SCREENING SITE INSPECTION REPORT
FOR
FORMER ELYSIAN CITY DUMP
ELYSIAN, MINNESOTA
U.S. EPA ID: MND981528177
SS ID: NONE
TDD: F05-8710-007
PAN: FMN0202SB

EPA Region 5 Records Ctr.
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SIGNATURE PAGE
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1. INTRODUCTION

Ecology and Environment, Inc., Field Investigation Team (FIT) was tasked by the United States Environmental Protection Agency (U.S. EPA) to conduct a screening site inspection (SSI) of the Former Elysian City Dump site under contract number 68-01-7347.

The site was initially discovered by the Minnesota Pollution Control Agency (MPCA) during summer 1980. The site was discovered during an inventory conducted by MPCA in accordance with Criteria for Classification of Solid Waste Disposal Facilities and Practices (Federal Register, September 13, 1979), promulgated under the authority granted by Section 4004(a) of the Resource Conservation and Recovery Act (RCRA) of 1976 (Public Law 94-580). The site was evaluated in the form of a preliminary assessment (PA) that was submitted to U.S. EPA. The PA was prepared by Shawn Ruotsinoja of MPCA and is dated January 20, 1987.

FIT prepared an SSI work plan for the Former Elysian City Dump site under technical directive document (TDD) F05-8710-007, issued on October 6, 1987. The SSI of the Former Elysian City Dump site was conducted on August 16 through 18, 1988, under TDD F05-8710-007, issued on August 1, 1988.

The FIT SSI included an interview with site representatives, a reconnaissance inspection of the site, and the collection of 13 soil/sediment samples and 5 residential well samples.

The purposes of an SSI have been stated by U.S. EPA in a directive outlining Pre-Remedial Program strategies. The directive states:

> All sites will receive a screening SI to 1) collect additional data beyond the PA to enable a more refined preliminary HRS [Hazard Ranking System] score, 2) establish priorities among sites most likely to qualify for the NPL [National Priorities List], and 3) identify the most critical data requirements for the listing SI step. A screening SI will not have rigorous data quality objectives (DQOs). Based on the refined preliminary HRS score and other technical judgement factors, the site 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. First, 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 to support remedial investigation work plan development. Only sites that appear to score high enough for listing and that have not been deferred to another authority will receive a listing SI. (U.S. EPA 1988)

U.S. EPA Region V has also instructed FIT to identify sites during the SSI that may require removal action to remediate an immediate human health or environmental threat.

2. SITE BACKGROUND

2.1 INTRODUCTION

This section includes information obtained from SSI work plan preparation and the site representative interview.

2.2 SITE DESCRIPTION

The Former Elysian City Dump site is an inactive open dump which had accepted local municipal and industrial waste, including waste from a local hatchery, creamery, corn dealer, and from local garages. Allegations have been made that hazardous substances were deposited at the dump. The substances allegedly dumped at the site include Agent Orange, mercury dust, and pesticides (Pepin Dayton Herman Graham & Getts 1986). Much of the history of the Former Elysian City Dump site is unknown because dumping at the property began sometime in the 1920s and was unregulated. Therefore, no documentation of wastes deposited at the site or operating procedures exists (Morsching 1988; Pepin Dayton Herman Graham & Getts 1986).

The dump site is located on the bed of Lake Tustin, but the exact boundaries of the site are unknown. Periodically, the site is covered or partially covered with the waters of Lake Tustin. The degree to which the site is underwater is controlled by natural variations in water levels which are influenced by changes in climate, seasons, and land usage. The land in the vicinity of the Former Elysian City Dump site is characterized by many small lakes, swamps, and marshlands. The property just south of the dump is a wildlife management area/wetland

managed by the Minnesota Department of Natural Resources (MDNR) (Morsching 1988).

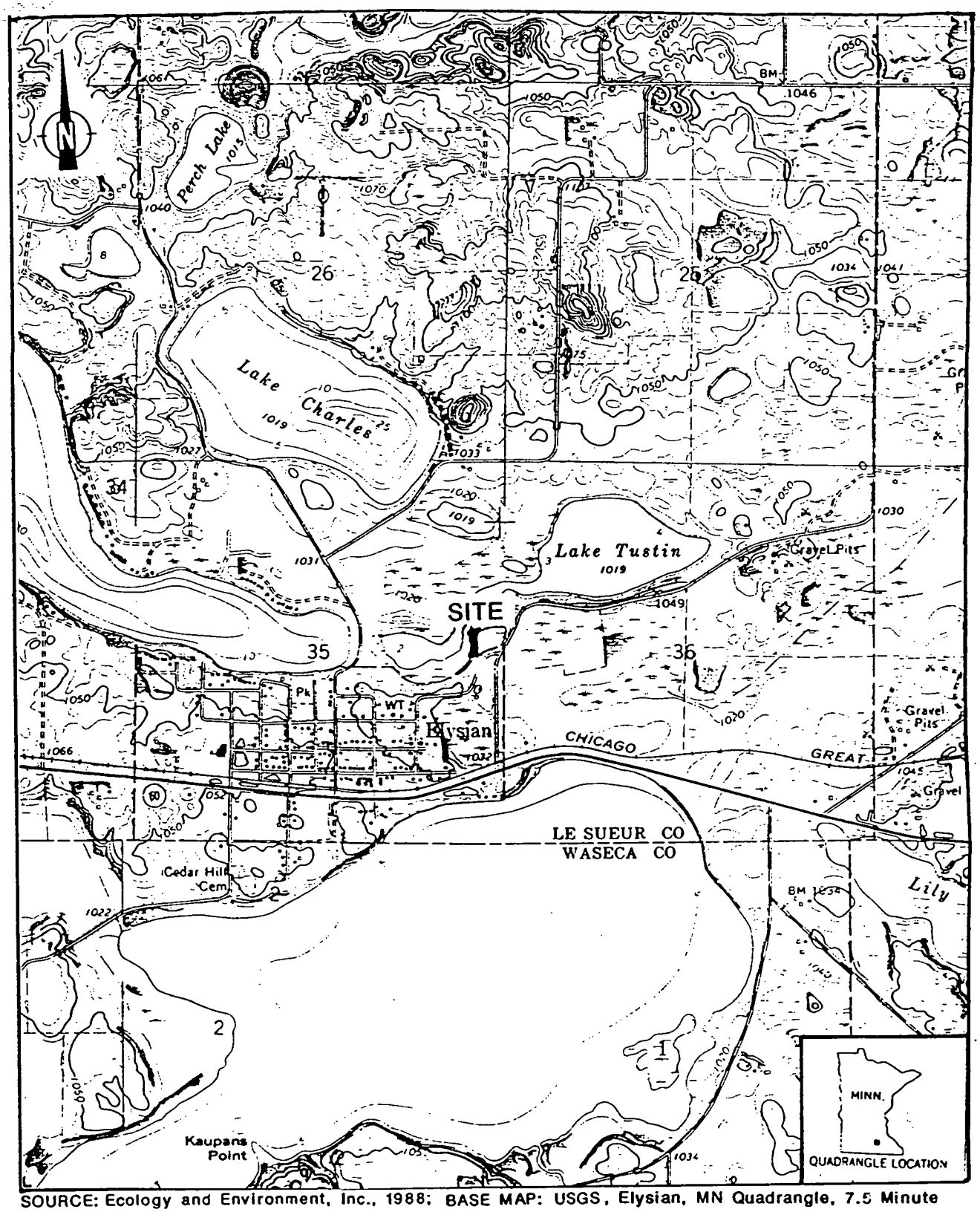
The Former Elysian City Dump site consists of approximately 1.5 acres. The site is located on the northeast boundary of the city of Elysian, in Le Sueur County, Minnesota (SE1/4NE1/4 sec. 35, T.109N., R.24W.) (see Figure 2-1). A 4-mile radius map of the Former Elysian City Dump site is located in Appendix A. The United States Geological Survey (USGS) topographic maps used to prepare Figure 2-1 and the 4-mile radius map in Appendix A were published in 1966. Since that year, natural variations in lake water levels have altered some of the lake and land characteristics in the area of the site. Current land characteristics as observed at the time of the SSI are illustrated in Figure 3-1.

2.3 SITE HISTORY

The Former Elysian City Dump site is currently owned and operated by Mr. Vern Morsching, who purchased the property in September 1951. The land Morsching purchased is known as City Block 1 and includes the dump site, Morsching's residence, and Morsching's gravel excavating operation. Morsching purchased the property from a man named Griffith who has since died (Morsching 1988).

In 1953, after Morsching purchased the property, the City of Elysian began operating the dump in agreement with Morsching. During this period, Jay Cline was head of operations at the dump. The city ceased operating the dump in the early 1970s. The site has been inactive since that time.

A Mr. Perry Simmons applied to MPCA for a permit to operate a sanitary landfill on the property, which was the Former Elysian City Dump site. The permit application was dated November 17, 1972. A hydrogeologic investigation was prepared by Gerald M. Sunde, Consulting Engineer, to study the potential effects of the proposed landfill. The study was submitted in support of the proposed landfill. The study is dated October 1972. The landfill permit application was denied by MPCA in a letter dated March 29, 1973. The reasons specified for the denial



SOURCE: Ecology and Environment, Inc., 1988; BASE MAP: USGS, Elysian, MN Quadrangle, 7.5 Minute Series, 1966.

SCALE
0 0.5 1 MILE

FIGURE 2-1 SITE LOCATION

were: the proposed fill area was located less than 1,000 feet from Lake Tustin, less than 1,000 feet from Lake Elysian, and less than 1 mile from the Elysian municipal well (Morsching 1988; MPCA 1973; Sunde 1972).

Prior to 1951, information regarding the ownership/operations of the Former Elysian City Dump site is unclear. Cline may have operated the dump before the City of Elysian took over operations. It is not known exactly when dumping originally began at the site, but local residents estimate that it was in the 1920s (Morsching 1988; Pepin Dayton Herman Graham & Getts 1986, 1987).

A mini-piezometer study of the site area was conducted by MDNR on May 27, 1986, to determine shallow groundwater flow direction (MPCA 1986). A reconnaissance inspection of Lake Tustin was performed by MPCA on June 9, 1986.

In May 1986, a committee was formed by the Le Sueur County District Court to resolve technical issues concerning the installation of an outlet culvert for Lake Francis into Lake Tustin. The committee is called the Lake Francis-Tetonka oversight committee and is composed of representatives from MDNR, MPCA, the Le Sueur County Board, the Lake Francis Association, and the Lake Tetonka Association. The oversight committee is concerned that the installation of culverts between Lake Francis and Lake Tustin will potentially mobilize possible contaminants in the former Elysian City Dump and jeopardize the water quality of another downstream lake, Lake Tetonka. The chairman of the oversight committee is Steven Colvin (Colvin 1987; Lake Francis-Tetonka Oversight Committee 1986).

3. SCREENING SITE INSPECTION PROCEDURES AND FIELD OBSERVATIONS

3.1 INTRODUCTION

This section outlines procedures and observations of the SSI of the Former Elysian City Dump site. Individual subsections address the site representative interview, reconnaissance inspection, and sampling procedures. Rationales for specific FIT activities are also provided. The SSI was conducted in accordance with the U.S. EPA-approved work plan.

The U.S. EPA Potential Hazardous Waste Site Inspection Report (Form 2070-13) for the Former Elysian City Dump site is provided in Appendix B. The U.S. EPA Immediate Removal Action Checksheet for the Former Elysian City Dump site is provided in Appendix C.

3.2 SITE REPRESENTATIVE INTERVIEW

Melanie J. Nesterenko, FIT team leader, conducted an interview with Vern Morsching, site owner, and with Pat Nusbaum, city clerk for the City of Elysian. The interview was conducted in the coffee shop of the building which temporarily houses the city offices. It was conducted on August 8, 1988, at 10:30 a.m. Also present at the interview was Phil Smith of FIT. The interview was conducted to gather information which would aid FIT in conducting SSI activities.

3.3 RECONNAISSANCE INSPECTION

On August 8, 1988, following the site representative interview, FIT conducted a reconnaissance inspection of the Former Elysian City Dump site and surrounding area in accordance with Ecology and Environment,

Inc. (E & E), health and safety guidelines. The reconnaissance inspection included a walk-through of the site to determine appropriate health and safety requirements for conducting on-site activities and to make observations to aid in characterizing the site. FIT also determined exact sampling locations during the reconnaissance inspection. Vern Morsching accompanied FIT during part of the reconnaissance inspection.

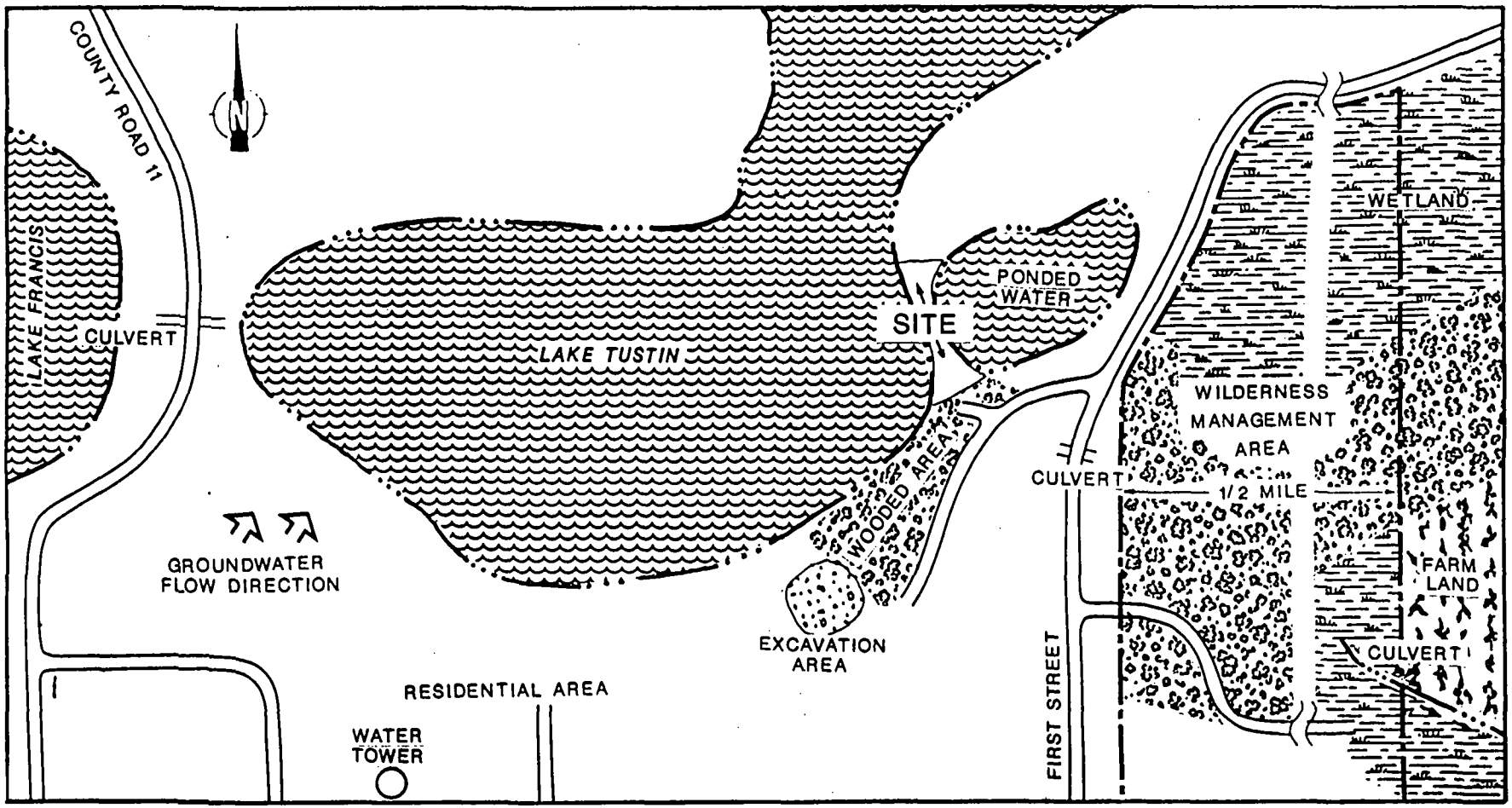
Reconnaissance Inspection Observations. The Former Elysian City Dump site is located in an area of abundant small lakes, swamps, and marshes (see Figure 3-1). It is located on the northeast perimeter of the city of Elysian. The dump is located on the shoreline of Lake Tustin.

The site encompasses approximately 1.5 acres. The exact boundaries of the dump are not known, but during the time of the reconnaissance inspection the majority of the dump was probably above water and visible, due to the extremely dry summer months that preceded the inspection. The exposed portion of the dump was overgrown with heavy vegetation.

Access to the site is unrestricted and the site is not fenced. A dirt access road is located off of First Street. The site is located beyond a wooded area past this dirt road.

East of the dump is an area of ponded water. Tires and scrap metal are visible in this ponded area. Farther east is the wildlife area managed by MDNR, which is indicated as a wetland on a USGS topographic map of the area (USGS 1966). FIT observed two culverts installed between the Morsching property and the wildlife management area. The wildlife area is approximately 150 acres. On the eastern boundary of this area is another culvert that empties into a ditch. Water in this ditch flows northeast to Lake Tetonka.

The part of Lake Tustin nearest the site is located west-northwest of the exposed portion of the dump. Residences are built around this small part of the lake. Farther west of the dump, Lake Francis is visible. County Road 11 separates Lake Francis and Lake Tustin. A culvert runs under County Road 11 between the two lakes.



SOURCE: Ecology & Environment, Inc., 1989.

SCALE
0 200 400 600 800 1,000 FEET

FIGURE 3-1. SITE FEATURES

Southwest of the dump is a wooded incline. Approximately 200 feet southwest of the dump is Morsching's gravel excavation area. Parts of this area have been excavated to depths of 35 feet. Farther southwest of the excavated area, surface topography rises approximately 50 feet. Morsching's residence is located at the top of this incline. Photographs of the Former Elysian City Dump site are provided in Appendix D.

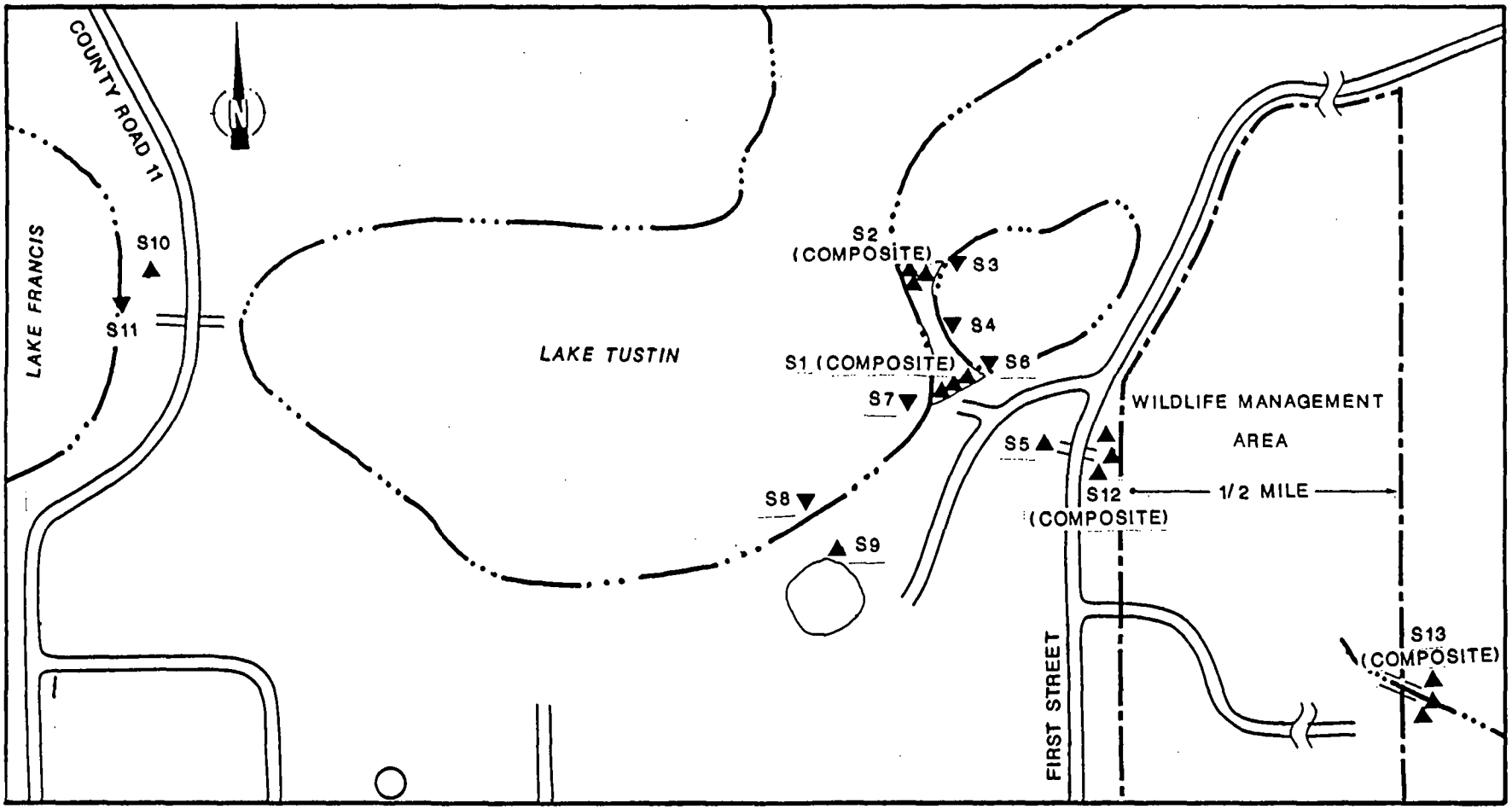
3.4 SAMPLING PROCEDURES

Samples were collected by FIT at locations selected during the reconnaissance inspection to determine levels of U.S. EPA Target Compound List (TCL) compounds and U.S. EPA Target Analyte List (TAL) analytes present at the site. All samples collected were also analyzed for 2,4-D and 2,4,5-T; these substances are breakdown products and constituents of Agent Orange, one of the hazardous substances allegedly deposited at the Former Elysian City Dump site. The TCL and TAL are provided in Appendix E.

On August 17, 1988, FIT collected 13 soil/sediment samples. On August 18, 1988, FIT collected samples from three residential wells and two municipal wells. Site representatives declined to accept a portion of FIT-collected samples.

Soil/Sediment Sampling Procedures. Soil and sediment samples (indicated as S1, S2, S3, S4, S5, S6, S7, S8, S9, S12, and S13) were collected from the area of the Former Elysian City Dump site to determine waste characteristics of the site. Samples were also collected along surface runoff migration routes to determine whether potential TCL compounds, TAL analytes, 2,4-D, or 2,4,5-T had migrated off-site and into the wildlife management area. One potential background soil sample (S10) and one potential background sediment sample (S11) were also collected.

Surface soil samples S1 and S2 were collected as composite samples from the portion of the dump which was exposed (see Figure 3-2 for soil/sediment sampling locations). Both samples were collected as composites of three locations. Surface soil sample S1 was collected from three points along the south portion of the site. Surface soil sample S2 was collected from three locations along the north portion of the site.



SOURCE: Ecology & Environment, Inc., 1989.

SCALE

0 200 400 600 800 1,000 FEET

LEGEND

▲ SOIL SAMPLE

▼ SEDIMENT SAMPLE

FIGURE 3-2 SOIL SAMPLING LOCATIONS

Composite sampling points were chosen in areas of stressed or seemingly stressed vegetation. Samples S1 and S2 were collected to determine whether TCL compounds, TAL analytes, 2,4-D, or 2,4,5-T were present at the site.

Sediment samples S3, S4, and S6 were collected along the perimeter of the dump in the area of ponded water located east of the exposed dump site. Samples S3, S4, and S6 were collected to determine waste characteristics of the site, and to establish migration routes of potential contaminants to off-site areas through surface water. The presence or absence of TCL compounds or TAL analytes in these samples would also help to determine site boundaries.

Surface sediment samples S7, S8, and S9 were collected in or near Lake Tustin to determine whether TCL compounds, TAL analytes, 2,4-D, or 2,4,5-T possibly present on-site had migrated off-site and into Lake Tustin.

Surface soil sample S5 was collected from the property of City Block 1 near a culvert which leads from this property, under First Street, to the wildlife management area. This area was dry during the FIT site inspection, but has been flooded and marshy in past years (Morsching 1988). This sample was collected to determine whether TCL compounds or TAL analytes were migrating toward the wildlife management area.

Surface soil sample S12 was collected from the wildlife management area past the culvert which leads from City Block 1. Surface soil sample S12 was collected as a composite sample from three locations. It was collected to determine whether potential contaminants had migrated into the wildlife management area.

Surface soil sample S13 was collected from the ditch at the east side of the wildlife management area which leads to Lake Tetonka. Sample S13 was collected as a composite sample from three locations to determine whether potential contaminants had migrated through the wildlife management area toward Lake Tetonka.

Surface soil sample S10 and surface sediment sample S11 were collected across the culvert which leads from Lake Francis to Lake Tustin. Samples S10 and S11 were collected as potential background

samples to determine the representative chemical content of the soil and sediment in the area surrounding the site.

Surface soil and sediment samples S1, S2, S5, S6, S7, S8, S9, S10, S11, S12, and S13 were obtained using garden trowels to dig to an approximate depth of 6 inches. Soil or sediment from the approximate 6-inch depth was transferred to stainless steel bowls with the trowels. After debris had been removed from the sample material, the soil or sediment was transferred to sample bottles using trowels (E & E 1987). Subsurface sediment samples S3 and S4 were obtained using a posthole digger. Sample S3 was collected at an approximate depth of 3.5 feet, and S4 was collected at an approximate depth of 2.5 feet. Sediment was transferred from these depths to stainless steel bowls using the posthole digger. After debris was removed from the sample material, the sediment was transferred to sample bottles using trowels (E & E 1987).

Standard E & E decontamination procedures were adhered to during the collection of all soil and sediment samples. The procedures included scrubbing all equipment (e.g., trowels, bowls, and posthole digger) with a solution of Alconox detergent and distilled water and triple-rinsing the equipment with distilled water before the collection of each sample (E & E 1987). All soil and sediment samples were packaged and shipped in accordance with U.S. EPA-required procedures.

As directed by U.S. EPA, all soil and sediment samples were analyzed for TCL compounds by Hazleton Laboratories America, Incorporated, of Madison, Wisconsin, and for TAL analytes by Northern Labs and Engineering of Valparaiso, Indiana. Samples were analyzed for 2,4-D and 2,4,5-T by Gulf South Research Institute of New Orleans, Louisiana.

Residential Well Sampling Procedures. Residential well samples (indicated as RW1, RW2, RW3, RW4, RW5, and RW6) were collected to determine whether TCL compounds, TAL analytes, and/or 2,4-D and 2,4,5-T had migrated from the site via groundwater.

The residential well sampling locations were chosen because of their proximity to the site. Sample RW1 and sample RW2 were collected from the City of Elysian municipal wells. The wells are located approximately 550 feet west-southwest of the site (see Figure 3-3 for

Non-Responsive

[redacted]

SOURCE: Ecology and Environment, Inc., 1988; BASE MAP: USGS, Elysian, MN Quadrangle, 7.5 Minute Series, 1966.

SCALE

0 0.5 1 MILE

FIGURE 3-3 RESIDENTIAL WELL SAMPLING LOCATIONS

residential well sampling locations). Sample RW3 was collected at a residence located approximately 1,320 feet west of the site. Sample RW4 was collected at a residence located approximately 2,640 feet due north of the site. Sample RW5 was collected at a residence located approximately 7,000 feet northeast of the site. A duplicate residential well sample was also collected in accordance with U.S. EPA quality assurance/quality control (QA/QC) requirements. The duplicate sample was collected at location RW2 and is indicated as RW6 (see Table 3-1 for addresses of residential well sampling locations).

All residential well samples were obtained from outlets that bypassed water treatment systems and/or storage tanks. The water was allowed to discharge from the outlets for at least 15 minutes before samples were collected to ensure that the sample sources had been purged of standing water (E & E 1987). All residential well samples were packaged and shipped in accordance with U.S. EPA-required procedures.

As directed by U.S. EPA, residential well samples were analyzed for TCL compounds by Aquatec, Inc., of South Burlington, Vermont, and for TAL analytes by Chemtech Consulting Group of New York, New York. Samples were analyzed for 2,4-D and 2,4,5-T by Gulf South Research Institute of New Orleans, Louisiana.

Table 3-1

ADDRESSES OF RESIDENTIAL WELL SAMPLING LOCATIONS

Sample	Address
RW1	Non-Responsive [redacted]
RW2 and Duplicate (RW6)	
RW3	
RW4	
RW5	

Source: Ecology and Environment, Inc. 1989

4. ANALYTICAL RESULTS

4.1 INTRODUCTION

This section includes results of chemical analysis of FIT-collected soil/sediment and residential well samples for TCL compounds, TAL analytes, 2,4-D, and 2,4,5-T.

4.2 RESULTS OF CHEMICAL ANALYSIS OF FIT-COLLECTED SAMPLES

Soil/Sediment Sample Analysis Results. Chemical analysis of FIT-collected soil and sediment samples revealed substances from the following groups of TCL compounds and TAL analytes: halogenated hydrocarbons, aromatics, polyaromatic hydrocarbons, pesticides, metals, common laboratory artifacts, and common soil constituents. Neither 2,4-D nor 2,4,5-T was detected in soil or sediment samples collected by FIT (see Table 4-1 for complete soil and sediment sample chemical analysis results).

Residential Well Sample Analysis Results. Chemical analysis of FIT-collected residential well samples revealed substances from the following groups of TCL compounds and TAL analytes: metals, common laboratory artifacts, and common soil constituents. Neither 2,4-D nor 2,4,5-T was detected in residential well samples collected by FIT (see Table 4-2 for complete residential well sample chemical analysis results).

Laboratory analytical data of soil/sediment sample analysis and residential well sample analysis are provided in Appendix E. U.S. EPA Contract Laboratory Program (CLP) quantitation/detection limits are also provided in Appendix E.

Table 4-1
RESULTS OF CHEMICAL ANALYSIS OF
FIT-COLLECTED SOIL/SEDIMENT SAMPLES

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
Date	8/17/88	8/17/88	8/17/88	8/17/88	8/17/88	8/17/88	8/17/88	8/17/88	8/17/88	8/17/88	8/17/88	8/17/88
Time	1100	1115	1100	1115	1200	1220	1245	1315	1330	1445	1500	1345
Organic Traffic Report Number	EAV88	EAV89	EAV90	EAV91	EAV92	EAV93	EAV94	EAV95	EAV96	EAV97	EAV98	EAV99
Inorganic Traffic Report Number	MEBR81	MEBR82	MEBR83	MEBR84	MEBR85	MEBR86	MEBR87	MEBR88	MEBR89	MEBR90	MEBR91	MEBR92
Compound Detected (values in µg/kg)												
Volatile Organics												
chloromethane	--	--	--	--	--	--	31J	--	--	--	--	--
carbon disulfide	--	--	--	--	--	--	12J	46	--	--	--	--
1,2-dichloroethene (total)	--	--	--	2J	--	--	--	--	--	--	--	--
chloroform	--	--	--	--	--	--	--	--	--	--	--	--
2-butanone (MEK)	--	--	--	--	--	--	--	--	--	--	58B	--
benzene	--	--	3J	--	--	--	--	--	--	--	--	--
4-methyl-2-pentanone	--	--	15J	--	--	--	--	--	--	--	--	--
toluene	17B	--	--	--	3J	2J	6J	4J	11J	7J	18J	4J
ethylbenzene	--	--	2J	--	--	--	--	--	--	--	--	--
xylenes (total)	--	--	24X	--	--	--	--	--	--	--	--	--
Semivolatile Organics												
phenanthrene	28J	95J	--	26J	--	--	990J	--	--	39J	--	--
anthracene	--	--	--	--	--	--	200J	--	--	--	--	--
fluoranthene	61J	110J	--	40J	48J	59J	1,600J	--	--	68J	--	34J
pyrene	61J	110J	--	35J	56J	68J	1,500J	--	--	69J	--	40J
benzo[a]anthracene	29J	60J	--	--	--	--	580J	--	--	32J	--	--
chrysene	32J	59J	--	--	--	28J	610J	--	--	34J	--	--
benzo[b]fluoranthene	35J	64J	--	--	--	--	580J	--	--	21J	--	--
benzo[k]fluoranthene	31J	62J	--	--	--	--	630J	--	--	34J	--	--
benzo[a]pyrene	26J	56J	--	--	--	--	660J	--	--	33J	--	--
Pesticides/PCBs												
4,4'-DDD	--	--	1,100	--	--	--	--	--	--	--	--	--
4,4'-DDT	--	40	4,600	--	--	--	--	--	--	--	--	--

Table 4-1 Cont.

Sample Collection Information and Parameters	Sample Number S13
Date	8/17/88
Time	1400
Organic Traffic Report Number	EBW00
Inorganic Traffic Report Number	MEBR93
Compound Detected (values in µg/kg)	
Volatile Organics	
chloromethane	--
carbon disulfide	--
1,2-dichloroethene (total)	--
chloroform	--
2-butanone (MEK)	103
benzene	--
4-methyl-2-pentanone	--
toluene	--
ethylbenzene	--
xylenes (total)	--
Semivolatile Organics	
phenanthrene	--
anthracene	--
fluoranthene	--
pyrene	323
benzo[a]anthracene	--
chrysene	--
benzo[b]fluoranthene	--
benzo[k]fluoranthene	--
benzo[a]pyrene	--
Pesticides/PCBs	
4,4'-DDD	--
4,4'-DDT	--

Table 4-1 Cont.

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
Analyte Detected (values in mg/kg)												
aluminum	4,670 *	2,090 *	15,000 *	3,200 *	5,150 *	3,690 *	5,750 *	4,560 *	4,010 *	1,210 *	2,760 *	6,770 *
arsenic	4.2 *	2.6 *			5.4 *	4.2 *						7.8 *
barium	158	61	514	70	157	99	[152]	[98]	[110]	[32]	216	178
cadmium	4.1	2.1	9.0	2.0	3.2	2.7	[4.3]	[7.8]	[1.9]	[0.8]		5.1
calcium	38,300	30,700	45,600	17,200	29,300	22,900	31,000	9,840	10,600	11,500	82,700	47,600
chromium	11	4.2	160	6.3	8.3	8.3	[9.2]	11	8.4	3.3	[10]	13
cobalt	[5.5]	[3.7]	[13]	[3.7]	[5.8]	[4.7]	[4.3]	[4.6]	[3.3]	[1.1]	[3.5]	[8.2]
copper	30 *	6.8 *	[19]*	8.6 *	12 *	14 *	30 *	[11] *	[10] *	[3.6] *	[9.9] *	16 *
iron	14,000	6,820	32,500	8,110	12,800	10,100	9,120	5,750	5,760	2,380	6,780	18,000
lead	218 N	30 N	90 N	27 N	49 N	60 N	217 N	43 N	27 N	19 N	55 N	57 N
magnesium	14,500 *	10,400 *	20,800 *	5,690 *	7,150 *	5,570 *	7,250 *	[2,280] *	3,740 *	4,570 *	11,400 *	12,400 *
manganese	552	923	349	229	1,280	267	365	212	319	95	1,120	1,240
mercury	0.36				0.26	0.24	0.76	0.46	0.52	0.24		
nickel	16	9.6	[34]	[8.9]	[12]	[14]	[15]	[8.2]	[9.2]	[3.8]	[7.6]	19
potassium	1,380	[509]	7,250	[903]	[652]	[866]	[1,580]	[934]	[1,020]	[263]	[771]	[1,200]
silver	[0.7]	[0.7]								[0.4]		[0.8]
sodium	[179]E	[186]E	[605]E	[164]E	[255]E	[288]E	[680]E	[487]E	[365]E	[118]E	[486]E	[338]E
vanadium	14	[6.4]	[35]	[10]	[16]	[14]	[18]	[15]	[13]	[3.4]		22
zinc	238 N	44 N	946 N	54 N	193 N	178 N	953 N	74 N	68 N	31 N	76 N	436 N

-- Not detected.

Table 4-1 Cont.

Sample Collection Information and Parameters	Sample Number S13
Analyte Detected (values in mg/kg)	
aluminum	3,790*
arsenic	8.4*
barium	228
cadmium	4.2
calcium	16,900
chromium	6.2
cobalt	[4.3]
copper	[6.4]*
iron	18,100
lead	9.6N
magnesium	6,590*
manganese	1,160
mercury	--
nickel	[9.6]
potassium	[604]
silver	--
sodium	[158]E
vanadium	[13]
zinc	161N

-- Not detected

Table 4-1 (Cont.)

COMPOUND QUALIFIERS	DEFINITION	INTERPRETATION
J	Indicates an estimated value.	Compound value may be semiquantitative.
B	This flag is used when the compound is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.	Compound value may be semiquantitative if it is <5x the blank concentration (<10x the blank concentrations for common laboratory artifacts: phthalates, methylene chloride, acetone, toluene, 2-butanone).
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.	Alerts data user to a possible change in the CRQL. Data is quantitative.
X	Matrix interference.	Compound may or may not be present.

