDL UG/KG	330
2,4-DINITROTOLUENE	BDL UG/KG	330
2,6-DINITROTOLUENE	BDL UG/KG	330
DI-N-OCTYLPHTHALATE	BDL UG/KG	330
FLUORANTHENE	BDL UG/KG	330
FLUORENE	BDL UG/KG	330

HEXACHLOROBENZENE	BDL UG/KG	330
HEXACHLOROBUTADIENE	BDL UG/KG	330
HEXACHLOROCYCLOPENTADIENE	BDL UG/KG	330
HEXACHLOROETHANE	BDL UG/KG	330
INDENO(1,2,3-CD)PYRENE	BDL UG/KG	330
ISOPHORONE	BDL UG/KG	330
2-METHYLNAPHTHALENE	BDL UG/KG	330
NAPHTHALENE	BDL UG/KG	330
2-NITROANILINE	BDL UG/KG	1600
3-NITROANILINE	BDL UG/KG	1600
4-NITROANILINE	BDL UG/KG	1600
NITROBENZENE	BDL UG/KG	330
N-NITROSO-DIPHENYLAMINE	BDL UG/KG	330
N-NITROSO-DI-N-PROPYLAMINE	BDL UG/KG	330
PHENANTHRENE	BDL UG/KG	330
2-PICOLINE	BDL UG/KG	1600
PYRENE	BDL UG/KG	330
PYRIDINE	BDL UG/KG	1600
TETRACHLOROBENZENES	BDL UG/KG	330
TOLUENEDIAMINE	BDL UG/KG	1600
1,2,4-TRICHLOROBENZENE	BDL UG/KG	330
BENZOIC ACID	BDL UG/KG	1600
4-CHLORO-3-METHYLPHENOL	BDL UG/KG	330
2-CHLOROPHENOL	BDL UG/KG	330
2,4-DICHLOROPHENOL	BDL UG/KG	330
2,4-DIMETHYLPHENOL	BDL UG/KG	330
4,6-DINITRO-2-METHYLPHENOL	BDL UG/KG	1600
2,4-DINITROPHENOL	BDL UG/KG	1600
2-METHYLPHENOL	BDL UG/KG	330
4-METHYLPHENOL	1800 UG/KG	330
2-NITROPHENOL	BDL UG/KG	330
4-NITROPHENOL	BDL UG/KG	1600
PENTACHLOROPHENOL	BDL UG/KG	1600
PHENOL	EST 330 UG/KG	330
TETRACHLOROPHENOL	BDL UG/KG	330
2,4,5-TRICHLOROPHENOL	BDL UG/KG	1600
2,4,6-TRICHLOROPHENOL	BDL UG/KG	330

SURROGATE RECOVERY		SPIKED CONC
2-FLUOROPHENOL	106 % RECOVERY	3300
PHENOL-D5	102 % RECOVERY	3300
NITROBENZENE-D5	82 % RECOVERY	1600
2-FLUOROBIPHENYL	88 % RECOVERY	1600
2,4,6-TRIBROMOPHENOL	79 % RECOVERY	3300
TERPHENYL-D14	121 % RECOVERY	1600

ALSO DETECTED:	
PROPANOIC ACID	RT=3.77
UNKNOWN	RT=4.9
BUTANOIC ACID	RT=6.43
UNKNOWN	RT=7.08
UNKNOWN	RT=7.49
UNKNOWN	RT=8.95
2-METHYLPENTANOIC ACID	EST 530 RT=9.32
4-METHYLPENTANOIC ACID	EST 730 RT=9.48
HEPTANOIC ACID	EST 1100 RT=11.98
UNKNOWN	EST 130 RT=12.87
UNKNOWN	EST 130 RT=18.43

UNKNOWN	RT=39.23
UNKNOWN	EST 990 RT=4.26
UNKNOWN	EST 300 RT=12.61
UNKNOWN	EST 1200 RT=13.74
CAPROLACTAM	EST 200 RT=14.89
SULFUR	EST 360 RT=26.53
UNKNOWN	EST 460 RT=33.91
UNKNOWN	EST 360 RT=39.23

NOTE: DUE TO COLUMN OVERLOAD, QUANTITATION OF SOME TIC'S IS IMPOSSIBLE

PHENOLS DISTILLATION SW846-9065
ANALYST : S. RANKIN DATE : 04-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	10 GRAMS	
FINAL VOLUME	100 ML	

PHENOLS 4AAP SW846-9066
ANALYST : T. BARNES DATE : 07-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : PHENOLS DISTILLATION SW846-9065

PARAMETER	RESULT	DET LIM
PHENOLS	0.47 MG/KG	0.1

TOTAL SOLIDS EPA 160.3
ANALYST : K. SCOTT DATE : 01-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
SOLIDS	77 PERCENT	1

SONICATION EXTRACTION FOR ORGANICS SW846-3550
ANALYST : T. WIEGAND DATE : 24-MAY-90 INSTRUMENT : MANUAL REP : 1

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	30.02 GRAMS	
FINAL VOLUME	10 ML	

PCB/PESTICIDE SCAN GC:ECD SW846-8080
ANALYST : A. HOAGLAND DATE : 17-JUN-90 INSTRUMENT : GC/ECD REP : 0
PREP : SONICATION EXTRACTION FOR ORGANICS SW846-3550

PARAMETER	RESULT	DET LIM
ALPHA-BHC	BDL MG/KG	.016
BETA-BHC	BDL MG/KG	.016
DELTA-BHC	BDL MG/KG	.016
GAMMA-BHC (LINDANE)	BDL MG/KG	.016
HEPTACHLOR	BDL MG/KG	.016
ALDRIN	BDL MG/KG	.016
HEPTACHLOR EPOXIDE	BDL MG/KG	.016
ENDOSULFAN I	BDL MG/KG	.016
DIELDRIN	BDL MG/KG	.032
4,4'-DDE	BDL MG/KG	.032

ENDRIN	BDL MG/KG	.032
ENDOSULFAN II	BDL MG/KG	.032
4,4'-DDD	BDL MG/KG	.032
ENDOSULFAN SULFATE	BDL MG/KG	.032
4,4'-DDT	BDL MG/KG	.032
METHOXYCHLOR	BDL MG/KG	.16
ENDRIN KETONE	BDL MG/KG	.032
ALPHA-CHLORDANE	BDL MG/KG	.16
GAMMA-CHLORDANE	BDL MG/KG	.16
TOXAPHENE	BDL MG/KG	.32
PCB AROCHLOR 1016	BDL MG/KG	.16
PCB AROCHLOR 1221	BDL MG/KG	.16
PCB AROCHLOR 1232	BDL MG/KG	.16
PCB AROCHLOR 1242	BDL MG/KG	.16
PCB AROCHLOR 1248	BDL MG/KG	.16
PCB AROCHLOR 1254	BDL MG/KG	.32
PCB AROCHLOR 1260	BDL MG/KG	.32
DBC	67 PERCENT	

BDL BELOW DETECTABLE LIMITS
EST ESTIMATED VALUE
RT RETENTION TIME

QUALITY ASSURANCE OFFICER: G. A. Busch

C E R T I F I C A T E O F A N A L Y S I S

-------- CORRESPOND TO ---------- SAMPLE ----------

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

LAB SAMPLE ID: A207225
DATE PRINTED : 25-JUN-90
DATE RECEIVED: 23-MAY-90
DATE COMPLETE: 25-JUN-90

---------- REPORT TO ---------- BILL TO ----------

ATTN: PAT AUSTIN
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
105 SOUTH MERIDIAN
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

ATTN: CARLA HATTON
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

---------- DESCRIPTION ----------

DATE SAMPLED : 23-MAY-90 TIME : NONE PO NUMBER : 89602536-34E
DESCRIPTION : IDEM CERCLA
IDEM CONTROL # : S459

---------- ANALYSIS ----------

ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050
ANALYST : S. KENNEDY DATE : 31-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	1 GRAMS	
FINAL WEIGHT OR VOLUME	100 ML	

ARSENIC GFAA SW846-7060
ANALYST : P. SIMS DATE : 23-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ARSENIC	4.6 MG/KG	2.0

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 21-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/KG	0.50

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 19-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/KG	0.50

ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050
ANALYST : S. KENNEDY DATE : 19-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	1 GRAMS	
FINAL WEIGHT OR VOLUME	100 ML	

ALUMINUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ALUMINUM	5000 MG/KG	5

ANTIMONY ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/KG	30

BARIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
BARIUM	37 MG/KG	1.0

BERYLLIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/KG	0.5

CADMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CADMIUM	3.8 MG/KG	0.5

CALCIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CALCIUM	33000 MG/KG	5

CHROMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CHROMIUM	8.0 MG/KG	1.0

COBALT ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
COBALT	10 MG/KG	1.0

COPPER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
COPPER	13 MG/KG	2.0

IRON ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
IRON	12000 MG/KG	2.0

LEAD ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
LEAD	8.0 MG/KG	5.0

LITHIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
LITHIUM	6.0 MG/KG	1.0

MAGNESIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MAGNESIUM	8200 MG/KG	2.0

MANGANESE ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MANGANESE	340 MG/KG	1.0

MOLYBDENUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MOLYBDENUM	2.0 MG/KG	1.0

NICKEL ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
NICKEL	14 MG/KG	1.0

POTASSIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
POTASSIUM	570 MG/KG	20

SILVER ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SILVER	BDL MG/KG	1.0

SODIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SODIUM	240 MG/KG	10

STRONTIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
STRONTIUM	31 MG/KG	1.0

TIN ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
TIN	18 MG/KG	5.0

TITANIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
TITANIUM	86 MG/KG	1.0

VANADIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
VANADIUM	14 MG/KG	1.0