ANALYTE QUALIFIERS	DEFINITION	INTERPRETATION
E	Estimated or not reported due to interference. See laboratory narrative.	Analyte or element was not detected, or value may be semiquantitative.
N	Spike recoveries outside QC protocols, which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semi-quantitative.
*	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be quantitative or semiquantitative.
[ ]	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.

Source: Ecology and Environment, Inc. 1989.

Table 4-2
RESULTS OF CHEMICAL ANALYSIS OF
FIT-COLLECTED RESIDENTIAL WELL SAMPLES

Sample Collection Information and Parameters	Sample Number RW1	RW2	RW3	RW4	RW5	RW6	Blank
Date	8/18/88	8/18/88	8/18/88	8/188/88	8/18/88	8/18/88	8/18/88
Time	1005	1015	1045	1110	1130	1015	1100
Organic Traffic Report Number	EBW01	EBW02	EBW03	EBW04	EBW05	EBW06	EBW07
Inorganic Traffic Report Number	MEBR94	MEBR95	MEBR96	MEBR97	MEBR98	MEBR99	MEAN00
Temperature (°C)	12	11	18	15	15	11	15
Specific Conductivity (µmhos)	5	5	6	5	5	5	0
pH	8.9	7.94	7.36	7.62	7.43	7.94	7
Compound Detected (values in µg/L)							
Volatile Organics							
1,1,1-trichloroethane	--	--	--	--	--	--	1.0J
Semivolatile Organics							
phenol	--	--	--	--	0.7J	--	--
Analyte Detected (values in µg/L)							
arsenic	13s	7.8	--	12s	--	--	--
barium	286	292	255	260	349	295	--
cadmium	--	--	--	--	11	--	--
calcium	69,100	76,400	85,500	76,400	80,600	76,500	3,310
copper	94	74	111	128	78	121	95
iron	1,760N	1,070N	139N	3,820N	6,470N	1,040N	--
lead	5.8s*	4.3s*	3.6s*	27s*	30s*	3.5s*	5.0s*
magnesium	21,400	24,500	34,400	27,100	26,400	25,000	[752]
manganese	120NE	63NE	740NE	171NE	186NE	72NE	--
mercury	0.7*	--	--	--	--	--	--
potassium	2,100	2,000	[1,500]	[1,300]	[1,600]	[1,900]	--
silver	--	--	5.1	--	--	--	--
sodium	8,950	6,250	5,130	5,290	6,610	8,430	1,980
thallium	--	--	--	--	--	--	2.2
zinc	47N	--	32N	47N	8,060N	--	--

-- Not detected.

COMPOUND QUALIFIERS	DEFINITION	INTERPRETATION
J	Indicates an estimated value.	Compound value may be semiquantitative.

ANALYTE QUALIFIERS	DEFINITION	INTERPRETATION
E	Estimated or not reported due to interference. See laboratory narrative.	Analyte or element was not detected, or value may be semiquantitative.
S	Analysis by Method of Standard Additions.	Value is quantitative.
N	Spike recoveries outside QC protocols, which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semi-quantitative.
*	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be quantitative or semiquantitative.
[ ]	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.

Source: Ecology and Environment, Inc. 1989.

5. DISCUSSION OF MIGRATION PATHWAYS

5.1 INTRODUCTION

This section discusses data and information that apply to potential migration pathways and targets of TCL compounds and TAL analytes that may be attributable to the Former Elysian City Dump site.

The five migration pathways of concern discussed are groundwater, surface water, air, fire and explosion, and direct contact.

5.2 GROUNDWATER

TCL compounds detected in groundwater in the vicinity of the site have been identified as common laboratory artifacts. TAL analytes have also been detected in groundwater in the vicinity of the Former Elysian City Dump site. No groundwater monitoring system exists at the site and, due to the locations of available residential wells sampled, no statement of attribution can be made.

There does exist a potential for TCL compounds and TAL analytes to migrate from the site to groundwater in the vicinity of the site. This potential is based on the following information.

- TCL compounds and TAL analytes have been detected at the site.

- Waste at the site is not contained; there is no leachate collection system, and no liner at the site. No impervious cover is present on the dump (Morsching 1988).

The potential for TCL compounds and TAL analytes to migrate from the site to groundwater in the vicinity of the site is also based on the following geological information. Three aquifers are used to supply drinking water in the vicinity of the site: a shallow sand and gravel aquifer, the deeper St. Peter sandstone, at approximately 330 feet below ground surface, and the Jordan sandstone, at approximately 595 feet below ground surface (Sunde 1972). These aquifers have distinct characteristics.

Residential well samples identified as RW3, RW4, and RW5 were obtained from private residential wells drawing water from the shallow sand and gravel aquifer at depths between 20 and 40 feet below ground surface. The sample identified as RW1 was obtained from one City of Elysian municipal well drawing water from the St. Peter sandstone aquifer. The sample identified as RW2 was obtained from the second Elysian municipal well drawing water from the Jordan sandstone aquifer. The shallow sand and gravel aquifer has been identified as the aquifer of concern in the site area. The following geological information pertains to this aquifer system:

- The surficial geology of the area is glacial outwash composed mostly of shallow sands and gravels. The outwash is often covered with a layer of alluvial material, peat, or silty clay loam. This layer does not appear to be continuous within a 4-mile radius of the site. The sand and gravel layer extends approximately 200 feet below ground surface in the vicinity of the site (Sunde 1972; MPCA 1986)

- The sand and gravel aquifer has a very high water table. Lake Tustin and many other small lakes and marshes in the area are expressions of this high water table (Sunde 1972; MPCA 1986).

- A mini-piezometer study conducted by MDNR and dated May 27, 1986, indicates that groundwater in this shallow aquifer

flows northeast. Surface water and groundwater flow in the same direction in the vicinity of the site: from Lake Francis to Lake Tustin to Lake Tetonka (MPCA 1986).

- According to area well logs, the aquifer of concern is unconfined, and therefore is susceptible to leaching of TCL compounds and TAL analytes from the Former Elysian City Dump site.

- Samples obtained from wells drawing from the aquifer of concern indicate the presence of TAL analytes including arsenic (RW4), cadmium (RW5), and lead (RW4, RW5). The absence of contaminants in RW3 could indicate that the well is located out of the boundaries of influence of the Former Elysian City Dump site. Sample location RW3 is located northwest of the site.

- It is unknown how many residents obtain drinking water from the shallow sand and gravel aquifer because well logs for private residences outside the city of Elysian were not available. There are 380 homes outside of the city boundaries of Elysian and within 3 miles of the site that are not served by the Elysian municipal water system (USGS 1966). Potentially, all of these residences could have wells drawing from the shallow sand and gravel aquifer. According to U.S. Bureau of the Census data, the population density of Le Sueur County is 2.62 persons per household (U.S. Bureau of the Census 1988). Therefore, 380 residences represent 996 people outside of the boundaries of Elysian and within a 3-mile radius of the site.

According to area well logs, the deeper St. Peter sandstone and Jordan sandstone aquifers are confined (Sunde 1972), and therefore are less vulnerable to the leaching of TCL compounds and/or TAL analytes from the Former Elysian City Dump site. Characteristics of these aquifer systems are as follows.

- Groundwater in the St. Peter sandstone aquifer flows north-northwest. The Elysian municipal well is located west-northwest of the site (Sunde 1972).

- Groundwater flow direction in the Jordan sandstone aquifer is unknown.

- TAL analytes have been detected in samples obtained from both the St. Peter and the Jordan sandstone aquifer systems. They include arsenic (RW1, RW2) and mercury (RW1).

- The Elysian municipal water system serves the population within the city boundaries. The population of the city of Elysian is 380 persons (U.S. Bureau of the Census 1988).

5.3 SURFACE WATER

TCL compounds and TAL analytes were detected in sediment samples collected from Lake Tustin. TCL compounds and TAL analytes were also detected in soil samples collected along the overland surface water migration route from Lake Tustin to the wildlife management area. No surface water sampling was conducted during the SSI of the Former Elysian City Dump site.

TCL compounds and TAL analytes detected in sediment samples collected from Lake Tustin and in soil samples collected from the site include: carbon disulfide at 48 µg/kg (S8), 4,4-DDE at 100 µg/kg (S3), 4,4-DDT at 460 µg/kg (S3), arsenic at 4.2 mg/kg (S1), cadmium at 9.0 mg/kg (S3), lead at 218 mg/kg (S1), and mercury at .76 mg/kg (S7).

A potential does exist for TCL compounds and TAL analytes to migrate into the surface water, based on the following information.

- TCL compounds and TAL analytes have been detected in soil samples collected from the Former Elysian City Dump site and in sediment samples collected from Lake Tustin, adjacent to the site.

- The Former Elysian City Dump site is located on the shoreline of Lake Tustin. Generally, water from the lake covers or partially covers the dump site.

- Surface water in the vicinity of the site flows from Lake Francis through a culvert to Lake Tustin. Overland flow is from Lake Tustin through culverts to the wildlife management area located southeast of the site. At the northeast boundary of the wildlife management area, overland surface water flows through another culvert into a ditch, which then continues northeast to Lake Tetonka.

- Contaminants detected at the Former Elysian City Dump site may be mobilized and carried, via the surface water migration pathway, to the wildlife management area and into Lake Tetonka.

- The wildlife management area is located adjacent to the site. Lake Tetonka is located approximately 3 miles northeast of the site (USGS 1966).

- Lakes in the vicinity of the site are used for recreation and fishing (e.g., Lake Francis, Lake Tustin, Lake Elysian, Lake Tetonka). Surface water is not used for drinking in the vicinity of the site (Morsching 1988; MPCA 1987).

- The Former Elysian City Dump site has no surface water diversion system or leachate collection system (Morsching 1988).

5.4 AIR

A release of potential contaminants to the air was not documented during the SSI of the Former Elysian City Dump site. During the reconnaissance inspection, FIT site-entry instruments (OVA 128 flame ionization detector, hydrogen cyanide monitor, and explosimeter) did not

detect levels above background concentrations at the site (E & E 1987). In accordance with the U.S. EPA-approved work plan, further air monitoring was not conducted by FIT.

A low potential does exist for windblown particulates to carry TCL compounds and TAL analytes from the site. This potential is minimal during periods when the site is covered or partially covered with the waters of Lake Tustin.

5.5 FIRE AND EXPLOSION

There is no apparent potential for fire and/or explosion at the Former Elysian City Dump site. The site has been inactive since 1972 and is located on the shoreline of Lake Tustin. FIT observations and explosimeter readings indicated that there is no apparent potential for fire and/or explosion at the site.

5.6 DIRECT CONTACT

According to federal, state, and local file information reviewed by FIT, and interviews with local officials, there is no documentation of an incident of direct contact with TCL compounds and TAL analytes at the Former Elysian City Dump site.

There is a potential that the public may come into direct contact with TCL compounds and TAL analytes detected at the site. The potential for direct contact is based on the following information.

- The Former Elysian City Dump site is not fenced; access to the site is not restricted.

- TCL compounds and TAL analytes have been detected at the site.

- The Former Elysian City Dump site has no impervious cover.

Based on information from topographic maps of the area of the site (USGS 1966), and Le Sueur County Census data (U.S. Bureau of the Census 1988), the population within 1 mile of the former Elysian City Dump site is 551 persons.

6. BIBLIOGRAPHY

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_____, January 20, 1987, Potential Hazardous Waste Site Preliminary Assessment, for Former Elysian City Dump Site, Minnesota, U.S. EPA ID: MND981528177, prepared by Shawn Ruotsinoja, Minneapolis, Minnesota.

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1851:3

A

APPENDIX A

SITE 4-MILE RADIUS MAP

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
MND	981528177

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Former Elysian City Dump	T·109N, R·24W, E1/4 of SE1/4 Section 35

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Elysian	MN	56028	Le Sueur		

09 COORDINATES LATITUDE	LONGITUDE
44°12'13.2	093°40'02.7

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 (MONTH DAY YEAR)	02 SITE STATUS	03 YEARS OF OPERATION (BEGINNING YEAR / ENDING YEAR)
8/17/88	☐ ACTIVE ■ INACTIVE	~1920 / 1971 ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply): ☐ A. EPA ■ B. EPA CONTRACTOR Ecology & Environment, Inc (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.
Melanie J. Nesterenko	Biologist	E&E, Inc./FIT	(312) 663-9415

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Phil Smith	Geologist	E&E, Inc./FIT	(312) 663-9415
Kurt Sims	Earth Scientist	E&E, Inc./FIT	(312) 663-9415
Kevin Lyons	Wildlife Manager	E&E, Inc./FIT	(312) 663-9415
Matt Arnold	technician	E&E, Inc./FIT	(312) 663-9415
Ron Galmore	technician	E&E, Inc./FIT	(312) 663-9415

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Non-Responsive			
Pat Nusbaum	City Clerk	Elysian, MN 56028	( ) UNKNOWN
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
■ PERMISSION ☐ WARRANT	0900	~90°F, Sunny, humid

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
RON SWENSON	MINNESOTA POLLUTION CONTROL AGENCY	(612) 297-1793

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE (MONTH DAY YEAR)
Melanie J. Nesterenko	U.S. EPA	E&E, Inc./FIT	(312) 663-9415	2/14/89

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
MND	981528177

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

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

TONS UNKNOWN

CUBIC YARDS UNKNOWN

NO OF DRUMS UNKNOWN

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 UNKNOWN

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
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	SAMPLE IDENTIFICATION	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
Metal	Arsenic	7440-38-2	RW1 / Water	13 S	Ug/L
Metal	Barium	7440-39-3	RW5 / Water	349	Ug/L
Metal	Calcium	7440-70-2	RW3 / Water	85500	Ug/L
Metal	Copper	7440-48-4	RW4 / Water	128	Ug/L
Metal	Iron	7439-89-6	RW5 / Water	6470	Ug/L
Metal	Lead	7439-92-1	RW5 / Water	30 * S	Ug/L
Metal	Magnesium	7439-95-4	RW3 / Water	34400	Ug/L
Metal	Manganese	7439-96-5	RW3 / Water	740 NE	Ug/L
Metal	Mercury	7439-97-6	RW1 / Water	0.7 *	Ug/L
Metal	Potassium	7440-09-7	RW1 / Water	2100	Ug/L
Metal	Silver	7440-22-4	RW3 / Water	5.1	Ug/L
Metal	Sodium	7440-23-5	RW1 / Water	8950	Ug/L
Metal	Zinc	7440-66-6	RW5 / Water	8060 N	Ug/L
Metal	Aluminum	7429-90-5	S3 / Sediment	15000*	mg/Kg
Metal	Arsenic	7440-38-2	S5 / Soil	5.4 *	mg/Kg
Metal	Barium	7440-39-3	S3 / Sediment	514	mg/Kg

V. FEEDSTOCKS (See Appendix for CAS Numbers) None

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)

Ecology & Environment, Inc. / FIT Files; Region V.

* Continued from Part II, Section IV.

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
Metal-	Cadmium	7440-43-9	S3 / Sediment	9.0	mg/Kg
Metal	Calcium	7440-70-2	S10 / Soil	82700	mg/Kg
Metal	Chromium	7440-47-3	S3 / Sediment	160	mg/Kg
Metal	Cobalt	7440-48-4	S12 / Soil	[8.2]	mg/Kg
Metal	Copper	7440-50-8	S7 / Sediment	30 *	mg/Kg
Metal	Iron	7439-89-6	S13 / Soil	18100	mg/Kg
Metal	Lead	7439-92-1	S1 / Soil	218 N	mg/Kg
Metal	Magnesium	7439-95-4	S3 / Sediment	20800 *	mg/Kg
Metal	Manganese	7439-96-5	S5 / Soil	1280	mg/Kg
Metal	Mercury	7439-97-6	S9 / Sediment	0.52	mg/Kg
Metal	Nickel	7440-02-0	S3 / Sediment	[34]	mg/Kg
Metal	Potassium	7440-09-7	S7 / Sediment	[1580]	mg/Kg
Metal	Silver	7440-22-4	S12 / Soil	[0.8]	mg/Kg
Metal	Sodium	7440-23-5	S3 / Sediment	[605] E	mg/Kg
Metal	Vanadium	7440-62-2	S3 / Sediment	[35]	mg/Kg
Metal	Zinc	7440-62-6	S7 / Sediment	953 N	mg/Kg
OCC	Chloromethane	74-87-3	S7 / Sediment	31 J	Ug/Kg
SOL	Carbon Disulfide	75-15-0	S8 / Sediment	46	Ug/Kg
SOL	1,2-dichloroethene (total)	540-59-0	S4 / Sediment	2 J	Ug/Kg
SOL	Chloroform	67-66-3	S7 / Sediment	44 B	Ug/Kg
SOL	Benzene	71-43-2	S3 / Sediment	3 J	Ug/Kg
SOL	4-methyl-2-pentanone	108-10-1	S3 / Sediment	15 J	Ug/Kg
SOL	tetrachloroethene	127-18-4	S11 / Sediment	18 J	Ug/Kg
SOL	2-Butanone (MEK)	78-93-3	S13 / Soil	10 J	Ug/Kg
SOL	ethylbenzene	100-41-4	S3 / Sediment	2 J	Ug/Kg
SOL	Xylenes (total)		S3 / Sediment	24 X	Ug/Kg
OCC	Phenanthrene	85-01-8	S7 / Sediment	990 J	Ug/Kg
OCC	anthracene	120-12-7	S7 / Sediment	200 J	Ug/Kg
OCC	Fluoranthene	206-44-0	S7 / Sediment	1600 J	Ug/Kg
OCC	Pyrene	129-00-0	S7 / Sediment	1500 J	Ug/Kg
OCC	benzo(a)anthracene	56-55-3	S7 / Sediment	580 J	Ug/Kg
OCC	chrysene	218-01-9	S7 / Sediment	610 J	Ug/Kg
OCC	benzo(b) Fluoranthene	205-99-2	S7 / Sediment	580 J	Ug/Kg
OCC	benzo(k) Fluoranthene	207-08-9	S7 / Sediment	630 J	Ug/Kg
OCC	benzo(a) pyrene	50-32-82	S7 / Sediment	660 J	Ug/Kg
PEST	4,4' DDD	72-54-8	S3 / Sediment	1100 D	Ug/Kg
PEST	4,4' DDT	50-29-3	S3 / Sediment	460 D	Ug/Kg
OCC	butylbenzylphthalate	85-68-7	S13 / Soil	32 J	Ug/Kg

* Values given represent highest detected concentration for each parameter tested.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MND	9815 28177

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ■ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 810
04 NARRATIVE DESCRIPTION
A shallow sand and gravel aquifer at 20 feet below ground surface exists in the vicinity around the site. Private residences have wells which are drilled to this aquifer. The City of Elysian obtains its drinking water supply from 2 wells which draw water from deeper St. Peter and St. Jordan sandstone formations. There are 880 homes outside the city boundaries of Elysian which are potentially obtaining water from the shallow sand and gravel aquifer.

01 ■ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0
04 NARRATIVE DESCRIPTION
Surface water is used for recreation and fishing in the vicinity around the site. The site itself is built on the bed of Lake Tustin. Water from the lake covers or partially covers the dump site. TCL compounds and TAL analytes have been detected in sediment samples taken from Lake Tustin.

01 ■ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 1586
04 NARRATIVE DESCRIPTION
A potential exists for TCL compounds and/or TAL analytes to migrate from the site via airborn particles. The population with a 4-mile radius of the site is 1765 people.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0
04 NARRATIVE DESCRIPTION
No documented or alledged Fire/Explosive conditions exist at the Former Elysian City Dump site

01 ■ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 451
04 NARRATIVE DESCRIPTION
A potential exists for exposure to TCL compounds and/or TAL analytes via direct contact. The site is not restricted in any way. The population with a 1-mile radius of the site is 451.

01 ■ F. CONTAMINATION OF SOIL — 02 ■ OBSERVED (DATE: 8-17-88) ■ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: 1.5 (Acres)
04 NARRATIVE DESCRIPTION
TCL compounds and TAL analytes have been detected at the Former Elysian City Dump site. The site is approximately 1.5 acres large. A greater area is potentially affected if contaminants have migrated off-site via surface water runoff or airborn particulates.

01 ■ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 810
04 NARRATIVE DESCRIPTION
Residents in the vicinity of the site but outside of the City of Elysian obtain drinking water from a shallow sand and gravel aquifer at 20 feet below ground surface. TAL analytes have been detected in this aquifer, but no statement of attribution to the Former Elysian Dump site can be made. A potential exists for TCL compounds and/or TAL analytes to migrate from the site into the ground water.

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION
The Former Elysian Dump site is inactive. No workers are employed at the site.

01 ■ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 451
04 NARRATIVE DESCRIPTION
A potential exists for the population in the vicinity of the Former Elysian dump site to come into direct contact with TCL compounds and/or TAL analytes detected at the site.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MND	981528177

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ■ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
A potential exists for TCL compounds and/or TAL analytes to affect flora in the vicinity of the Former Elysian Dump site. No damage to Flora was documented or observed. The site is adjacent to a wetlands/wildlife Management area owned by the MDNR

01 ■ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
A potential exists for TCL compounds and/or TAL analytes to affect Fauna in the vicinity of the Former Elysian City Dump site. No damage to Fauna has been documented or observed. The site is adjacent to a wetlands/wildlife Management Area owned by the MDNR.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
No documented or alledged contamination of Food chain has been noted at the Former Elysian City Dump site.

01 ■ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 451
04 NARRATIVE DESCRIPTION
The Former Elysian City Dump site has no leachate collection system, no liner, and no impervious cover. The site is often covered or partially covered with the waters of Lake Tustin.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
No documented or alledged damage to off-site property has been noted at the Former Elysian City Dump site.

01 ☐ O CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
No contamination of sewers, storm drains, or WWTP's has been documented at the Former Elysian City Dump site.

01 ■ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
The Former Elysian Dump site is an inactive Dump site which began operating sometime in the 1920's. The site is not restricted in any way and a potential exists for illegal/unauthorized Dumping.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
None Noted

III. TOTAL POPULATION POTENTIALLY AFFECTED: 1586

IV. COMMENTS
None

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)
Ecology & Environment, Inc. / FIT Files; Region V.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
MND	981528177

II. PERMIT INFORMATION None

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)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
■ J. NONE				

III. SITE DESCRIPTION

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

05 OTHER
- ☐ A. BUILDINGS ON SITE
  None

06 AREA OF SITE
1.5 (acres)

07 COMMENTS
The Former Elysian City Dump site is an inactive open dump which began operations sometime in the 1920's. Operations ceased at the site in 1971. The dump was operated by the City of Elysian between 1953 and 1971. No records of waste quantity or waste type are available. The site has no liner, no leachate collection system, and no impervious cover.

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.
The Former Elysian Dump site has no liner, no leachate collection system, and no impervious cover. The site exists on the bed of Lake Tustin and is often covered or partially covered by the waters of Lake Tustin.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ■ YES ☐ NO

02 COMMENTS The site is not restricted in any way. Some cover material from the adjacent property has been applied to the dump, but scrap metal and tires are visible jutting out of the dump.

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

Ecology & Environment, Inc. / FIT Files.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
MND	981528177

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. 550 (mi) Feet
B. 1320 (mi) Feet

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 1190

03 DISTANCE TO NEAREST DRINKING WATER WELL 550 (mi) feet

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
20 (ft)	NE	20 (ft)	UNK (gpd)	☐ YES ■ NO

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

Private residential wells draw from a shallow sand and gravel at approximately 20 feet. Two municipal wells are located approximately 550 feet from the site and draw water from St. Peter Sandstone at 330 feet below ground surface and St. Jordan Sandstone at 595 feet below ground surface.

10 RECHARGE AREA

■ YES ☐ NO

COMMENTS The shallow sand and gravel aquifer is recharged through precipitation and surface water bodies (Lake Tustin etc.)

11 DISCHARGE AREA

■ YES ☐ NO

COMMENTS UNKNOWN

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
Lake Tustin	☐	0 (mi)
Lake Francis	☐	0.3 (mi)
Lake Tetonka	☐	2.5 (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. 451 NO OF PERSONS	B. 682 NO OF PERSONS	C. 1190 NO OF PERSONS

02 DISTANCE TO NEAREST POPULATION Adjacent (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE 260

04 DISTANCE TO NEAREST OFF-SITE BUILDING 300 (mi) Feet

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 former Elysian Dump site is located just northeast of the rural city of Elysian in Le Sueur County, Minnesota. Le Sueur County is in the southcentral portion of Minnesota. The city of Elysian has a population of 380 people.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
MND	981528177

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
200 (ft)	UNKNOWN (ft)	UNKNOWN

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
(in)	(in)	0 %	NA	%

09 FLOOD POTENTIAL

SITE IS IN UNK YEAR FLOODPLAIN

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

NA

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE	OTHER
A. NA (mi)	B. Adjacent (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

(mi)

ENDANGERED SPECIES: NA

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 (mi)	B. Adjacent (mi)	C. 0.3 (mi)	D. 0.3 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

SEE APPENDIX A

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

Ecology & Environment, Inc. / FIT Files ; Region V.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MND	981528177

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	5	TCL compounds: Hazleton Labs, Madison, Wisconsin. TAL Analytes: Northern Labs + Engineering, Valpraiso, Indiana.	in
SURFACE WATER		2,4-D; 2,4,5-T: Gulf South Research Institute, New Orleans, LA.	
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	13	TCL compounds: Aquatec, Inc., S Burlington, Vermont. TAL Analytes: Chemtech Consulting, New York, New York.	in
VEGETATION		2,4-D; 2,4,5-T: Gulf South Research Institute, New Orleans, LA.	
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
OVA-128	no readings above background
Rad-mini	no readings above background
Oxygen meter	no readings above background
Monitox HCN gas detector	no readings above background
explosimeter	no readings above background

IV. PHOTOGRAPHS AND MAPS

01 TYPE ■ GROUND ☐ AERIAL

02 IN CUSTODY OF Ecology & Environment, Inc. / FIT Files, Region V.
(Name of organization or individual)

03 MAPS ■ YES ☐ NO

04 LOCATION OF MAPS Ecology & Environment, Inc. / FIT Files; Region V.

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

No other Field Data Collected.

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

Ecology & Environment, Inc. / FIT Files; Region V.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MND	981528177

II. CURRENT OWNER(S)

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

PARENT COMPANY (If applicable) None.

08 NAME	09 D+B NUMBER
10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
12 CITY	13 STATE / 14 ZIP CODE
08 NAME	09 D+B NUMBER
10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
12 CITY	13 STATE / 14 ZIP CODE
08 NAME	09 D+B NUMBER
10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
12 CITY	13 STATE / 14 ZIP CODE
08 NAME	09 D+B NUMBER
10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
12 CITY	13 STATE / 14 ZIP CODE

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

01 NAME	02 D+B NUMBER
Mr. Griffith - deceased	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
Unknown	
05 CITY	06 STATE / 07 ZIP CODE
Elysian	MN / 56028
01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

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

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

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

Ecology & Environment, Inc. / FIT Files; Region V.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MND	981528177

II. CURRENT OPERATOR (Provide if different from owner) NA - Inactive

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER

OPERATOR'S PARENT COMPANY (If applicable) NA

10 NAME	11 D+B NUMBER

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

14 CITY	15 STATE	16 ZIP CODE

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

01 NAME	02 D+B NUMBER
City of Elysian	—

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

05 CITY	06 STATE	07 ZIP CODE
Elysian	MN	56028

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD
1953 - 1971	Vern Morsching

01 NAME	02 D+B NUMBER
Jay Cline	—

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

05 CITY	06 STATE	07 ZIP CODE
Elysian	MN	56028

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD
UNK - 1971	Mr. Griffith / Vern Morsching

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable) NA

10 NAME	11 D+B NUMBER

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

14 CITY	15 STATE	16 ZIP CODE

10 NAME	11 D+B NUMBER

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

14 CITY	15 STATE	16 ZIP CODE

10 NAME	11 D+B NUMBER

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

14 CITY	15 STATE	16 ZIP CODE

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

Ecology & Environment, Inc. / FIT Files ; Region V.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MND	981528177

II. ON-SITE GENERATOR NA

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

III. OFF-SITE GENERATOR(S) NA

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

IV. TRANSPORTER(S) NA

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
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)

Ecology & Environment, Inc. IFIT Files; Region V.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MND	981528177

II. PAST RESPONSE ACTIVITIES

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

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

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

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION NA

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION NA

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION NA

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION NA

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION NA

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

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

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

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION NA

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION NA

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

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

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

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION NA

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MND	981528177

II PAST RESPONSE ACTIVITIES *(Continued)*

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

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

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

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

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

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

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

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

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

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

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

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION
None

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

Ecology & Environment, Inc. / FIT Files ; Region V.

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MND	981528177

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ■ YES ☐ NO

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

In May 1986 a committee was formed by the Le Sueur County District Court to resolve technical issues concerning the installation of a culvert for Lake Francis into Lake Tustin. The committee is called the Lake Francis - Lake Tetonka oversight committee and is comprised of representatives from the MDNR, MPCA, Le Sueur County, Lake Francis Association, and Lake Tetonka Association. The oversight committee is concerned that the installation of a culvert between Lake Francis and Lake Tustin will mobilize contaminants in the former Elysian City Dump site and jeopardize the water quality of another downstream lake Lake Tetonka.

Operations at the site ceased in 1971. However, a man named Mr. Perry Simons applied for a permit to operate another landfill at the location of the Former Elysian City Dump site (Permit Application dated Nov. 17, 1972). The permit was denied by the MPCA in a letter dated March 29, 1973.

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

Ecology & Environment, Inc. / FIT Files; Region V.

EPA FORM 2070-13 (7-81)

APPENDIX C

U.S. EPA

IMMEDIATE REMOVAL ACTION

CHECKSHEET

Immediate Removal Action Check Sheet

		High	Moderate	Low
Fire and Explosion Hazard				
Flammable Materials	NA			
Explosives	NA			
Incompatable Chemicals	NA			
Direct Contact with Acutely Toxic Chemicals				
Site Security	#1		X	
Leaking Drums or Tanks	NA			
Open Lagoons or Pits	NA			
Materials on Surface	#2		X	
Proximity of Population	#3		X	
Evidence of Casual Site Use	#4			X
Contaminated Water Supply				
Exceeds 10 Day Snarl	NA			
Gross Taste or Odors	NA			
Alternate Water Available	#5		X	
Potential Contamination	#6		X	
Is the site abandoned, active, or (inactive?)				

Comments:

#1. The Former Elysian City Dump site is not secured in any way. However heavy brush conceals and partially restricts access to the site.

#2. TCL compounds and TAL analytes have been detected in soil samples obtained from the Former Elysian City Dump site.

#3. The Former Elysian Dumpsite is located at the northeastern boundary of the City of Elysian (Population 380). The nearest residence is approximately 300 feet away from the site.

#4. The Former Elysian Dump site is not restricted and there is a potential for casual site use.

#5. A potential exists that all water sources may be affected from the migration of contaminants into the groundwater.

APPENDIX D

FIT SITE PHOTOGRAPHS

SITE Fm. Elysian City Dump
CITY Elysian STATE Minn
SAMPLE ~~RW3~~ RW5
DATE 8/18/88
TIME ~~1045~~ 1130 AM PM

SITE Fm. Elysian City Dump

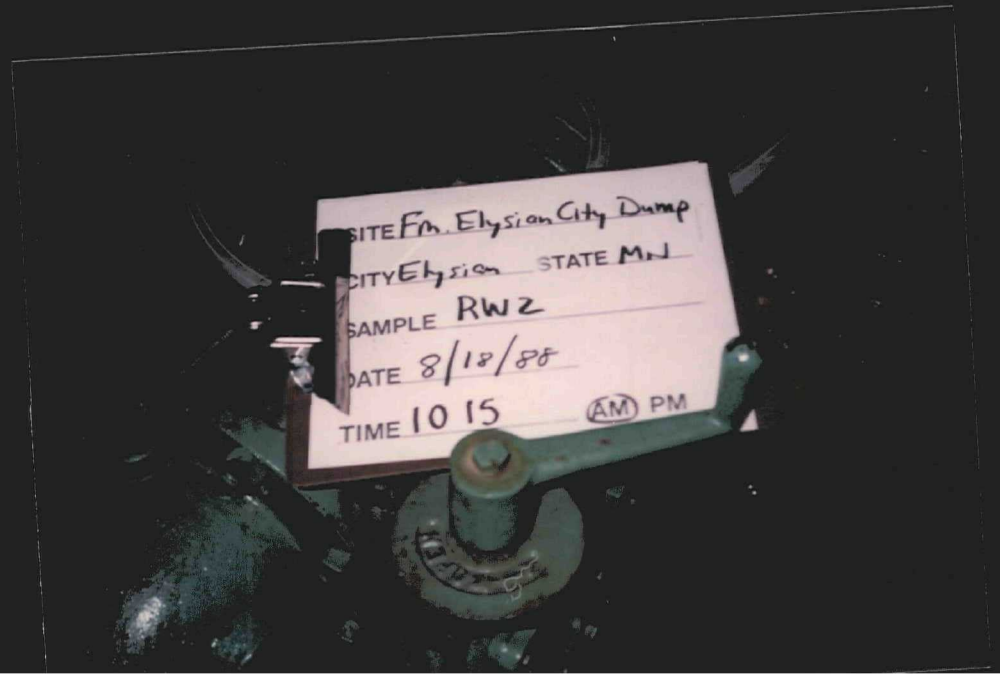
CITY Elysian STATE Mn

SAMPLE RW3

DATE 8/18/88

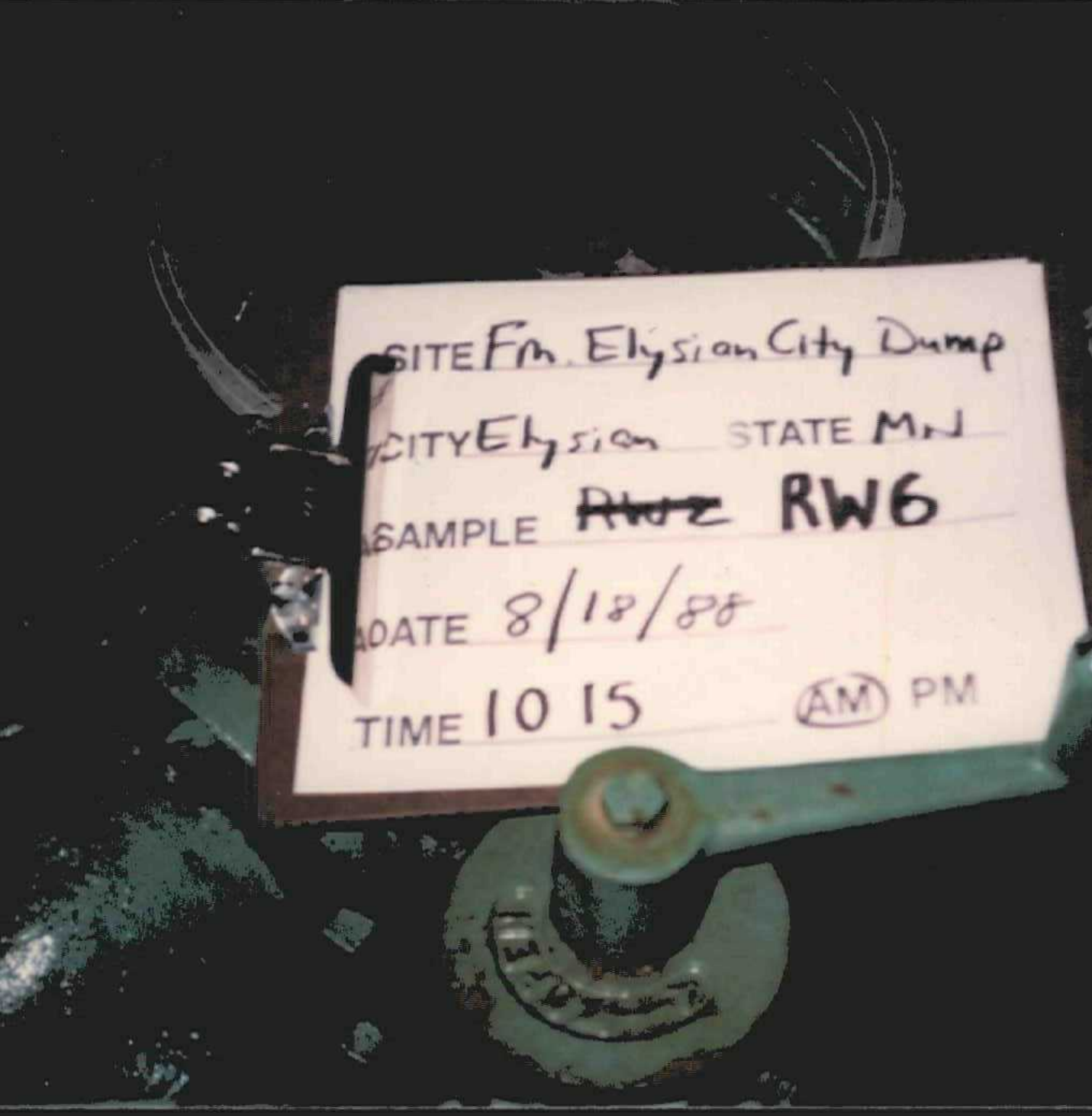
TIME 1045 AM PM

SITE Fm. Elysian City Dump
CITY Elysian STATE MN
SAMPLE RW4
DATE 8/18/88
TIME 1110 AM PM


SITE Fm. Elysian City Dump
CITY Elysian STATE MN
SAMPLE RW2
DATE 8/18/88
TIME 10 15 AM PM

SITE Fm. Elysian City Dump
CITY Elysian STATE Minn
SAMPLE S12
DATE 8/17/88
TIME 1345 AM PM

1400

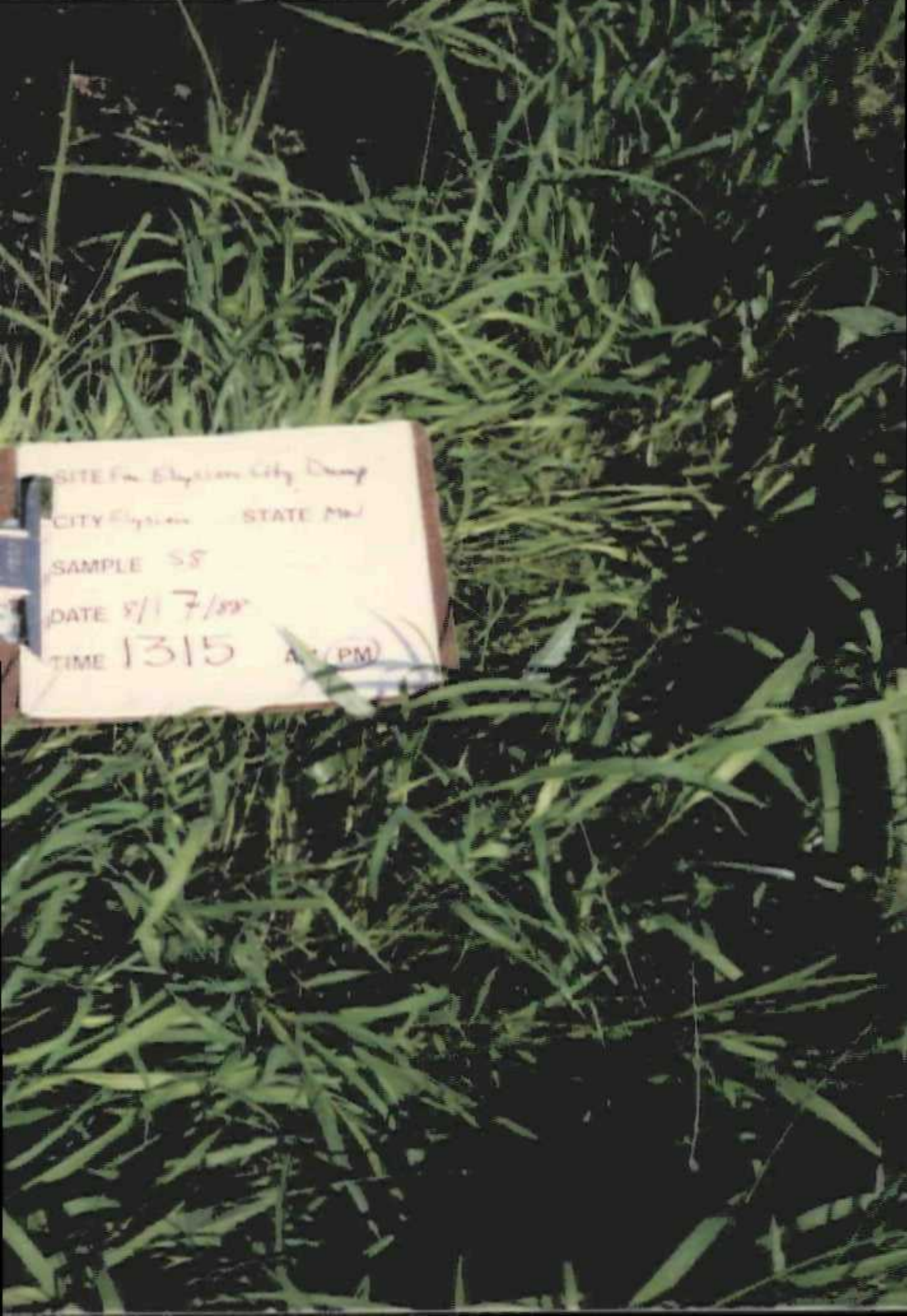

SITE Fm. Elysian City Dump
CITY Elysian STATE Mn
SAMPLE ~~RW2~~ RW6
DATE 8/18/88
TIME 10 15 AM PM

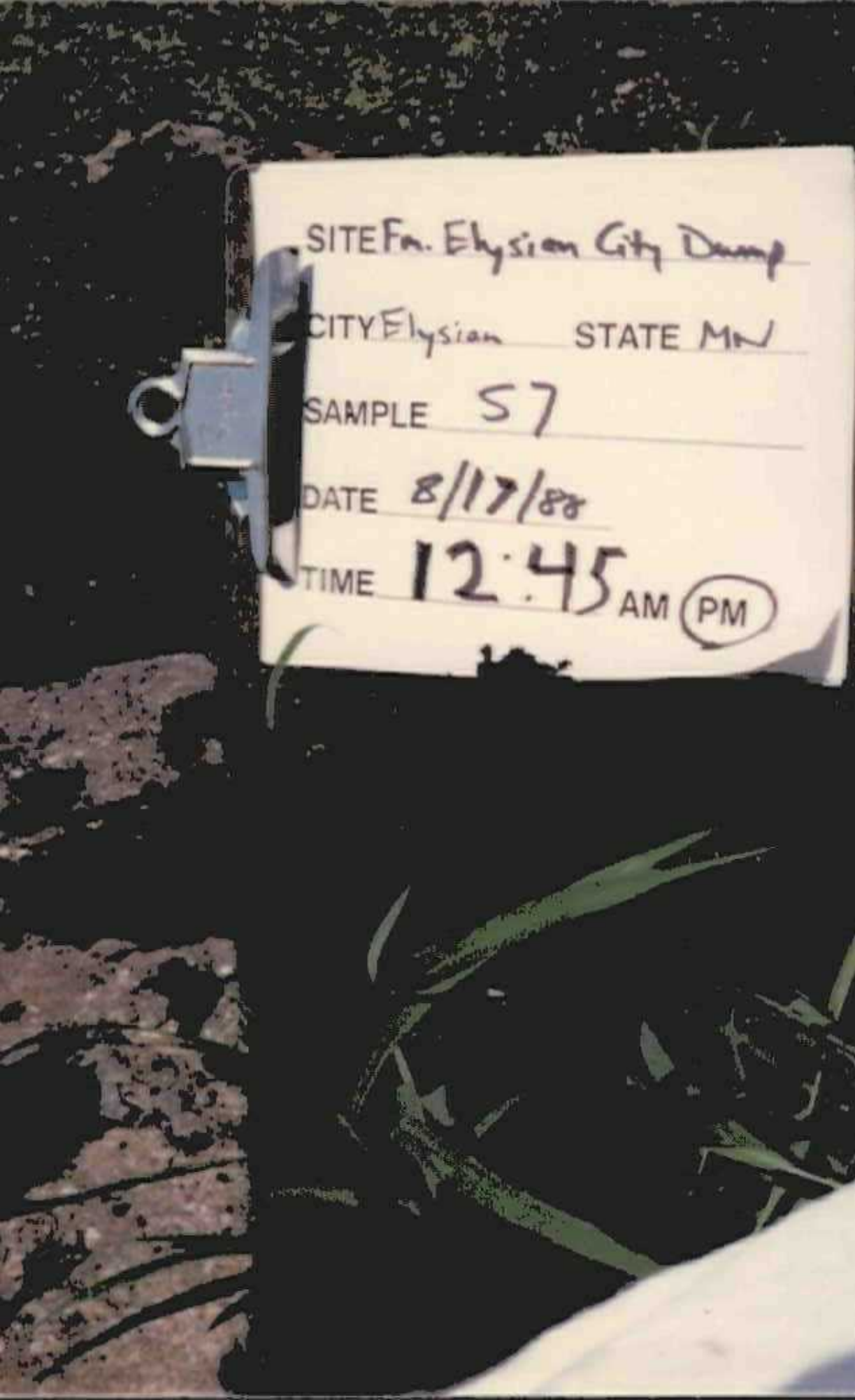
1345

CITY
STATE
SAMPLE
DATE
TIME 1345

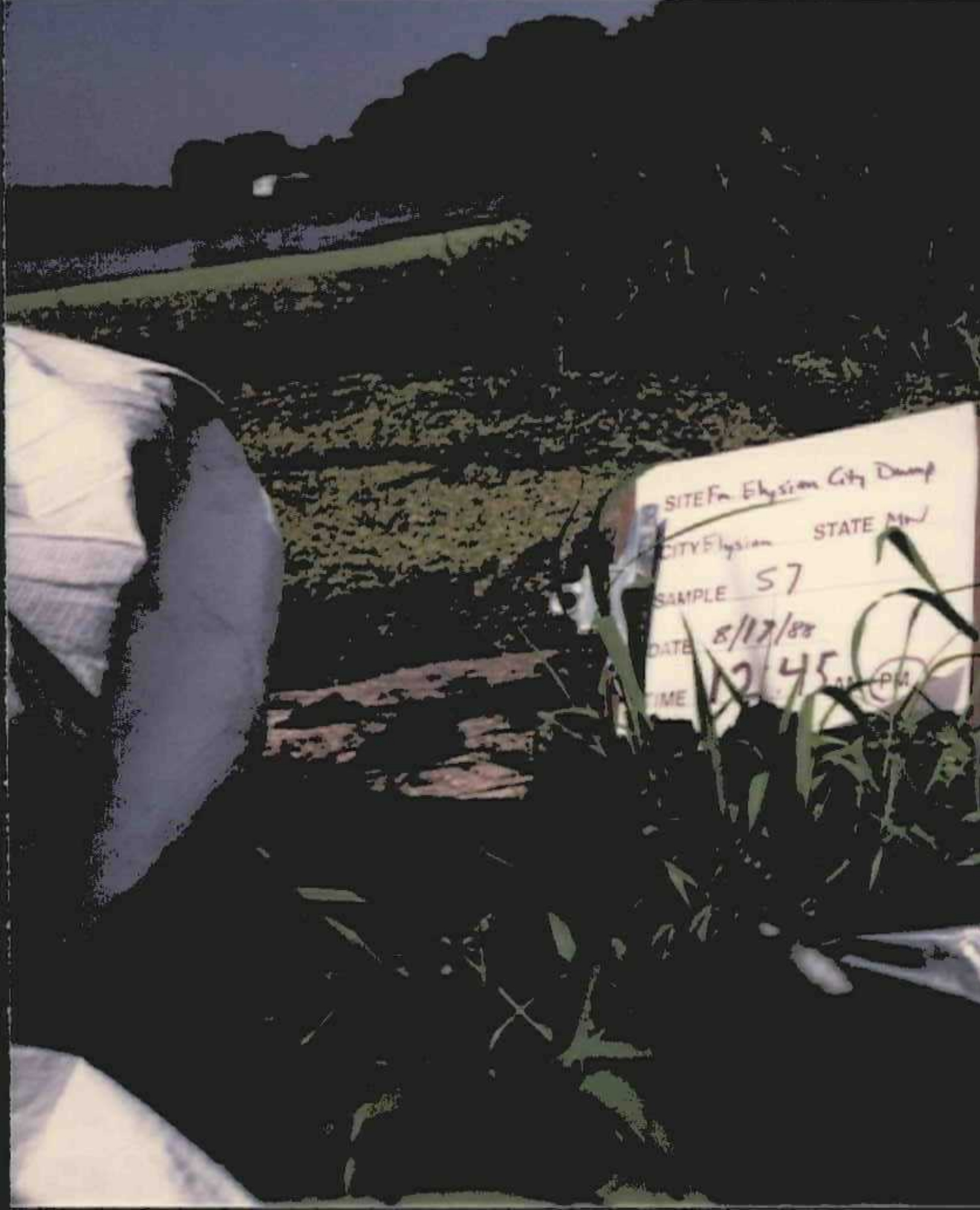
SITE
STAT NO
SAMPLE

SITE
CITY
STATE
SAMPLE
DATE
TIME
AM PM


SITE
CITY
STATE
SAMPLE
DATE
TIME 1315
(PM)


SITE Fn. Elysian City Dump
CITY Elysian STATE MN
SAMPLE 57
DATE 8/17/88
TIME 12:45 AM PM

SITE
CITY Elysian
STATE
SAMPLE SL
DATE
GLA


SITE Fm Elysian City Dump
CITY Elysian
STATE Minn
SAMPLE 57
DATE 8/17/88
TIME 12:45 AM PM

SITE Fm. Elysian City Dump
CITY Elysian STATE MN
SAMPLE 54
DATE 8/17/88
TIME 1115
AM PM

SITE Fm. Elysian City Dump

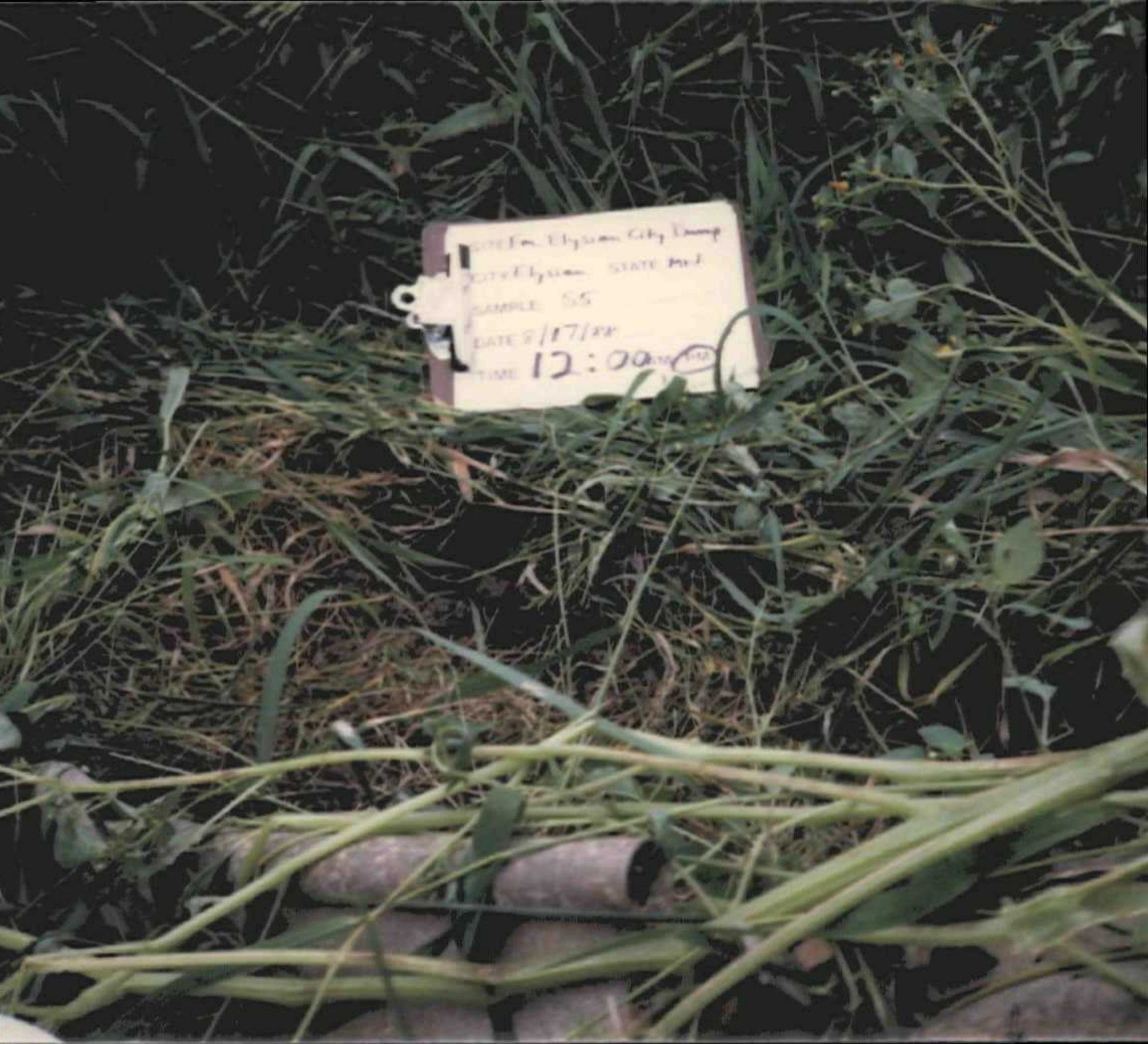
CITY Elysian STATE MN

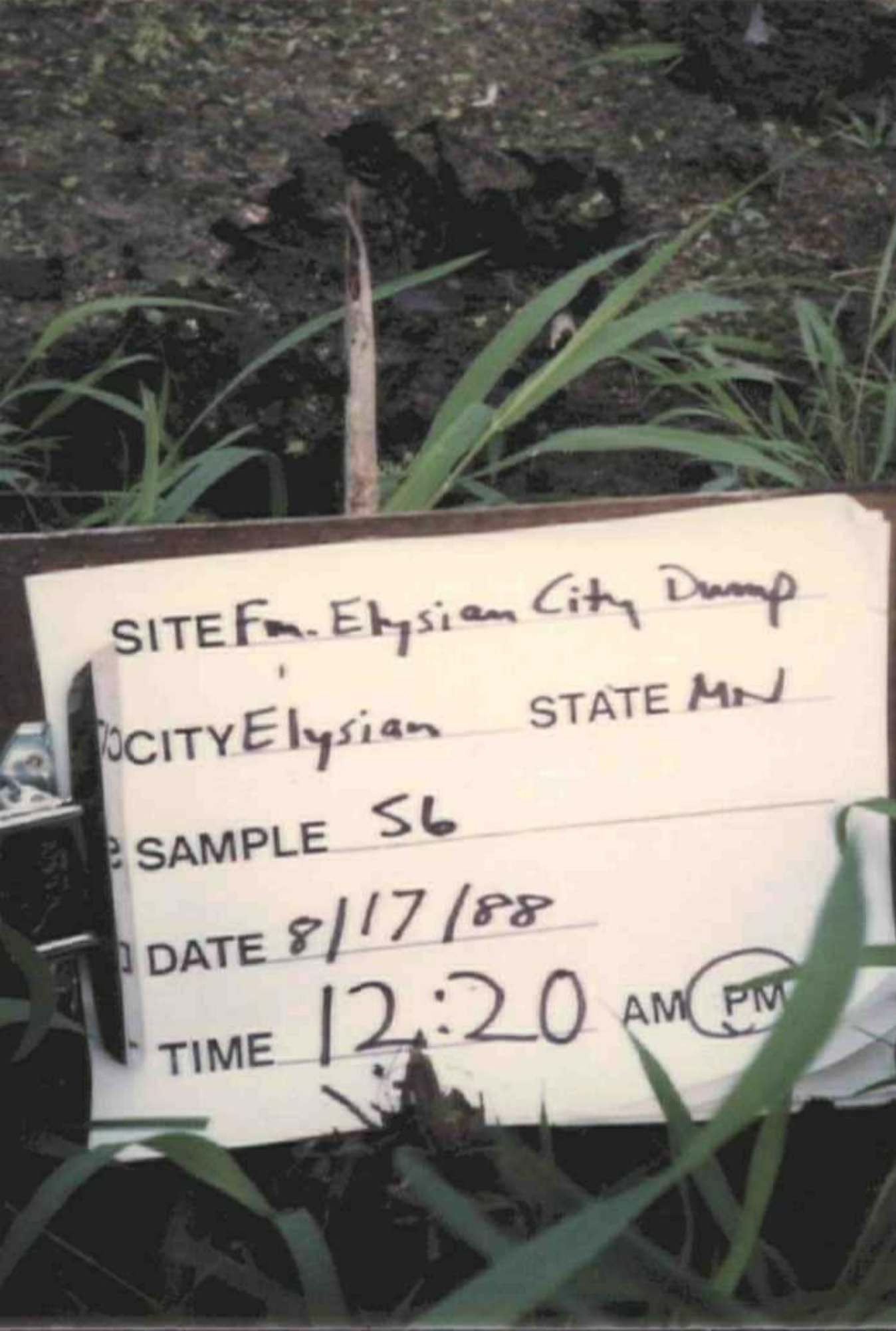
SAMPLE S3

DATE 8/17/88

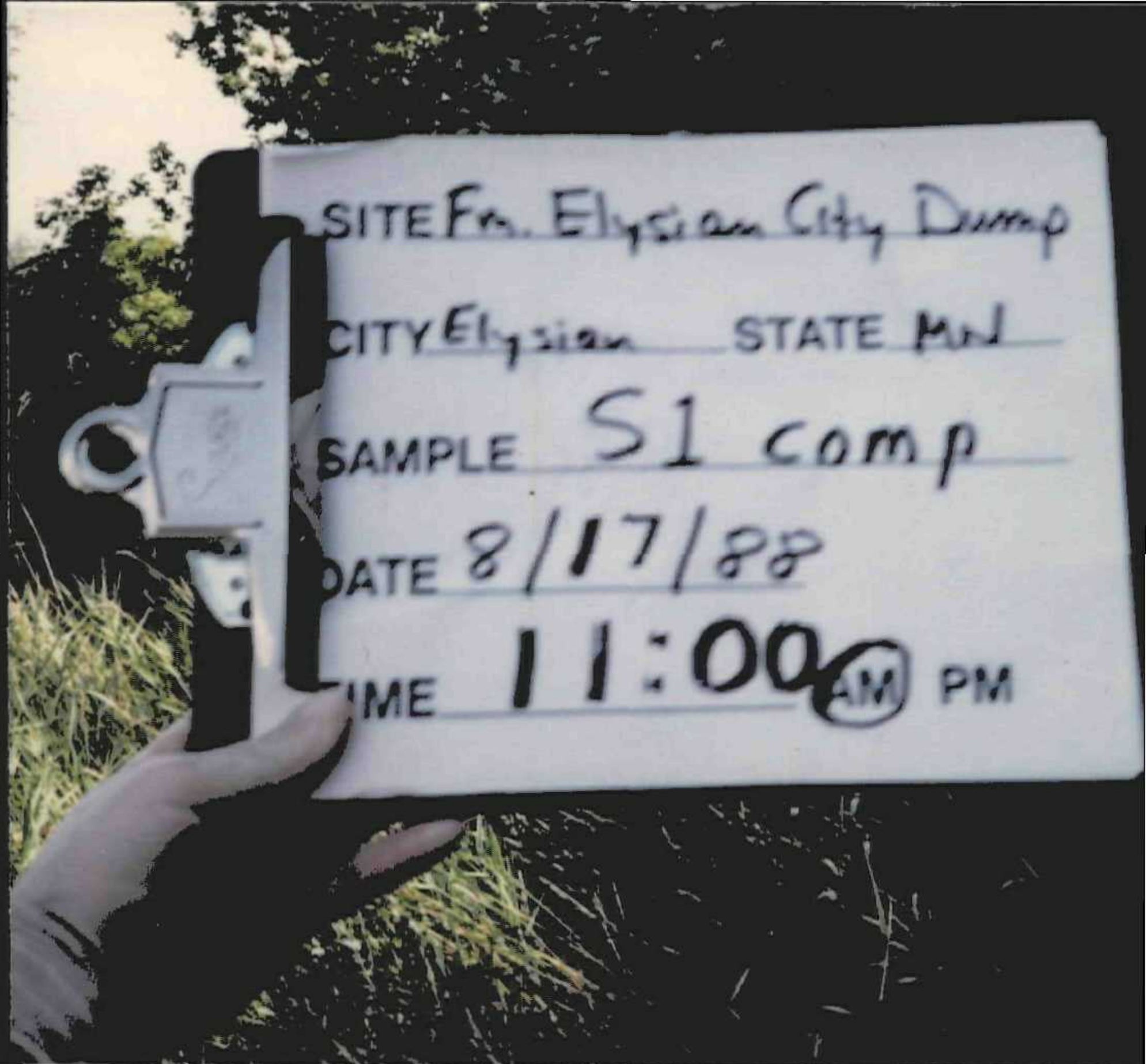
TIME 11:00 AM PM

SITE Fm. Elysian City Dump
CITY Elysian STATE MN
SAMPLE S2 comp
DATE 8/17/88
TIME 11:15
AM PM


SAMPLE SS
DATE 8/17/88
TIME 12:00


SITE Fm. Elysian City Dump
CITY Elysian STATE MN
SAMPLE S6
DATE 8/17/88
TIME 12:20 AM PM

SITE Fox Elysian City Dump
CITY Elysian STATE MN
SAMPLE 54
DATE 2/17/88


SITE Fm. Elysian City Dump
CITY Elysian STATE Mnl
SAMPLE S1 comp
DATE 8/17/88
TIME 11:00 AM PM

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MND981528177 TDD: F05-8710-007 PAN: FMN0202SB

DATE: > 8-17-18

TIME: > 1100

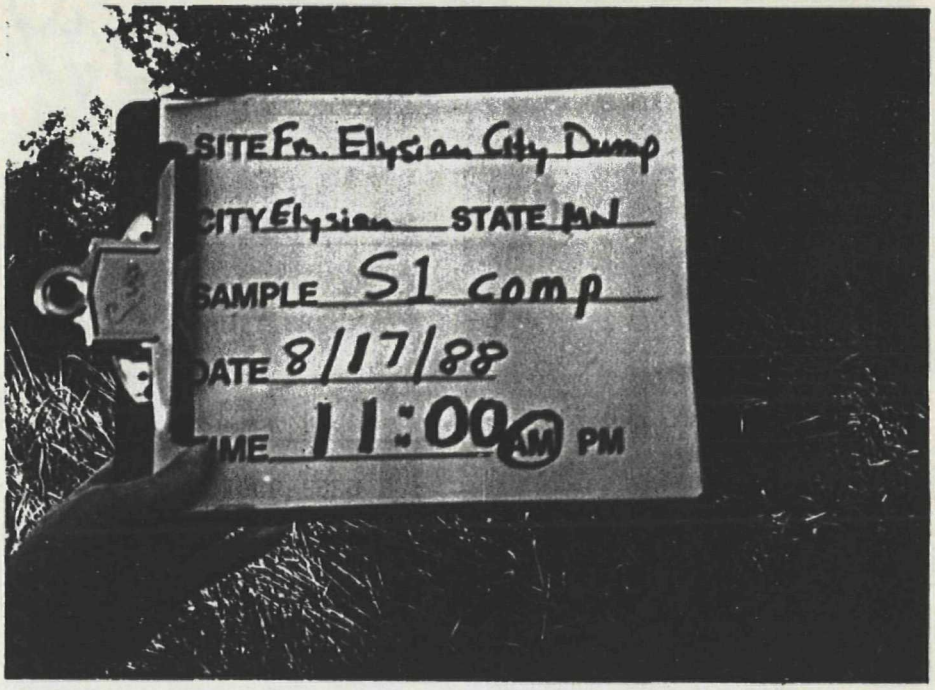
DIRECTION OF PHOTOGRAPH: > SSE

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S1



DESCRIPTION: > Photograph taken in area where Composite sample S1 was collected; photograph + sample taken at South end of exposed fill area.

DATE: > 8-17-18

TIME: > 1100

DIRECTION OF PHOTOGRAPH: > SSE

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S1

DESCRIPTION: > Perspective photograph of area where composite sample S1 was colled. Photograph shows south boundary of dump site where brush starts to grow at edge of wooded area

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MND981528177 TDD: F05-8710-007 PAN: FMN0202SB

DATE: > 8-17-88

TIME: > 1115

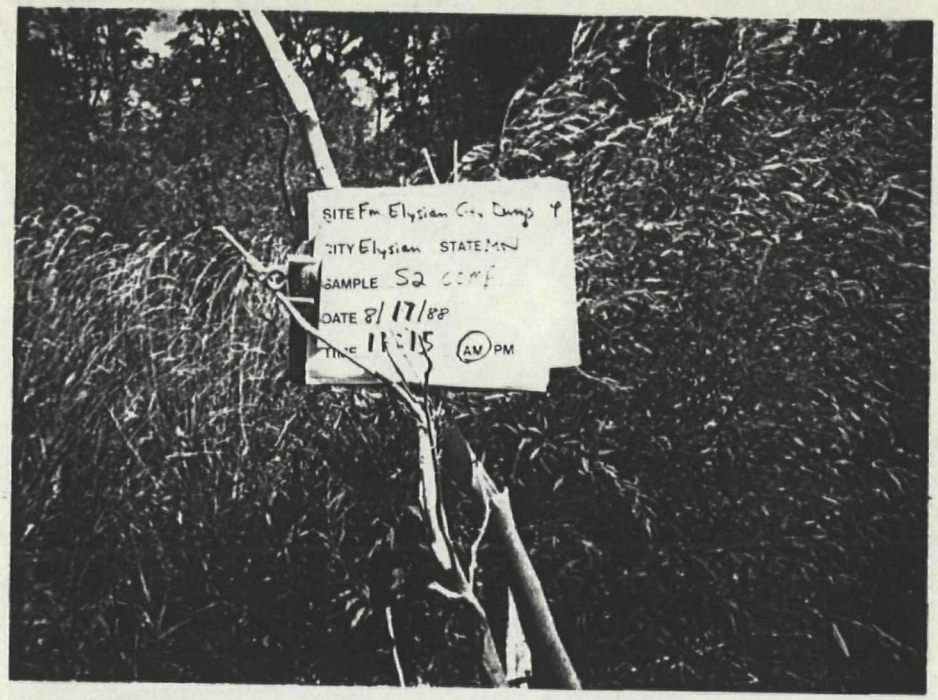
DIRECTION OF PHOTOGRAPH: > N

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S2



DESCRIPTION: > Photograph taken in area where composite soil sample S2 > was collected.

DATE: > 8-17-88

TIME: > 1115

DIRECTION OF PHOTOGRAPH: > NNE

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S2

DESCRIPTION: > Perspective photograph taken in area where composite > soil sample S2 was taken. Photograph shows northern boundary of dump site. Dump ends approximately in area where woods begin

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MND981528177 TDD: F05-8710-007 PAN: FMN0202SB

DATE: > 8-17-88

TIME: > 1100

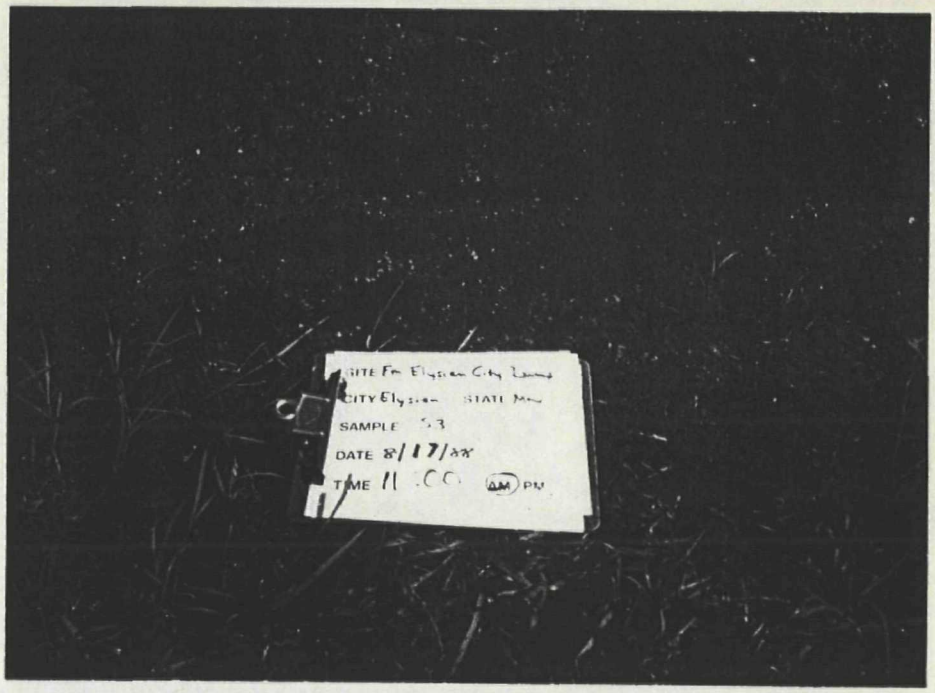
DIRECTION OF PHOTOGRAPH: > E

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S3



DESCRIPTION: > Photograph of sediment sample S3 taken from ponded > area east of the dump. Sample S3 collected at approximately 3 1/2 feet.

DATE: > 8-17-88

TIME: > 1100

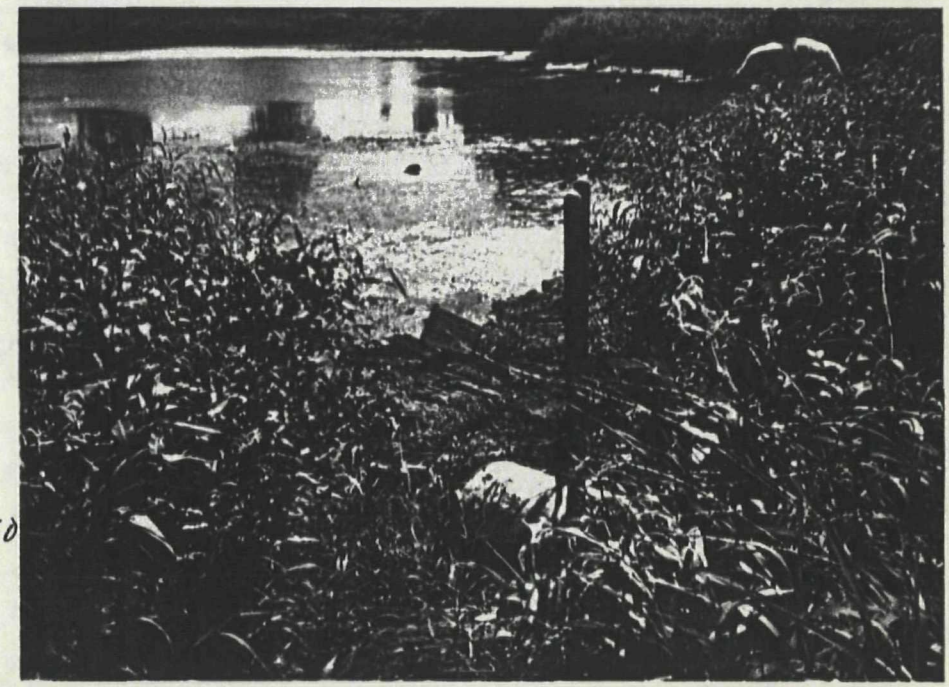
DIRECTION OF PHOTOGRAPH: > SE

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S3



DESCRIPTION: > Respective photograph of sediment sample S3 showing > ponded area east of the dump site.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MND981528177 TDD: F05-8710-007 PAN: FMN0202SB

DATE: > 8-17-88

TIME: > 1115

DIRECTION OF PHOTOGRAPH: > SE

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S4

DESCRIPTION: > Photograph of Sediment sample S4 collected from ponded > area east of the dump. Sample S4 collected at approximately 2 1/2 feet.

DATE: > 8-17-88

TIME: > 1115

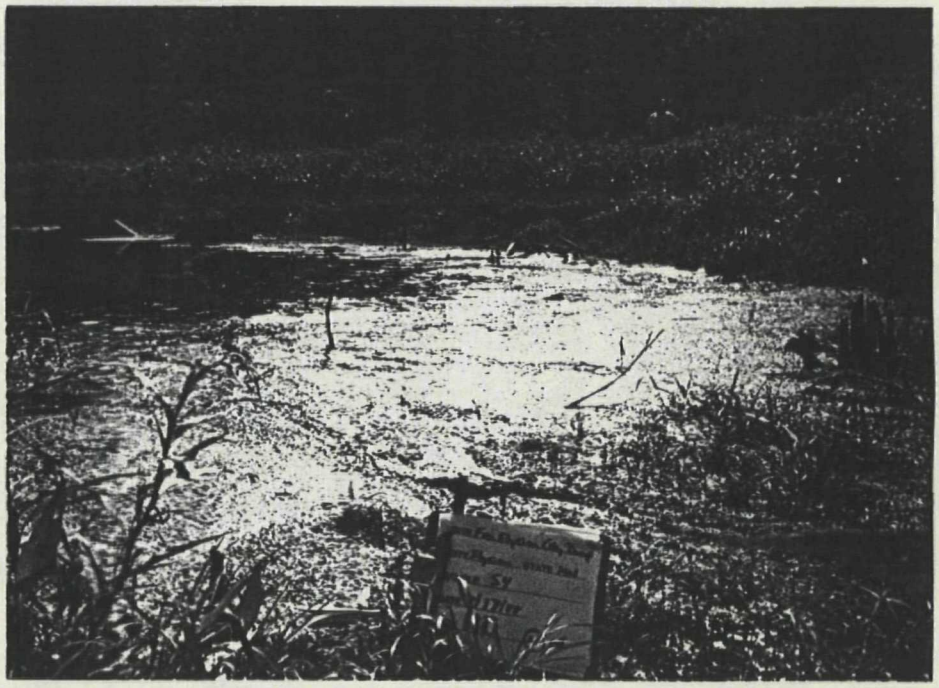
DIRECTION OF PHOTOGRAPH: > SE

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S4



DESCRIPTION: > Perspective Photograph of Sediment Sample S4 collected > from ponded area east of the dump. Photograph shows scrap metal jutting out from pond.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MNL981528177 TDD: F05-8710-007 PAN: FMN0202SB

DATE: > 6-17-88

TIME: > 1200

DIRECTION OF PHOTOGRAPH: > W

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S5

DESCRIPTION: > Photograph of soil sample S5 collected by culvert

> on Morsching property.