ZINC ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ZINC	44 MG/KG	2.0

ACID DIGESTION OF S/S/S FOR CVAA ANALYSIS SW846-7471
ANALYST : R. BYERS DATE : 06-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	0.4 GRAMS	
FINAL VOLUME	100 ML	

MERCURY CVAA SW846-7471
ANALYST : S. STRUEWING DATE : 06-JUN-90 INSTRUMENT : CVAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR CVAA ANALYSIS SW846-7471

PARAMETER	RESULT	DET LIM
MERCURY	BDL MG/KG	0.05

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	BDL MG/KG	0.25

CYANIDE DISTILLATION SW846-9010
ANALYST : K. SCOTT DATE : 05-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	10 GRAMS	
FINAL VOLUME	250 ML	

SONICATION EXTRACTION FOR ORGANICS SW846-3550
ANALYST : T. WIEGAND DATE : 24-APR-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	30.10 GRAMS	
FINAL VOLUME	10 ML	

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL ACID FRACTIONS) SW846-8270
ANALYST : M. DONOFRIO DATE : 18-JUN-90 INSTRUMENT : GC/MS SVOA REP : 0
PREP : SONICATION EXTRACTION FOR ORGANICS SW846-3550

PARAMETER	RESULT	DET LIM
ACENAPHTHENE	BDL UG/KG	330
ACENAPHTHYLENE	BDL UG/KG	330
ANTHRACENE	BDL UG/KG	330
BENZ(A)ANTHRACENE	BDL UG/KG	330
BENZO(A)PYRENE	BDL UG/KG	330
BENZO(B)FLUORANTHENE	BDL UG/KG	330
BENZO(G,H,I)PERYLENE	BDL UG/KG	330
BENZO(K)FLUORANTHENE	BDL UG/KG	330
BENZYL ALCOHOL	BDL UG/KG	330
BENZYLBUTYLPHTHALATE	BDL UG/KG	330
BIS(2-CHLOROETHOXY)METHANE	BDL UG/KG	330
BIS(2-CHLOROETHYL)ETHER	BDL UG/KG	330
BIS(2-CHLOROISOPROPYL)ETHER	BDL UG/KG	330
BIS(2-ETHYLHEXYL)PHTHALATE	430 UG/KG	330
4-BROMOPHENYLPHENYLETHER	BDL UG/KG	330
CARBAZOLE	BDL UG/KG	330
4-CHLOROANILINE	BDL UG/KG	330
2-CHLORONAPHTHALENE	BDL UG/KG	330
4-CHLOROPHENYLPHENYLETHER	BDL UG/KG	330
CHRYSENE	BDL UG/KG	330
DIBENZ(A,H)ANTHRACENE	BDL UG/KG	330
DIBENZOFURAN	BDL UG/KG	330
1,2-DICHLOROBENZENE	BDL UG/KG	330
1,3-DICHLOROBENZENE	BDL UG/KG	330
1,4-DICHLOROBENZENE	BDL UG/KG	330
3,3'-DICHLOROBENZIDINE	BDL UG/KG	660
DIETHYLPHTHALATE	BDL UG/KG	330
DIMETHYLPHTHALATE	BDL UG/KG	330
DI-N-BUTYLPHTHALATE	BDL UG/KG	330
DINITROBENZENES	BDL UG/KG	330
2,4-DINITROTOLUENE	BDL UG/KG	330
2,6-DINITROTOLUENE	BDL UG/KG	330
DI-N-OCTYLPHTHALATE	2600 UG/KG	330
FLUORANTHENE	BDL UG/KG	330
FLUORENE	BDL UG/KG	330

HEXACHLOROBENZENE	BDL UG/KG	330
HEXACHLOROBUTADIENE	BDL UG/KG	330
HEXACHLOROCYCLOPENTADIENE	BDL UG/KG	330
HEXACHLOROETHANE	BDL UG/KG	330
INDENO(1,2,3-CD)PYRENE	BDL UG/KG	330
ISOPHORONE	BDL UG/KG	330
2-METHYLNAPHTHALENE	BDL UG/KG	330
NAPHTHALENE	BDL UG/KG	330
2-NITROANILINE	BDL UG/KG	1600
3-NITROANILINE	BDL UG/KG	1600
4-NITROANILINE	BDL UG/KG	1600
NITROBENZENE	BDL UG/KG	330
N-NITROSO-DIPHENYLAMINE	BDL UG/KG	330
N-NITROSO-DI-N-PROPYLAMINE	BDL UG/KG	330
PHENANTHRENE	BDL UG/KG	330
2-PICOLINE	BDL UG/KG	1600
PYRENE	BDL UG/KG	330
PYRIDINE	BDL UG/KG	1600
TETRACHLOROBENZENES	BDL UG/KG	330
TOLUENEDIAMINE	BDL UG/KG	1600
1,2,4-TRICHLOROBENZENE	BDL UG/KG	330
BENZOIC ACID	BDL UG/KG	1600
4-CHLORO-3-METHYLPHENOL	BDL UG/KG	330
2-CHLOROPHENOL	BDL UG/KG	330
2,4-DICHLOROPHENOL	BDL UG/KG	330
2,4-DIMETHYLPHENOL	BDL UG/KG	330
4,6-DINITRO-2-METHYLPHENOL	BDL UG/KG	1600
2,4-DINITROPHENOL	BDL UG/KG	1600
2-METHYLPHENOL	BDL UG/KG	330
4-METHYLPHENOL	1200 UG/KG	330
2-NITROPHENOL	BDL UG/KG	330
4-NITROPHENOL	BDL UG/KG	1600
PENTACHLOROPHENOL	BDL UG/KG	1600
PHENOL	EST 230 UG/KG	330
TETRACHLOROPHENOL	BDL UG/KG	330
2,4,5-TRICHLOROPHENOL	BDL UG/KG	1600
2,4,6-TRICHLOROPHENOL	BDL UG/KG	330
SURROGATE RECOVERY		SPIKED CONC
2-FLUOROPHENOL	87 % RECOVERY	3300
PHENOL-D5	92 % RECOVERY	3300
NITROBENZENE-D5	76 % RECOVERY	1600
2-FLUOROBIPHENYL	84 % RECOVERY	1600
2,4,6-TRIBROMOPHENOL	86 % RECOVERY	3300
TERPHENYL-D14	92 % RECOVERY	1600
ALSO DETECTED		
UNKNOWN	EST 790 RT=4.02	
UNKNOWN	RT=3.48	
UNKNOWN	RT=4.56	
BUTANOIC ACID	RT=6.29	
UNKNOWN	EST 3200 RT=6.64	
UNKNOWN	EST 1300 RT=7.11	
UNKNOWN	RT=7.64	
UNKNOWN	EST 1900 RT=8.79	
UNKNOWN	EST 860 RT=9.33	
UNKNOWN	EST 10000 RT=10.54	
UNKNOWN	EST 1900 RT=11.84	

UNKNOWN	EST 430 RT=12.49
PIPERIDINONE	EST 1100 RT=13.46
BENZENEPROPANOIC ACID	EST 560 RT=16.34
DIHEPTYLPHTHALATE	EST 730 RT=31.73
UNKNOWN PHTHALATE	EST 530 RT=32.9
UNKNOWN PHTHALATE	EST 760 RT=35.27
UNKNOWN PHTHALATE	EST 5300 RT=35.4
UNKNOWN PHTHALATE	EST 1000 RT=36.38
UNKNOWN PHTHALATE	EST 1400 RT=37.05

NOTE: DUE TO COLUMN OVERLOAD, QUANTITATION OF SOME TIC'S IS IMPOSSIBLE.

PHENOLS DISTILLATION SW846-9065
ANALYST : S. RANKIN DATE : 06-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	10 GRAMS	
FINAL VOLUME	100 ML	

PHENOLS 4AAP SW846-9066
ANALYST : T. BARNES DATE : 07-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : PHENOLS DISTILLATION SW846-9065

PARAMETER	RESULT	DET LIM
PHENOLS	0.49 MG/KG	0.1

TOTAL SOLIDS EPA 160.3
ANALYST : K. SCOTT DATE : 01-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
SOLIDS	77 PERCENT	1

SONICATION EXTRACTION FOR ORGANICS SW846-3550
ANALYST : R. BRANCH DATE : 25-MAY-90 INSTRUMENT : MANUAL REP : 1

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	30 GRAMS	
FINAL VOLUME	1 ML	

PCB/PESTICIDE SCAN GC:ECD SW846-8080
ANALYST : A. HOAGLAND DATE : 17-JUN-90 INSTRUMENT : GC/ECD REP : 0
PREP : SONICATION EXTRACTION FOR ORGANICS SW846-3550

PARAMETER	RESULT	DET LIM
ALPHA-BHC	BDL MG/KG	.016
BETA-BHC	BDL MG/KG	.016
DELTA-BHC	BDL MG/KG	.016
GAMMA-BHC (LINDANE)	BDL MG/KG	.016
HEPTACHLOR	BDL MG/KG	.016
ALDRIN	BDL MG/KG	.016
HEPTACHLOR EPOXIDE	BDL MG/KG	.016
ENDOSULFAN I	BDL MG/KG	.016
DIELDRIN	BDL MG/KG	.032