DATE: > 6-17-88

TIME: > 1200

DIRECTION OF PHOTOGRAPH: > W

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S5

DESCRIPTION: > Perspective photograph of soil sample S5 collected

> by culvert on Morsching property.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MND981528177 TDD: F-05-8710-007 PAN: FMN02025B

DATE: > 8-17-88

TIME: > 1220

DIRECTION OF PHOTOGRAPH: > NE

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S6

DESCRIPTION: > Photograph of surface sediment sample S6 collected

> from ponded area east of the dump

DATE: > 8-17-88

TIME: > 1220

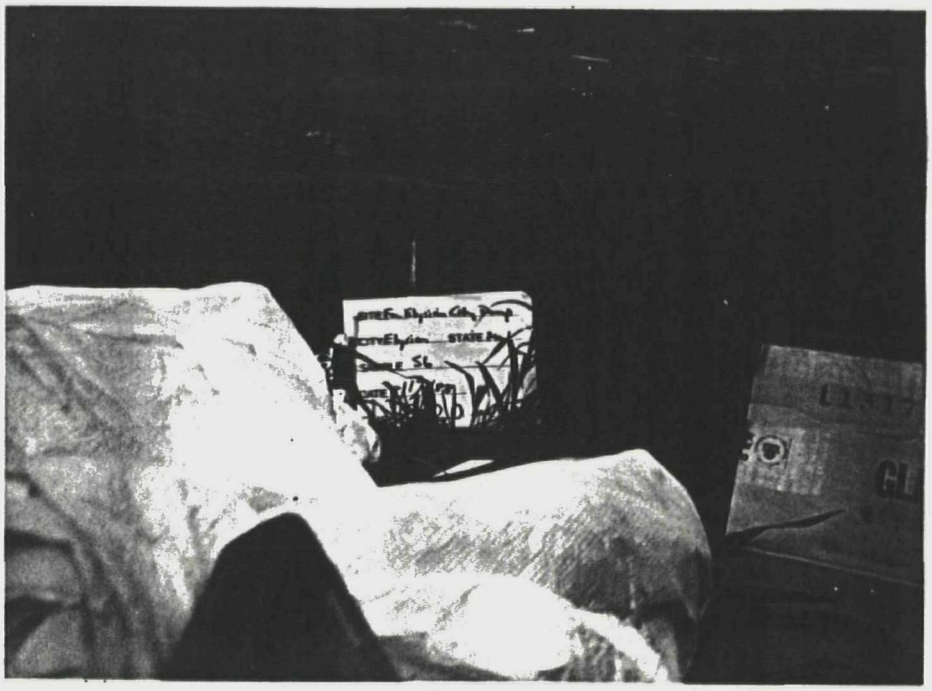
DIRECTION OF PHOTOGRAPH: > 1220

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S6



DESCRIPTION: > perspective photograph of surface sediment sample S6

> collected from ponded area east of the dump. Photograph shows scrap metal jutting out from ponded area.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MND981528.-7 TDD: F05-8710-007 PAN: FMN0202SB

DATE: > 8-17-88

TIME: > 1245

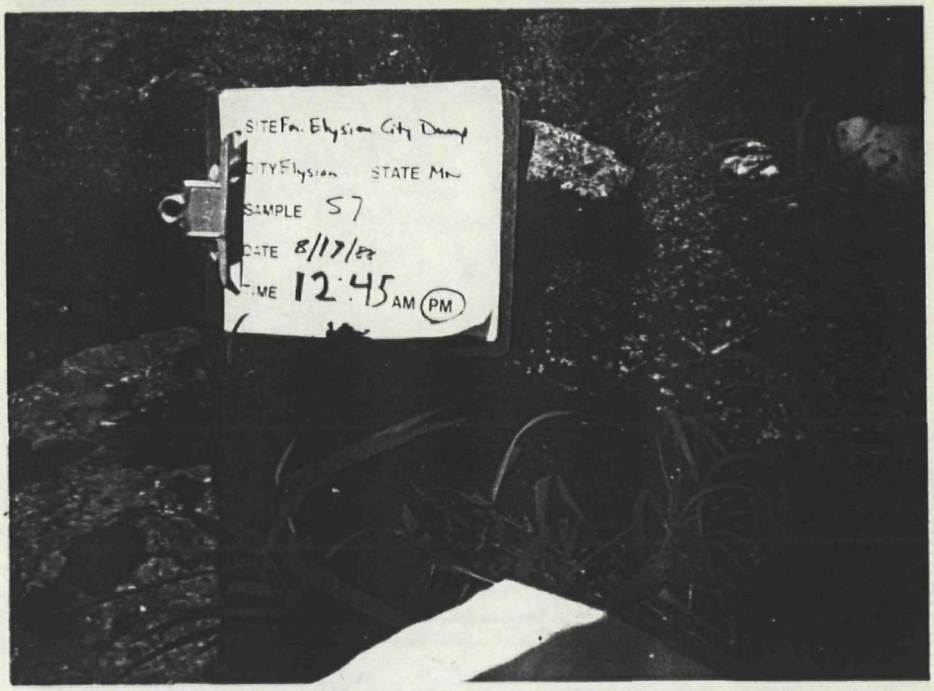
DIRECTION OF PHOTOGRAPH: > N

WEATHER CONDITIONS: > ~ 90°F

> sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > 57



DESCRIPTION: > Photograph of surface sediment sample 57 collected from

> Lake Tustin west of the dump site.

DATE: > 8-17-88

TIME: > 1245

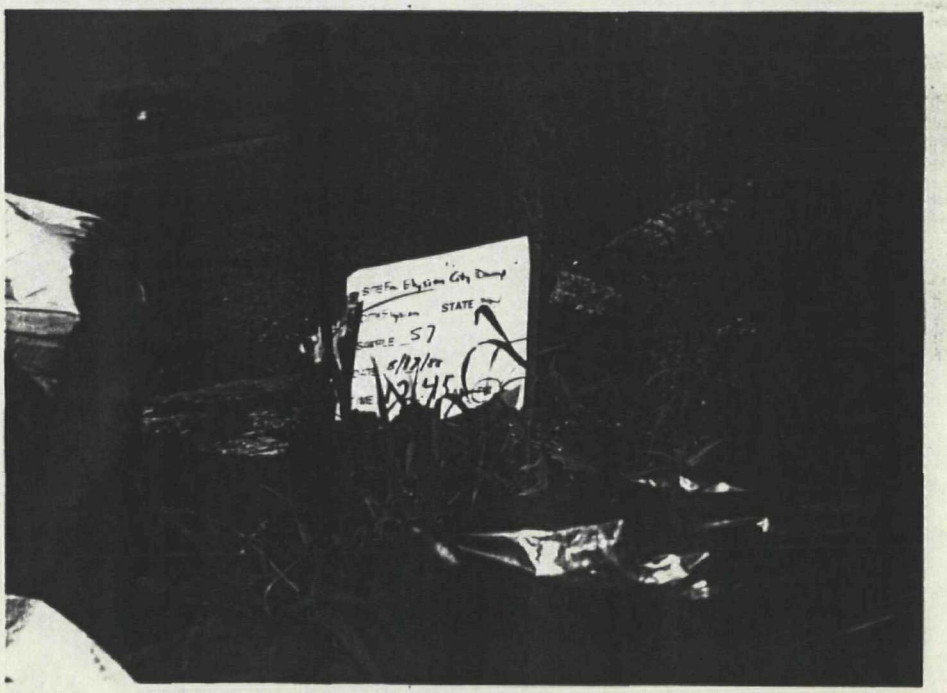
DIRECTION OF PHOTOGRAPH: > N

WEATHER CONDITIONS: > ~ 90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > 57



DESCRIPTION: > Perspective photograph of surface sediment sample 57

> collected from Lake Tustin west of the dump site

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site PAGE 8 OF 22

U.S. EPA ID: MND981528177 TDD: F05-8710-007 PAN: FHN0202SB

DATE: >8.17.88

TIME: > 1315

DIRECTION OF PHOTOGRAPH: > W

WEATHER CONDITIONS: > ~90°F

> sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S8

DESCRIPTION: > Photograph of surface sediment sample S8 collected from > Lake Tustin west of the dump site.

DATE: >8.17.88

TIME: > 1315

DIRECTION OF PHOTOGRAPH: > W

WEATHER CONDITIONS: > ~90°F

> sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S8

DESCRIPTION: > Perspective photograph of surface sediment sample S8 > collected from Lake Tustin west of the dump site.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MND981528177 TDD: F05-8710-007 PAN: FMN0202SB

DATE: > 8-17-88

TIME: > 1330

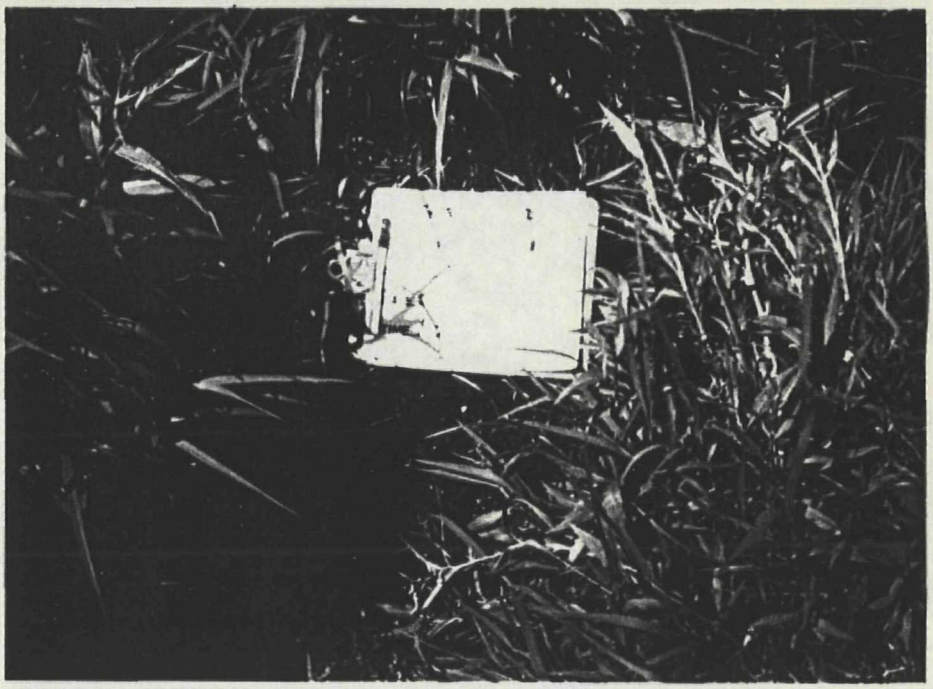
DIRECTION OF PHOTOGRAPH: > W

WEATHER CONDITIONS: > ~90°F

> sunny, humid

PHOTOGRAPHED BY: > M. Nesteranko

SAMPLE ID (if applicable): > S9



DESCRIPTION: > Photograph of surface soil sample S9 collected on Morsching
> property south of the dump site.

DATE: > 8-17-88

TIME: > 1330

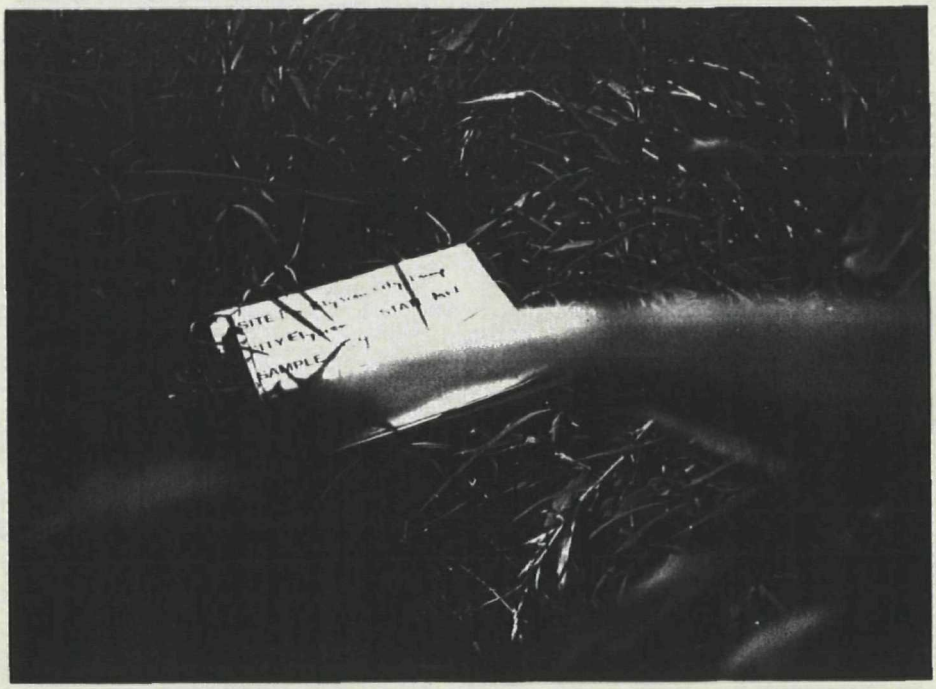
DIRECTION OF PHOTOGRAPH: > W

WEATHER CONDITIONS: > ~90°F

> sunny, humid

PHOTOGRAPHED BY: > M. Nesteranko

SAMPLE ID (if applicable): > S9



DESCRIPTION: > Perspective photograph of surface soil sample S9
> collected on Morsching property south of the dump site. Lake Justin is visible in photograph.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MND 981528177 TDD: F05-8710-007 PAN: FMN0202SB

DATE: > 8-17-88

TIME: > 1445

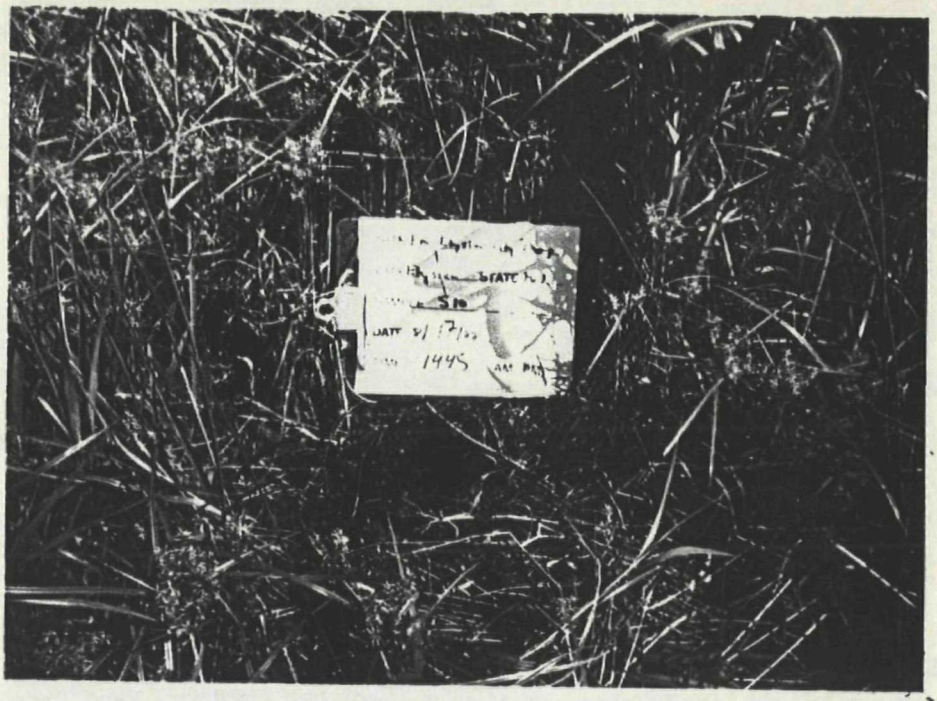
DIRECTION OF PHOTOGRAPH: > E

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S10



DESCRIPTION: > Photograph of surface soil sample S10 (potential background sample)

> collected west of Lake Tustin and east of Lake Francis

DATE: > 8-17-88

TIME: > 1445

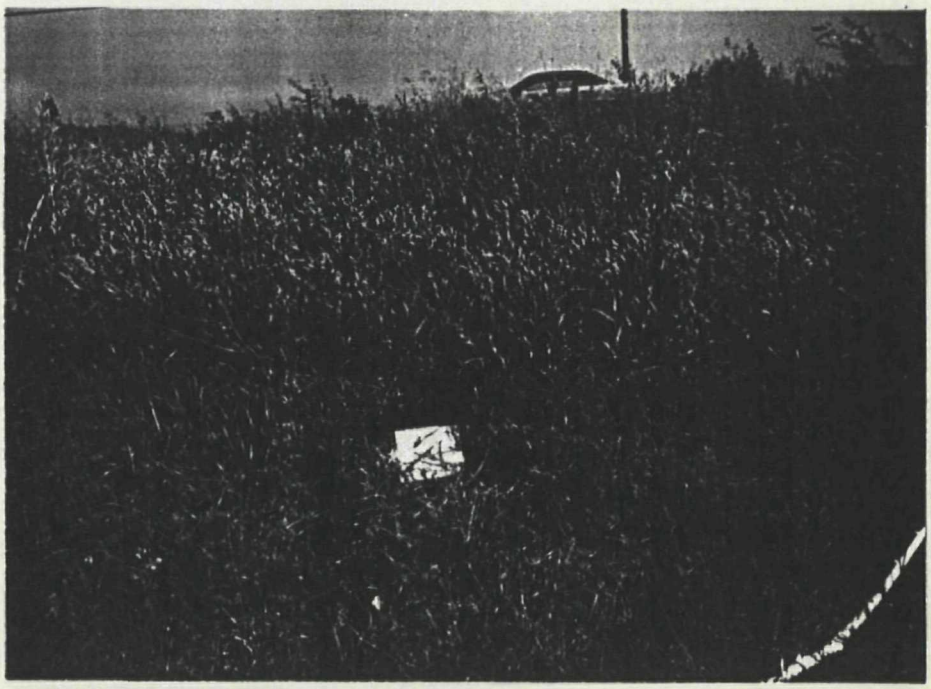
DIRECTION OF PHOTOGRAPH: > E

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S10



DESCRIPTION: > Respective photograph of surface soil sample S10 (potential

> background sample) collected west of Lake Tustin and east of Lake Francis.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MND981528177 TDD: F05-8710-107 PAN: FMN0202SB

DATE: > 8-17-88

TIME: > 1500

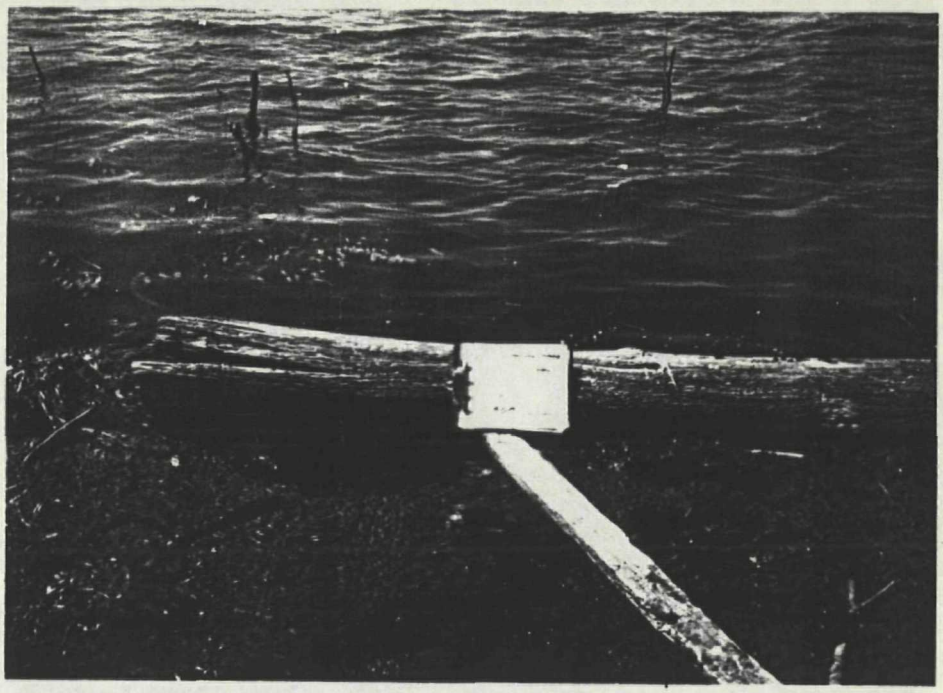
DIRECTION OF PHOTOGRAPH: > W

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S11



DESCRIPTION: > Photograph of surface sediment sample S11 (potential > background sample) collected on east side of Lake Francis.

DATE: > 8-17-88

TIME: > 1500

DIRECTION OF PHOTOGRAPH: > W

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S11

DESCRIPTION: > Perspective photograph of surface sediment sample S11 > (potential background sample) collected on east side of Lake Francis.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MND981528177 TDD: F05-8710-007 PAN: FMN0202SB

DATE: > 8-17-88

TIME: > 1345

DIRECTION OF PHOTOGRAPH: > E

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S12

DESCRIPTION: > Photograph of composite surface soil sample S12 collected

> from Wildlife Management Area near culvert leading from Morsching's property. Photograph of one of three locations of this composite sample.

DATE: > 8-17-88

TIME: > 1345

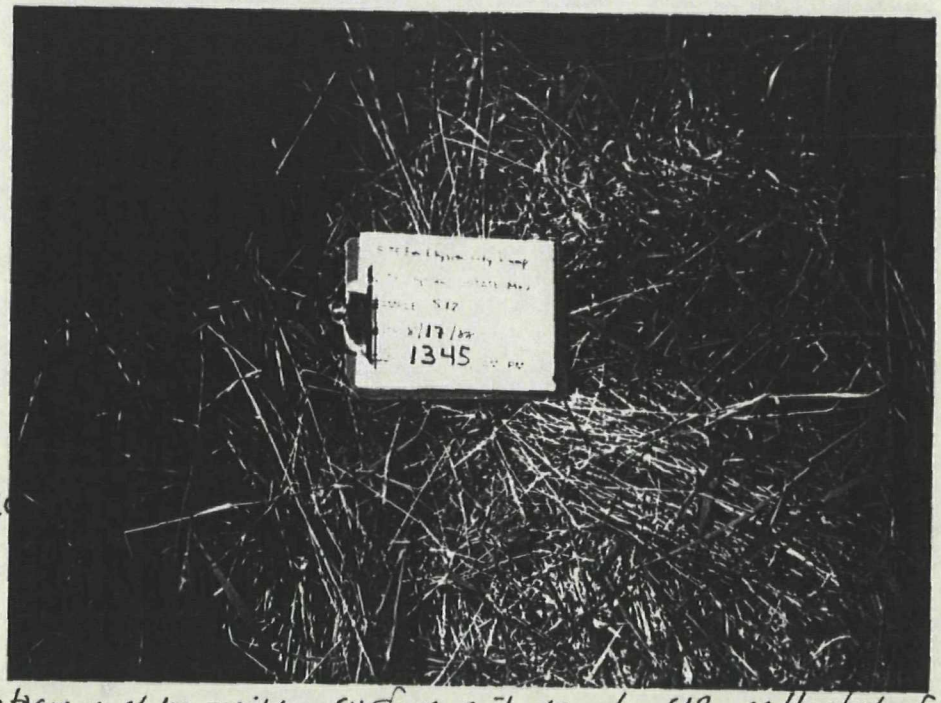
DIRECTION OF PHOTOGRAPH: > E

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S12



DESCRIPTION: > photograph of composite surface soil sample S12 collected from

> Wildlife Management Area near culvert leading from Morsching Property. Photograph of second of three locations of this composite sample.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MND981598177 TDD: F05-8710-007 PAN: FMN0202SB

DATE: > 8-17-88

TIME: > 1345

DIRECTION OF PHOTOGRAPH:
> E

WEATHER CONDITIONS:
> ~90°F

> sunny, humid

PHOTOGRAPHED BY:
> M. Nesterenko

SAMPLE ID (if applicable):
> S12

DESCRIPTION: > Photograph of composite surface soil sample S12 collected

> From Wildlife Management Area near culvert leading from Morsching property. Photograph of third of three locations of this composite sample.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site PAGE 14 OF 22

U.S. EPA ID: MND981528177 TDD: FES-8710-007 PAN: FMN0202SB

DATE: > 8-17-88

TIME: > 1400

DIRECTION OF PHOTOGRAPH: > E

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S13

DESCRIPTION: > Photograph of Composite surface soil sample S13 collected > at East end of Wilderness Area in ditch leading towards Lake Tetonka.

DATE: > 8-17-88

TIME: > 1400

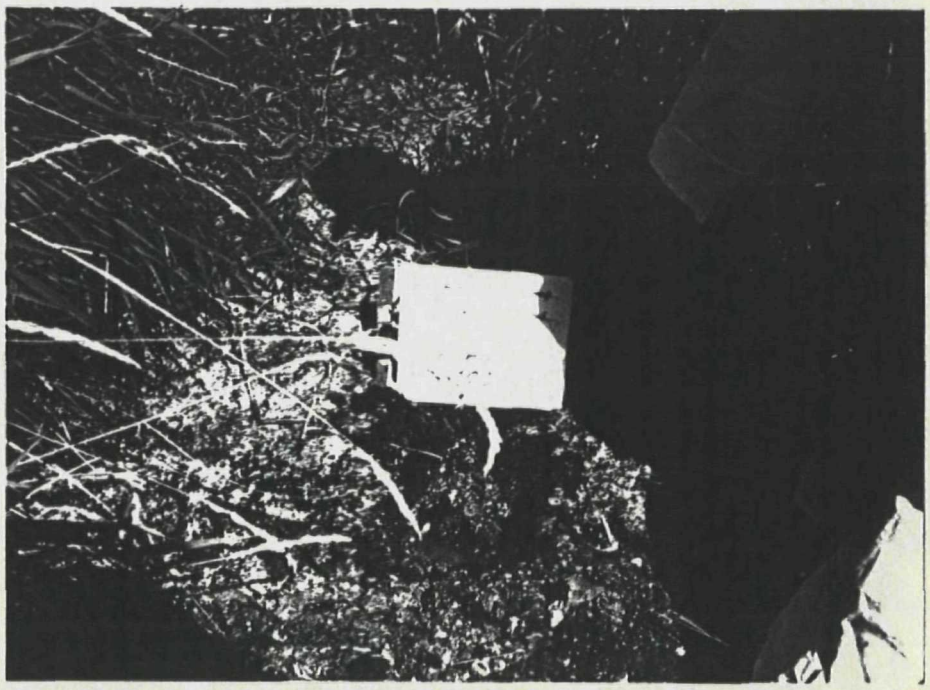
DIRECTION OF PHOTOGRAPH: > E

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > S13



DESCRIPTION: > Photograph of Composite surface soil sample S13 > collected at east end of Wilderness Area in ditch leading towards Lake Tetonka.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MND981528177 TDD: F05-8710-007 PAN: FMN020253

DATE: > 8-17-88

TIME: > 1400

DIRECTION OF PHOTOGRAPH:
> W

WEATHER CONDITIONS:
> N 90°F

> Sunny, humid

PHOTOGRAPHED BY:
> M. Nesterenko

SAMPLE ID (if applicable):
> S13

DESCRIPTION: > Photograph of Culvert leading from Wilderness area to
> ditch which leads to Lake Tetonka. Photograph taken in area where composite surface soil sample S13 was collected.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site PAGE 16 OF 22

U.S. EPA ID: MND981528177 TDD: F05-8710-007 PAN: FMN0202SB

DATE: > 8-18-88

TIME: > 1010

DIRECTION OF PHOTOGRAPH: > N

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > RW1/RW2

DESCRIPTION: > Photograph of Well house of RW1 and RW2 -

> the two Elysian Municipal wells. The right part of the photograph shows the scaffolding of the City Water Tower

DATE: > 8-18-88

TIME: > 1015

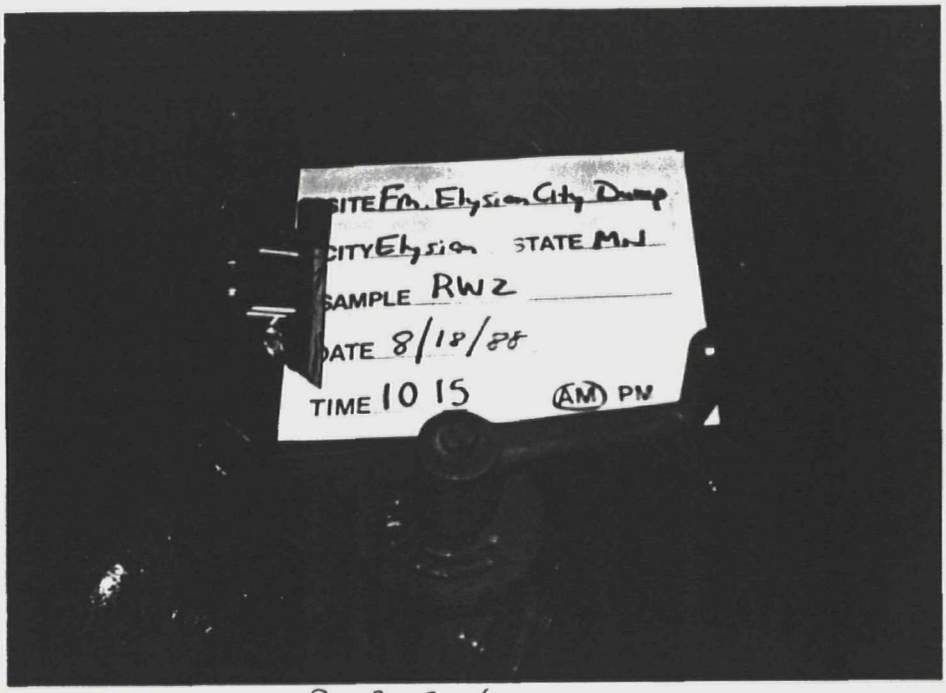
DIRECTION OF PHOTOGRAPH: > N

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > RW2



DESCRIPTION: > Photograph of pump for RW2 (City of

> Elysian Municipal well).

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site PAGE 17 OF 22

U.S. EPA ID: MND981525177 TDD: F07-8710-007 PAN: FMN0202SB

DATE: > 8-18-88

TIME: > 1015

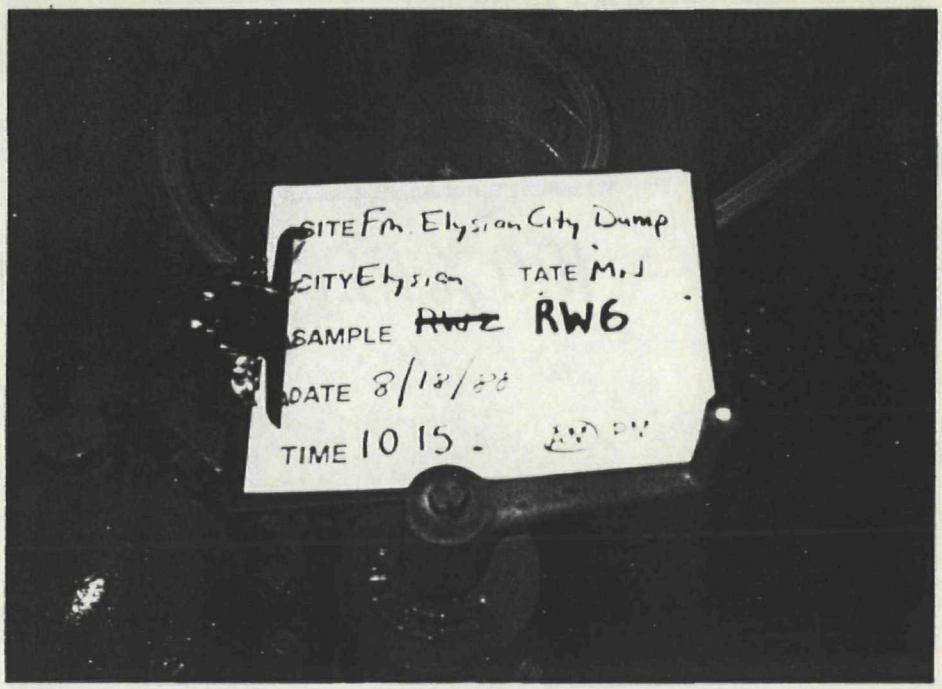
DIRECTION OF PHOTOGRAPH: > N

WEATHER CONDITIONS: > ~90°F

> sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > RW6 - Dup



DESCRIPTION: > Photograph of Duplicate Sample RW6 taken at

> Elysian Municipal Well RW2).

DATE: > 8-18-88

TIME: > RW3

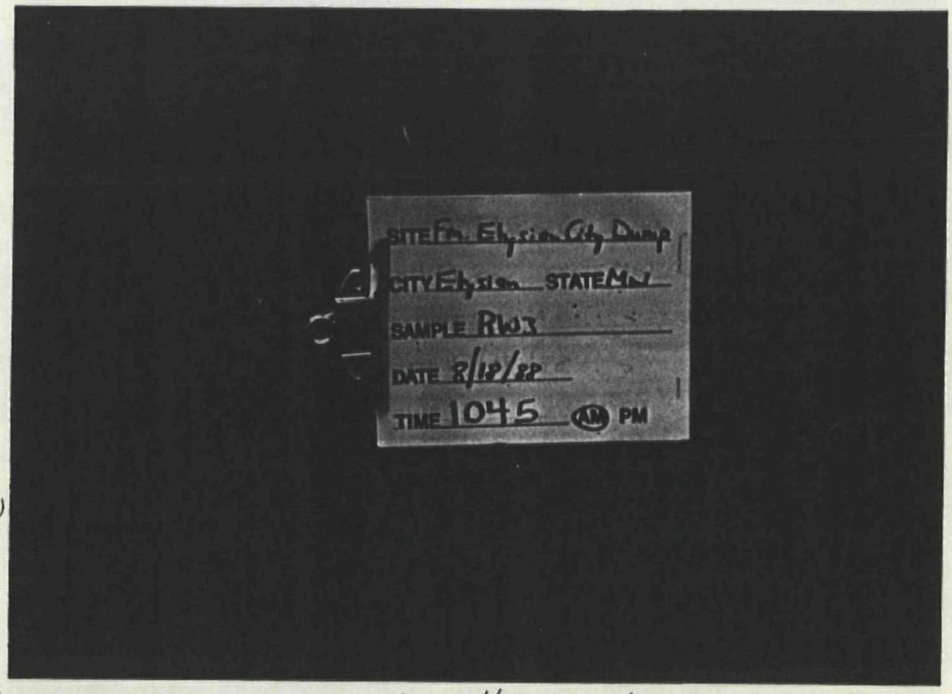
DIRECTION OF PHOTOGRAPH: > W

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > RW3



DESCRIPTION: > Photograph of residential well sample RW3

> collected from a residence Northwest of the site.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MND981528177 TDD: FCS-8710-007 PAN: FMN0202SB

DATE: > 8-18-88

TIME: > 1110

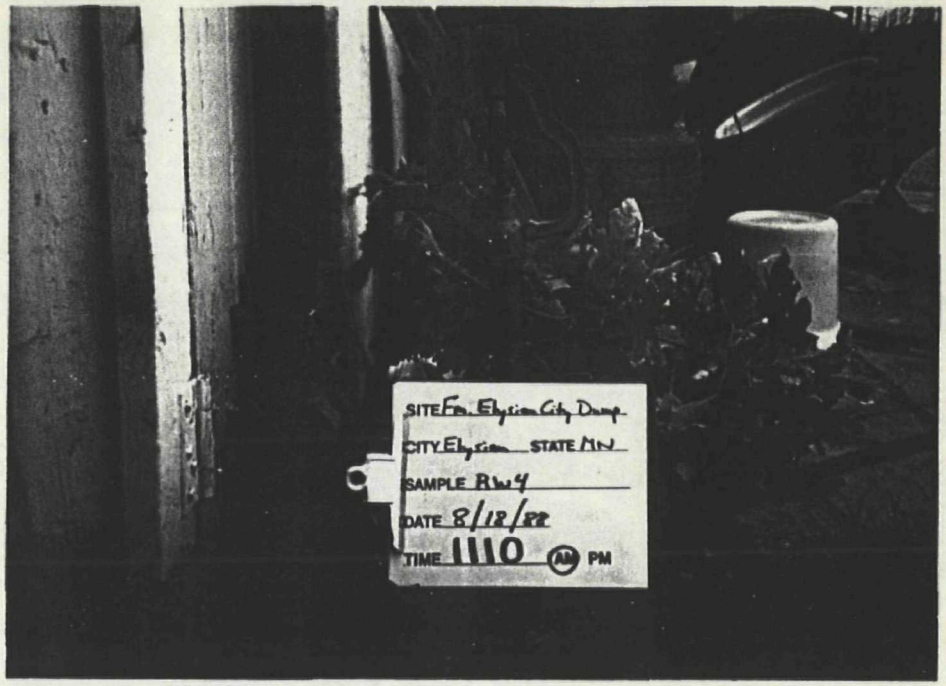
DIRECTION OF PHOTOGRAPH: > N

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nestranko

SAMPLE ID (if applicable): > RW4



DESCRIPTION: > Photograph of Residential well sample RW4

> Collected at a residence northwest of the site.