4,4'-DDE	BDL MG/KG	.032
ENDRIN	BDL MG/KG	.032
ENDOSULFAN II	BDL MG/KG	.032
4,4'-DDD	BDL MG/KG	.032
ENDOSULFAN SULFATE	BDL MG/KG	.032
4,4'-DDT	BDL MG/KG	.032
METHOXYCHLOR	BDL MG/KG	.16
ENDRIN KETONE	BDL MG/KG	.032
ALPHA-CHLORDANE	BDL MG/KG	.16
GAMMA-CHLORDANE	BDL MG/KG	.16
TOXAPHENE	BDL MG/KG	.32
PCB AROCHLOR 1016	BDL MG/KG	.16
PCB AROCHLOR 1221	BDL MG/KG	.16
PCB AROCHLOR 1232	BDL MG/KG	.16
PCB AROCHLOR 1242	BDL MG/KG	.16
PCB AROCHLOR 1248	BDL MG/KG	.16
PCB AROCHLOR 1254	BDL MG/KG	.32
PCB AROCHLOR 1260	BDL MG/KG	.32
DBC	22 PERCENT	

BDL BELOW DETECTABLE LIMITS
EST ESTIMATED VALUE
RT RETENTION TIME

JALITY ASSURANCE OFFICER: G. A. Busck

C E R T I F I C A T E O F A N A L Y S I S

-------- CORRESPOND TO ---------- SAMPLE ----------

EMS HERITAGE LABORATORIES, INC.
7901 W. MORRIS ST.
INDIANAPOLIS, IN 46231
(317)243-8305

LAB SAMPLE ID: A207226
DATE PRINTED : 25-JUN-90
DATE RECEIVED: 23-MAY-90
DATE COMPLETE: 25-JUN-90

---------- REPORT TO ---------- BILL TO ----------

ATTN: PAT AUSTIN
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
105 SOUTH MERIDIAN
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

ATTN: CARLA HATTON
INDIANA DEPARTMENT OF ENVIRONMENTAL MGT.
P.O. BOX 6015
INDIANAPOLIS, IN 46206-6015

---------- DESCRIPTION ----------

DATE SAMPLED : 23-MAY-90 TIME : NONE PO NUMBER : 89602536-34E
DESCRIPTION : IDEM CERCLA
IDEM CONTROL # : S460

---------- ANALYSIS ----------

ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050
ANALYST : S. KENNEDY DATE : 31-MAY-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	1 GRAMS	
FINAL VOLUME	100 ML	

ARSENIC GFAA SW846-7060
ANALYST : P. SIMS DATE : 23-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ARSENIC	4.8 MG/KG	2.00

SELENIUM GFAA SW846-7740
ANALYST : P. SIMS DATE : 21-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SELENIUM	BDL MG/KG	0.50

THALLIUM GFAA SW846-7841
ANALYST : M. BAUER DATE : 19-JUN-90 INSTRUMENT : GFAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR GFAA ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
THALLIUM	BDL MG/KG	0.50

ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050
ANALYST : S. KENNEDY DATE : 19-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	1 GRAMS	
FINAL WEIGHT OR VOLUME	100 ML	

ALUMINUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ALUMINUM	3500 MG/KG	5

ANTIMONY ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ANTIMONY	BDL MG/KG	30

BARIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
BARIUM	150 MG/KG	1.0

BERYLLIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
BERYLLIUM	BDL MG/KG	0.5

CADMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CADMIUM	4.8 MG/KG	0.5

CALCIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CALCIUM	67000 MG/KG	5

CHROMIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
CHROMIUM	8.0 MG/KG	1.0

COBALT ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
COBALT	10 MG/KG	1.0

COPPER ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
COPPER	10 MG/KG	2.0

IRON ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
IRON	16000 MG/KG	2.0

LEAD ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
LEAD	6.0 MG/KG	5.0

LITHIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
LITHIUM	6.0 MG/KG	1.0

MAGNESIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MAGNESIUM	17000 MG/KG	2.0

MANGANESE ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MANGANESE	930 MG/KG	1.0

MOLYBDENUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
MOLYBDENUM	4.0 MG/KG	1.0

NICKEL ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
NICKEL	14 MG/KG	1.0

POTASSIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
POTASSIUM	670 MG/KG	20

SILVER ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SILVER	BDL MG/KG	1.0

SODIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
SODIUM	92 MG/KG	10

STRONTIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
STRONTIUM	63 MG/KG	1.0

TIN ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
TIN	19 MG/KG	5.0

TITANIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
TITANIUM	82 MG/KG	1.0

VANADIUM ICP SW846-6010
ANALYST : M. JAO DATE : 15-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
VANADIUM	16 MG/KG	1.0

ZINC ICP SW846-6010
ANALYST : M. JAO DATE : 20-JUN-90 INSTRUMENT : ICP REP : 0
PREP : ACID DIGESTION OF S/S/S FOR FAA OR ICP ANALYSIS SW846-3050

PARAMETER	RESULT	DET LIM
ZINC	27 MG/KG	2.0

ACID DIGESTION OF S/S/S FOR CVAA ANALYSIS SW846-7471
ANALYST : R. BYERS DATE : 06-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	0.4 GRAMS	
FINAL VOLUME	100 ML	

MERCURY CVAA SW846-7471
ANALYST : S. STRUEWING DATE : 06-JUN-90 INSTRUMENT : CVAA REP : 0
PREP : ACID DIGESTION OF S/S/S FOR CVAA ANALYSIS SW846-7471

PARAMETER	RESULT	DET LIM
MERCURY	BDL MG/KG	0.05

CYANIDE TOTAL (AUTOMATED) SW846-9012
ANALYST : C. BOYLE DATE : 06-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : CYANIDE DISTILLATION SW846-9010

PARAMETER	RESULT	DET LIM
CYANIDE	BDL MG/KG	0.25

CYANIDE DISTILLATION SW846-9010
ANALYST : K. SCOTT DATE : 05-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	10 GRAMS	
FINAL VOLUME	250 ML	

SONICATION EXTRACTION FOR ORGANICS SW846-3550
ANALYST : T. WIEGAND DATE : 24-APR-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	30.10 GRAMS	
FINAL VOLUME	10 ML	

SEMI-VOLATILE ORGANICS (BASE/NEUTRAL ACID FRACTIONS) SW846-8270
ANALYST : M. DONOFRIO DATE : 18-JUN-90 INSTRUMENT : GC/MS SVOA REP : 0
PREP : SONICATION EXTRACTION FOR ORGANICS SW846-3550

PARAMETER	RESULT	DET LIM
ACENAPHTHENE	BDL UG/KG	330
ACENAPHTHYLENE	BDL UG/KG	330
ANTHRACENE	BDL UG/KG	330
BENZ(A)ANTHRACENE	BDL UG/KG	330
BENZO(A)PYRENE	BDL UG/KG	330
BENZO(B)FLUORANTHENE	BDL UG/KG	330
BENZO(G,H,I)PERYLENE	BDL UG/KG	330
BENZO(K)FLUORANTHENE	BDL UG/KG	330
BENZYL ALCOHOL	BDL UG/KG	330
BENZYLBUTYLPHTHALATE	BDL UG/KG	330
BIS(2-CHLOROETHOXY)METHANE	BDL UG/KG	330
BIS(2-CHLOROETHYL)ETHER	BDL UG/KG	330
BIS(2-CHLOROISOPROPYL)ETHER	BDL UG/KG	330
BIS(2-ETHYLHEXYL)PHTHALATE	BDL UG/KG	330
4-BROMOPHENYLPHENYLETHER	BDL UG/KG	330
CARBAZOLE	BDL UG/KG	330
4-CHLOROANILINE	BDL UG/KG	330
2-CHLORONAPHTHALENE	BDL UG/KG	330
4-CHLOROPHENYLPHENYLETHER	BDL UG/KG	330
CHRYSENE	BDL UG/KG	330
DIBENZ(A,H)ANTHRACENE	BDL UG/KG	330
DIBENZOFURAN	BDL UG/KG	330
1,2-DICHLOROBENZENE	BDL UG/KG	330
1,3-DICHLOROBENZENE	BDL UG/KG	330
1,4-DICHLOROBENZENE	BDL UG/KG	330
3,3'-DICHLOROBENZIDINE	BDL UG/KG	660
DIETHYLPHTHALATE	BDL UG/KG	330
DIMETHYLPHTHALATE	BDL UG/KG	330
DI-N-BUTYLPHTHALATE	BDL UG/KG	330
DINITROBENZENES	BDL UG/KG	330
2,4-DINITROTOLUENE	BDL UG/KG	330
2,6-DINITROTOLUENE	BDL UG/KG	330
DI-N-OCTYLPHTHALATE	BDL UG/KG	330
FLUORANTHENE	BDL UG/KG	330
FLUORENE	BDL UG/KG	330

HEXACHLOROBENZENE	BDL UG/KG	330
HEXACHLOROBUTADIENE	BDL UG/KG	330
HEXACHLOROCYCLOPENTADIENE	BDL UG/KG	330
HEXACHLOROETHANE	BDL UG/KG	330
INDENO(1,2,3-CD)PYRENE	BDL UG/KG	330
ISOPHORONE	BDL UG/KG	330
2-METHYLNAPHTHALENE	BDL UG/KG	330
NAPHTHALENE	BDL UG/KG	330
2-NITROANILINE	BDL UG/KG	1600
3-NITROANILINE	BDL UG/KG	1600
4-NITROANILINE	BDL UG/KG	1600
NITROBENZENE	BDL UG/KG	330
N-NITROSO-DIPHENYLAMINE	BDL UG/KG	330
N-NITROSO-DI-N-PROPYLAMINE	BDL UG/KG	330
PHENANTHRENE	BDL UG/KG	330
2-PICOLINE	BDL UG/KG	1600
PYRENE	BDL UG/KG	330
PYRIDINE	BDL UG/KG	1600
TETRACHLOROBENZENES	BDL UG/KG	330
TOLUENEDIAMINE	BDL UG/KG	1600
1,2,4-TRICHLOROBENZENE	BDL UG/KG	330
BENZOIC ACID	BDL UG/KG	1600
4-CHLORO-3-METHYLPHENOL	BDL UG/KG	330
2-CHLOROPHENOL	BDL UG/KG	330
2,4-DICHLOROPHENOL	BDL UG/KG	330
2,4-DIMETHYLPHENOL	BDL UG/KG	330
4,6-DINITRO-2-METHYLPHENOL	BDL UG/KG	1600
2,4-DINITROPHENOL	BDL UG/KG	1600
2-METHYLPHENOL	BDL UG/KG	330
4-METHYLPHENOL	BDL UG/KG	330
2-NITROPHENOL	BDL UG/KG	330
4-NITROPHENOL	BDL UG/KG	1600
PENTACHLOROPHENOL	BDL UG/KG	1600
PHENOL	BDL UG/KG	330
TETRACHLOROPHENOL	BDL UG/KG	330
2,4,5-TRICHLOROPHENOL	BDL UG/KG	1600
2,4,6-TRICHLOROPHENOL	BDL UG/KG	330

SURROGATE RECOVERY		SPIKED CONC
2-FLUOROPHENOL	90 % RECOVERY	3300
PHENOL-D5	85 % RECOVERY	3300
NITROBENZENE-D5	79 % RECOVERY	1600
2-FLUOROBIPHENYL	84 % RECOVERY	1600
2,4,6-TRIBROMOPHENOL	63 % RECOVERY	3300
TERPHENYL-D14	90 % RECOVERY	1600

ALSO DETECTED

UNKNOWN ..... EST 590 RT=3.63

PHENOLS DISTILLATION SW846-9065

ANALYST : S. RANKIN DATE : 06-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	10 GRAMS	
FINAL VOLUME	100 ML	

PHENOLS 4AAP SW846-9066
ANALYST : T. BARNES DATE : 07-JUN-90 INSTRUMENT : AUTO-ANALYZER REP : 0
PREP : PHENOLS DISTILLATION SW846-9065

PARAMETER	RESULT	DET LIM
PHENOLS	BDL MG/KG	0.1

TOTAL SOLIDS EPA 160.3
ANALYST : K. SCOTT DATE : 01-JUN-90 INSTRUMENT : MANUAL REP : 0

PARAMETER	RESULT	DET LIM
SOLIDS	87 PERCENT	1

SONICATION EXTRACTION FOR ORGANICS SW846-3550
ANALYST : R. BRANCH DATE : 25-MAY-90 INSTRUMENT : MANUAL REP : 1

PARAMETER	RESULT	DET LIM
INITIAL WEIGHT OR VOLUME	30 GRAMS	
FINAL VOLUME	1 ML	

PCB/PESTICIDE SCAN GC:ECD SW846-8080
ANALYST : A. HOAGLAND DATE : 17-JUN-90 INSTRUMENT : GC/ECD REP : 0
PREP : SONICATION EXTRACTION FOR ORGANICS SW846-3550

PARAMETER	RESULT	DET LIM
ALPHA-BHC	BDL MG/KG	.016
BETA-BHC	BDL MG/KG	.016
DELTA-BHC	BDL MG/KG	.016
GAMMA-BHC (LINDANE)	BDL MG/KG	.016
HEPTACHLOR	BDL MG/KG	.016
ALDRIN	BDL MG/KG	.016
HEPTACHLOR EPOXIDE	BDL MG/KG	.016
ENDOSULFAN I	BDL MG/KG	.016
DIELDRIN	BDL MG/KG	.032
4,4'-DDE	BDL MG/KG	.032
ENDRIN	BDL MG/KG	.032
ENDOSULFAN II	BDL MG/KG	.032
4,4'-DDD	BDL MG/KG	.032
ENDOSULFAN SULFATE	BDL MG/KG	.032
4,4'-DDT	BDL MG/KG	.032
METHOXYCHLOR	BDL MG/KG	.16
ENDRIN KETONE	BDL MG/KG	.032
ALPHA-CHLORDANE	BDL MG/KG	.16
GAMMA-CHLORDANE	BDL MG/KG	.16
TOXAPHENE	BDL MG/KG	.32
PCB AROCHLOR 1016	BDL MG/KG	.16
PCB AROCHLOR 1221	BDL MG/KG	.16
PCB AROCHLOR 1232	BDL MG/KG	.16
PCB AROCHLOR 1242	BDL MG/KG	.16
PCB AROCHLOR 1248	BDL MG/KG	.16
PCB AROCHLOR 1254	BDL MG/KG	.32
PCB AROCHLOR 1260	BDL MG/KG	.32
DBC	43 PERCENT	

BDL BELOW DETECTABLE LIMITS
EST ESTIMATED VALUE
RT RETENTION TIME

QUALITY ASSURANCE OFFICER: G.A. Busch

APPENDIX E

SITE GEOLOGIC ASSESSMENT

State Form 4336

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Site Setting Files

INDIANAPOLIS

OFFICE MEMORANDUM

DATE: November 29, 1988

TO: Harry Atkinson, Chief
Site Investigation Section

THRU: Karyl Schmidt, Chief KS 12-5-88
Geology Section

FROM: Billy Giles BGS 11/29/88
Geology Section

SUBJECT: Wabash Valley Landfill
Wabash Co., Indiana

Introduction

The Wabash Valley Landfill is located in Section 1, T.27N., R.6E., in Wabash County, Indiana. The sanitary landfill, containing 102 acres, of which 42 acres is permitted for acceptance of solid waste, is located on State Road 13, 1.5 miles northeast of Wabash.

Soils

Several soil series are present at the Wabash Valley Landfill due to the fact that the site extends from the floodplain of the Wabash River, up the valley slopes, onto the upland of the Mississinewa Morainal Ridge.

The floodplain of the Wabash River consists of the Sloan and Genesee series. These soils formed in loamy alluvium with slopes that range from 0 to 2 percent. The Sloan series is a deep, very poorly drained, moderately slowly permeable soil in low-lying and slack-water areas on the bottom lands. The Genesee series consists of deep, well drained, moderately permeable soils on bottom lands.

The Wabash River valley side walls are composed of the Hennepin and Milton Variant series. The Hennepin soils are deep, well drained, moderately slowly permeable soils on sharp breaks between uplands and bottom lands and on the sides of deeply cut drainageways with slopes from 25 to 50 percent. The soils formed in loam and clay loam glacial till. The Milton Variant soils are moderately deep, well drained, moderately permeable on very steep slopes. The soils formed in residuum of limestone rock.

The upland morainal ridge consists of the Miami and Milton series. The Miami series are well drained, moderately permeable and moderately slowly permeable soils formed in loamy glacial till. Slopes range from 2 to 25 percent. The Milton series consists of moderately deep, well drained, moderately slowly permeable soils on limestone terraces along the Wabash River. The soils formed in loamy glacial draft and the underlying limestone residuum. Slopes range from 0 to 12 percent.

Geology

The bedrock beneath the site consists of highly fractured and weathered dolomite of the Niagaran Series of Middle Silurian age. The site is located

near the crest of the Kankakee Arch and the bedrock dips northeastward into the Michigan basin. Bedrock is exposed along the drainageway in the south-central part of the property and along the break in slope in the eastern part.

The site is located along the western edge of the Mississinewa Morainal Ridge where it is cut by the Wabash River Valley. The Mississinewa Moraine marks the furthest advance of the Huron-Erie lobe in northeastern Indiana during the Wisconsinan glaciation. The western portion of the site consists of sandy and silty clays associated with the morainal till. The remainder of the site is composed of recent alluvial mixtures of gravel, sand, silt and clay associated with the Wabash River lowland. The depth of the unconsolidated material ranges from 0 to 25 feet according to boring logs from the site.

Hydrogeology

The Wabash River is less than one-half mile southeast of the site, however, the site is not within the 100-year flood frequency elevation of the river. A small perennial stream flows southward toward the Wabash River through the eastern one-third of the site. Several springs have been noted flowing near the ravine in the northern part of the landfill and a small wetlands area occurs in the northeast corner of the property.

The regional ground water flow gradient in this area is toward the south and southwest to the Wabash River. However, on the site much of the flow appears to be southeastward toward the small stream and wetlands area on the property. Hydraulic conductivity measurements made on the clayey soils near the surface of the site range from 6×10^{-8} to 4×10^{-6} cm/sec. A hydraulic conductivity measurement made of the silt near the surface yielded a value of 7×10^{-3} cm/sec.

Ground water use near the landfill is moderate and nearly all water is withdrawn from the bedrock. Wells are generally 60 to 260 feet in depth.

Summary

The Wabash Valley Landfill is a site with variable geological and pedological conditions because it is situated along the margin the Wabash River floodplain. The site includes areas of the floodplain, the valley-side slope, and the upland of the Mississinewa Morainal Ridge. The pedological and hydrogeological conditions in these areas is very different, and each area must be considered separately when assessing the potential for the migration of contamination off-site.

REFERENCES

Gray, Henry H., Ault, Curtis H., and Keller, Stanley J., 1987, Bedrock Geologic Map of Indiana. Indiana Geological Survey.

King, James M., 1978, Geologic Description and Evaluation. Indiana Department of Environmental Management Open File Report.