DATE: > 8-18-88

TIME: > 1130

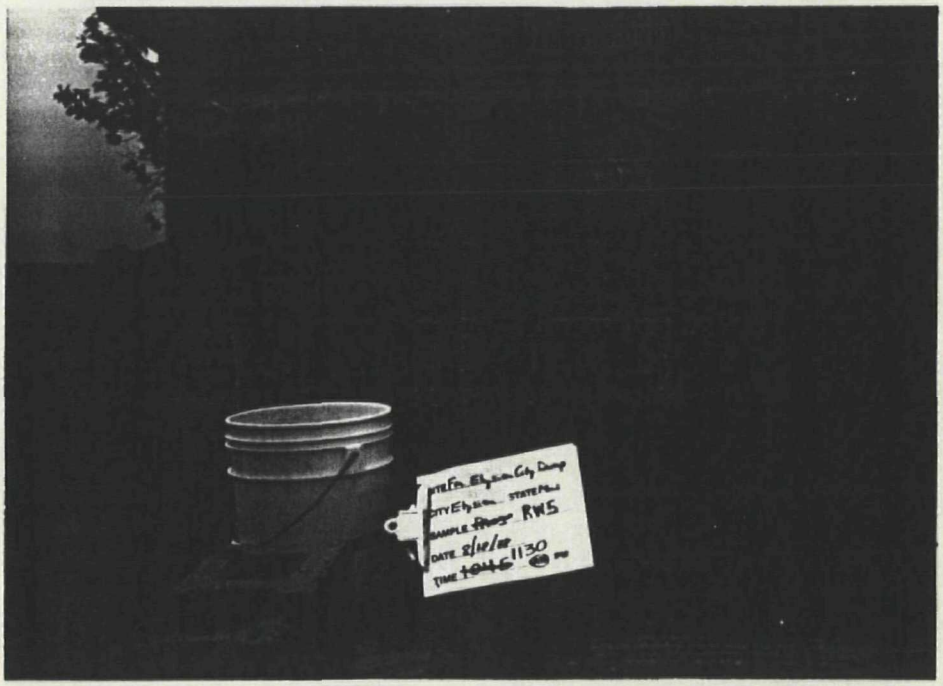
DIRECTION OF PHOTOGRAPH: > N

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nestranko

SAMPLE ID (if applicable): > RW5



DESCRIPTION: > Photograph of residential well sample RW5

> Collected at a residence northeast of the site.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site PAGE 19 OF 22

U.S. EPA ID: MND981528177 TDD: F05-8710-007 PAN: FMN0202SB

DATE: > 8 17 88

TIME: > 1310

DIRECTION OF PHOTOGRAPH: > W

WEATHER CONDITIONS: > ~90°F

> sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > NA

DESCRIPTION: > Photograph from Morsching property showing > Lake Tustin and Elysian water tower.

DATE: > 8 1 88

TIME: > 1311

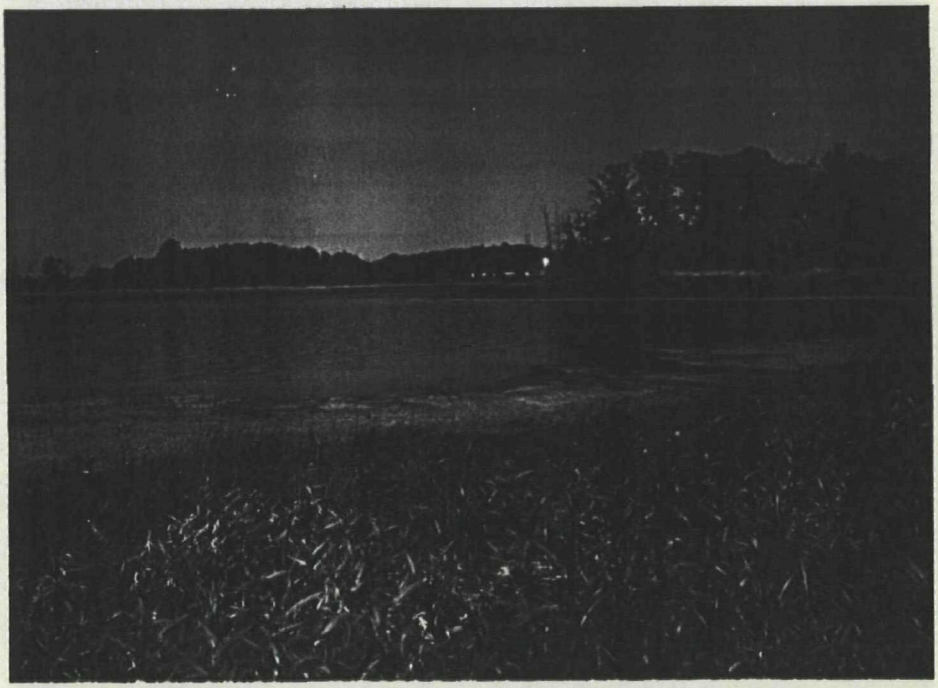
DIRECTION OF PHOTOGRAPH: > E

WEATHER CONDITIONS: > ~90°F

> sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > NA



DESCRIPTION: > Photograph from Morsching property > showing Lake Tustin and area of dump site.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site PAGE 20 OF 22

U.S. EPA ID: MND981528177 TDD: F05-8710-007 PAN: FMN02028B

DATE: > 8-17-88

TIME: > 1312

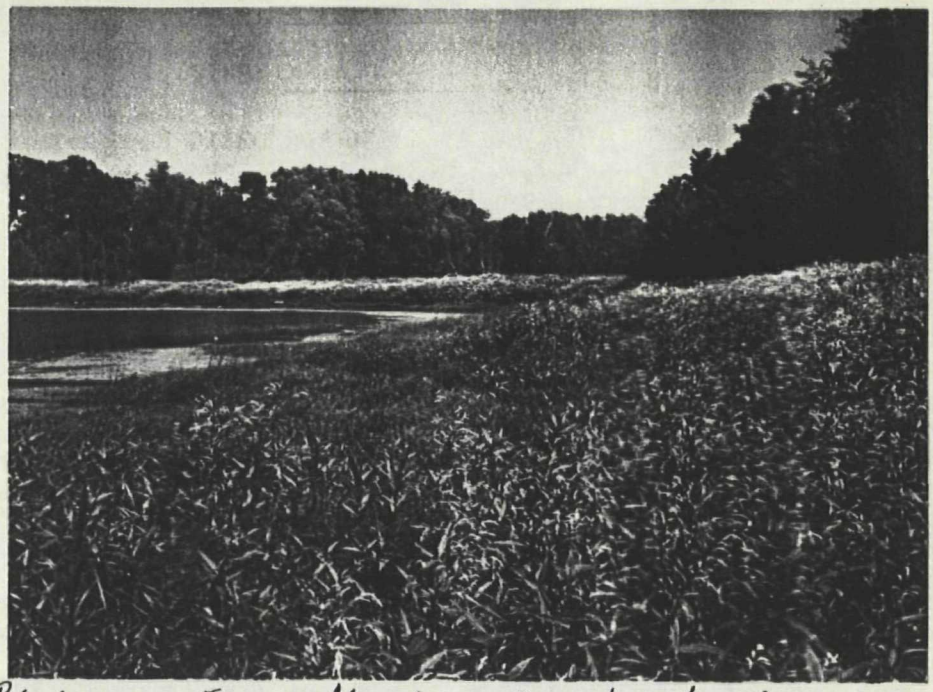
DIRECTION OF PHOTOGRAPH: > E

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > NA



DESCRIPTION: > Photograph From Morsching property showing

> Lake Tustin and dump site.

DATE: > 8-17-88

TIME: > 1320

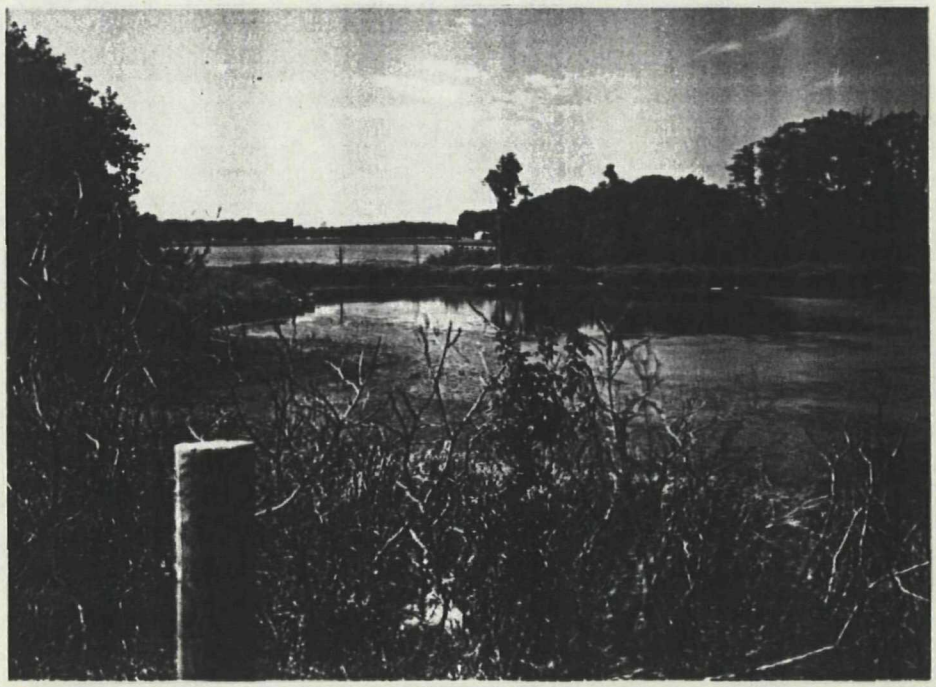
DIRECTION OF PHOTOGRAPH: > NW

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > NA



DESCRIPTION: > Photograph From County Road A showing ponded area,

> dump site, and Lake Tustin.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MND981528177 TDD: F05-8710-007 PAN: FMN0202SB

DATE: > 8-17-88

TIME: > 1510

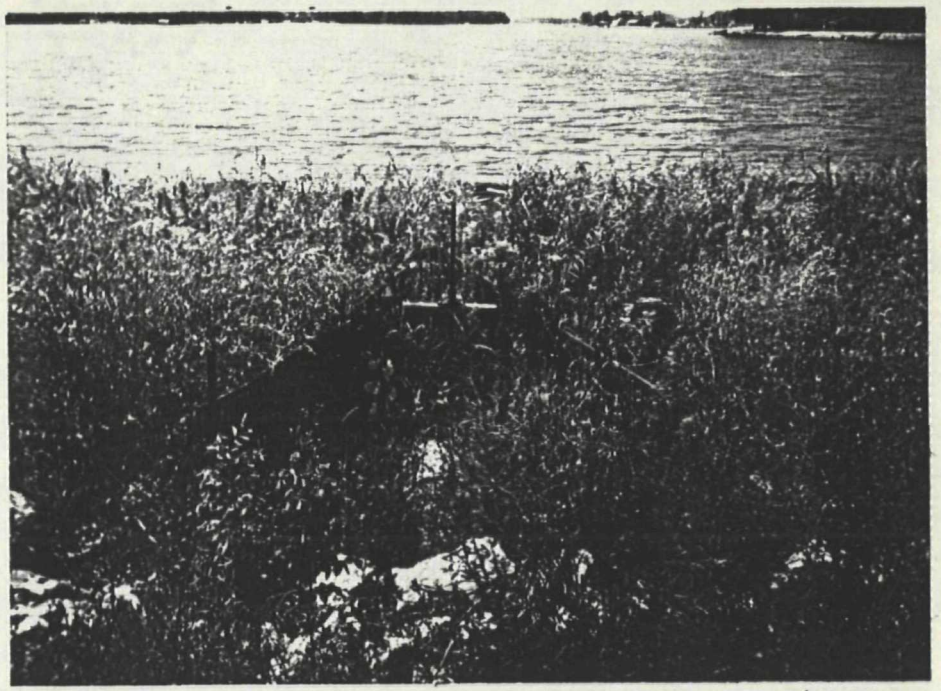
DIRECTION OF PHOTOGRAPH: > W

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > NA



DESCRIPTION: > Photograph showing culvert between Lake Tustin
> and Lake Francis.

DATE: > 8-17-88

TIME: > 1350

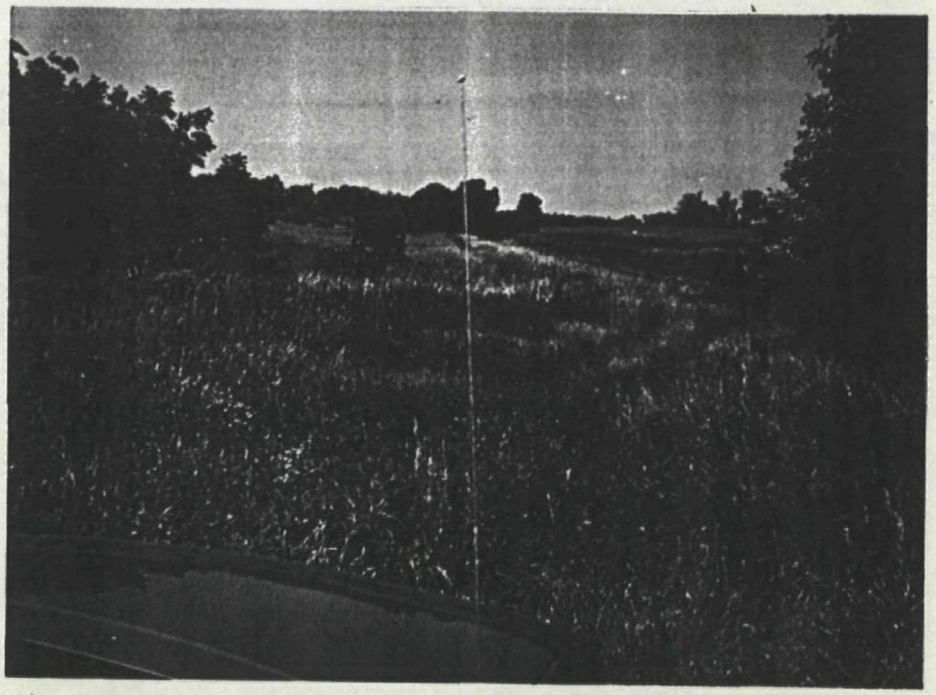
DIRECTION OF PHOTOGRAPH: > N

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): >



DESCRIPTION: > Photograph showing eastern boundary of
> wilderness area. Note farmland on right portion of picture.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Former Elysian City Dump Site

U.S. EPA ID: MND981528177 TDD: F:5-8710-007 PAN: FMN0202SB

DATE: > 8.17.88

TIME: > 1510

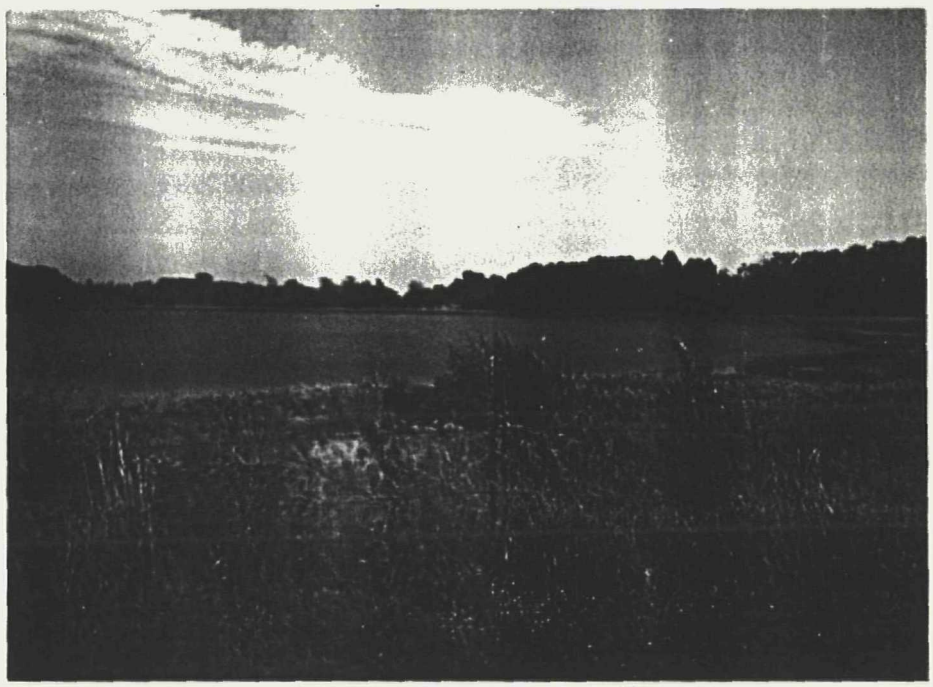
DIRECTION OF PHOTOGRAPH: > E

WEATHER CONDITIONS: > ~90°F

> Sunny, humid

PHOTOGRAPHED BY: > M. Nesterenko

SAMPLE ID (if applicable): > NA



DESCRIPTION: > Photograph taken from County Road 11 showing Lake > Tustin. Dump site is visible across lake and in center of photograph.

APPENDIX E

CHEMICAL ANALYSIS DATA
OF
FIT-COLLECTED SAMPLES

ROUTINE ANALYTICAL SERVICES
CONTRACT REQUIRED DETECTION AND QUANTITATION LIMITS

Contract Laboratory Program
Target Compound List
Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
Chloromethane	74-87-3	10 ug/L	10 ug/Kg
Bromomethane	74-83-9	10	10
Vinyl chloride	75-01-4	10	10
Chloroethane	75-00-3	10	10
Methylene chloride	75-09-2	5	5
Acetone	67-64-1	10	5
Carbon disulfide	75-15-0	5	5
1,1-dichloroethene	75-35-4	5	5
1,1-dichloroethane	75-34-3	5	5
1,2-dichloroethene (total)	540-59-0	5	5
Chloroform	67-66-3	5	5
1,2-dichloroethane	107-06-2	5	5
2-butanone (MEK)	78-93-3	10	10
1,1,1-trichloroethane	71-55-6	5	5
Carbon tetrachloride	56-23-5	5	5
Vinyl acetate	108-05-4	10	10
Bromodichloromethane	75-27-4	5	5
1,2-dichloropropane	78-87-5	5	5
cis-1,3-dichloropropene	10061-01-5	5	5
Trichloroethene	79-01-6	5	5
Dibromochloromethane	124-48-1	5	5
1,1,2-trichloroethane	79-00-5	5	5
Benzene	71-43-2	5	5
Trans-1,3-dichloropropene	10061-02-6	5	5
Bromoform	75-25-2	5	5
4-Methyl-2-pentanone	108-10-1	10	10
2-Hexanone	591-78-6	10	10
Tetrachloroethene	127-18-4	5	5
Tolene	108-88-3	5	5
1,1,2,2-tetrachloroethane	79-34-5	5	5
Chlorobenzene	108-90-7	5	5
Ethyl benzene	100-41-4	5	5
Styrene	100-42-5	5	5
Xylenes (total)	1330-20-7	5	5

Contract Laboratory Program
Target Compound List
Semivolatiles Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
Phenol	108-95-2	10 ug/L	330 ug/Kg
bis(2-Chloroethyl) ether	111-44-4	10	330
2-Chlorophenol	95-57-8	10	330
1,3-Dichlorobenzene	541-73-1	10	330
1,4-Dichlorobenzene	106-46-7	10	330
Benzyl Alcohol	100-51-6	10	330
1,2-Dichlorobenzene	95-50-1	10	330
2-Methylphenol	95-48-7	10	330
bis(2-Chloroisopropyl) ether	108-60-1	10	330
4-Methylphenol	106-44-5	10	330
N-Nitroso-di-n-dipropylamine	621-64-7	10	330
Hexachloroethane	67-72-1	10	330
Nitrobenzene	98-95-3	10	330
Isophorone	78-59-1	10	330
2-Nitrophenol	88-75-5	10	330
2,4-Dimethylphenol	105-67-9	10	330
Benzoic Acid	65-85-0	50	1600
bis(2-Chloroethoxy) methane	111-91-1	10	330
2,4-Dichlorophenol	120-83-2	10	330
1,2,4-Trichlorobenzene	120-82-1	10	330
Naphthalene	91-20-3	10	330
4-Chloroaniline	106-47-8	10	330
Hexachlorobutadiene	87-68-3	10	300
4-Chloro-3-methylphenol	59-50-7	10	330
2-Methylnaphthalene	91-57-6	10	330
Hexachlorocyclopentadiene	77-47-4	10	330
2,4,6-Trichlorophenol	88-06-2	10	330
2,4,5-Trichlorophenol	95-95-4	50	1600
2-Chloronaphthalene	91-58-7	10	330
2-Nitroaniline	88-74-4	50	1600
Dimethylphthalate	131-11-3	10	330
Acenaphthylene	208-96-8	10	330
2,6-Dinitrotoluene	606-20-2	10	330
3-Nitroaniline	99-09-2	50	1600
Acenaphthene	83-32-9	10	330
2,4-Dinitrophenol	51-28-5	50	1600
4-Nitrophenol	100-02-7	50	1600
Dibenzofuran	132-64-9	10	330
2,4-Dinitrotoluene	121-14-2	10	330
Diethylphthalate	84-66-2	10	330
4-Chlorophenyl-phenyl ether	7005-72-3	10	330

Contract Laboratory Program
Target Compound List
Semivolatiles Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SLUDGE SEDIMENT
Fluorene	86-73-7	10 ug/L	330 ug/Kg
4-Nitroaniline	100-01-6	50	1600
4,6-Dinitro-2-methylphenol	534-52-1	50	1600
N-nitrosodiphenylamine	86-30-6	10	330
4-Bromophenyl-phenylether	101-55-3	10	330
Hexachlorobenzene	118-74-1	10	330
Pentachlorophenol	87-86-5	50	1600
Phenanthrene	85-01-8	10	330
Anthracene	120-12-7	10	330
Di-n-butylphthalate	84-74-2	10	330
Fluoranthene	206-44-0	10	330
Pyrene	129-00-0	10	330
Butylbenzylphthalate	85-68-7	10	330
3,3'-Dichlorobenzidine	91-94-1	20	660
Benzo(a)anthracene	56-55-3	10	330
Chrysene	218-01-9	10	330
bis(2-Ethylhexyl)phthalate	117-81-7	10	330
Di-n-octylphthalate	117-84-0	10	330
Benzo(b)fluoranthene	205-99-2	10	330
Benzo(k)fluoranthene	207-08-9	10	330
Benzo(a)pyrene	50-32-8	10	330
Indeno(1,2,3-cd)pyrene	193-39-5	10	330
Dibenz(a,h)anthracene	53-70-3	10	330
Benzo(g,h,i)perylene	191-24-2	10	330

Contract Laboratory Program
Target Compound List
Pesticide and PCB Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
alpha-BHC	319-84-6	0.05 ug/L	8 ug/Kg
beta-BHC	319-85-7	0.05	8
delta-BHC	319-86-8	0.05	8
gamma-BHC (Lindane)	58-89-9	0.05	8
Heptachlor	76-44-8	0.05	8
Aldrin	309-00-2	0.05	8
Heptachlor epoxide	1024-57-3	0.05	8
Endosulfan I	959-98-8	0.05	8
Dieldrin	60-57-1	0.10	16
4,4'-DDE	72-55-9	0.10	16
Endrin	72-20-8	0.10	16
Endosulfan II	33213-65-9	0.10	16
4,4'-DDD	72-54-8	0.10	16
Endosulfan sulfate	1031-07-8	0.10	16
4,4'-DDT	50-29-3	0.10	16
Methoxychlor (Mariate)	72-43-5	0.5	80
Endrin ketone	53494-70-5	0.10	16
alpha-Chlordane	5103-71-9	0.5	80
gamma-chlordane	5103-74-2	0.5	80
Toxaphene	8001-35-2	1.0	160
AROCLOR-1016	12674-11-2	0.5	80
AROCLOR-1221	11104-28-2	0.5	80
AROCLOR-1232	11141-16-5	0.5	80
AROCLOR-1242	53469-21-9	0.5	80
AROCLOR-1248	12672-29-6	0.5	80
AROCLOR-1254	11097-69-1	1.0	160
AROCLOR-1260	11096-82-5	1.0	160

Contract Laboratory Program
Target Analyte List
Inorganic Quantitation Limits

COMPOUND	PROCEDURE	SOIL VATER	SEDIMENT SLUDGE
Aluminum	ICP	200 ug/L	40 mg/Kg
Antimony	Furnace	60	2.4
Arsenic	Furnace	10	2
Barium	ICP	200	40
Beryllium	ICP	5	1
Cadmium	ICP	5	1
Calcium	ICP	5000	1000
Chromium	ICP	10	2
Cobalt	ICP	50	10
Copper	ICP	25	5
Iron	Icp	100	20
Lead	Furnace	5	1
Magnesium	ICP	5000	1000
Manganese	ICP	15	3
Mercury	Cold Vapor	0.2	0.008
Nickel	ICP	40	8
Potassium	ICP	5000	1000
Selenium	Furnace	5	1
Silver	ICP	10	2
Sodium	ICP	5000	1000
Thallium	Furnace	10	2
Vanadium	ICP	50	10
Zinc	ICP	20	4
Cyanide	Color	10	2

CENTRAL REGIONAL LABORATORY
DETECTION LIMITS

CENTRAL REGIONAL LABORATORY
VOLATILE DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIt IN REAGENT WATER
Benzene	71-43-2	1.5 ug/L
Bromodichloromethane	75-27-4	1.5
Bromoform	75-25-2	1.5
Bromomethane	74-83-9	10
Carbon tetrachloride	56-23-5	1.5
Chlorobenzene	108-90-7	1.5
Chloroethane	75-00-3	1.5
2-Chloroethyl vinyl ether	110-75-8	1.5
Chloroform	67-66-3	1.5
Chloromethane	74-87-3	10
Dibromochloromethane	124-48-1	1.5
1,1-dichloroethane	75-34-3	1.5
1,2-dichloroethane	107-06-2	1.5
1,1-dichloroethene	75-35-4	1.5
trans-1,2-dichloroethene	156-60-5	1.5
1,2-dichloropropane	78-87-5	1.5
cis-1,3-dichloropropene	10061-01-5	2
trans-1,3-dichloropropene	10061-02-6	1
Ethyl benzene	100-41-4	1.5
Methylene chloride*	75-09-2	1
1,1,2,2-tetrachloroethane	79-34-5	1.5
Tetrachloroethene	127-18-4	1.5
Toluene*	108-88-3	1.5
1,1,1-trichloroethane	71-55-6	1.5
1,1,2-trichloroethane	79-00-5	1.5
Trichloroethene	79-01-6	1.5
Vinyl chloride	75-01-4	10
Acrolein	107-02-8	100
Acetone*	67-64-1	75
Acrylonitrile	107-13-1	50
Carbon disulfide	75-15-0	3
2-butanone	78-93-3	(50)
Vinyl acetate	108-05-4	15
4-Methyl-2-Pentanone	108-10-1	(3)
2-Hexanone	519-78-6	(50)
Styrene	100-42-5	1
m-xylene	108-38-3	2
o-xylene**	95-47-6	
p-xylene**	106-42-3	2.5**
Total Xylene	1330-02-7	

* Common Laboratory Solvents.
Blank Limit is 5X Method Detection Limit.
( ) Values in parentheses are estimates.
Actual values are being determined at this time.
** The o-xylene and p-xylene are reported as a total of the two.

CRL
SEMIVOLATILE DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT	BLANK LIMIT
Aniline	62-53-3	1.5 ug/L	3 ug/L
Bis(2-chloroethyl)ether	111-44-4	1.5	3
Phenol	108-95-2	2	4
2-Chlorophenol	95-57-8	2	5
1,3-Dichlorobenzene	541-73-1	2	4
1,4-Dichlorobenzene	106-46-7	2	4
1,2-Dichlorobenzene	95-50-1	2.5	5
Benzyl alcohol	100-51-6	2	5
Bis(2-chloroisopropyl) ether	39638-32-9	2.5	5
2-Methylphenol	95-48-7	1	2
Hexdachloroethane	67-72-1	2	4
N-nitrosodipropylamine	621-64-7	1.5	3
Nitrobenzene	98-95-3	2.5	5
4-Methylphenol	106-44-5	1	2
Isophorone	78-59-1	2.5	5
2-Nitrophenol	88-75-5	2	4
2,4-Dimethylphenol	105-67-9	2	4
Bis(2-chloroethoxy)methane	111-91-1	2.5	5
2,4-Dichlorophenol	120-83-2	2	4
1,2,4-Trichlorobenzene	120-82-1	2	4
Naphthalene	91-20-3	2	4
4-Chloroaniline	106-47-8	2	4
Hexachlorobutadiene	87-68-3	2.5	5
Benzoic acid	65-85-0	(30)	(60)
2-Methylnapthalene	91-57-6	2	4
4-Chloro-3-methylphenol	59-50-7	1.5	3
Hexachlorocyclopentadiene	77-47-4	2	4
2,4,6-Trichlorophenol	88-06-2	1.5	3
2,4,5-Trichlorophenol	95-95-4	1.5	3
2-Chloronapthalene	91-58-7	1.5	3
Acenapthylene	208-96-8	1.5	3
Dimethyl phthalate	131-11-3	1.5	3
2,6-Dinitrotoluene	606-20-2	1	2
Acenaphthene	83-32-9	1.5	3
3-Nitroaniline	99-09-2	2.5	5
Dibenzofuran	132-64-9	1	2
2,4-Dinitrophenol	51-28-5	(15)	(30)
2,4-Dinitrotoluene	121-14-2	1	2

cont.

CRL
SEMIVOLATILE DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT	BLANK (a) LIMIT
Fluorene	86-73-7	1 ug/L	2 ug/L
4-Nitrophenol	100-02-7	1.5	3
4-Chlorophenyl phenyl ether	7005-72-3	1	2
Diethylphthalate	84-66-2	1	2
4,6-dinitro-2-methylphenol	534-52-1	(15)	(30)
1,2-Diphenylhydrazine	122-66-7	1	2
n-Nitrosodiphenylamine *	86-30-6		
Diphenylamine *	122-39-4	1.5	3
4-Nitroaniline	100-01-6	3	6
4-Bromophenyl-phenylether	101-55-3	1.5	3
Hexachlorobenzene	118-74-1	1.5	3
Pentachlorophenol	87-86-5	2	4
Phenanthrene	85-01-8	1	2
Anthracene	120-12-7	2.5	5
Di-n-butylphthalate	84-74-2	2	4
Fluoranthene	206-44-0	1.5	3
Pyrene	129-00-0	1.5	3
Butylbenzylphthalate	85-68-7	3.5	7
Chrysene **	218-01-9		
Benzo(a)anthracene **	56-55-3	1.5	3
bis(2-Ethylhexyl)phthalate	117-81-7	1	2
Di-n-octyl phthalate	117-84-0	1.5	3
Benzo(b)fluoranthene ***	205-99-2		
Benzo(k)fluoranthene ***	207-08-9	1.5	3
Benzo(a)pyrene	50-32-8	2	4
Indeno(1,2,3-cd)pyrene	193-39-5	3.5	7
Dibenzo(a,h)anthracene	53-70-3	2.5	5
Benzo(g,h,i)perylene	191-24-2	4	8
2-Nitroaniline	88-74-4	1	2

cont. 9/87

* These two parameters are reported as a total.
** These two parameters are reported as a total.
*** These two parameters are reported as a total.
(a) If the blank limit is exceeded, the sample is reextracted and rerun.
( ) Values in parentheses are estimates.
The actual values are being determined at this time.

Note: Limits are for reagent water.

CHL

PESTICIDE AND PCB DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aldrin	309-00-2	0.005 ug/L
alpha BHC	319-84-6	(0.010)
beta BHC	319-85-7	(0.005)
delta BHC	319-86-8	(0.005)
gama BHC (Lindane)	58-89-9	0.005
Chlordane	57-74-9	(0.020)
4,4'-DDD	72-54-8	(0.020)
4,4'-DDE	72-55-9	(0.005)
4,4'-DDT	50-29-3	0.020
Dieldrin	60-57-1	0.010
Endosulfan I	959-98-8	0.010
Endosulfan II	33213-65-9	0.010
Endosulfan sulfate	1031-07-8	(0.10)
Endrin	72-20-8	0.010
Endrin aldehyde	7421-93-4	(0.030)
Endrin ketone	53494-70-5	(0.030)
Heptachlor	76-44-8	0.030
Heptachlor epoxide	1024-57-3	0.005
4,4'-Methoxychlor	72-43-5	0.020
Toxaphene	8001-35-2	(0.25)
PCB-1242	53469-21-9	(0.10)
PCB-1248	12672-29-6	(0.10)
PCB-1254	11097-69-1	(0.10)
PCB-1260	11096-82-5	(0.10)

( ) Values in parentheses are estimates.
Actual values are being determined at this time.

Note: Limits are for reagent water.

CRL
INORGANIC DETECTION LIMITS

JANUARY 1986

COMPOUND	PROCEDURE	DETECTION LIMITS	RANGE	UNITS
Aluminum	ICP	80	80 to 1,000,000	ug/L
Antimony	Furnace	2	2 to 30	ug/L
Arsenic	Furnace	2	2 to 30	ug/L
Barium	ICP	6	6 to 20,000	ug/L
Beryllium	ICP	1	1 to 20,000	ug/L
Boron	ICP	80	80 to 20,000	ug/L
Cadmium	ICP	10	10 to 20,000	ug/L
Cadmium	Furnace	0.2	0.2 to 2	ug/L
calcium	ICP	0.5	0.5 to 1,000	mg/L
Chromium	ICP	8	8 to 20,000	ug/L
Cobalt	ICP	6	6 to 20,000	ug/L
Copper	ICP	6	6 to 20,000	ug/L
iron	ICP	80	80 to 1,000,000	ug/L
Lead	Furnace	2	2 to 30	ug/L
Lead	ICP	70	70 to 20,000	ug/L
Lithium	ICP	10	10 to 20,000	ug/L
Magnesium	ICP	0.1	0.1 to 200	mg/L
Maganese	ICP	5	5 to 20,000	ug/L
Mercury	Cold vapor	0.1	0.1 to 2	ug/L
Molybdenum	ICP	15	15 to 20,000	ug/L
Nickel	ICP	15	15 to 20,000	ug/L
Potassium	ICP	5	5 to 1,000	mg/L
Selenium	Furnace	2	2 to 30	ug/L
Silver	ICP	6	6 to 10,000	ug/L
Sodium	ICP	1	1 to 1,000	mg/L
Strontium	ICP	10	10 to 20,000	ug/L
Sulfide	Titration	1	< 1	mg/L
Sulfide	Color	0.05	< 1	mg/L
Thallium	Furnace	2	2 to 30	ug/L
Titanium	ICP	25	25 TO 20,000	UG/L
Tin	ICP	40	40 to 20,000	ug/L
Vanadium	ICP	5	5 to 20,000	ug/L
Yttrium	ICP	5	5 to 20,000	ug/L
Zinc	ICP	40	40 to 1,000,000	ug/L
Cyanide	AA	8	8 to 200	ug/L

Note: The above list may or may not contain compounds that are routinely analyzed at CRL for low level detection limits for drinking water.

See Inorganic Routine Analytical Services for related CAS #.

SPECIAL ANALYTICAL SERVICES
DETECTION LIMITS

Drinking Water Samples

SPECIAL ANALYTICAL SERVICES DRINKING WATER
VOLATILE QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT IN REAGENT WATER
Benzene	71-43-2	1.5 ug/L
Bromodichloromethane	74-27-4	1.5
Bromoform	75-25-2	1.5
Bromomethane	74-83-9	10
Carbon tetrachloride	56-23-5	1.5
Chlorobenzene	108-90-7	1.5
Chloroethane	75-00-3	1.5
2-Chloroethyl vinyl ether	110-75-8	1.5
Chloroform	67-66-3	1.5
Chloromethane	74-87-3	10
Dibromochloromethane	124-48-1	1.5
1,1-Dichloroethane	75-34-3	1.5
1,2-Dichloroethane	107-06-2	1.5
1,1-Dichloroethene	75-35-4	1.5
trans-1,2-Dichloroethene	156-60-5	1.5
1,2-Dichloropropane	78-87-5	1.5
cis-1,3-Dichloropropene	10061-01-5	2
trans-1,3-Dichlopropropene	10061-02-6	1
Ethyl benzene	100-41-4	1.5
Methylene chloride *	75-09-2	1
1,1,2,2-Tetrachloroethane	79-34-5	1.5
Tetrachloroethene	127-18-4	1.5
Toluene *	108-88-3	1.5
1,1,1-Trichloroethane	71-55-6	1.5
1,1,2-Trichloroethane	79-00-5	1.5
Trichloroethene	79-01-6	1.5
Vinyl chloride	75-01-4	10
Acrolein	107-02-8	100
Acetone *	67-64-1	75
Acrylonitrile	107-13-1	50
Carbon disulfide	75-15-0	3
2-Butanone	78-93-3	(50)
Vinyl acetate	108-05-4	15
4-Methyl-2-pentanone	108-10-1	(3)
2-Hexanone	519-78-6	(50)
Styrene	100-42-5	1
m-Xylene	108-38-3	2
o-Xylene **	95-47-6	
p-Xylene **	106-42-3	2.5 **
Xylene (total)	1330-02-7	

* Common laboratory solvents.
Blank limit is 5x method detection limit.
( ) Values in parentheses are estimates.
actual values are being determined at this time.
** The o-xylene and p-xylene are reported as a total of the two.

SAS DRINKING WATER
SEMIVOLATILES QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aniline	62-53-3	1.5 ug/l
Bis(2-chloroethyl)ether	111-44-4	1.5
Phenol	108-95-2	2
2-Chlorophenol	95-57-8	2
1,3-Dichlorobenzene	541-73-1	2
1,4-Dichlorobenzene	106-46-7	2
1,2-Dichlorobenzene	95-50-1	2.5
Benzyl alcohol	100-51-6	2
Bis(2-chloroisopropyl)ether	39638-32-9	2.5
2-Methylphenol	95-48-7	1
Hexachloroethane	67-72-1	2
n-Nitrosodipropylamine	621-64-7	1.5
Nitrobenzene	98-95-3	2.5
4-Methylphenol	88-75-5	1
Isophorone	78-59-1	2.5
2-Nitrophenol	88-75-5	2
2,4-Dimethylphenol	105-67-9	2
Bis(2-Chloroethoxy)methane	111-91-1	2.5
2,4-Dichlorophenol	120-83-2	2
1,2,4-Trichlorobenzene	120-82-1	2
Naphthalene	91-20-3	2
4-Chloroaniline	106-47-8	2
Hexachlorobutadiene	87-68-3	2.5
Benzoic Acid	65-85-0	(30)
2-Methylnapthalene	91-57-6	2
4-Chloro-3-methylphenol	59-50-7	1.5
Hexachlorocyclopentadiene	77-47-4	2
2,4,6-Trichlorophenol	88-06-2	1.5
2,4,5-Trichlorophenol	95-95-4	1.5
2-Chloronapthalene	91-58-7	1.5
Acenapthylhene	208-96-8	1.5
Dimethyl phthalate	131-11-3	1.5
2,6-Dinitrotoluene	606-20-2	1
Acenaphthene	83-32-9	1.5
3-Nitroaniline	99-09-2	2.5
Dibenzofuran	132-64-9	1
2,4-Dinitrophenol	51-28-5	(15)
2,4-Dinitrotoluene	121-14-2	1

SAS DRINKING WATER
SEMIVOLATILE QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Fluorene	86-73-7	1 ug/L
4-Nitrophenol	100-02-7	1.5
4-Chlorophenyl phenyl ether	7005-72-3	1
Diethyl phthalate	84-66-2	1
4,6-Dinitro-2-methylphenol	534-52-1	(15)
1,2-Diphenylhydrazine	122-66-7	1
n-Nitrosodiphenylamine *	86-30-6	
Diphenylamine *	122-39-4	1.5
4-Nitroaniline	100-01-6	3
4-Bromophenyl-phenylether	101-55-3	1.5
Hexachlorobenzene	118-74-1	1.5
Pentachlorophenol	87-86-5	2
Phenanthrene	85-01-8	1
Anthracene	120-12-7	2.5
di-n-Butyl phthalate	84-74-2	2
Fluoranthene	206-44-0	1.5
Pyrene	129-00-0	1.5
Butyl benzyl phthalate	85-68-7	3.5
Chrysene **	218-01-9	
Benzo(A)Anthracene **	56-55-3	1.5
bis(2-ethylhexyl)phthalate	117-81-7	1
di-n-Octyl phthalate	117-84-0	1.5
Benzo(b)fluoranthene ***	205-99-2	
Benzo(k)fluoranthene ***	207-08-9	1.5
Benzo(a)pyrene	50-32-8	2
Indeno(1,2,3-cd)pyrene	193-39-5	3.5
Dibenzo(a,h)anthracene	53-70-3	2.5
Benzo(g,h,i)perylene	191-24-2	4
2-Nitroaniline	88-74-4	1

* These two parameters are reported as a total.
** These two parameters are reported as a total.
*** These two parameters are reported as a total.

( ) Values in parentheses are estimates.
The actual values are being determined at this time.

Note: Limits are for reagent water.

SAS DRINKING WATER
PESTICIDE AND PCB QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aldrin	309-00-2	0.005 ug/L
alpha BHC	319-84-6	(0.010)
beta BHC	319-85-7	(0.005)
delta BHC	319-86-8	(0.005)
gamma BHC (Lindane)	58-89-9	0.005
Chlordane	57-74-9	(0.020)
4,4'-DDD	72-54-8	(0.020)
4,4'-DDE	72-55-9	(0.005)
4,4'-DDT	50-29-3	0.020
Dieldrin	60-57-1	0.010
Endosulfan I	959-98-8	0.010
Endosulfan II	33213-65-9	0.010
Endosulfan sulfate	1031-07-8	(0.10)
Endrin	72-20-8	0.010
Endrin Aldehyde	7421-93-4	(0.030)
Endrin Ketone	53494-70-5	(0.030)
Heptachlor	76-44-8	0.030
Heptachlor Epoxide	1024-57-3	0.005
4,4'-Methoxychlor	72-43-5	0.020
Toxaphene	8001-35-2	(0.25)
PCB-1242	53469-21-9	(0.10)
PCB-1248	12672-29-6	(0.10)
PCB-1254	11097-69-1	(0.10)
PCB-1260	11096-82-5	(0.10)

( ) Values in parentheses are estimates.
Actual values are being determined at this time.

Note: Limits are for reagent water.

SAS DRINKING WATER
INORGANIC DETECTION LIMITS

JANUARY 1986

PARAMETER	PROCEDURE	DETECTION LIMIT
Aluminum	ICP	100
Antimony	GFAA	2
Arsenic	GFAA	2
Barium	ICP	50
Beryllium	ICP	5
Cadmium	ICP	10
Cadmium	GFAA	0.2
Calcium	ICP	1000
Chromium	ICP	10
Cobalt	ICP	10
Copper	ICP	10
Iron	ICP	100
Lead	GFAA	2
Magnesium	ICP	1000
Manganese	ICP	10
Mercury	Cold Vapor	0.2
Nickel	ICP	20
Potassium	ICP	2000
Selenium	GFAA	2
Silver	ICP	5
Sodium	ICP	1000
Thallium	GFAA	2
Tin	ICP	40
Vanadium	ICP	10
Zinc	ICP	20
Cyanide	Colorimetric	5.0

Note: The above list may or may not contain compounds that are routinely analyzed at CRL for low level detection limits for drinking water.

See Inorganic Routine Analytical Services (RAS) for related CAS #.

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

CRL Receipt Date 9/27/88 FIT Receipt Date 10/19/88 Review Completed 10/21/88

TO: Nisterenko
FROM: Mary Gzyra
SUBJECT: Former Elysian Dump
PAN: MN0202SB (1 hour charged for review) Case # 10185

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
# 13	Low Soil	#	Low Soil
	Low Water		Low Water
	Drinking Water		Drinking Water
	Other		Other

Project Data Status XXX Completed!!

Incomplete, awaiting

FIT Data Review Findings:
HH, aromatics, PAH, & Pest detected.

Check Data Sheets for Transcription Errors

✓ Compounds were detected in sample(s); see enclosed sheet.

Book No. 8 Page No. 190 Date Sampled 8/17

0759:2

* Physical state of pure material, not necessarily the physical state of the waste.

** For Section II of 2070-13.

*** For Section III of 2070-13.

Abbreviations for waste characteristics:

A - Toxic
B - Corrosive
C - Radiative
D - Persistent
E - Soluble
F - Infectious
G - Flammable
H - Ignitable
I - Highly volatile
J - Explosive
K - Reactive
L - Incompatible
M - Not applicable

SI Memo & Category Abbreviations:

A - Aromatic
CLA - Common lab artifact
CSC - Common soil constituent
HA - Halogenated - aromatic
HH - Halogenated - hydrocarbon
HM - Heavy metal
HYD - Hydrocarbon
IOC - Other inorganic compound
K - Ketone
M - Metal (density < 5x water density)
NA - Nitrogen - aromatic
NH - Nitrogen - hydrocarbon
OCC - Other organic compound
P - Phenol
PAH - Polyaromatic hydrocarbon
PCB - Polychlorinated biphenyl
PEST - Pesticide
PH - Phthalate
SH - Sulfur - hydrocarbon
SOL - Solvent

0916:1

Table 4-> Cont.

Physical State*	Waste Characteristics**	Category***	SI Memo	Sample Collection Information and Parameters	> 1 EAV	> 2	> 3	> 4	> 5	> 6	> 7	> 8	> 9	> 10	> 11	> 12	EBW
					Sample Number												
				Semivolatile Organics, Cont.	88	89	90	91	92	93	94	95	96	97	98	99	00
Solid	A,D	OCC	PAH	anthracene							200 J						
Liquid	A,D	OCC	PH,CLA	di-n-butylphthalate													
Solid	A,D	OCC	PAH	fluoranthene	61 J	110 J		40 J	48 J	59 J	1600 J			68 J		34 J	
Solid	A,D	OCC	PAH	pyrene	61 J	110 J		35 J	56 J	68 J	1500 J			69 J		40 J	32 J
Liquid	A,D	OCC	PH,CLA	butylbenzylphthalate													
	A,D	OCC	HA	3,3'-dichlorobenzidine													
Solid	A,D	OCC	PAH	benzo[a]anthracene	29 J	60 J					580 J			32 J			
Solid	A,D	OCC	PAH	chrysene	32 J	59 J				28 J	610 J			34 J			
Liquid	A,D	OCC	PH,CLA	bis(2-ethylhexyl)phthalate													
Liquid	A,D	OCC	PH,CLA	di-n-octylphthalate													
Solid	A,D	OCC	PAH	benzo[b]fluoranthene	25 J	64 J					580 J			21 J			
Solid	A,D	OCC	PAH	benzo[k]fluoranthene	31 J	62 J					630 J			34 J			
Solid	A,D,K,L	OCC	PAH	benzo[a]pyrene	26 J	56 J					660 J			33 J			
Solid	A,D	OCC	PAH	indeno[1,2,3-cd]pyrene													
Solid	A,D	OCC	PAH	dibenzo[a,h]anthracene													
Solid	A,D	OCC	PAH	benzo[g,h,i]perylene													
				Pesticides/PCBs			90 DL-										
Solid	A,D	PSD	PEST	alpha BHC													
Solid	A,D	PSD	PEST	beta BHC													
Solid	A,D	PSD	PEST	delta BHC													
Solid	A,D	PSD	PEST	gamma BHC (Lindane)													
Solid	A,D	PSD	PEST	Heptachlor													
Solid	A,D	PSD	PEST	Aldrin													
Solid	A,D	PSD	PEST	Heptachlor epoxide													
Solid	A,D	PSD	PEST	Endosulfan I													
Solid	A,D,E	PSD	PEST	Dieldrin													
Solid	A,D	PSD	PEST	4,4'-DDE													
Solid	A,D	PSD	PEST	Endrin													
Solid	A,D	PSD	PEST	Endosulfan II													
Solid	A,D	PSD	PEST	4,4'-DDD			1100 JD										
Solid	A,D	PSD	PEST	Endosulfan sulfate													
Solid	A,D	PSD	PEST	4,4'-DDT		40 J	460 JD										
Solid	A,D	PSD	PEST	Methoxychlor (Mariate)													
Solid	A,D	PSD	PEST	Endrin ketone													
Solid	A,D	PSD	PEST	alpha Chlordane													
Solid	A,D	PSD	PEST	gamma Chlordane													
Solid	A,D	PSD	PEST	Toxaphene													
Liquid	A,D	OCC	PCB	Aroclor 1016													
Liquid	A,D	OCC	PCB	Aroclor 1221													
Liquid	A,D	OCC	PCB	Aroclor 1232													
Liquid	A,D	OCC	PCB	Aroclor 1242													
Liquid	A,D	OCC	PCB	Aroclor 1248													
Liquid	A,D	OCC	PCB	Aroclor 1254													
Liquid	A,D	OCC	PCB	Aroclor 1260													

Table 4->
RESULTS OF CHEMICAL ANALYSIS OF
FIT-COLLECTED > ____ SAMPLES

Former Elysian # 10185

2070-13 Physical State*	Waste Characteristics**	Category***	SI Memo	Sample Collection Information and Parameters / Compound Detected (values in > µg/L or µg/kg)	>1	>2	>3	>4	>5	>6	>7	>8	>9	>10	>11	>12	EBW
				Date													
				Time													
				Organic Traffic Report Number													
				Inorganic Traffic Report Number													
				Temperature (°C)													
				Specific Conductivity (µmhos)													
				pH													
					EAV												
					88	89	90	91	92	93	94	95	96	97	98	99	00
				Volatile Organics													
Gas	A,D,G,I	OCC	HH	chloromethane							31 J						
Gas	A,D,G,I	OCC	HH	bromomethane													
Gas	A,D,G,I	OCC	HH	vinyl chloride													
Gas	A,D,G,I	OCC	HH	chloroethane													
Liquid	A,D,H,I	SOL	HH,CLA	methylene chloride													
Liquid	E,H,I,A	SOL	K,CLA	acetone							12 J	46					
Liquid	A,H,I	SOL	SH	carbon disulfide													
Liquid	A,D,G,I	SOL	HH	1,1-dichloroethene													
Liquid	A,D,H,G	SOL	HH	1,1-dichloroethane													
Liquid	A,D,G	SOL	HH	1,2-dichloroethene (total)				2 J									
Liquid	A,D	SOL	HH	chloroform							44 JB						
Liquid	A,D,G	SOL	HH	1,2-dichloroethane													10 J
Liquid	A,E,G	SOL	K,CLA	2-butanone (MEK)													
Liquid	A,D	SOL	HH	1,1,1-trichloroethane													
Liquid	A,D	SOL	HH	carbon tetrachloride													
Liquid	A,D,G	SOL	HYD	vinyl acetate													
Liquid	A,D	OCC	HH	bromodichloromethane													
Liquid	A,D,G	SOL	HH	1,2-dichloropropane													
Liquid	A,D,G	SOL	HH	cis-1,3-dichloropropene													
Liquid	A,D,G,B	SOL	HH	trichloroethene													
Liquid	A,D	OCC	HH	dibromochloromethane													
Liquid	A,D	SOL	HH	1,1,2-trichloroethane													
Liquid	A,G	SOL	A	benzene			3 J										
Liquid	A,D,G	SOL	HH	trans-1,3-dichloropropene													
Liquid	A,D	SOL	HH,CLA	bromoform													
Liquid	A,E,G	SOL	K,CLA	4-methyl-2-pentanone			15 J										
Liquid	A,E,G	SOL	K	2-hexanone													
Liquid	A,D	SOL	HH	tetrachloroethene					3 J	2 J	6 J	4 J	11 J	7 J	18 J	4 J	
Liquid	A,G,E	SOL	A,CLA	toluene													
Liquid	A,D,E	SOL	HH	1,1,2,2-tetrachloroethane													
Liquid	A,D,G	SOL	HA	chlorobenzene													
Liquid	A,G	SOL	A	ethylbenzene →			2 J				-						
Liquid	A,D,G	OCC	A	styrene													
Liquid	A,G	SOL	A	xylenes (total)			24 JX										

Table 4-> Cont.

2070-13 Physical State*	Waste CHARACTERISTICS	CATEGORY**	SI Memo	Sample Collection Information and Parameters / Semivolatile Organics	>_1 EAV 88	>_2 89	>_3 90	>_4 91	>_5 92	>_6 93	>_7 94	>_8 95	>_9 96	>_10 97	>_11 98	>_12 99	EBW 00
S, thick liquid	A,B,E	OCC	P	phenol													
Liquid	A,D,B	OCC	HH	bis(2-chloroethyl)ether													
Liquid	A,D,B	OCC	P	2-chlorophenol													
Liquid	A,D,H	SOL	HA	1,3-dichlorobenzene													
Solid	A,D,H	OCC	HA	1,4-dichlorobenzene													
Liquid	A,D,H	SOL	A	benzyl alcohol													
Liquid	A,D,H	OCC	HA	1,2-dichlorobenzene													
Liquid	A,B	OCC	P	2-methylphenol													
	A,D	OCC	HH	bis(2-chloroisopropyl)ether													
Liquid	A,B	OCC	P	4-methylphenol													
	A	OCC	H-Amine	n-nitroso-di-n-dipropylamine													
Solid	A,D	OCC	HH	hexachloroethane													
Liquid	A,D	OCC	HA	nitrobenzene													
Liquid	A,D	OCC	H	isophorone													
Solid	A,D	OCC	P	2-nitrophenol													
Solid	A,B	OCC	P	2,4-dimethylphenol													
Solid	A	OCC	A	benzoic acid													
	A,D	OCC	HH	bis(2-chloroethoxy)methane													
Liquid	A,D	OCC	P	2,4-dichlorophenol													
Liquid	A,D	OCC	HA	1,2,4-trichlorobenzene													
Solid	A	OCC	PAH	naphthalene													
Solid	A,D	OCC	HH	4-chloroaniline													
Liquid	A,D,B	OCC	HH	hexachlorobutadiene													
Solid	A,D	OCC	P	4-chloro-3-methylphenol													
Liquid	A,D	OCC	PAH	2-methylnaphthalene													
Liquid	A,D,B	OCC	HH	hexachlorocyclopentadiene													
Solid	A,D	OCC	P	2,4,6-trichlorophenol													
Solid	A,D	OCC	P	2,4,5-trichlorophenol													
Liquid	A,D	OCC	PAH	2-chloronaphthalene													
Solid	A,D	OCC	NH	2-nitroaniline													
Liquid	A,D	OCC	PH,CLA	dimethylphthalate													
Solid	A,D	OCC	PAH	acenaphthylene													
Solid	A,D	OCC	NA	2,6-dinitrotoluene													
Solid	A,D	OCC	NH	3-nitroaniline													
Solid	A,D	OCC	PAH	acenaphthene													
Solid	A,D,G	OCC	P	2,4-dinitrophenol													
Solid	A,D	OCC	P	4-nitrophenol													
Solid	A,D	OCC	A	dibenzofuran													
Solid	A,D	OCC	NA	2,4-dinitrotoluene													
Liquid	A,D	OCC	PH	diethylphthalate													
	A,D	OCC	HH	4-chlorophenyl-phenylether													
Solid	A,D	OCC	PAH	fluorene													
Solid	A,D,E	OCC	NH	4-nitroaniline													
Solid	A,D	OCC	P	4,6-dinitro-2-methylphenol													
Solid	A,D	OCC	NH	n-nitrosodiphenylamine													
Liquid	A,D	OCC	HH	4-bromophenyl-phenylether													
Solid	A,D	OCC	HA	hexachlorobenzene													
Solid	A,D	OCC	P	pentachlorophenol													
Solid	A,D	OCC	PAH	phenanthrene	28 J	95 J		26 J			990 J			39 J			

COMPOUND QUALIFIERS	DEFINITION	INTERPRETATION
U	Indicates compound was analyzed for but not detected.	Compound was not detected at or above the CRQL.
J	Indicates an estimated value.	Compound value may be semiquantitative.
UJ	Quantitation limit is estimated due to a quality control (QC) protocol.	Compound was not detected if value is at CRQL, e.g., 10U UJ. If a value is reported with a UJ above CRQL and it is <5x blank concentration (10x for common laboratory artifacts), the compound is detected but may be a laboratory artifact and not attributable to the sample.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/µL in the final extract shall be confirmed by GC/MS.	Compound was confirmed by GC/MS and is quantitative. Use pesticide/PCB listed values.
B	This flag is used when the compound is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.	Compound value may be semiquantitative if it is <5x the blank concentration (<10x the blank concentrations for common laboratory artifacts: phthalates, methylene chloride, acetone, toluene, 2-butanone).
E	This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods.	Compound value may be semiquantitative. There should be another analysis with a D qualifier, which is to to be used.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.	Alerts data user to a possible change in the CRQL. Data is quantitative.
A	This flag indicates that a TIC is a suspected aldol-condensation product.	Alerts data user of a laboratory artifact in the TICs only.
R	Results are unusable due to a major violation of QC protocol.	Compound value is not usable.
X	Cannot be confirmed by CLP protocols.	Compound may or may not be present.

ANALYTE QUALIFIERS		DEFINITION	INTERPRETATION
OLD	NEW		
E	E	Estimated or not reported due to interference. See laboratory narrative.	Analyte or element was not detected, or value may be semiquantitative.
S	S	Analysis by Method of Standard Additions.	Value is quantitative.
R	N	Spike recoveries outside QC protocols, which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semi-quantitative.
*	*	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be quantitative or semiquantitative.
+	+	Correlation coefficient for standard additions is less than 0.995. See review and laboratory narrative.	Data value may be biased.
[ ]	B	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.
UJ		DL is estimated because of a QC protocol. DL is possibly above or below CRDL.	Compound or element was not detected.
J		Value is above CRDL and is an estimated value because of a QC protocol.	Value may be semiquantitative.
U	U	Compound was analyzed for but not detected.	Compound was not detected at or above the CRDL.
	M	Duplicate injection precision not met.	Value may be semiquantitative.
	W	Post-digestion spike for furnace AA analysis is out of control limits (35-115%), while sample absorbance is <50% of spike absorbance.	Value may be semiquantitative.
	R	Results are unusable due to a major violation of QC protocols.	Analyte value is not usable.

Source: Ecology and Environment, Inc. 1989

DATE: 10/12/88

10/19

SUBJECT: Review of Region V CLP Data Received for Review on 9-27-88

FROM: Curtis Ross, Director (5SCRL) Patrick J. Chuville for
Central Regional Laboratory

TO: Data User: Dit

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

SITE NAME: Former Elysian City SMO Case No. 10185

EPA Data Set No. SF 5484 No. of Samples: 13 D.U./Activity Numbers 4905/C7212

CRL No. 88FN28S24-536

SMO Traffic No. EAV88-99, EBWOO

CLP Laboratory: Hazleton Hrs. Required for Review: 11

Following are our findings:

Thirteen soil samples were received in "cool and intact" condition and they were analyzed at low level concentration for VOA, SVOA and Pest/PCB.
CCS summary report did not accompany case.
Field blank and duplicate not included in case.
Pages 100176 and 100320 were of very poor copy.

The reviewer's narrative and data qualifiers are noted in the following pages.

Jerry N. Yamauchi
Weston/ESAT, 10/4/88

( ) Data are acceptable for use.
(✓) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

DATA QUALIFIERS

Contractor: HAZLET

Case 10185

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

1. Sample Holding Times:

Soil volatile, semivolatile and pesticide analysis holding times met the advisory limit with the exception of BAV85 which exceeded the 7 day rule of semivolatile by 16 days due to reextraction on 9/9/88. (Sampled on 8/17/88).

All samples were received on 8/18/88. All compounds, pos and neg results are estimated 'J' and 'UJ', respectively.

2. GC/MS Tuning and GC Performance:

GC/MS tuning based on % Relative Abundance of BFB and DFTPP ions complied with the mass list and ion abundance criteria.

DDT/Endrin breakdown of Eval Mix B was within the ≤20% limit analyzed on pac column.

RT shifts of DBC in SDG BAV88 and affiliated samples, analyzed on single and mix phase columns, were within the ≤2.0 %D.

RTs of DDT were >12 min.

3. Calibrations:

Initial and continuing calibrations of VOA and SVOA were evaluated for outliers based on SPCC and CCC limits and any HSL compound outliers found were recorded in the Outlier Times and flagged 'J' for pos results as estimated and 'R' for nondetects as estimated unusable.

In the linearity check of pesticides on mix phase column, DDT was >20% RSD (13.0 ; 10.9) and aldrin and DDT were >20% RSD (13.9 ; 10.9) on the single phase column. All associated quantitation results (mix-phase column) are estimated 'J' and neg results estimated 'UJ'.

Reviewed by: Gary N. Gamauski

Phone: (312) 353-2460

Date: 10/4/88

DATA QUALIFIERS

Contractor: HAZLET

Case 16185

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

In the quantitation run of pesticide on mix-phase columns DDT and methoxychlor were high in IND-H (first run 47.2 and 40.5; second run: 33.3 and 21.1). All associated compounds with pos. quantitative results are estimated 'J' and neg results estimated 'UJ'.

4. Blanks:

VBlks 01, 02, and 03 contained methylene chloride, acetone chloroform, toluene and/or 2-butanone (02). In the associated samples shown in Form IV VOA, nearly all the samples contained the above contaminants, except no toluene in FEAV 94, 94RE, 96RE, 99RE and FBW 00 MS/MSD; no 2-butanone in FEAV 88 to 90, 91 92, 92RE and 99RE. The associated co-contaminants were flagged appropriately reflecting its quantitation limits via dilution as U, CRQL + U and/or No Flag.

Di-n-butylphthalate and bis(2-ethylhexyl)phthalate were detected in SBlk 01 and only the latter in 02. In the associated samples shown in Form IV SVOA, all the samples including MS/MSD contained the contaminants, except no di-n-butylphthalate in FEAV 95 and no bis(2-ethylhexyl)phthalate in FEAV 89, 90, 92 to 94. The associated co-contaminants of the blanks were flagged as stated above.

PBlk 01 was clean and so was its associated samples shown in Form IV PEST. FEAV 57 indicated presence of detectable amount of DDT (40).

All TICs were appropriately flagged with ST and/or BJ.

Reviewed by: Gerry N. Yamauchi

Phone: (312) 353-2460

Date: 10/4/88

DATA QUALIFIERS

Contractor: HAZLET

Case 20185

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

5. Surrogate %Rec.:

In the soil volatile surrogate of SD & EAV 88 and its affiliated samples, toluene-d8 was high in EAV 90 (119), 90 RE (135), 92 (121), 92 RE (125), 94 (119), 94 RE (123), 96 (127), 96 RE (126), 99 (131) and 99 RE (135); bromofluorobenzene was moderately low in EAV 90 (71), 90 RE (71), 92 RE (72), 96 (RE) (71) and 99 RE (68). These results are affected by matrix condition as noted in the reanalysis, therefore the pos results for that fraction are flagged as estimated 'J' and the neg results as estimated 'UJ'.

Soil semivolatile surrogate recoveries were within the QC limits of the standards.

Soil pesticide surrogate was within its QC limit; except DBC was diluted out in EAV 98 DL. The undiluted fraction was within QC limit, therefore, the diluted run is ignored. Dilution was performed since γ-BHC had an interfering peak.

6. MS/MSD %Rec and %RPD:

In the soil volatile matrix spike of EBW 00, 1,1-dichloroethene recovery was low by 1% in MSD (08). The unspiked EBW00 indicated this compound non-detect, therefore, the pos results of this sample fraction are estimated 'J' and the neg results estimated 'UJ'.

In the soil semivolatile matrix spike of EAV 88, pentachlorophenol recovery was low by 1% in MSD (16) and high in %RPD (64). This compound was non-detect in the unspiked fraction, therefore, it is flagged as stated above.

Soil pesticide matrix spike of EAV 88 gave MS/MSD %Rec.

Reviewed by: Gary N. Yamanaki

Phone: (312) 353-2960

Date: 10/4/88

DATA QUALIFIERS

Contractor: HAZLET

Case 70165

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

and %RPD within QC limit of its respective standards.

7. Field Blank and Duplicate: Not sampled.

8. Internal Standard Performance:
In the soil volatile internal std areas and RTs of SDG EAV 88 and its affiliated samples, chlorobenzene (CBZ) was moderately below the lower limit of the 12 hr. std areas in samples EAV 89, 90RE, 92RE, 96RE, 99RE and the RTs were within the RT ranges. For these sample fractions, the pos. results are estimated 'J' and the neg results of the quantitation limits are estimated 'UJ'.
Soil semivolatile internal std areas and RTs of SDG EAV 88 and its affiliated sample fractions were within the 12 hr std's areas and RT ranges.

9. Compound Quantitation and Reported Detection Limits:
Target compound quantitations were reported.
Detection limits were adjusted to reflect CRQL and the results were flagged accordingly.

10. Compound ID:
TICs were identified via library search for best fit.
Pesticide ID confirmation via RTs of DDT and DDD of sample fractions of EAV 89 and 90DL met the RT window ranges of the standards.

11. System Performances:
Baselines of RIC and GC were relatively stable and

Reviewed by: Perry N. Yamauchi

Phone: (312) 353-2960

Date: 10/4/88

DATA QUALIFIERS

Contractor: HAZLET

Case 70185

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

useable.

12 Case Assessment:
The data in this case have been reviewed and qualifications made where necessary.

Reviewed by: Gerry N. Yamauchi
Phone: (312) 353-2960
Date: 10/4/88

CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE/SAS # 10185 CONTRACTOR HAZLET

Instrument # 5700A	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	8/17/88			8/26/88 1322			8/29/88 1035			8/22/88 0852					
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane	1.49			.68	54.3	J	.38	74.6	J	.59	60.6	J			
Bromomethane	.72	33.8	J	.57	20.9		.63	12.4		1.05	46.4	J			
Vinyl Chloride															
Chloroethane	.92			.57	76.7	J	.94	88.9	J	.34	6.0				
Methylene Chloride	1.57	48.5	J	1.19	24.1		1.85	17.5		1.04	34.2	J			
Acetone	.86	36.9	J	1.75	98.9	J	.91	51.5		.48	44.2	J			
Carbon Disulfide	3.48			3.31	4.9		3.46	0.4		1.42	59.2	J			
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone															
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate															
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform															
4-Methyl-2-Pentanone															
2-Hexanone															
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

VBlk01	VBlk02	VBlk03
EAV88	EAV92	EBW80
EAV89	EAV93	EBW80MS
EAV90	EAV94	EBW80MSD
EAV91	EAV95	ZZZZZ
	EAV96	EAV90RE
	EAV97	EAV92RE
	EAV98	EAV96RE
	EAV99	EAV99RE
		EAV94RE

Reviewer's Initials/Date: T.G. 10/3/88

* These flags should be applied to the analytes on the sample data sheets.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 9
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
(Page 1)

CASE/SAS # 10185 CONTRACTOR HAZLET

Instrument # FINN	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	8/6/88			8/24/88 1147			8/25/88 0725			9/9/88 1214					
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Phenol															
Bis-2-Chloroethyl Ether															
2-Chlorophenol															
1,3-Dichlorobenzene															
1,4-Dichlorobenzene															
Benzyl Alcohol															
1,2-Dichlorobenzene															
2-Methylphenol															
Bis-2-Chloroisopropyl Ether															
4-Methylphenol															
N-Nitroso-Di-n-Propylamine															
Hexachloroethane															
Nitrobenzene															
Isophorone															
2-Nitrophenol															
2,4-Dimethylphenol															
Benzoic Acid															
Bis-2-Chloroethoxy Methane															
2,4-Dichlorophenol															
1,2,4-Trichlorobenzene															
Naphthalene															
4-Chloroaniline															
Hexachlorobutadiene															
4-Chloro-3-Methylphenol															
2-Methylnaphthalene															
Hexachlorocyclopentadiene															
2,4,6-Trichlorophenol															
2,4,5-Trichlorophenol															
2-Chloronaphthalene															
2-Nitroaniline	.38			.38	6.3		.38	0.8		.48	25.1	J			
Dimethyl Phthalate															
Acenaphthylene															
3-Nitroaniline															
Acenaphthene															
2,4-Dinitrophenol	.14			.19	31.5	J	.17	19.6		.13	9.8				
4-Nitrophenol	.12			.10	14.5	J	.09	22.2		.16	35.9	J			
Dibenzofuran															

AFFECTED SAMPLES:

SBlk 01	EAV 96	SBlk 02
EAV 88	EAV 97	EAV 95
EAV 88 MS/MSD	EAV 98	
EAV 89	EAV 99	
EAV 90	EAV 00	
EAV 91		
EAV 92		
EAV 93		
EAV 94		

Reviewer Initials/Date: [illegible] 10/3/88

* These flags should be applied to the analytes on the sample data sheets.

8/87

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS

CASE/SAS # 10185 CONTRACTOR HAZLET

Instrument # FINN	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	8/5/88			6/24/88 1147			8/26/88 0725			9/9/88 1214					
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
2,4-Dinitrotoluene															
2,6-Dinitrotoluene															
Diethylphthalate															
4-Chlorophenyl-phenylether															
Fluorene															
4-Nitroaniline	.22			.24	4.9		.26	13.8		.29	27.6	J			
4,6-Dinitro-2-Methylphenol															
N-Nitrosodiphenylamine															
4-Bromophenyl-phenylether															
Hexachlorobenzene															
Pentachlorophenol															
Phenanthrene															
Anthracene															
Di-n-Butylphthalate															
Fluoranthene															
Pyrene															
Butylbenzylphthalate															
Benzo(a)Anthracene															
bis(2-Ethylhexyl)Phthalate															
Chrysene															
Di-n-Octyl Phthalate															
Benzo(b)Fluoranthene															
Benzo(k)Fluoranthene															
Benzo(a)Pyrene															
Indeno(1,2,3-cd)Pyrene															
Dibenz(a,h)Anthracene															
Benzo(g,h,i) Perylene															

SEE PAGE 1 FOR AFFECTED SAMPLES.

* These flags should be applied to the analytes on the sample data sheets.

Reviewer's Initials/Date: Gary N. Yamanaki 10/3/88

8/87

Case: 10185

Contractor: HAZLET

TENTATIVELY IDENTIFIED COMPOUNDS MATCH ASSESSMENT

NOTE: Reviewer should note directly on Organic Analysis Data Sheet (OADS) those matches that in his opinion (based on contract criteria) are unreasonable.

CRITERIA

(1) Relative intensities of major ions (>10%) reference spectrum should be present in the sample spectrum.

(2) Relative intensities of major ions in sample spectrum should agree to within ± 20% of reference spectrum intensities.

(3) Molecular ions present in reference spectrum should be present in sample spectrum.

(4) Ions present in sample spectrum, but not in reference spectrum should be reviewed for possible background contamination or presence of coeluting interferences.

(5) Ions present in reference spectrum, but not in the sample spectrum should be reviewed for possible subtraction from the sample spectrum because of background contamination or coeluting interferences.

(6) If, in the reviewer's opinion, no valid identification can be made the compound should be labelled as "unknown" and the initials and date of the reviewer placed on the OADS.