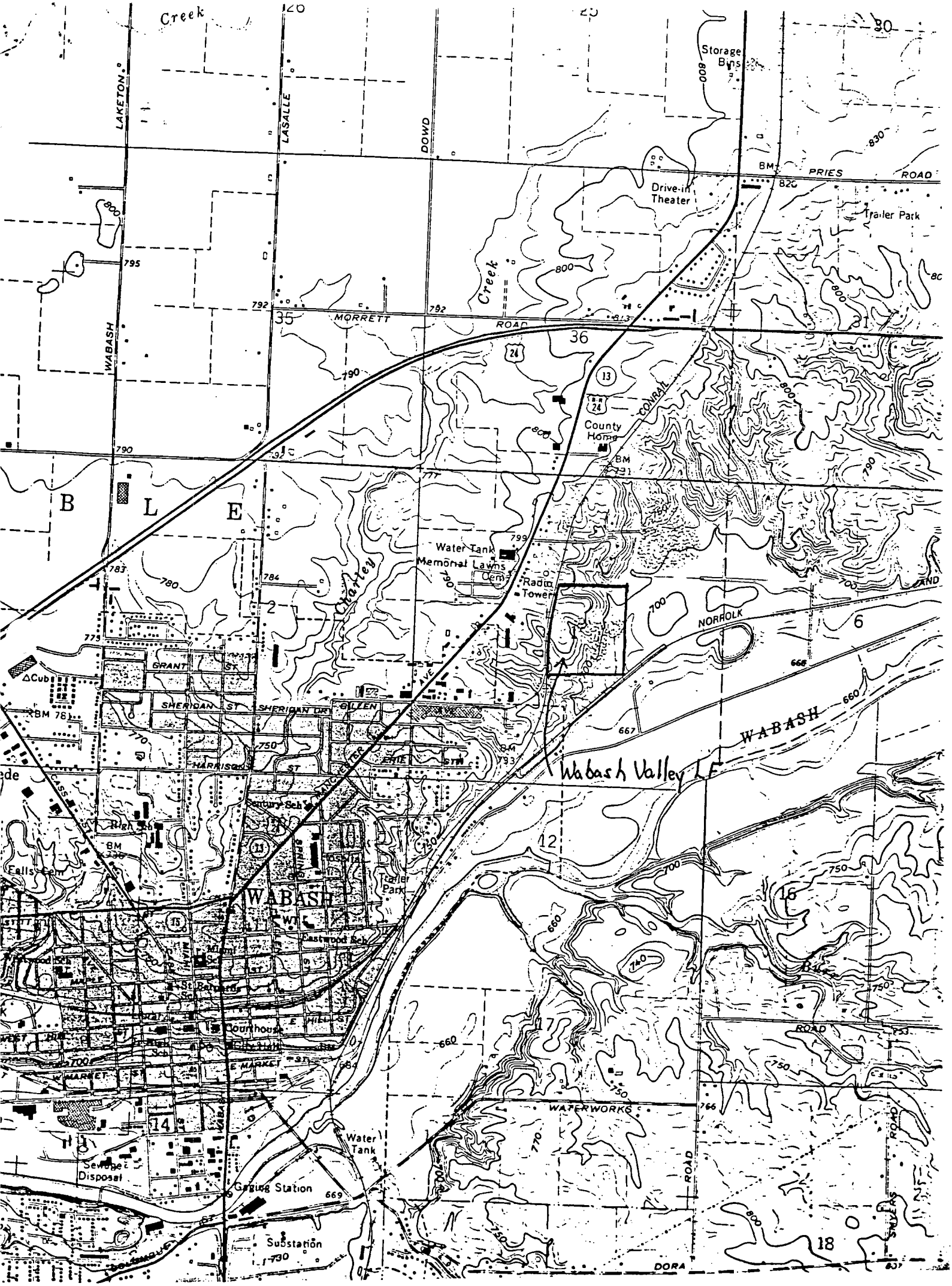
Ruesch, Donald R., 1983, Soil Survey of Wabash County, Indiana, U.S. Department of Agriculture, Soil Conservation Service, 195p.

Wayne, William J. and Thornbury, William D., 1951, Glacial Geology of Wabash County, Indiana, Indiana Geological Survey.

BEG/lal

Attachments

cc: File 3B, Wabash Valley Landfill
File IIC1E



Creek
LAKETON
LASALLE
DOWD
Storage Bins
PRIES ROAD
Drive-in Theater
Trailer Park
Creek
MORRETT ROAD
WABASH
CONRAIL
County Home
B L E
Water Tank
Memorial Lawns Cem
Radio Tower
Charley
NORFOLK
GRANT ST
SHERIDAN ST
SHERIDAN DR
GILLEN
HARRISON ST
ERIE ST
WABASH
Wabash Valley LF
Century Sch
High Sch
Falls Cem
WABASH
Trailer Park
Eastwood Sch
Courthouse
E MARKET ST
W MARKET ST
WATERWORKS
Water Tank
Sewage Disposal
Gaging Station
Substation
DORA
ROAD
SNYERS ROAD

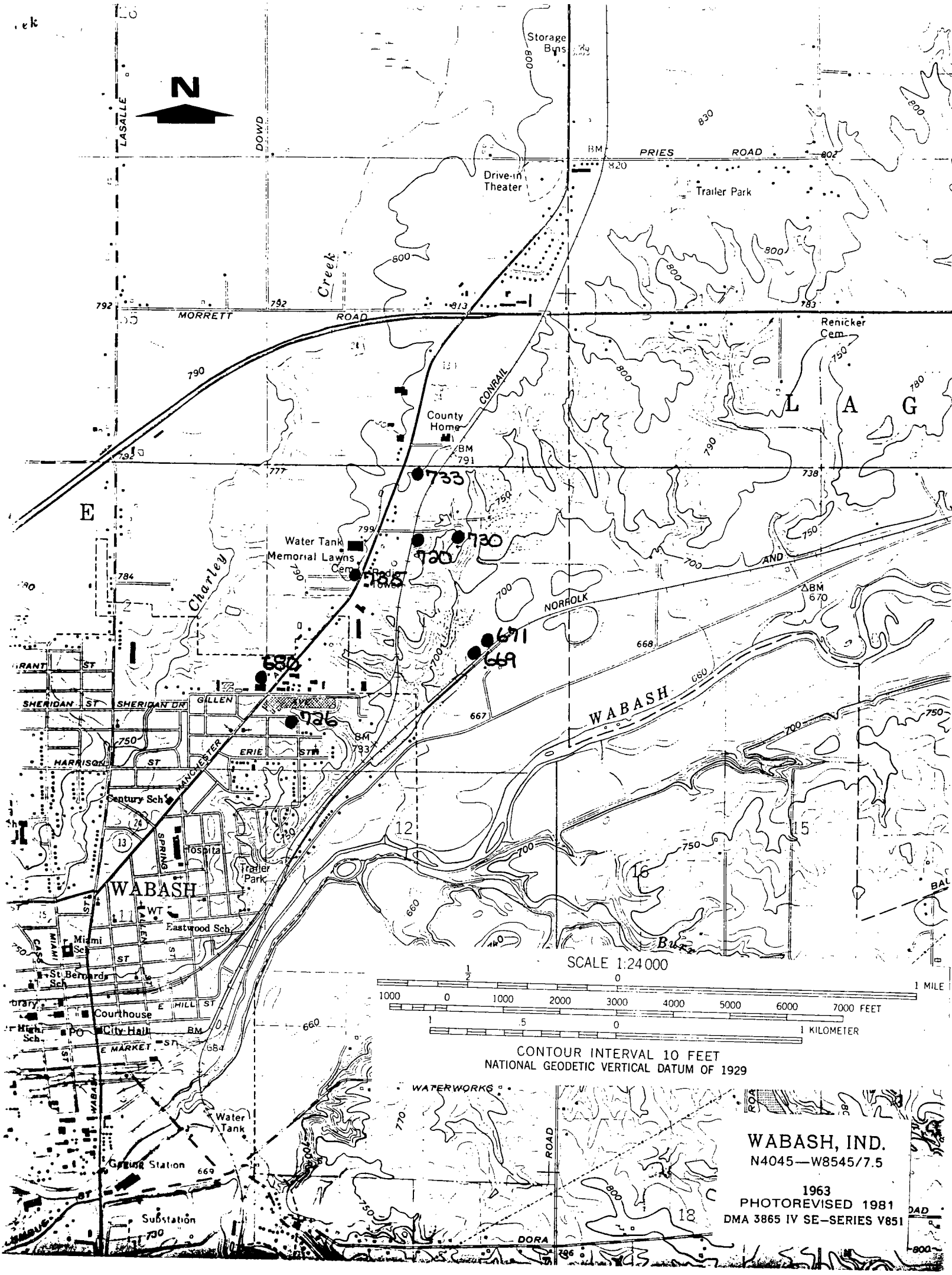
UMBER, 30

Wabash Valley Landfill

APPENDIX F

INDIANA DEPARTMENT OF NATURAL RESOURCES

WELL LOGS


N
LASALLE
DOWD
Storage Bins
PRIES ROAD
Drive-in Theater
Trailer Park
Creek
MORRETT ROAD
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CONRAIL
County Home
L A G
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733
730
720
Water Tank
Memorial Lawns Cem
Radio Tower
Charley
NORFOLK AND
671
669
680
726
WABASH
SHERIDAN ST
SHERIDAN DR
GILLEN AVE
HARRISON ST
ERIE ST
MANCHESTER
Century Sch
Hospital
Trailer Park
WABASH
Eastwood Sch
Miami Sch
St Bernards Sch
Courthouse
City Hall
E MARKET ST
E HILL ST
Water Tank
Gaging Station
Substation
WATERWORKS
DORA
SCALE 1:24 000
1 MILE
7000 FEET
1 KILOMETER
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
WABASH, IND.
N4045—W8545/7.5
1963
PHOTOREVISED 1981
DMA 3865 IV SE—SERIES V851

DIVISION OF WATER
DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA
STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46204
Telephone 633-5267 Area Code 317

#1

WATER WELL RECORD

WELL LOCATION

(Fill in completely - Refer to instruction sheet)

County in which well was drilled Wabash Civil Township

Driving directions to the well location: Include County Road Names, Numbers, Subdivision Name, lot number, distinctive landmarks, etc.

west Lagro 4 miles north side road

NAME OF WELL OWNER and/or BUILDING CONTRACTOR

Well Owner Wabash Valley Reclamation Address RR#2, WABASH, Indiana

Building Contractor Address

Name of Well Drilling Contractor: G+K Well Drilling Inc.

Address RR5 Columbia City, Ind. 46725

Name of Drilling Equipment Operator: Harold Drudge

WELL INFORMATION

Depth of well: 50 feet Date well was completed: June 27, 1980

Diameter of casing or drive pipe: 4" Total Length: ~~46.5~~ 47.5

Diameter of liner (if used): Total Length:

Diameter of Screen: 3" Length: 2½ Slot Size: .40

Type of Well: Drilled ☒ Gravel Pack ☒ Driven ☐ Other Monitoring Well

Use of Well: For Home ☐ For Industry ☐ For Public Supply ☐ Stock ☐

Method of Drilling: Cable Tools ☐ Rotary ☒ Rev. Rotary ☐ Jet ☐ Bucket Rig ☐

Static water level in completed well (Distance from ground to water level) feet

Bailer Test: Hours Tested Rate g.p.m. Drawdown ft.

Pumping Test: Hours Tested Rate g.p.m. Drawdown ft.

(Drawdown is the difference between static level and water level at end of test)

Signature William Fine

Date July 30, 1980

USE SPACE USE REVERSE SIDE OF THIS SHEET

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To
Clay - yellow	0	25
Hardpan with stones Clay Grey	25	40
Clay - Blue	40	44
Gravel	44	50

FOR ADMINISTRATIVE USE ONLY
(Well driller does not fill out)

COUNTY Wabash TWP. 27N RGE. 6 E SW ¼ NW ¼ NE SEC 1 Subdivision Name

Topo Map Wabash 7½

Field Located By [signature] Date 6/24/81

Courthouse Location By _____ Date _____

Location accepted w/o verification by _____

_____ Ft W of EL. Ground Elevation 770

_____ Ft N of SL. Depth to bedrock _____

2650 Ft E of WL. Bedrock elevation _____

1200 Ft S of NL. Aquifer elevation 720- Lot Number _____

Wabash Valley Reclamation

#1

DIVISION OF WATER
DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA
STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46204
Telephone 633-5267 Area Code 317

#2

WATER WELL RECORD

WELL LOCATION

(Fill in completely - Refer to instruction sheet)

County in which well was drilled Wabash Civil Township

Driving directions to the well location: Include County Road Names, Numbers, Subdivision Name, lot number, distinctive landmarks, etc.

West Roger 4 miles north side road

BELIEVED TO BE ON . . . SIDE OF U.S. 24 EAST OF WABASH

NAME OF WELL OWNER and/or BUILDING CONTRACTOR

Well Owner Wabash Valley Reclamation Address RR#2 Wabash, Ind.

Building Contractor Address

Name of Well Drilling Contractor: G+K Well Drilling Inc.

Address RR#5 Columbia City, Ind.

Name of Drilling Equipment Operator: Harold Drudge

WELL INFORMATION

Depth of well: 21 Date well was completed: June 27, 1980

Diameter of casing or drive pipe: 4" Total Length: 18½

Diameter of liner (if used): Total Length:

Diameter of Screen: 3" Length: 2½ Slot Size: .40

Type of Well: Drilled ☒ Gravel Pack ☒ Driven ☐ Other Monitoring Well

Use of Well: For Home ☐ For Industry ☐ For Public Supply ☐ Stock ☐

Method of Drilling: Cable Tools ☐ Rotary ☒ Rev. Rotary ☐ Jet ☐ Bucket Rig ☐

Static water level in completed well (Distance from ground to water level) feet

Bailer Test: Hours Tested Rate g.p.m. Drawdown ft.

Pumping Test: Hours Tested Rate g.p.m. Drawdown ft.

(Drawdown is the difference between static level and water level at end of test)

Signature William Fries

Date July 30, 1980

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To
y Blue to Grey	0	10
y with mixed Bedrock yellow Hard	10	18
Gravel light yellow in Color	18	19
Gravel Dark Black + Grey	19	21

692
21
671

FOR ADMINISTRATIVE USE ONLY
(Well driller does not fill out)

COUNTY Wabash TWP. 27N RGE. 6 NE ¼ NW ¼ SE SEC 1 Subdivision Name *2

Topo Map Wabash 7½

Field Located By [signature] Date 6/24/81

Courthouse Location By _____ Date _____

Location accepted w/o verification by _____

1300 Ft W of EL. Ground Elevation 692

2200 Ft N of SL. Depth to bedrock _____

Ft E of WL. Bedrock elevation _____

Ft S of NL. Aquifer elevation 671 Lot Number _____

*1

WELL LO

County in w

Driving dire

we

NAME OF

We

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Name of W

Address

Name of D

WELL I

Depth of

Diameter

Diameter

Diameter

Type of

Use of W

Method c

Static wa

Bailer Te

Pumping

DIVISION OF WATER
DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA
STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46204
Telephone 633-5267 Area Code 317

WATER WELL RECORD

WELL LOCATION

(Fill in completely - Refer to instruction sheet)

County in which well was drilled Wabash Civil Township

Driving directions to the well location: Include County Road Names, Numbers, Subdivision Name, lot number, distinctive landmarks, etc.

West Lagro 4 miles north side road

NAME OF WELL OWNER and/or BUILDING CONTRACTOR

Well Owner Wabash Valley Reforestation Address RR #2 Wabash, Ind.

Building Contractor _____ Address _____

Name of Well Drilling Contractor: G/K Well Drilling Inc.

Address RR5 Columbia City, Ind.

Name of Drilling Equipment Operator: Harold Dudge

WELL INFORMATION

Depth of well: 20 Date well was completed: June 27, 1980

Diameter of casing or drive pipe: 4" Total Length: 17½ feet

Diameter of liner (if used): _____ Total Length: _____

Diameter of Screen: 3" Length: 2½' Slot Size: .40

Type of Well: Drilled ☒ Gravel Pack ☒ Driven ☐ Other Monitoring Well

Use of Well: For Home ☐ For Industry ☐ For Public Supply ☐ Stock ☐

Method of Drilling: Cable Tools ☐ Rotary ☒ Rev. Rotary ☐ Jet ☐ Bucket Rig ☐

Static water level in completed well (Distance from ground to water level) _____ feet

Bailer Test: Hours Tested _____ Rate _____ g.p.m. _____ Drawdown _____ ft.

Pumping Test: Hours Tested _____ Rate _____ g.p.m. _____ Drawdown _____ ft.

(Drawdown is the difference between static level and water level at end of test)

Signature William Fuis

Date July 30, 1981

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To
Clay Blue to Grey in Color	0	11
Clay mixed With Bedrock yellow Hard	11	16
Dry Gravel light Yellow in color	16	18
Wet Gravel - Dark Black and Grey	18	20

FOR ADMINISTRATIVE USE ONLY
(Well driller does not fill out)

COUNTY Wabash TWP. 27N RGE. 6 E NE ¼ NW ¼ SE SEC 1 Subdivision Name

Topo Map [illegible] 7½

Field Located By [signature] Date 6/24/81

Courthouse Location By _____ Date _____

Location accepted w/o verification by _____

1500 Ft W of EL. Ground Elevation 680

2000 Ft N of SL. Depth to bedrock _____

_____ Ft E of WL. Bedrock elevation _____

_____ Ft S of NL. Aquifer elevation 669- Lot Number _____

DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
609 STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46209
MElrose 3-6757

NOV 1965
RECEIVED
Dept. of Nat. Resources
Division of Water

WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: WABASH Civil Township: NOBLE

Congressional township: 27N Range: 6E Number of section: 1

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: 1/4 OUTSIDE OF Wabash CITY LIMITS NORTH ON RT 24 TO BOWMAN ELECTRIC TURN RIGHT ON PRIVATE ROAD ACROSS RAILROAD AND WELL IS LOCATED 300 FEET PAST RAILROAD IN FRONT OF HOME ON LEFT HAND SIDE

Name of owner: CECIL DUNN Address: RR 4 WABASH

Name of Well Drilling Contractor: EMPIRE WELL AND PUMP CORPORATION

Address: 27 WALNUT ST WABASH

Name of Drilling Equipment Operator: MR. WARREN J BLATZ

INFORMATION ON THE WELL

Completed depth of well: 60 ft. Date well was completed: NOV 9, 1965

Diameter of outside casing or drive pipe: 4 INCH Length: 18 FT

Diameter of inside casing or liner: _____ Length: _____

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 25 ft.

Bailer Test: Hours tested 1 Rate 750 g.p.m. Drawdown 4 ft. (Difference between static level and water level at end of test)

Pumping Test: Hours tested 6 Rate 500 g.p.m. Drawdown 3 ft.

Signature Warren J Blatz

Date Nov 9, 1965

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To
BROWN CLAY AND SOIL	0	6
SAND *9'	6	15
GRAVEL *1'	15	16
SAND *23'	16	29
BROWN MUDDY GRAVEL *12*	29	41
LIMESTONE	41	42
SAND HAD BRAKE IN STONE	42	47
LIMESTONE HARD	47	60
770		
41		
729		

REMARKS:

FOR ADMINISTRATIVE USE ONLY
(Well driller does not fill out)

COUNTY: Wabash TWP. 27N RGE. 6E SE ¼ NW ¼ NE ¼ SEC. 1

Topo Map: Wabash

Well log classified By [illegible] Date 11-65
Courthouse located By ____ Date ____
Field located By REC Date 8-12-69
Acc. w/o verification By ____ Date ____

1800 Ft W of EL. Ground elevation 770
____ Ft N of SL. Depth to bedrock ____
____ Ft E of WL. Bedrock elevation 730
1150 Ft S of NL. Aquifer elevation ____

B

FC
MC

INSTRUCTIONS

This Water Well Record form is designed to record the most essential data concerning a water well. We request that you be as accurate as possible in recording this information as it may be of great assistance in the planning and development of new water supplies.