Gary N. Yamanaki

RECEIVED 8/30/88 [illegible]

PERFUND 5484

SAMPLE DATES: 8/17-18/88
LOG IN DATE: 8/30/88
DUE DATE: 10/27/88

CENTRAL REGIONAL LABORATORY SAMPLE DATA REPORT
ORGANICS/INORGANICS
THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY

CASE NUMBER/SAS No. 10185 SITE NAME Former Elysian City Dump LABORATORY Hayes/NLE DATE SHIPPED 8/17,18/88

SUPERFUND DU NUMBER U905 EPA RPM or OSC (S.M.S.)/(CES) CERCLIS NUMBER MND981528177 PAGE 1 OF 13

ACTIVITY NUMBER C72100

CRL LOG NUMBER	ORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No.	INORGANIC TRAFFIC REPORT NUMBER	WATER OR LIQUIDS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN UG/L TOX17574	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN UG/L TOX17564	WATER POLYCHLORINATED BIPHENYLS UG/L PES 17144	WATER CHLORINATED PESTICIDES UG/L PES17134	TOTAL METALS IN WATER UG/L MET111	WATER CYANIDE UG/L MIN74919	NITRATE/NITRITE MG/L MIN7284	AMMONIA MG/L MIN7294	RESIDUE, FILTERABLE TDS MG/L MIN7362	RESIDUE, NON-FILT TSS MG/L MIN7372			SEDIMENTS or SOILS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN MG/KG TOX215722	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN MG/KG TOX215822	SEDIMENTS POLYCHLORINATED BIPHENYLS MG/KG PES211422	SEDIMENT CHLORINATED PESTICIDES MG/KG 211322	TOTAL METALS MG/KG MET413	CYANIDE MG/KG MIN44930	EP TOXICITY METALS MG/KG	AMMONIA MG/KG MIN42925			
8FN28524	EAV88	MEBR81													✓	✓	✓	✓	✓	✓					
8FN28525	EAV89	MEBR82													✓	✓	✓	✓	✓	✓					
8FN28526	EAV90	MEBR83													✓	✓	✓	✓	✓	✓					
8FN28527	EAV91	MEBR84													✓	✓	✓	✓	✓	✓					
8FN28528	EAV92	MEBR85													✓	✓	✓	✓	✓	✓					
8FN28529	EAV93	MEBR86													✓	✓	✓	✓	✓	✓					
8FN28530	EAV94	MEBR87													✓	✓	✓	✓	✓	✓					
8FN28531	EAV95	MEBR88													✓	✓	✓	✓	✓	✓					
8FN28532	EAV96	MEBR89													✓	✓	✓	✓	✓	✓					
8FN28533	EAV97	MEBR90													✓	✓	✓	✓	✓	✓					
8FN28534	EAV98	MEBR91													✓	✓	✓	✓	✓	✓					
8FN28535	EAV99	MEBR92													✓	✓	✓	✓	✓	✓					
8FN28536	EBW00	MEBR93													✓	✓	✓	✓	✓	✓					

VOLATILE ORGANICS ANALYSIS DATA SHEET

EAV88

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803756

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A146

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 16 Date Analyzed: 08/18/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	18	~~B~~ U
67-64-1	Acetone	12	~~B~~ U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	2	~~B~~ 6 U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	17	~~B~~
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Xylenes (total)	6	U

T.H. 10/3/88

T.H. 10/3/88

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EAV88

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803756

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A146

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 16 Date Analyzed: 08/18/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1066-40-6	SILANOL, TRIMETHYL-	12.85	16	BJ
2.	108-87-2	CYCLOHEXANE, METHYL-	17.95	26	JX
3.	1186-53-4	PENTANE, 2,2,3,4-TETRAMETHYL	18.80	11	JX
4.	589-34-4	HEXANE, 3-METHYL-	20.00	16	J
5.	108-08-7	PENTANE, 2,4-DIMETHYL-	20.50	9	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV89

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803757

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A147

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 13 Date Analyzed: 08/18/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
74-87-3	Chloromethane	11	U	
74-83-9	Bromomethane	11	U	
75-01-4	Vinyl Chloride	11	U	
75-00-3	Chloroethane	11	U	
75-09-2	Methylene Chloride	16	~~UB~~ U	T.H. 10/3/88
67-64-1	Acetone	10	~~BJ~~ 11U	T.H. 10/3/88
75-15-0	Carbon Disulfide	6	U	
75-35-4	1,1-Dichloroethene	6	U	
75-34-3	1,1-Dichloroethane	6	U	
540-59-0	1,2-Dichloroethene (total)	6	U	
67-66-3	Chloroform	1	~~BJ~~ 6U	T.H. 10/3/88
107-06-2	1,2-Dichloroethane	6	U	
78-93-3	2-Butanone	11	U	
71-55-6	1,1,1-Trichloroethane	6	U	
56-23-5	Carbon Tetrachloride	6	U	
108-05-4	Vinyl Acetate	11	U	
75-27-4	Bromodichloromethane	6	U	
78-87-5	1,2-Dichloropropane	6	U	
10061-01-5	cis-1,3-Dichloropropene	6	U	
79-01-6	Trichloroethene	6	U	
124-48-1	Dibromochloromethane	6	U	
79-00-5	1,1,2-Trichloroethane	6	U	
71-43-2	Benzene	6	U	
10061-02-6	Trans-1,3-Dichloropropene	6	U	
75-25-2	Bromoform	6	U	
108-10-1	4-Methyl-2-Pentanone	11	U	
591-78-6	2-Hexanone	11	U	
127-18-4	Tetrachloroethene	6	U	
79-34-5	1,1,2,2-Tetrachloroethane	6	U	
108-88-3	Toluene	9	~~B~~ U	T.H. 10/3/88
108-90-7	Chlorobenzene	6	U	
100-41-4	Ethylbenzene	6	U	
100-42-5	Styrene	6	U	
1330-20-7	Xylenes (total)	6	U	

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EAV89

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803757

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A147

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 13 Date Analyzed: 08/18/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 109-66-0	PENTANE	11.75	7	J
2. 1066-40-6	SILANOL, TRIMETHYL-	12.90	16	BJX
3. 108-87-2	CYCLOHEXANE, METHYL-	17.95	30	JX
4.	UNKNOWN	18.80	14	JX
5. 589-34-4	HEXANE, 3-METHYL-	20.05	16	J
6. 108-08-7	PENTANE, 2,4-DIMETHYL-	20.55	9	J

1H

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV90

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803758

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A148

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 79 Date Analyzed: 08/18/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	48	U
74-83-9	Bromomethane	48	U
75-01-4	Vinyl Chloride	48	U
75-00-3	Chloroethane	48	U
75-09-2	Methylene Chloride	69	~~B~~ U
67-64-1	Acetone	110	~~B~~ U
75-15-0	Carbon Disulfide	24	U
75-35-4	1,1-Dichloroethene	24	U
75-34-3	1,1-Dichloroethane	24	U
540-59-0	1,2-Dichloroethene (total)	24	U
67-66-3	Chloroform	7	~~BJ~~ 24U
107-06-2	1,2-Dichloroethane	24	U
78-93-3	2-Butanone	48	U
71-55-6	1,1,1-Trichloroethane	24	U
56-23-5	Carbon Tetrachloride	24	U
108-05-4	Vinyl Acetate	48	U
75-27-4	Bromodichloromethane	24	U
78-87-5	1,2-Dichloropropane	24	U
10061-01-5	cis-1,3-Dichloropropene	24	U
79-01-6	Trichloroethene	24	U
124-48-1	Dibromochloromethane	24	U
79-00-5	1,1,2-Trichloroethane	24	U
71-43-2	Benzene	3	J
10061-02-6	Trans-1,3-Dichloropropene	24	U
75-25-2	Bromoform	24	U
108-10-1	4-Methyl-2-Pentanone	15	J
591-78-6	2-Hexanone	48	U
127-18-4	Tetrachloroethene	24	U
79-34-5	1,1,2,2-Tetrachloroethane	24	U
108-88-3	Toluene	11	~~BJ~~ 24U
108-90-7	Chlorobenzene	24	U
100-41-4	Ethylbenzene	2	J
100-42-5	Styrene	24	U
1330-20-7	Xylenes (total)	24	X

TLG 10/3/88

TLG 10/3/88

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EAV90

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803758

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A148

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 79 Date Analyzed: 08/18/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 109-66-0	PENTANE	11.75	35	J
2. 1066-40-6	SILANOL, TRIMETHYL-	12.95	80	BJ

VOLATILE ORGANICS ANALYSIS DATA SHEET

EAV91

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80903759

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A149

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 41 Date Analyzed: 08/18/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	17	U
74-83-9	Bromomethane	17	U
75-01-4	Vinyl Chloride	17	U
75-00-3	Chloroethane	17	U
75-09-2	Methylene Chloride	33	~~UB~~ U
67-64-1	Acetone	33	~~UB~~ U
75-15-0	Carbon Disulfide	8	U
75-35-4	1,1-Dichloroethene	8	U
75-34-3	1,1-Dichloroethane	8	U
540-59-0	1,2-Dichloroethene (total)	2	J
67-66-3	Chloroform	2	~~EJ~~ 8U
107-06-2	1,2-Dichloroethane	8	U
78-93-3	2-Butanone	17	U
71-55-6	1,1,1-Trichloroethane	8	U
56-23-5	Carbon Tetrachloride	8	U
108-05-4	Vinyl Acetate	17	U
75-27-4	Bromodichloromethane	8	U
78-87-5	1,2-Dichloropropane	8	U
10061-01-5	cis-1,3-Dichloropropene	8	U
79-01-6	Trichloroethene	8	U
124-48-1	Dibromochloromethane	8	U
79-00-5	1,1,2-Trichloroethane	8	U
71-43-2	Benzene	8	U
10061-02-6	Trans-1,3-Dichloropropene	8	U
75-25-2	Bromoform	8	U
108-10-1	4-Methyl-2-Pentanone	17	U
591-78-6	2-Hexanone	17	U
127-18-4	Tetrachloroethene	8	U
79-34-5	1,1,2,2-Tetrachloroethane	8	U
108-88-3	Toluene	2	~~EJ~~ 8U
108-90-7	Chlorobenzene	8	U
100-41-4	Ethylbenzene	8	U
100-42-5	Styrene	8	U
1330-20-7	Xylenes (total)	8	U

T.G. 10/3/88

T.G. 10/3/88

FORM I VOA 1/87 Rev.

TENTATIVELY IDENTIFIED COMPOUNDS

EAV91

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803759

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A149

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 41 Date Analyzed: 08/18/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	G
1. 109-66-0	PENTANE	11.75	17	J
2. 1066-40-6	SILANOL, TRIMETHYL-	12.95	32	BJ

EAV92

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803760

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A154

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 49 Date Analyzed: 08/19/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	20	U
74-83-9	Bromomethane	20	U
75-01-4	Vinyl Chloride	20	U
75-00-3	Chloroethane	20	U
75-09-2	Methylene Chloride	12	~~B~~ U
67-64-1	Acetone	67	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	7	~~BJ~~ 10U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
108-05-4	Vinyl Acetate	20	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	3	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes (total)	10	U

2141 10/5/88

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EAV92

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803760

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A154

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 49 Date Analyzed: 08/19/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 109-66-0	PENTANE	11.75	21	J
2. 1066-40-6	SILANOL, TRIMETHYL-	12.95	38	BJ

EAV93

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803761

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A155

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 57 Date Analyzed: 08/19/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	23	U
74-83-9	Bromomethane	23	U
75-01-4	Vinyl Chloride	23	U
75-00-3	Chloroethane	23	U
75-09-2	Methylene Chloride	21	~~B~~ U
67-64-1	Acetone	110	~~B~~ U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	7	~~BJ~~ 12U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	15	~~BJ~~ 23U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
108-05-4	Vinyl Acetate	23	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	Trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	23	U
591-78-6	2-Hexanone	23	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	2	J
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylenes (total)	12	U

TG 10/3/88

TENTATIVELY IDENTIFIED COMPOUNDS

EAV93

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803761

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A155

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 57 Date Analyzed: 08/19/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 109-66-0	PENTANE	11.65	19	J
2. 1066-40-6	SILANOL, TRIMETHYL-	12.95	67	BJ

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV94

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix (soil/water) SOIL Lab Sample ID: 80803762

Sample Wt/Vol: 5.0 (g/mL) G Lab File ID: 8085A156

Level (low/med) LOW Date Received: 08/13/88

% Moisture not dec. 21 Date Analyzed: 08/19/88

Column (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74 87 3	Chloromethane	31	J
74 83 9	Bromomethane	53	U
75 01 4	Vinyl Chloride	53	U
75 00 3	Chloroethane	53	U
75 09 2	Methylene Chloride	52	~~B~~ U
67 64 1	Acetone	310	~~B~~ U
75 15 0	Carbon Disulfide	12	J
75 35 4	1,1-Dichloroethene	26	U
75 34 3	1,1-Dichloroethane	26	U
540-59-0	1,2-Dichloroethene (total)	26	U
67 66 3	Chloroform	44	B
107-06 2	1,2-Dichloroethane	26	U
78 93 3	2-Butanone	27	~~23~~ 53 U
71 55 6	1,1,1-Trichloroethane	26	U
56 23 5	Carbon Tetrachloride	26	U
108 05 4	Vinyl Acetate	53	U
75 27 4	Bromodichloromethane	26	U
78 87 5	1,2-Dichloropropane	26	U
10061 01 5	cis-1,3-Dichloropropene	26	U
79 01 6	Trichloroethene	26	U
124 48 1	Dibromochloromethane	26	U
79 00 5	1,1,2-Trichloroethane	26	U
71 43 2	Benzene	26	U
10061 02 6	Trans-1,3-Dichloropropene	26	U
75 25 2	Bromoform	26	U
108 10 1	4-Methyl-2-Pentanone	53	U
591 78 6	2-Hexanone	53	U
127 18 4	Tetrachloroethene	26	U
79 34 5	1,1,2,2-Tetrachloroethane	26	U
108 88 3	Toluene	[illegible]	J
108 90 7	Chlorobenzene	26	U
100 41 4	Ethylbenzene	26	U
100 42 5	Styrene	26	U
1330 20 7	Xylenes (total)		

10/3/88

FORM I VOA 1/87 Rev.

100176

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAV94

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803762

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A156

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 81 Date Analyzed: 08/19/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1066-40-6	SILANOL, TRIMETHYL-	13.00	89	BJ
2. 110-54-3	HEXANE	17.10	37	J
3.	UNKNOWN	25.46	100	J

Lab Name: HAZLET Contract: 68-01-7418 EAV95

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803763

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A157

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 71 Date Analyzed: 08/19/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	34	U
74-83-9	Bromomethane	34	U
75-01-4	Vinyl Chloride	34	U
75-00-3	Chloroethane	34	U
75-09-2	Methylene Chloride	25	~~87~~ U
67-64-1	Acetone	97	~~18~~ U
75-15-0	Carbon Disulfide	46	
75-35-4	1,1-Dichloroethene	17	U
75-34-3	1,1-Dichloroethane	17	U
540-59-0	1,2-Dichloroethene (total)	17	U
67-66-3	Chloroform	13	~~87~~ 17U
107-06-2	1,2-Dichloroethane	17	U
78-93-3	2-Butanone	15	~~20~~ 34U
71-55-6	1,1,1-Trichloroethane	17	U
56-23-5	Carbon Tetrachloride	17	U
108-05-4	Vinyl Acetate	34	U
75-27-4	Bromodichloromethane	17	U
78-87-5	1,2-Dichloropropane	17	U
10061-01-5	cis-1,3-Dichloropropene	17	U
79-01-6	Trichloroethene	17	U
124-48-1	Dibromochloromethane	17	U
79-00-5	1,1,2-Trichloroethane	17	U
71-43-2	Benzene	17	U
10061-02-6	Trans-1,3-Dichloropropene	17	U
75-25-2	Bromoform	17	U
108-10-1	4-Methyl-2-Pentanone	34	U
591-78-6	2-Hexanone	34	U
127-18-4	Tetrachloroethene	17	U
79-34-5	1,1,2,2-Tetrachloroethane	17	U
108-88-3	Toluene	4	J
108-90-7	Chlorobenzene	17	U
100-41-4	Ethylbenzene	17	U
100-42-5	Styrene	17	U
1330-20-7	Xylenes (total)	17	U

Y.H. 10/3/88

Lab Name: HAZLET Contract: 68-01-7418 EAV95

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803763

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A157

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 71 Date Analyzed: 08/19/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1066-40-6	SILANOL, TRIMETHYL-	12.95	130	BJ
2. 110-54-3	HEXANE	17.10	27	J
3. 556-67-2	CYCLOTETRASILOXANE, OCTAMETH	28.51	74	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

EAV96

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803764

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A158

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 67 Date Analyzed: 08/19/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	30	U
74-83-9	Bromomethane	30	U
75-01-4	Vinyl Chloride	30	U
75-00-3	Chloroethane	30	U
75-09-2	Methylene Chloride	20	~~B~~ U
67-64-1	Acetone	120	~~B~~ U
75-15-0	Carbon Disulfide	15	U
75-35-4	1,1-Dichloroethene	15	U
75-34-3	1,1-Dichloroethane	15	U
540-59-0	1,2-Dichloroethene (total)	15	U
67-66-3	Chloroform	16	~~7~~ U
107-06-2	1,2-Dichloroethane	15	U
78-93-3	2-Butanone	15	~~50~~ 30 U
71-55-6	1,1,1-Trichloroethane	15	U
56-23-5	Carbon Tetrachloride	15	U
108-05-4	Vinyl Acetate	30	U
75-27-4	Bromodichloromethane	15	U
78-87-5	1,2-Dichloropropane	15	U
10061-01-5	cis-1,3-Dichloropropene	15	U
79-01-6	Trichloroethene	15	U
124-48-1	Dibromochloromethane	15	U
79-00-5	1,1,2-Trichloroethane	15	U
71-43-2	Benzene	15	U
10061-02-6	Trans-1,3-Dichloropropene	15	U
75-25-2	Bromoform	15	U
108-10-1	4-Methyl-2-Pentanone	30	U
591-78-6	2-Hexanone	30	U
127-18-4	Tetrachloroethene	15	U
79-34-5	1,1,2,2-Tetrachloroethane	15	U
108-88-3	Toluene	11	J
108-90-7	Chlorobenzene	15	U
100-41-4	Ethylbenzene	15	U
100-42-5	Styrene	15	U
1330-20-7	Xylenes (total)	15	U

4.41 10/3/88

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EAV96

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 30803764

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A158

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 67 Date Analyzed: 08/19/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1066-40-6	SILANOL, TRIMETHYL-	12.95	95	BJ
2. 96-14-0	PENTANE, 3-METHYL-	17.15	52	J
3. 590-73-8	HEXANE, 2,2-DIMETHYL-	21.25	17	J

EAV97

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803765

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A159

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 30 Date Analyzed: 08/19/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	7	~~BJ~~ 7U
67-64-1	Acetone	40	~~B~~ U
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	5	~~BJ~~ 7U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	4	~~BJ~~ 7U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	J
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Xylenes (total)	7	U

10/5/88

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100277

TENTATIVELY IDENTIFIED COMPOUNDS

EAV97

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803765

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A159

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 30 Date Analyzed: 08/19/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1066-40-6	SILANOL, TRIMETHYL-	13.00	49	BJ
2. 110-54-3	HEXANE	17.05	16	JX
3. 108-87-2	CYCLOHEXANE, METHYL-	17.95	27	JX
4. 589-34-4	HEXANE, 3-METHYL-	20.05	24	JX

VOLATILE ORGANICS ANALYSIS DATA SHEET

EAV98

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803766

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A160

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 80 Date Analyzed: 08/19/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	50	U
74-83-9	Bromomethane	50	U
75-01-4	Vinyl Chloride	50	U
75-00-3	Chloroethane	50	U
75-09-2	Methylene Chloride	24	~~BJ~~ 25U
67-64-1	Acetone	140	~~B~~ U
75-15-0	Carbon Disulfide	25	U
75-35-4	1,1-Dichloroethene	25	U
75-34-3	1,1-Dichloroethane	25	U
540-59-0	1,2-Dichloroethene (total)	25	U
67-66-3	Chloroform	21	~~BJ~~ 25U
107-06-2	1,2-Dichloroethane	25	U
78-93-3	2-Butanone	58	~~J~~
71-55-6	1,1,1-Trichloroethane	25	U
56-23-5	Carbon Tetrachloride	25	U
108-05-4	Vinyl Acetate	50	U
75-27-4	Bromodichloromethane	25	U
78-87-5	1,2-Dichloropropane	25	U
10061-01-5	cis-1,3-Dichloropropene	25	U
79-01-6	Trichloroethene	25	U
124-48-1	Dibromochloromethane	25	U
79-00-5	1,1,2-Trichloroethane	25	U
71-43-2	Benzene	25	U
10061-02-6	Trans-1,3-Dichloropropene	25	U
75-25-2	Bromoform	25	U
108-10-1	4-Methyl-2-Pentanone	50	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	25	U
79-34-5	1,1,2,2-Tetrachloroethane	25	U
108-88-3	Toluene	18	J
108-90-7	Chlorobenzene	25	U
100-41-4	Ethylbenzene	25	U
100-42-5	Styrene	25	U
1330-20-7	Xylenes (total)	25	U

9.4.
10/3/89

FORM I VOA 1/87 Rev.

100300

TENTATIVELY IDENTIFIED COMPOUNDS

EAV98

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803766

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A160

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. 80 Date Analyzed: 08/19/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1066-40-6	SILANOL, TRIMETHYL-	13.00	130	BJ
2. 96-14-0	PENTANE, 3-METHYL-	17.10	33	J
3. 556-67-2	CYCLOTETRASILOXANE, OCTAMETH	25.41	93	J

EAV99

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803767

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A161

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 49 Date Analyzed: 08/19/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	20	U
74-83-9	Bromomethane	20	U
75-01-4	Vinyl Chloride	20	U
75-00-3	Chloroethane	20	U
75-09-2	Methylene Chloride	12	~~B~~ U
67-64-1	Acetone	42	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	8	~~J~~ 10U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	~~J~~ 200
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
108-05-4	Vinyl Acetate	20	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	4	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes (total)	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EAV99

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 8080I767

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 80854161

Level: (low/med) LOW Date Received: 08/12/88

% Moisture: not dec. 49 Date Analyzed: 08/17/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1066-40-6	SILANOL, TRIMETHYL-	13.00	82	BJ
2. 110-54-3	HEXANE	17.10	11	J
3. 5208 [illegible]-1	4-CARENE, (1S,3R,6R)-(-)-	24.15	22	J

EBWOO

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803768

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A164

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 42 Date Analyzed: 08/22/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
74-87-3	Chloromethane	17	U	
74-83-9	Bromomethane	17	U	
75-01-4	Vinyl Chloride	17	U	
75-00-3	Chloroethane	17	U	
75-09-2	Methylene Chloride	28	~~B~~ U	
67-64-1	Acetone	89	~~B~~ U	
75-15-0	Carbon Disulfide	9	U	
75-35-4	1,1-Dichloroethene	9	U	7.4' 10/3/88
75-34-3	1,1-Dichloroethane	9	U	
540-59-0	1,2-Dichloroethene (total)	9	U	
67-66-3	Chloroform	4	~~BJ~~ 9U	
107-06-2	1,2-Dichloroethane	9	U	
78-93-3	2-Butanone	10	J	
71-55-6	1,1,1-Trichloroethane	9	U	
56-23-5	Carbon Tetrachloride	9	U	
108-05-4	Vinyl Acetate	17	U	
75-27-4	Bromodichloromethane	9	U	
78-87-5	1,2-Dichloropropane	9	U	
10061-01-5	cis-1,3-Dichloropropene	9	U	
79-01-6	Trichloroethene	9	U	
124-48-1	Dibromochloromethane	9	U	
79-00-5	1,1,2-Trichloroethane	9	U	
71-43-2	Benzene	9	U	
10061-02-6	Trans-1,3-Dichloropropene	9	U	
75-25-2	Bromoform	9	U	
108-10-1	4-Methyl-2-Pentanone	17	U	
591-78-6	2-Hexanone	17	U	
127-18-4	Tetrachloroethene	9	U	
79-34-5	1,1,2,2-Tetrachloroethane	9	U	
108-88-3	Toluene	2	~~BJ~~ 9U	2.4' 10/5/88
108-90-7	Chlorobenzene	9	U	
100-41-4	Ethylbenzene	9	U	
100-42-5	Styrene	9	U	
1330-20-7	Xylenes (total)	9	U	

100354

TENTATIVELY IDENTIFIED COMPOUNDS

EBW00

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803768

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A164

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 42 Date Analyzed: 08/22/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1066-40-6	SILANOL, TRIMETHYL-	12.95	49	BJ

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EAV88

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803756

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B117

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 16 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	390	U
111-44-4	bis(2-Chloroethyl)Ether	390	U
95-57-8	2-Chlorophenol	390	U
541-73-1	1,3-Dichlorobenzene	390	U
106-46-7	1,4-Dichlorobenzene	390	U
100-51-6	Benzyl Alcohol	390	U
95-50-1	1,2-Dichlorobenzene	390	U
95-48-7	2-Methylphenol	390	U
39638-32-9	bis(2-Chloroisopropyl)Ether	390	U
106-44-5	4-Methylphenol	390	U
621-64-7	N-Nitroso-Di-n-Propylamine	390	U
67-72-1	Hexachloroethane	390	U
98-95-3	Nitrobenzene	390	U
78-59-1	Isophorone	390	U
88-75-5	2-Nitrophenol	390	U
105-67-9	2,4-Dimethylphenol	390	U
65-85-0	Benzoic Acid	1900	U
111-91-1	bis(2-Chloroethoxy)Methane	390	U
120-83-2	2,4-Dichlorophenol	390	U
120-82-1	1,2,4-Trichlorobenzene	390	U
91-20-3	Naphthalene	390	U
106-47-8	4-Chloroaniline	390	U
87-68-3	Hexachlorobutadiene	390	U
59-50-7	4-Chloro-3-Methylphenol	390	U
91-57-6	2-Methylnaphthalene	390	U
77-47-4	Hexachlorocyclopentadiene	390	U
88-06-2	2,4,6-Trichlorophenol	390	U
95-95-4	2,4,5-Trichlorophenol	1900	U
91-58-7	2-Chloronaphthalene	390	U
88-74-4	2-Nitroaniline	1900	U
131-11-3	Dimethyl Phthalate	390	U
208-96-8	Acenaphthylene	390	U
606-20-2	2,6-Dinitrotoluene	390	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EAV88

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803756

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B117

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 16 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1900	U
83-32-9	Acenaphthene	390	U
51-28-5	2,4-Dinitrophenol	1900	U
100-02-7	4-Nitrophenol	1900	U
132-64-9	Dibenzofuran	390	U
121-14-2	2,4-Dinitrotoluene	390	U
84-66-2	Diethylphthalate	390	U
7005-72-3	4-Chlorophenyl-phenylether	390	U
86-73-7	Fluorene	390	U
100-10-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-Methylphenol	1900	U
86-30-6	N-Nitrosodiphenylamine (1)	390	U
101-55-3	4-Bromophenyl-phenylether	390	U
118-74-1	Hexachlorobenzene	390	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	28	J
120-12-7	Anthracene	390	U
84-74-2	Di-n-Butylphthalate	2000	~~B~~ U
206-44-0	Fluoranthene	61	J
129-00-0	Pyrene	61	J
85-68-7	Butylbenzylphthalate	390	U
91-94-1	3,3'-Dichlorobenzidine	790	U
56-55-3	Benzo(a)Anthracene	29	J
218-01-9	Chrysene	32	J
117-81-7	bis(2-Ethylhexyl)Phthalate	82	~~BJ~~ 390 U
117-84-0	Di-n-Octyl Phthalate	390	U
205-99-2	Benzo(b)Fluoranthene	25	J
207-08-9	Benzo(k)Fluoranthene	31	J
50-32-8	Benzo(a)Pyrene	26	J
193-39-5	Indeno(1,2,3-cd)Pyrene	390	U
53-70-3	Dibenz(a,h)Anthracene	390	U
191-24-2	Benzo(g,h,i)Perylene	390	U

Y.H. 10/3/88

(1) - Cannot be separated from Diphenylamine

200011

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EAV88

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803756

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B117

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 16 dec. Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.00

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.69	210	BJ
2.	UNKNOWN	10.05	840	J
3. 18641-71-9	3-HEPTANONE, 2,4-DIMETHYL-	11.57	540	BJ
4.	UNKNOWN	13.00	950	BJ
5. 56554-86-0	17-OCTADECENAL	42.23	250	J
6. 17301-30-3	UNDECANE, 3,8-DIMETHYL-	43.13	240	J
7. 6971-40-0	17-PENTATRIACONTENE	43.56	600	J
8. 17301-30-3	UNDECANE, 3,8-DIMETHYL-	47.11	260	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV89

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803757

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B120

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 13 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	380	U
111-44-4	bis(2-Chloroethyl)Ether	380	U
95-57-8	2-Chlorophenol	380	U
541-73-1	1,3-Dichlorobenzene	380	U
106-46-7	1,4-Dichlorobenzene	380	U
100-51-6	Benzyl Alcohol	380	U
95-50-1	1,2-Dichlorobenzene	380	U
95-48-7	2-Methylphenol	380	U
39638-32-9	bis(2-Chloroisopropyl)Ether	380	U
106-44-5	4-Methylphenol	380	U
621-64-7	N-Nitroso-Di-n-Propylamine	380	U
67-72-1	Hexachloroethane	380	U
98-95-3	Nitrobenzene	380	U
78-59-1	Isophorone	380	U
88-75-5	2-Nitrophenol	380	U
105-67-9	2,4-Dimethylphenol	380	U
65-85-0	Benzoic Acid	1800	U
111-91-1	bis(2-Chloroethoxy)Methane	380	U
120-83-2	2,4-Dichlorophenol	380	U
120-82-1	1,2,4-Trichlorobenzene	380	U
91-20-3	Naphthalene	380	U
106-47-8	4-Chloroaniline	380	U
87-68-3	Hexachlorobutadiene	380	U
59-50-7	4-Chloro-3-Methylphenol	380	U
91-57-6	2-Methylnaphthalene	380	U
77-47-4	Hexachlorocyclopentadiene	380	U
88-06-2	2,4,6-Trichlorophenol	380	U
95-95-4	2,4,5-Trichlorophenol	1800	U
91-58-7	2-Chloronaphthalene	380	U
88-74-4	2-Nitroaniline	1800	U
131-11-3	Dimethyl Phthalate	380	U
208-96-8	Acenaphthylene	380	U
606-20-2	2,6-Dinitrotoluene	380	U

200050

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV89

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803757

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B120

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 13 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1800	U
83-32-9	Acenaphthene	380	U
51-28-5	2,4-Dinitrophenol	1800	U
100-02-7	4-Nitrophenol	1800	U
132-64-9	Dibenzofuran	380	U
121-14-2	2,4-Dinitrotoluene	380	U
84-66-2	Diethylphthalate	380	U
7005-72-3	4-Chlorophenyl-phenylether	380	U
86-73-7	Fluorene	380	U
100-10-6	4-Nitroaniline	1800	U
534-52-1	4,6-Dinitro-2-Methylphenol	1800	U
86-30-6	N-Nitrosodiphenylamine (1)	380	U
101-55-3	4-Bromophenyl-phenylether	380	U
118-74-1	Hexachlorobenzene	380	U
87-86-5	Pentachlorophenol	1800	U
85-01-8	Phenanthrene	95	J
120-12-7	Anthracene	380	U
84-74-2	Di-n-Butylphthalate	2400	~~B~~ (1)
206-44-0	Fluoranthene	110	J
129-00-0	Pyrene	110	J
85-68-7	Butylbenzylphthalate	380	U
91-94-1	3,3'-Dichlorobenzidine	760	U
56-55-3	Benzo(a)Anthracene	60	J
218-01-9	Chrysene	59	J
117-81-7	bis(2-Ethylhexyl)Phthalate	380	U
117-84-0	Di-n-Octyl Phthalate	380	U
205-99-2	Benzo(b)Fluoranthene	64	J
207-08-9	Benzo(k)Fluoranthene	62	J
50-32-8	Benzo(a)Pyrene	56	J
193-39-5	Indeno(1,2,3-cd)Pyrene	380	U
53-70-3	Dibenz(a,h)Anthracene	380	U
191-24-2	Benzo(g,h,i)Perylene	380	U

(1) - Cannot be separated from Diphenylamine

J.Y. 10/9/88

200051

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAV89

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803757

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B120

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 13 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 1.00

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	9.55	260	BJ
2.		UNKNOWN	9.92	950	J
3.	20019-64-1	2(5H)-FURANONE, 5,5-DIMETHYL	10.35	650	BJ
4.	18641-71-9	3-HEPTANONE, 2,4-DIMETHYL-	11.45	500	BJ
5.		UNKNOWN	12.89	670	BJ
6.	57-10-3	HEXADECANOIC ACID	30.41	390	J
7.		UNKNOWN	33.04	170	J
8.		UNKNOWN	37.72	220	J
9.		UNKNOWN	38.49	250	J
10.		UNKNOWN	39.32	220	J
11.		UNKNOWN	39.64	260	J
12.		UNKNOWN	40.06	460	J
13.		UNKNOWN	41.99	170	J
14.		UNKNOWN	42.33	240	J
15.		UNKNOWN	42.89	230	J
16.		UNKNOWN	43.31	210	J
17.		UNKNOWN	44.29	180	J
18.		UNKNOWN	45.89	230	J
19.		UNKNOWN	46.86	200	J
20.		UNKNOWN	49.41	160	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV90

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803758

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B121

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 79 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1600	U
111-44-4	bis(2-Chloroethyl)Ether	1600	U
95-57-8	2-Chlorophenol	1600	U
541-73-1	1,3-Dichlorobenzene	1600	U
106-46-7	1,4-Dichlorobenzene	1600	U
100-51-6	Benzyl Alcohol	1600	U
95-50-1	1,2-Dichlorobenzene	1600	U
95-48-7	2-Methylphenol	1600	U
39638-32-9	bis(2-Chloroisopropyl)Ether	1600	U
106-44-5	4-Methylphenol	1600	U
621-64-7	N-Nitroso-Di-n-Propylamine	1600	U
67-72-1	Hexachloroethane	1600	U
98-95-3	Nitrobenzene	1600	U
78-59-1	Isophorone	1600	U
88-75-5	2-Nitrophenol	1600	U
105-67-9	2,4-Dimethylphenol	1600	U
65-85-0	Benzoic Acid	7600	U
111-91-1	bis(2-Chloroethoxy)Methane	1600	U
120-83-2	2,4-Dichlorophenol	1600	U
120-82-1	1,2,4-Trichlorobenzene	1600	U
91-20-3	Naphthalene	1600	U
106-47-8	4-Chloroaniline	1600	U
87-68-3	Hexachlorobutadiene	1600	U
59-50-7	4-Chloro-3-Methylphenol	1600	U
91-57-6	2-Methylnaphthalene	1600	U
77-47-4	Hexachlorocyclopentadiene	1600	U
88-06-2	2,4,6-Trichlorophenol	1600	U
95-95-4	2,4,5-Trichlorophenol	7600	U
91-58-7	2-Chloronaphthalene	1600	U
88-74-4	2-Nitroaniline	7600	U
131-11-3	Dimethyl Phthalate	1600	U
208-96-8	Acenaphthylene	1600	U
606-20-2	2,6-Dinitrotoluene	1600	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV90

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803758

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B121

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 79 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	7600	U
83-32-9	Acenaphthene	1600	U
51-28-5	2,4-Dinitrophenol	7600	U
100-02-7	4-Nitrophenol	7600	U
132-64-9	Dibenzofuran	1600	U
121-14-2	2,4-Dinitrotoluene	1600	U
84-66-2	Diethylphthalate	1600	U
7005-72-3	4-Chlorophenyl-phenylether	1600	U
86-73-7	Fluorene	1600	U
100-10-6	4-Nitroaniline	7600	U
534-52-1	4,6-Dinitro-2-Methylphenol	7600	U
86-30-6	N-Nitrosodiphenylamine (1)	1600	U
101-55-3	4-Bromophenyl-phenylether	1600	U
118-74-1	Hexachlorobenzene	1600	U
87-86-5	Pentachlorophenol	7600	U
85-01-8	Phenanthrene	1600	U
120-12-7	Anthracene	1600	U
84-74-2	Di-n-Butylphthalate	6000	~~B~~ U
206-44-0	Fluoranthene	1600	U
129-00-0	Pyrene	1600	U
85-68-7	Butylbenzylphthalate	1600	U
91-94-1	3,3'-Dichlorobenzidine	3100	U
56-55-3	Benzo(a)Anthracene	1600	U
218-01-9	Chrysene	1600	U
117-81-7	bis(2-Ethylhexyl)Phthalate	1600	U
117-84-0	Di-n-Octyl Phthalate	1600	U
205-99-2	Benzo(b)Fluoranthene	1600	U
207-08-9	Benzo(k)Fluoranthene	1600	U
50-32-8	Benzo(a)Pyrene	1600	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1600	U
53-70-3	Dibenz(a,h)Anthracene	1600	U
191-24-2	Benzo(g,h,i)Perylene	1600	U

TLH 10/4/88

(1) - Cannot be separated from Diphenylamine

200101

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAV90

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803758

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B121

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 79 dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 6.6 Dilution Factor: 1.00

Number TICs found: 13

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	9.59	740	BJ
2.		UNKNOWN	9.94	790	J
3.	20019-64-1	2(5H)-FURANONE, 5,5-DIMETHYL	10.37	940	BJ
4.	18641-71-9	3-HEPTANONE, 2,4-DIMETHYL-	11.45	2500	BJ
5.		UNKNOWN	12.90	3500	BJ
6.		UNKNOWN	23.12	990	J
7.	10544-50-0	SULFUR, MOL. (S8)	32.44	2600	J
8.	17301-30-3	UNDECANE, 3,8-DIMETHYL-	35.19	660	J
9.	630-02-4	OCTACOSANE	40.07	640	J
10.		UNKNOWN	40.29	1100	J
11.		UNKNOWN	41.96	680	J
12.	55162-61-3	TETRACONTANE, 3,5,24-TRIMETH	42.86	780	J
13.		UNKNOWN	43.26	1800	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV91

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803759

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B122

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 41 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	560	U
111-44-4	bis(2-Chloroethyl)Ether	560	U
95-57-8	2-Chlorophenol	560	U
541-73-1	1,3-Dichlorobenzene	560	U
106-46-7	1,4-Dichlorobenzene	560	U
100-51-6	Benzyl Alcohol	560	U
95-50-1	1,2-Dichlorobenzene	560	U
95-48-7	2-Methylphenol	560	U
39638-32-9	bis(2-Chloroisopropyl)Ether	560	U
106-44-5	4-Methylphenol	560	U
621-64-7	N-Nitroso-Di-n-Propylamine	560	U
67-72-1	Hexachloroethane	560	U
98-95-3	Nitrobenzene	560	U
78-59-1	Isophorone	560	U
88-75-5	2-Nitrophenol	560	U
105-67-9	2,4-Dimethylphenol	560	U
65-85-0	Benzoic Acid	2700	U
111-91-1	bis(2-Chloroethoxy)Methane	560	U
120-83-2	2,4-Dichlorophenol	560	U
120-82-1	1,2,4-Trichlorobenzene	560	U
91-20-3	Naphthalene	560	U
106-47-8	4-Chloroaniline	560	U
87-68-3	Hexachlorobutadiene	560	U
59-50-7	4-Chloro-3-Methylphenol	560	U
91-57-6	2-Methylnaphthalene	560	U
77-47-4	Hexachlorocyclopentadiene	560	U
88-06-2	2,4,6-Trichlorophenol	560	U
95-95-4	2,4,5-Trichlorophenol	2700	U
91-58-7	2-Chloronaphthalene	560	U
88-74-4	2-Nitroaniline	2700	U
131-11-3	Dimethyl Phthalate	560	U
208-96-8	Acenaphthylene	560	U
606-20-2	2,6-Dinitrotoluene	560	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV91

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803759

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B122

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 41 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2700	U
83-32-9	Acenaphthene	560	U
51-28-5	2,4-Dinitrophenol	2700	U
100-02-7	4-Nitrophenol	2700	U
132-64-9	Dibenzofuran	560	U
121-14-2	2,4-Dinitrotoluene	560	U
84-66-2	Diethylphthalate	560	U
7005-72-3	4-Chlorophenyl-phenylether	560	U
86-73-7	Fluorene	560	U
100-10-6	4-Nitroaniline	2700	U
534-52-1	4,6-Dinitro-2-Methylphenol	2700	U
86-30-6	N-Nitrosodiphenylamine (1)	560	U
101-55-3	4-Bromophenyl-phenylether	560	U
118-74-1	Hexachlorobenzene	560	U
87-86-5	Pentachlorophenol	2700	U
85-01-8	Phenanthrene	26	J
120-12-7	Anthracene	560	U
84-74-2	Di-n-Butylphthalate	79	~~B~~ 560 U
206-44-0	Fluoranthene	40	J
129-00-0	Pyrene	35	J
85-68-7	Butylbenzylphthalate	560	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
56-55-3	Benzo(a)Anthracene	560	U
218-01-9	Chrysene	560	U
117-81-7	bis(2-Ethylhexyl)Phthalate	77	~~B~~ 560 U
117-84-0	Di-n-Octyl Phthalate	560	U
205-99-2	Benzo(b)Fluoranthene	560	U
207-08-9	Benzo(k)Fluoranthene	560	U
50-32-8	Benzo(a)Pyrene	560	U
193-39-5	Indeno(1,2,3-cd)Pyrene	560	U
53-70-3	Dibenz(a,h)Anthracene	560	U
191-24-2	Benzo(g,h,i)Perylene	560	U

(1) - Cannot be separated from Diphenylamine

Y.Y. 10/4/88

200127

1F

EPA SAMPLE NO.