An accurate location of the well is equally as important as an accurate well log. Please include all inform-tion possible in the space provided for well location.

As specified in Chapter 6 of the Acts of 1959, a copy of this report must be submitted within thirty days after the completion of a well to the Division of Water Resources, Indiana Department of Conservation.

Note: located Add. in courthouse + indicated it on top - but [illegible] no record of lot #416 LSS 7/30/65

DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA

WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Wabash Civil Township: Noble

Congressional township: _____ Range: 6 E Number of section: 1.

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: lot No 416 Board of trade addition Wabash

Name of owner: Amos Cantrell. Address: Wabash Ind.

Name of Well Drilling Contractor: Virgil Hults

Address: R 3 Wabash Ind

Name of Drilling Equipment Operator: same

INFORMATION ON THE WELL

Completed depth of well: 96 ft. Date well was completed: Dec 8 1961

Diameter of outside casing or drive pipe: 4" Length: 5-4'

Diameter of inside casing or liner: — Length: —

Diameter of Screen: — Length: — Slot size: —

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☒ For industry ☐ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 42 ft.

Bailer Test: Hours tested _____ Rate _____ g.p.m. Drawdown _____ ft. (Difference between static level and water level at end of test)

Pumping Test: Hours tested 2 Rate 12 g.p.m. Drawdown 60 ft.

Signature Virgil Hults

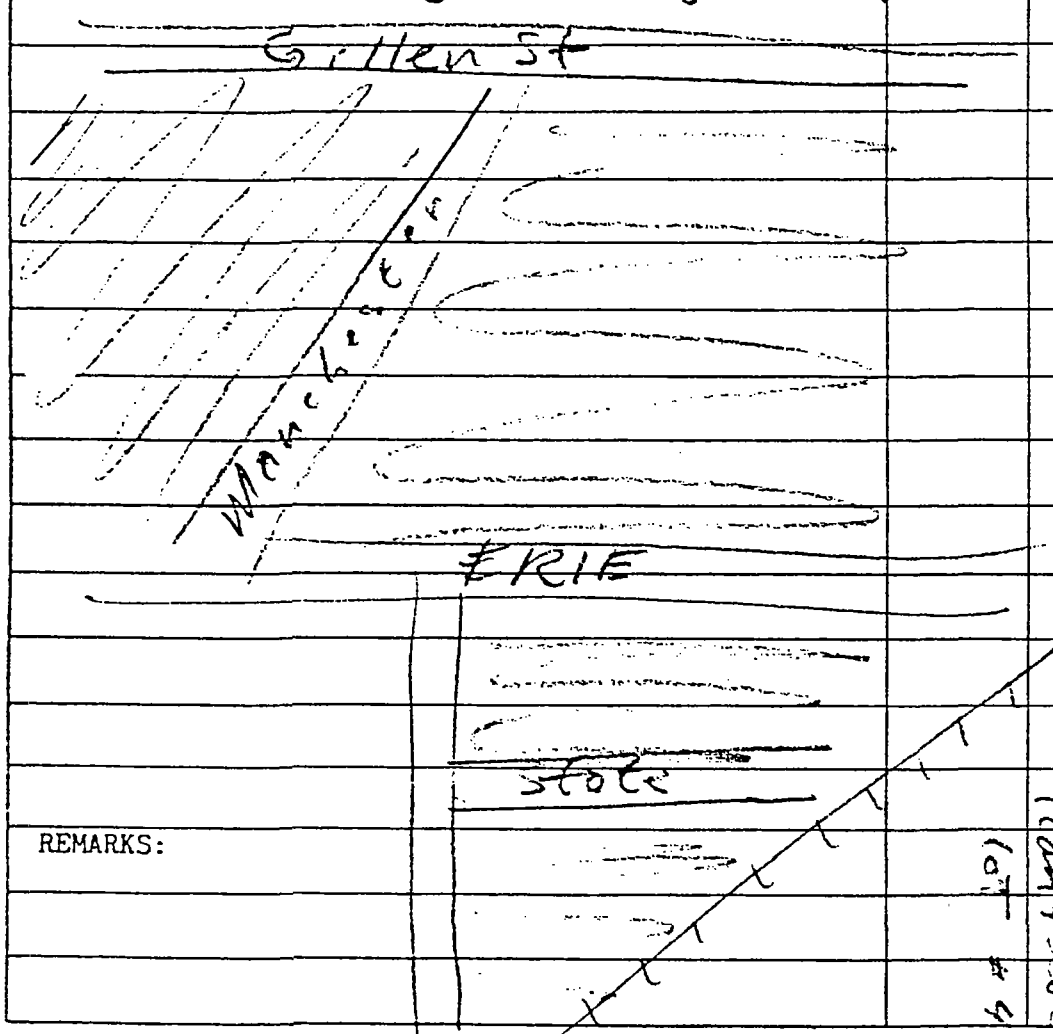
Date Dec 9 1961

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)		From	To
clay		0	36
sand	+8'	36	44
cemented sand	+6'	44	50
sand	+4'	50	54
limestone		54	96

Map showing extent of Board of Trade Add.



REMARKS:

FOR ADMINISTRATIVE USE ONLY
(Well Driller does not fill out)

COUNTY: Wabash TWP. 27N RGE. 6E SW ¼ SW ¼ SW ¼ SEC. 1

Topo. Map: Wabash 2E Loc. accepted w/o verification Yes ___ No ___

El. of grnd. surface at well: 780 Courthouse Loc. By ___ Date ___

Depth to bedrock: 54 Field Located By ___ Date ___

Well Log processed by: [illegible] Placed in Master Well Log File Date ___

Bedrock El. = 726

Check in Courthouse

Courthouse map

LSS 7/30/65 - N

(Can't locate lot #416?)

INSTRUCTIONS

This Water Well Record form is designed to record the most essential data concerning a water well. We request that you be as accurate as possible in recording this information as it may be of great assistance in the planning and development of new water supplies.

An accurate location of the well is equally as important as an accurate well log. Please include all information possible in the space provided for well location.

As specified in Chapter 6 of the Acts of 1959, a copy of this report must be submitted within thirty days after the completion of a well to the Division of Water Resources, Indiana Department of Conservation, 311 West Washington Street, Indianapolis, Indiana.

DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
609 STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46209
MElrose 3-6757

WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Wabash Civil Township: Noble

Congressional township: 27N Range: 6 E Number of section: 1

(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: 1/2 mile N-E of Wabash on west side of S.R. #13

Name of owner: MEMORIAL LAWN CEMETERY Address:

Name of Well Drilling Contractor: Wilbur Mouser Box 36 Roann, Indiana

ddress:

Name of Drilling Equipment Operator: LeVoy Early

INFORMATION ON THE WELL

Completed depth of well: 90' ft. Date well was completed: 5-24-65

Diameter of outside casing or drive pipe: 4" Length: 65'

Diameter of inside casing or liner: Length:

Diameter of Screen: Length: Slot size:

Type of Well: Drilled ☑ Gravel Pack ☐ Driven ☐ Other

Use of Well: For home ☐ For industry ☑ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☑ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 42 ft.

Bailer Test: Hours tested 1 Rate 15 g.p.m. Drawdown No ft. (Difference between static level and water level at end of test)

Pumping Test: Hours tested Rate g.p.m. Drawdown ft.

2

Signature Wilbur Mouser

Date 5-24-65

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To
Yellow Clay	0	15
Gravel x 6'	15	21
Yellow Clay	21	32
Sand x 33'	32	65
Limestone	65	
800 65 735		

REMARKS:

FOR ADMINISTRATIVE USE ONLY
(Well driller does not fill out)

COUNTY: [illegible] TWP. 27N RGE. 6E SW ¼ SE ¼ NW ¼ SEC. 1

Topo Map: [illegible] 7½'

Well log classified By [illegible] Date 1-66
Courthouse located By ____ Date ____
Field located By REL Date 8-12-69
Acc. w/o verification By ____ Date ____

____ Ft W of EL. Ground elevation 800-
____ Ft N of SL. Depth to bedrock 65
1400 Ft E of WL. Bedrock elevation 735
2100 Ft S of NL. Aquifer elevation ____

8

2

INSTRUCTIONS

This Water Well Record form is designed to record the most essential data concerning a water well. We request that you be as accurate as possible in recording this information as it may be of great assistance in the planning and development of new water supplies.

An accurate location of the well is equally as important as an accurate well log. Please include all information possible in the space provided for well location.

As specified in Chapter 6 of the Acts of 1959, a copy of this report must be submitted within thirty days after the completion of a well to the Division of Water Resources, Indiana Department of Conservation.

Cemetery

DIVISION OF WATER
DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA
STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46204
Telephone 633-5267 Area Code 317

State Form 35680

WATER WELL RECORD

WELL LOCATION

(Fill in completely - Refer to instruction sheet)

County in which well was drilled Wabash Civil Township Noble

Driving directions to the well location: Include County Road Names, Numbers, Subdivision Name, lot number, distinctive landmarks, etc.

½ mile South of 24 Bypass on Business route 24 & 13 East side.

NAME OF WELL OWNER and/or BUILDING CONTRACTOR

Well Owner Gaunt & Son, Inc. Address Box 325, Wabash, Indiana

Building Contractor _____ Address _____

Name of Well Drilling Contractor: Hall & Sons, Inc., 488 East Canal Street,

Address Peru, Indiana 46970

Name of Drilling Equipment Operator: Norwood Hall

WELL INFORMATION

Depth of well: 171' Date well was completed: November 13, 1980

Diameter of casing or drive pipe: 5" Total Length: 65'

Diameter of liner (if used): _____ Total Length: _____

Diameter of Screen: _____ Length: _____ Slot Size: _____

Type of Well: Drilled XXX Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For Home ☐ For Industry XXXX For Public Supply ☐ Stock ☐

Method of Drilling: Cable Tools ☐ Rotary XXXX Rev. Rotary ☐ Jet ☐ Bucket Rig ☐

Static water level in completed well (Distance from ground to water level) 50' feet

Bailer Test: Hours Tested _____ Rate _____ g.p.m. Drawdown _____ ft.

Pumping Test: Hours Tested _____ Rate _____ g.p.m. Drawdown _____ ft.

(Drawdown is the difference between static level and water level at end of test)

Air tested: 45 g.p.m.

Signature Betty J. Shiflett

Date November 20, 1980

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To
Clay	0	18
Gravel	18	25
Clay	25	40
Gravel	40	62
Limestone	62	170

FOR ADMINISTRATIVE USE ONLY
(Well driller does not fill out)

COUNTY Wabash TWP. 27N RGE. 6E NW ¼ NW ¼ NE SEC 1 Garrett & Sloane Funeral Home

Topo Map Wabash Ne

Field Located By [signature] Date 6/24/81

Courthouse Location By _____ Date _____

Location accepted w/o verification by _____

2700' Ft W of EL. Ground Elevation 795

_____ Ft N of SL. Depth to bedrock 62

_____ Ft E of WL. Bedrock elevation 733

150' Ft S of NL. Aquifer elevation _____ Lot Number _____

Subdivision Name

DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA

WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Wabash Civil Township: Noble

Congressional township: _____ Range: _____ Number of section: _____
(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: Approximately 300 ft East of Wabash County R E M C Building, north of Wabash on south side of State Road 24.

Name of owner: Wabash Asphalt Company Address: Manchester Avenue, Wabash, Indiana

Name of Well Drilling Contractor: Stremmel & Hill

Address: 105 West Kendall Street, LaFontaine, Indiana

Name of Drilling Equipment Operator: Cecil Sifers

INFORMATION ON THE WELL

Completed depth of well: 152 Ft. Date well was completed: 12/8/60

Diameter of outside casing or drive pipe: _____ Length: _____

Diameter of inside casing or liner: 4" Length: 70'

Diameter of Screen: _____ Length: _____ Slot size: _____

Type of Well: Drilled XXX Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☐ For industry XXX For public supply ☐ Stock ☐

Method of Drilling: Cable Tools XXX Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 48 Ft.

Bailer Test: Hours tested 1½ Rate 10 g.p.m. Drawdown 0 Ft. (Difference between static level and water level at end of test)

Pumping Test: Hours tested 4 Rate 6½ g.p.m. Drawdown 0 Ft.

4

Signature Stremmel & Hill R. T. Hill

Date December 8, 1960

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To
Fill and hardpan	0	25
Dry gravel. ~~15'~~	25	30
Blue clay	30	40
Blue clay and gravel mixed	40	75
Water bearing sand ~~1'~~	75	76
Mud and sand	76	82
Blue clay	82	98
Shell stone and gravel	98	106
Blue stone	106	140
Soft yellow stone	140	170
Blue water bearing stone	170	258'6"
REMARKS: Very good limestone well in this area.		

FOR ADMINISTRATIVE USE ONLY
(Well Driller does not fill out)

COUNTY: WABASH TWP. 27 RGE. 6E SW¼ NW¼ ¼ SEC. 1

Topo. Map: WABASH Loc. accepted w/o verification Yes No

El. of grnd. surface at well: 788 Courthouse Loc. By

Depth to bedrock: Field Located By Date

Well log processed by: Placed in Master Well Log File Date 8-3-62

3

INSTRUCTIONS

This Water Well Record form is designed to record the most essential data concerning a water well. We request that you be as accurate as possible in recording this information as it may be of great assistance in the planning and development of new water supplies.

An accurate location of the well is equally as important as an accurate well log. Please include all information possible in the space provided for well location.

As specified in Chapter 6 of the Acts of 1959, a copy of this report must be submitted within thirty days after the completion of a well to the Division of Water Resources, Indiana Department of Conservation, 311 West Washington Street, Indianapolis, Indiana.

DIVISION OF WATER RESOURCES
INDIANA DEPARTMENT OF CONSERVATION
311 WEST WASHINGTON STREET
INDIANAPOLIS, INDIANA

RECEIVED JUL 1961

WATER WELL RECORD

INFORMATION ON WELL LOCATION

County in which well was drilled: Wabash Civil Township: Noble

Congressional township: _____ Range: _____ Number of section: _____
(Fill in as completely as possible)

Describe in your own words the well location with respect to nearby towns, roads, streets or distinctive landmarks: Between Wabash County and State Highway garages on northwest side of U.S. 24 at north edge of Wabash.

Name of owner: Culligan Soft Water Co. Address: Wabash, Ind.

Name of Well Drilling Contractor: Stremmel & Hill

Address: LaFontaine, Ind.

ame of Drilling Equipment Operator: Cecil Siders

INFORMATION ON THE WELL

Completed depth of well: 258'6" Ft. Date well was completed: June 3, 1961

Diameter of outside casing or drive pipe: 8" Length: 106'

Diameter of inside casing or liner: N.A. Length: _____

Diameter of Screen: None Length: _____ Slot size: _____

Type of Well: Drilled ☒ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For home ☐ For industry ☒ For public supply ☐ Stock ☐

Method of Drilling: Cable Tools ☒ Rotary ☐ Rev. Rotary ☐ Jet ☐ Driven ☐

Static water level in completed well (Distance from ground to water level) 47' Ft.

Bailer Test: Hours tested 2 Rate 45 g.p.m. Drawdown None Ft. (Difference between static level and water level at end of test)

Pumping Test: Hours tested 5 Rate 263 g.p.m. Drawdown 20 Ft.

3

Signature Stremmel & Hill P.T.

Date July 1, 1961

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To
Fill and hardpan	0	25
Dry gravel. ~5'	25	30
Blue clay	30	40
Blue clay and gravel mixed	40	75
Water bearing sand ~1'	75	76
Mud and sand	76	82
Blue clay	82	98
Shell stone and gravel	98	106
Blue stone	106	140
Soft yellow stone	140	170
Blue water bearing stone	170	258'6"
REMARKS: Very good limestone well in this area.		

COUNTY: WABASH TWP. 27 RGE. 6E. SW¼ NW¼ ¼ SEC. 1

Topo. Map: WABASH Loc. accepted w/o verification Yes ✓ No

Fl. of grnd. surface at well: 788 Courthouse Loc. By Date

Depth to bedrock: Field Located By Date 8-3-62

Well log processed by: Placed in Master Well Log File Date

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WATER WELL RECORD

State Form 35630

Mail completed record within 30 days to:
DIVISION OF WATER
INDIANA DEPARTMENT OF NATURAL RESOURCES
605 STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46204
PHONE (317) 232-4160

WELL LOCATION
(Fill in completely)

County where drilled: Wabash

Civil Township: Noble

Driving directions to the well location (include county road names, numbers, subdivisions lot number with consideration to intersecting roads and trip origination) There is space for a map on reverse side.

1 mile South of IN 13 and US 24 on Road
to Wabash to Entrance to Spring Valley
Landfill turn East to 1151 Manchester AVE

OWNER — CONTRACTOR

Well owner: Cecil Dunn

Address: 1151 Manchester Ave.

Building contractor:

Address:

Drilling contractor: Moss Well Drilling, Inc

Address: Box 97 Galveston, IN

Equipment operator: Kent Moss and John Meister

Completion date: December 18, 1984

CONSTRUCTION DETAILS

Type of well: [X] Drilled [ ] Gravel pack [ ] Driven [ ] Other

Use of well: [X] Home [ ] Industry [ ] Test [ ] Irrigation [ ] Public supply [ ] Stock [ ] Other (specify)

Method of drilling: [ ] Cable tool [XX] Rotary [ ] Jet [ ] Rev. rotary [ ] Bucket rig

Casing length: 78½ feet	Diameter: 5" Plastic inches
Screen length: feet	Diameter: inches
Screen slot size:	

Depth of pump setting:

Type of pump: [ ] Submersible [ ] Shallow-well jet [ ] Deep-well jet [ ] Other (specify)

WELL CAPACITY TEST

(Check one) [ ] Bailing [ ] Pumping Air

Test rate: 75 gpm hrs	Drawdown: feet

Static level (depth to water): 20 feet

Water quality (clear, cloudy, odor, etc.):

WELL LOG

Formations: type of material	From	To
Sand & Gravel	0 ft.	15 ft.
Gray Clay	15	30
Gravel	30	42
Sand	42	58
Gravel	58	61
Sand & Gravel	61	75
~~XXXXXXXX~~ Limestone	75	85

(Additional space for Well Log on reverse side)

Signed: Dawn Moss

Date: XX 12/29/84

FOR ADMINISTRATIVE USE ONLY
(Well driller does not fill out)

County	Twp.	Rge.	¼ ¼	Sec.

Topo map [illegible]	Ft. W of EL	Ground elevation	Subdivision name
Field located By Date	Ft. N of SL	Depth to bedrock	Lot no.
Courthouse location By Date	Ft. E of WL	Bedrock elevation	
Location accepted w/o verification by	Ft. S of NL	Aquifer elevation	

WELL LOG
(Continued from front side)

Formations: type of material	From	To
	ft	ft

SKETCH SHOWING LOCATION
Locate with reference to highways, intersecting county roads, and distinctive landmarks.

N

W E

S