EAV91

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803759

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B122

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 41 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1.00

Number TICs found: 9

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.57	300	BJ
2.	UNKNOWN	9.92	300	J
3. 20019-64-1	2(5H)-FURANONE, 5,5-DIMETHYL	10.35	780	BJ
4. 18641-71-9	3-HEPTANONE, 2,4-DIMETHYL-	11.45	760	BJ
5.	UNKNOWN	12.90	780	BJ
6. 57-10-3	HEXADECANOIC ACID	30.41	280	J
7. 544-76-3	HEXADECANE	40.07	250	J
8. 55045-13-1	TETRADECANE, 6,9-DIMETHYL-	42.88	320	J
9.	UNKNOWN	43.33	350	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV92

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803760

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B123

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 49 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	650	U
111-44-4	bis(2-Chloroethyl)Ether	650	U
95-57-8	2-Chlorophenol	650	U
541-73-1	1,3-Dichlorobenzene	650	U
106-46-7	1,4-Dichlorobenzene	650	U
100-51-6	Benzyl Alcohol	650	U
95-50-1	1,2-Dichlorobenzene	650	U
95-48-7	2-Methylphenol	650	U
39638-32-9	bis(2-Chloroisopropyl)Ether	650	U
106-44-5	4-Methylphenol	650	U
621-64-7	N-Nitroso-Di-n-Propylamine	650	U
67-72-1	Hexachloroethane	650	U
98-95-3	Nitrobenzene	650	U
78-59-1	Isophorone	650	U
88-75-5	2-Nitrophenol	650	U
105-67-9	2,4-Dimethylphenol	650	U
65-85-0	Benzoic Acid	3100	U
111-91-1	bis(2-Chloroethoxy)Methane	650	U
120-83-2	2,4-Dichlorophenol	650	U
120-82-1	1,2,4-Trichlorobenzene	650	U
91-20-3	Naphthalene	650	U
106-47-8	4-Chloroaniline	650	U
87-68-3	Hexachlorobutadiene	650	U
59-50-7	4-Chloro-3-Methylphenol	650	U
91-57-6	2-Methylnaphthalene	650	U
77-47-4	Hexachlorocyclopentadiene	650	U
88-06-2	2,4,6-Trichlorophenol	650	U
95-95-4	2,4,5-Trichlorophenol	3100	U
91-58-7	2-Chloronaphthalene	650	U
88-74-4	2-Nitroaniline	3100	U
131-11-3	Dimethyl Phthalate	650	U
208-96-8	Acenaphthylene	650	U
606-20-2	2,6-Dinitrotoluene	650	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV92

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803760

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B123

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 49 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3100	U
83-32-9	Acenaphthene	650	U
51-28-5	2,4-Dinitrophenol	3100	U
100-02-7	4-Nitrophenol	3100	U
132-64-9	Dibenzofuran	650	U
121-14-2	2,4-Dinitrotoluene	650	U
84-66-2	Diethylphthalate	650	U
7005-72-3	4-Chlorophenyl-phenylether	650	U
86-73-7	Fluorene	650	U
100-10-6	4-Nitroaniline	3100	U
534-52-1	4,6-Dinitro-2-Methylphenol	3100	U
86-30-6	N-Nitrosodiphenylamine (1)	650	U
101-55-3	4-Bromophenyl-phenylether	650	U
118-74-1	Hexachlorobenzene	650	U
87-86-5	Pentachlorophenol	3100	U
85-01-8	Phenanthrene	650	U
120-12-7	Anthracene	650	U
84-74-2	Di-n-Butylphthalate	1600	~~B~~ 650 U 7.4. 10/14/88
206-44-0	Fluoranthene	48	J
129-00-0	Pyrene	56	J
85-68-7	Butylbenzylphthalate	650	U
91-94-1	3,3'-Dichlorobenzidine	1300	U
56-55-3	Benzo(a)Anthracene	650	U
218-01-9	Chrysene	650	U
117-81-7	bis(2-Ethylhexyl)Phthalate	650	U
117-84-0	Di-n-Octyl Phthalate	650	U
205-99-2	Benzo(b)Fluoranthene	650	U
207-08-9	Benzo(k)Fluoranthene	650	U
50-32-8	Benzo(a)Pyrene	650	U
193-39-5	Indeno(1,2,3-cd)Pyrene	650	U
53-70-3	Dibenz(a,h)Anthracene	650	U
191-24-2	Benzo(g,h,i)Perylene	650	U

(1) - Cannot be separated from Diphenylamine

200157

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV92

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803760

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 48 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	15	U
319-85-7	beta-BHC	15	U
319-86-8	delta-BHC	15	U
58-89-9	gamma-BHC (Lindane)	15	U
76-44-8	Heptachlor	15	U
309-00-2	Aldrin	15	U
1024-57-3	Heptachlor epoxide	15	U
959-98-8	Endosulfan I	15	U
60-57-1	Dieldrin	31	U
72-55-9	4,4'-DDE	31	U
72-20-8	Endrin	31	U
33213-65-9	Endosulfan II	31	U
72-54-8	4,4'-DDD	31	U
1031-07-8	Endosulfan sulfate	31	U
50-29-3	4,4'-DDT	31	U
72-43-5	Methoxychlor	150	U
53494-70-5	Endrin ketone	31	U
5103-71-9	alpha-Chlordane	150	U
5103-74-2	gamma-Chlordane	150	U
8001-35-2	Toxaphene	310	U
12674-11-2	Aroclor-1016	150	U
11104-28-2	Aroclor-1221	150	U
11141-16-5	Aroclor-1232	150	U
53469-21-9	Aroclor-1242	150	U
12672-29-6	Aroclor-1248	150	U
11097-69-1	Aroclor-1254	310	U
11096-82-5	Aroclor-1260	310	U

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EAV93

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803761

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 52 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	17	U
319-85-7	beta-BHC	17	U
319-86-8	delta-BHC	17	U
58-89-9	gamma-BHC (Lindane)	17	U
76-44-8	Heptachlor	17	U
309-00-2	Aldrin	17	U
1024-57-3	Heptachlor epoxide	17	U
959-98-8	Endosulfan I	17	U
60-57-1	Dieldrin	33	U
72-55-9	4,4'-DDE	33	U
72-20-8	Endrin	33	U
33213-65-9	Endosulfan II	33	U
72-54-8	4,4'-DDD	33	U
1031-07-8	Endosulfan sulfate	33	U
50-29-3	4,4'-DDT	33	U
72-43-5	Methoxychlor	170	U
53494-70-5	Endrin ketone	33	U
5103-71-9	alpha-Chlordane	170	U
5103-74-2	gamma-Chlordane	170	U
8001-35-2	Toxaphene	330	U
12674-11-2	Aroclor-1016	170	U
11104-28-2	Aroclor-1221	170	U
11141-16-5	Aroclor-1232	170	U
53469-21-9	Aroclor-1242	170	U
12672-29-6	Aroclor-1248	170	U
11097-69-1	Aroclor-1254	330	U
11096-82-5	Aroclor-1260	330	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV94

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803762

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 80 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	40	U
319-85-7	beta-BHC	40	U
319-86-8	delta-BHC	40	U
58-89-9	gamma-BHC (Lindane)	40	U
76-44-8	Heptachlor	40	U
309-00-2	Aldrin	40	U
1024-57-3	Heptachlor epoxide	40	U
959-98-8	Endosulfan I	40	U
60-57-1	Dieldrin	80	U
72-55-9	4,4'-DDE	80	U
72-20-8	Endrin	80	U
33213-65-9	Endosulfan II	80	U
72-54-8	4,4'-DDD	80	U
1031-07-8	Endosulfan sulfate	80	U
50-29-3	4,4'-DDT	80	U
72-43-5	Methoxychlor	400	U
53494-70-5	Endrin ketone	80	U
5103-71-9	alpha-Chlordane	400	U
5103-74-2	gamma-Chlordane	400	U
8001-35-2	Toxaphene	800	U
12674-11-2	Aroclor-1016	400	U
11104-28-2	Aroclor-1221	400	U
11141-16-5	Aroclor-1232	400	U
53469-21-9	Aroclor-1242	400	U
12672-29-6	Aroclor-1248	400	U
11097-69-1	Aroclor-1254	800	U
11096-82-5	Aroclor-1260	800	U

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EAV95

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803763

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 72 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	G
319-84-6	alpha-BHC	29	U
319-85-7	beta-BHC	29	U
319-86-8	delta-BHC	29	U
58-89-9	gamma-BHC (Lindane)	29	U
76-44-8	Heptachlor	29	U
309-00-2	Aldrin	29	U
1024-57-3	Heptachlor epoxide	29	U
959-98-8	Endosulfan I	29	U
60-57-1	Dieldrin	57	U
72-55-9	4,4'-DDE	57	U
72-20-8	Endrin	57	U
33213-65-9	Endosulfan II	57	U
72-54-8	4,4'-DDD	57	U
1031-07-8	Endosulfan sulfate	57	U
50-29-3	4,4'-DDT	57	U
72-43-5	Methoxychlor	290	U
53494-70-5	Endrin ketone	57	U
5103-71-9	alpha-Chlordane	290	U
5103-74-2	gamma-Chlordane	290	U
8001-35-2	Toxaphene	570	U
12674-11-2	Aroclor-1016	290	U
11104-28-2	Aroclor-1221	290	U
11141-16-5	Aroclor-1232	290	U
53469-21-9	Aroclor-1242	290	U
12672-29-6	Aroclor-1248	290	U
11097-69-1	Aroclor-1254	570	U
11096-82-5	Aroclor-1260	570	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV96

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803764

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 67 dec. ___ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	24	U
319-85-7	beta-BHC	24	U
319-86-8	delta-BHC	24	U
58-89-9	gamma-BHC (Lindane)	24	U
76-44-8	Heptachlor	24	U
309-00-2	Aldrin	24	U
1024-57-3	Heptachlor epoxide	24	U
959-98-8	Endosulfan I	24	U
60-57-1	Dieldrin	48	U
72-55-9	4,4'-DDE	48	U
72-20-8	Endrin	48	U
33213-65-9	Endosulfan II	48	U
72-54-8	4,4'-DDD	48	U
1031-07-8	Endosulfan sulfate	48	U
50-29-3	4,4'-DDT	48	U
72-43-5	Methoxychlor	240	U
53494-70-5	Endrin ketone	48	U
5103-71-9	alpha-Chlordane	240	U
5103-74-2	gamma-Chlordane	240	U
8001-35-2	Toxaphene	480	U
12674-11-2	Aroclor-1016	240	U
11104-28-2	Aroclor-1221	240	U
11141-16-5	Aroclor-1232	240	U
53469-21-9	Aroclor-1242	240	U
12672-29-6	Aroclor-1248	240	U
11097-69-1	Aroclor-1254	480	U
11096-82-5	Aroclor-1260	480	U

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EAV97

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803765

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 29 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11	U
319-85-7	beta-BHC	11	U
319-86-8	delta-BHC	11	U
58-89-9	gamma-BHC (Lindane)	11	U
76-44-8	Heptachlor	11	U
309-00-2	Aldrin	11	U
1024-57-3	Heptachlor epoxide	11	U
959-98-8	Endosulfan I	11	U
60-57-1	Dieldrin	23	U
72-55-9	4,4'-DDE	23	U
72-20-8	Endrin	23	U
33213-65-9	Endosulfan II	23	U
72-54-8	4,4'-DDD	23	U
1031-07-8	Endosulfan sulfate	23	U
50-29-3	4,4'-DDT	23	U
72-43-5	Methoxychlor	110	U
53494-70-5	Endrin ketone	23	U
5103-71-9	alpha-Chlordane	110	U
5103-74-2	gamma-Chlordane	110	U
8001-35-2	Toxaphene	230	U
12674-11-2	Aroclor-1016	110	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	110	U
53469-21-9	Aroclor-1242	110	U
12672-29-6	Aroclor-1248	110	U
11097-69-1	Aroclor-1254	230	U
11096-82-5	Aroclor-1260	230	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV98

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803766

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 80 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	40	U
319-85-7	beta-BHC	40	U
319-86-8	delta-BHC	40	U
58-89-9	gamma-BHC (Lindane)	40	UX
76-44-8	Heptachlor	40	U
309-00-2	Aldrin	40	U
1024-57-3	Heptachlor epoxide	40	U
959-98-8	Endosulfan I	40	U
60-57-1	Dieldrin	80	U
72-55-9	4,4'-DDE	80	U
72-20-8	Endrin	80	U
33213-65-9	Endosulfan II	80	U
72-54-8	4,4'-DDD	80	U
1031-07-8	Endosulfan sulfate	80	U
50-29-3	4,4'-DDT	80	U
72-43-5	Methoxychlor	400	U
53494-70-5	Endrin ketone	80	U
5103-71-9	alpha-Chlordane	400	U
5103-74-2	gamma-Chlordane	400	U
8001-35-2	Toxaphene	800	U
12674-11-2	Aroclor-1016	400	U
11104-28-2	Aroclor-1221	400	U
11141-16-5	Aroclor-1232	400	U
53469-21-9	Aroclor-1242	400	U
12672-29-6	Aroclor-1248	400	U
11097-69-1	Aroclor-1254	800	U
11096-82-5	Aroclor-1260	800	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV99

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV68

Matrix: (soil/water) SOIL Lab Sample ID: 80803767

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 48 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	15	U
319-85-7	beta-BHC	15	U
319-86-8	delta-BHC	15	U
58-89-9	gamma-BHC (Lindane)	15	U
76-44-8	Heptachlor	15	U
309-00-2	Aldrin	15	U
1024-57-3	Heptachlor epoxide	15	U
959-98-8	Endosulfan I	15	U
60-57-1	Dieldrin	31	U
72-55-9	4,4'-DDE	31	U
72-20-8	Endrin	31	U
33213-65-9	Endosulfan II	31	U
72-54-8	4,4'-DDD	31	U
1031-07-8	Endosulfan sulfate	31	U
50-29-3	4,4'-DDT	31	U
72-43-5	Methoxychlor	150	U
53494-70-5	Endrin ketone	31	U
5103-71-9	alpha-Chlordane	150	U
5103-74-2	gamma-Chlordane	150	U
8001-35-2	Toxaphene	310	U
12674-11-2	Aroclor-1016	150	U
11104-28-2	Aroclor-1221	150	U
11141-16-5	Aroclor-1232	150	U
53469-21-9	Aroclor-1242	150	U
12672-29-6	Aroclor-1248	150	U
11097-69-1	Aroclor-1254	310	U
11096-82-5	Aroclor-1260	310	U

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EBW00

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803768

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 41 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	14	U
319-85-7	beta-BHC	14	U
319-86-8	delta-BHC	14	U
58-89-9	gamma-BHC (Lindane)	14	U
76-44-8	Heptachlor	14	U
309-00-2	Aldrin	14	U
1024-57-3	Heptachlor epoxide	14	U
959-98-8	Endosulfan I	14	U
60-57-1	Dieldrin	27	U
72-55-9	4,4'-DDE	27	U
72-20-8	Endrin	27	U
33213-65-9	Endosulfan II	27	U
72-54-8	4,4'-DDD	27	U
1031-07-8	Endosulfan sulfate	27	U
50-29-3	4,4'-DDT	27	U
72-43-5	Methoxychlor	140	U
53494-70-5	Endrin ketone	27	U
5103-71-9	alpha-Chlordane	140	U
5103-74-2	gamma-Chlordane	140	U
8001-35-2	Toxaphene	270	U
12674-11-2	Aroclor-1016	140	U
11104-28-2	Aroclor-1221	140	U
11141-16-5	Aroclor-1232	140	U
53469-21-9	Aroclor-1242	140	U
12672-29-6	Aroclor-1248	140	U
11097-69-1	Aroclor-1254	270	U
11096-82-5	Aroclor-1260	270	U

HAZLETON LABORATORIES AMERICA, INC.
3301 KINSMAN BLVD. • P.O. BOX 7545 • MADISON, WI 53707 • (608) 241-4471 • TLX 703956 HAZRAL MDS UD

September 26, 1988

Sample Management Office
Viar and Company
209 Madison Street
Suite 200
Alexandria, VA 22314

CASE NARRATIVE for Case No. 10185, SDG no. EAV88.

Enclosed is the data package for Case No. 10185, SDG# EAV88. Under this case and SDG number, we received a total of thirteen soil samples for full organic analysis on August 18, 1988 from Region V. All samples were analyzed and reported according to the protocols provided under our Contract No. 68-01-7418, bid lot #1. The following list itemizes the SMO numbers associated with this case and SDG:

Case No. 10185 (SDG No. EAV88) Sample listing

EAV88	EAV89	EAV90	EAV91
EAV92	EAV93	EAV94	EAV95
EAV96	EAV97	EAV98	EAV99
EBW00			

Please note the following summary comments relating to the analytical results and contractual quality control in this case:

- Holding Times. All holding times were met for all fractions analyzed, with the exception of the semivolatile extraction of sample EAV95, which was extracted on 8/19/88 (within the holding time), but was re-extracted on 9/9/88 (12 days beyond the holding time) due to surrogate recovery problems.

- GC-MS Tuning. All tuning requirements for both BFB and DFTPP for all samples analyzed in this case were within contract criteria.

- Instrumental Calibrations. All instrumental calibrations for all fractions analyzed were within contract criteria for both initial and continuing calibrations. Please note the additional comments concerning the instrumental calibrations performed for this case:

Volatile fraction: The concentrations of cis- and trans-1,3-dicloropropenes in the calibration runs are different than those specified by the contract. The difference is due to the ampule mixes supplied by Supelco, our supplier for the purgeable standards mix.

The actual concentrations of cis- and trans-1,3-dichloropropene in the standards are as follows:

Standard	Actual cis-	Actual trans-
20 ppb	24.8 ppb	15.2 ppb
50	70	29
100	124	76
150	186	114
200	248	152

The actual concentrations are used to calculate the response factors for cis- and trans-1,3-dichloropropene.

Pesticide fraction: In the second and third quantitation run, the percent relative standard deviation as calculated from the Evaluation Standards A, B, and C was greater than 10% for DDT. The multi-point DDT series standards (DDT, DDD, DDE) were included as part of the quantitation column calibration. DDT was detected in sample EAV90DL (1 to 5), and was quantitated using the linear regression.

- Method Blanks. All method blanks for all fractions analyzed were found to be within contract criteria.

- Surrogate Recoveries. All calculated surrogate recoveries for all fractions were found to be within QC limits with the following exceptions:

Volatile fraction:

The original analysis of sample EAV90 resulted in a toluene-d8 recovery which was above the upper QC limit, and a bromofluorobenzene (BFB) recovery which was below the lower QC limit. The sample was reanalyzed (within the holding time) and similar recoveries were observed. This demonstates a matrix problem exists with this sample, therefore both analyses are considered billable. Both analyses have been submitted for your review.

The original analyses of samples EAV92, EAV96, and EAV99 resulted in toluene-d8 surrogate recoveries which were above the upper QC limit. The samples were reanalyzed (within the holding time) and the toluene-d8 recoveries were similar in all instances, although the BFB recoveries in all three samples fell just below the lower QC limit. Because the toluene-d8 recoveries were consistantly out in all analyses, a matrix problem exists, therefore both analyses of each sample are considered billable. Both the original analyses and reanalyses have been sumbitted for your reference.

The original analysis of sample EAV94 resulted in a toluene-d8 surrogate recovery which was above the upper QC limit. The sample was reanalyzed (within the holding time) and the toluene-d8 recovery was again above the upper QC limit, demonstrating a matrix problem exists with this sample. Both analyses are considered billable, and both analyses are submitted for your reference.

Semivolatile analysis:

The initial analysis of sample EAV95 resulted in all three acid recoveries being below the lower QC limit. The sample was therefore re-extracted and reanalyzed, and all surrogate recoveries were within the QC limits. Only the re-extraction/ reanalysis has been submitted for your review.

- Matrix Spikes.

  Volatile fraction: The percent recovery of 1,1-dichloroethene was 1% below the lower QC advisory limit in sample EBW00MSD.

  Semivolatile fraction: The percent recovery of pentachlorophenol fell to 1% below the lower QC advisory limt. This caused the pentachlorophenol RPD value to be above the QC limit.

- Internal Standard Responses.

  Volatile fraction: The response of the internal standard chlorobenzene was below the lower QC limits in the reanalyses of samples EAV90, EAV92, EAV96, and both analyses of sample EAV99 (all performed within the holding time). Because of the holding time expiration, and the fact that the surrogate recoveries had indicated a matrix effect which could account for the low internal standard

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EAV92

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803760

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B123

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 49 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.00

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.57	520	BJ
2.	UNKNOWN	9.94	420	J
3. 20019-64-1	2(5H)-FURANONE, 5,5-DIMETHYL	10.37	1200	BJ
4. 18641-71-9	3-HEPTANONE, 2,4-DIMETHYL-	11.45	1000	BJ
5.	UNKNOWN	12.92	1400	BJ
6.	UNKNOWN	41.98	490	J
7.	UNKNOWN	42.88	450	J
8. 55402-04-5	3-PENTYN-2-ONE, 5,5-DIETHOXY	43.41	420	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV93

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803761

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B124

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 52 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	690	U
111-44-4	bis(2-Chloroethyl)Ether	690	U
95-57-8	2-Chlorophenol	690	U
541-73-1	1,3-Dichlorobenzene	690	U
106-46-7	1,4-Dichlorobenzene	690	U
100-51-6	Benzyl Alcohol	690	U
95-50-1	1,2-Dichlorobenzene	690	U
95-48-7	2-Methylphenol	690	U
39638-32-9	bis(2-Chloroisopropyl)Ether	690	U
106-44-5	4-Methylphenol	690	U
621-64-7	N-Nitroso-Di-n-Propylamine	690	U
67-72-1	Hexachloroethane	690	U
98-95-3	Nitrobenzene	690	U
78-59-1	Isophorone	690	U
88-75-5	2-Nitrophenol	690	U
105-67-9	2,4-Dimethylphenol	690	U
65-85-0	Benzoic Acid	3300	U
111-91-1	bis(2-Chloroethoxy)Methane	690	U
120-83-2	2,4-Dichlorophenol	690	U
120-82-1	1,2,4-Trichlorobenzene	690	U
91-20-3	Naphthalene	690	U
106-47-8	4-Chloroaniline	690	U
87-68-3	Hexachlorobutadiene	690	U
59-50-7	4-Chloro-3-Methylphenol	690	U
91-57-6	2-Methylnaphthalene	690	U
77-47-4	Hexachlorocyclopentadiene	690	U
88-06-2	2,4,6-Trichlorophenol	690	U
95-95-4	2,4,5-Trichlorophenol	3300	U
91-58-7	2-Chloronaphthalene	690	U
88-74-4	2-Nitroaniline	3300	U
131-11-3	Dimethyl Phthalate	690	U
208-96-8	Acenaphthylene	690	U
606-20-2	2,6-Dinitrotoluene	690	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV93

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803761

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B124

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 52 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3300	U
83-32-9	Acenaphthene	690	U
51-28-5	2,4-Dinitrophenol	3300	U
100-02-7	4-Nitrophenol	3300	U
132-64-9	Dibenzofuran	690	U
121-14-2	2,4-Dinitrotoluene	690	U
84-66-2	Diethylphthalate	690	U
7005-72-3	4-Chlorophenyl-phenylether	690	U
86-73-7	Fluorene	690	U
100-10-6	4-Nitroaniline	3300	U
534-52-1	4,6-Dinitro-2-Methylphenol	3300	U
86-30-6	N-Nitrosodiphenylamine (1)	690	U
101-55-3	4-Bromophenyl-phenylether	690	U
118-74-1	Hexachlorobenzene	690	U
87-86-5	Pentachlorophenol	3300	U
85-01-8	Phenanthrene	690	U
120-12-7	Anthracene	690	U
84-74-2	Di-n-Butylphthalate	6300	~~B~~ LADU T.G. 10/14/88
206-44-0	Fluoranthene	59	J
129-00-0	Pyrene	68	J
85-68-7	Butylbenzylphthalate	690	U
91-94-1	3,3'-Dichlorobenzidine	1400	U
56-55-3	Benzo(a)Anthracene	690	U
218-01-9	Chrysene	28	J
117-81-7	bis(2-Ethylhexyl)Phthalate	690	U
117-84-0	Di-n-Octyl Phthalate	690	U
205-99-2	Benzo(b)Fluoranthene	690	U
207-08-9	Benzo(k)Fluoranthene	690	U
50-32-8	Benzo(a)Pyrene	690	U
193-39-5	Indeno(1,2,3-cd)Pyrene	690	U
53-70-3	Dibenz(a,h)Anthracene	690	U
191-24-2	Benzo(g,h,i)Perylene	690	U

(1) - Cannot be separated from Diphenylamine

200182

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EAV93

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803761

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B124

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 52 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.00

Number TICs found: 11

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	9.59	460	BJ
2.		UNKNOWN	9.97	290	J
3.	20019-64-1	2(5H)-FURANONE, 5,5-DIMETHYL	10.40	1800	BJ
4.	18641-71-9	3-HEPTANONE, 2,4-DIMETHYL-	11.49	1000	BJ
5.		UNKNOWN	12.95	1100	BJ
6.		UNKNOWN	32.24	320	J
7.		UNKNOWN	41.99	640	J
8.	3891-98-3	TETRATETRACONTANE	42.89	560	J
9.	930-02-9	OCTADECANE, 1-(ETHENYLOXY)-	43.51	410	J
10.		UNKNOWN	49.31	350	J
11.		UNKNOWN	53.38	280	J

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EAV94

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803762

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B125

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 81 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1700	U
111-44-4	bis(2-Chloroethyl)Ether	1700	U
95-57-8	2-Chlorophenol	1700	U
541-73-1	1,3-Dichlorobenzene	1700	U
106-46-7	1,4-Dichlorobenzene	1700	U
100-51-6	Benzyl Alcohol	1700	U
95-50-1	1,2-Dichlorobenzene	1700	U
95-48-7	2-Methylphenol	1700	U
39638-32-9	bis(2-Chloroisopropyl)Ether	1700	U
106-44-5	4-Methylphenol	1700	U
621-64-7	N-Nitroso-Di-n-Propylamine	1700	U
67-72-1	Hexachloroethane	1700	U
98-95-3	Nitrobenzene	1700	U
78-59-1	Isophorone	1700	U
88-75-5	2-Nitrophenol	1700	U
105-67-9	2,4-Dimethylphenol	1700	U
65-85-0	Benzoic Acid	8400	U
111-91-1	bis(2-Chloroethoxy)Methane	1700	U
120-83-2	2,4-Dichlorophenol	1700	U
120-82-1	1,2,4-Trichlorobenzene	1700	U
91-20-3	Naphthalene	1700	U
106-47-8	4-Chloroaniline	1700	U
87-68-3	Hexachlorobutadiene	1700	U
59-50-7	4-Chloro-3-Methylphenol	1700	U
91-57-6	2-Methylnaphthalene	1700	U
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	1700	U
95-95-4	2,4,5-Trichlorophenol	8400	U
91-58-7	2-Chloronaphthalene	1700	U
88-74-4	2-Nitroaniline	8400	U
131-11-3	Dimethyl Phthalate	1700	U
208-96-8	Acenaphthylene	1700	U
606-20-2	2,6-Dinitrotoluene	1700	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV94

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803762

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B125

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 81 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	8400	U
83-32-9	Acenaphthene	1700	U
51-28-5	2,4-Dinitrophenol	8400	U
100-02-7	4-Nitrophenol	8400	U
132-64-9	Dibenzofuran	1700	U
121-14-2	2,4-Dinitrotoluene	1700	U
84-66-2	Diethylphthalate	1700	U
7005-72-3	4-Chlorophenyl-phenylether	1700	U
86-73-7	Fluorene	1700	U
100-10-6	4-Nitroaniline	8400	U
534-52-1	4,6-Dinitro-2-Methylphenol	8400	U
86-30-6	N-Nitrosodiphenylamine (1)	1700	U
101-55-3	4-Bromophenyl-phenylether	1700	U
118-74-1	Hexachlorobenzene	1700	U
87-86-5	Pentachlorophenol	8400	U
85-01-8	Phenanthrene	990	J
120-12-7	Anthracene	200	J
84-74-2	Di-n-Butylphthalate	13000	~~B~~ 1700 U 1.4 10/14/88
206-44-0	Fluoranthene	1600	J
129-00-0	Pyrene	1500	J
85-68-7	Butylbenzylphthalate	1700	U
91-94-1	3,3'-Dichlorobenzidine	3500	U
56-55-3	Benzo(a)Anthracene	580	J
218-01-9	Chrysene	610	J
117-81-7	bis(2-Ethylhexyl)Phthalate	1700	U
117-84-0	Di-n-Octyl Phthalate	1700	U
205-99-2	Benzo(b)Fluoranthene	580	J
207-08-9	Benzo(k)Fluoranthene	630	J
50-32-8	Benzo(a)Pyrene	660	J
193-39-5	Indeno(1,2,3-cd)Pyrene	1700	U
53-70-3	Dibenz(a,h)Anthracene	1700	U
191-24-2	Benzo(g,h,i)Perylene	1700	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

EAV94

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803762

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B125

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 81 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

Number TICs found: 20

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	9.57	1100	BJ
2.	20019-64-1	2(5H)-FURANONE, 5,5-DIMETHYL	10.37	2600	BJ
3.	18641-71-9	3-HEPTANONE, 2,4-DIMETHYL-	11.45	3500	BJ
4.		UNKNOWN	12.94	3000	BJ
5.	629-78-7	HEPTADECANE	26.22	1400	J
6.	57-10-3	HEXADECANOIC ACID	30.44	1800	J
7.		UNKNOWN	32.22	2000	J
8.	7343-06-8	PHENANTHRENE, 3,4,5,6-TETRAM	34.69	940	J
9.	54833-23-7	EICOSANE, 10-METHYL-	35.21	840	J
10.	55333-99-8	EICOSANE, 7-HEXYL-	37.74	1300	J
11.	630-06-8	HEXATRIACONTANE	40.09	2400	J
12.		UNKNOWN	40.56	1400	J
13.		UNKNOWN	41.01	2800	J
14.		UNKNOWN	41.98	9000	J
15.	930-02-9	OCTADECANE, 1-(ETHENYLOXY)-	42.44	1100	J
16.	630-06-8	HEXATRIACONTANE	42.88	6100	J
17.		UNKNOWN	43.33	3400	J
18.		UNKNOWN	43.49	3400	J
19.	112-95-8	EICOSANE	44.18	3000	J
20.	638-66-4	OCTADECANAL	45.66	1400	J

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EAV95

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803763

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 80948039

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 73 dec. ____ Date Extracted: 09/09/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/09/88

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl)Ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl Alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
95-48-7	2-Methylphenol	1200	U
39638-32-9	bis(2-Chloroisopropyl)Ether	1200	U
106-44-5	4-Methylphenol	1200	U
621-64-7	N-Nitroso-Di-n-Propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
65-85-0	Benzoic Acid	5900	U
111-91-1	bis(2-Chloroethoxy)Methane	1200	U
120-83-2	2,4-Dichlorophenol	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-Methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
95-95-4	2,4,5-Trichlorophenol	5900	U
91-58-7	2-Chloronaphthalene	1200	U
88-74-4	2-Nitroaniline	5900	U
131-11-3	Dimethyl Phthalate	1200	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV95

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803763

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8094B039

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 73 dec. ____ Date Extracted: 09/09/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/09/88

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	5900	U
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	5900	U
100-02-7	4-Nitrophenol	5900	U
132-64-9	Dibenzofuran	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
86-73-7	Fluorene	1200	U
100-10-6	4-Nitroaniline	5900	U
534-52-1	4,6-Dinitro-2-Methylphenol	5900	U
86-30-6	N-Nitrosodiphenylamine (1)	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	5900	U
85-01-8	Phenanthrene	1200	U
120-12-7	Anthracene	1200	U
84-74-2	Di-n-Butylphthalate	1200	U
206-44-0	Fluoranthene	1200	U
129-00-0	Pyrene	1200	U
85-68-7	Butylbenzylphthalate	1200	U
91-94-1	3,3'-Dichlorobenzidine	2400	U
56-55-3	Benzo(a)Anthracene	1200	U
218-01-9	Chrysene	1200	U
117-81-7	bis(2-Ethylhexyl)Phthalate	230	~~BJ~~ 1200 U
117-84-0	Di-n-Octyl Phthalate	1200	U
205-99-2	Benzo(b)Fluoranthene	1200	U
207-08-9	Benzo(k)Fluoranthene	1200	U
50-32-8	Benzo(a)Pyrene	1200	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1200	U
53-70-3	Dibenz(a,h)Anthracene	1200	U
191-24-2	Benzo(g,h,i)Perylene	1200	U

(1) - Cannot be separated from Diphenylamine

200264

FORM I SV-2 1/87 Rev.

1F

EPA SAMPLE NO.

EAV95

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803763

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8094B039

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 73 dec. ____ Date Extracted: 09/09/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/09/88

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.00

Number TICs found: 20

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	9.42	1400	BJ
2.		UNKNOWN	9.80	2300	J
3.	20019-64-1	2(5H)-FURANONE, 5,5-DIMETHYL	10.22	2200	J
4.	18641-71-9	3-HEPTANONE, 2,4-DIMETHYL-	11.34	3000	J
5.	4401-11-0	ETHANONE, 1-OXIRANYL-	12.79	4500	J
6.	57-10-3	HEXADECANOIC ACID	30.32	730	J
7.	638-66-4	OCTADECANAL	32.11	600	J
8.	7396-38-5	PHENANTHRENE, 2,4,5,7-TETRAM	34.54	790	J
9.	21078-65-9	1-DECANOL, 2-ETHYL-	35.09	910	J
10.	17301-27-8	UNDECANE, 2,10-DIMETHYL-	37.62	2300	J
11.	629-99-2	PENTACOSANE	39.97	2200	J
12.	6971-40-0	17-PENTATRIACONTENE	40.11	1700	J
13.		UNKNOWN	41.81	3400	J
14.	630-06-8	HEXATRIACONTANE	42.69	3800	J
15.	74685-29-3	9-EICOSENE, (E)-	42.93	4100	J
16.	55045-11-9	TRIDECANE, 5-PROPYL-	46.58	1300	J
17.		UNKNOWN ALIPHATIC KETONE	47.19	910	J
18.	58-95-7	2H-1-BENZOPYRAN-6-OL, 3,4-DI	48.08	750	J
19.		UNKNOWN	51.33	970	J
20.		UNKNOWN	53.09	1600	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV96

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803764

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B128

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 67 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1000	U
111-44-4	bis(2-Chloroethyl)Ether	1000	U
95-57-8	2-Chlorophenol	1000	U
541-73-1	1,3-Dichlorobenzene	1000	U
106-46-7	1,4-Dichlorobenzene	1000	U
100-51-6	Benzyl Alcohol	1000	U
95-50-1	1,2-Dichlorobenzene	1000	U
95-48-7	2-Methylphenol	1000	U
39638-32-9	bis(2-Chloroisopropyl)Ether	1000	U
106-44-5	4-Methylphenol	1000	U
621-64-7	N-Nitroso-Di-n-Propylamine	1000	U
67-72-1	Hexachloroethane	1000	U
98-95-3	Nitrobenzene	1000	U
78-59-1	Isophorone	1000	U
88-75-5	2-Nitrophenol	1000	U
105-67-9	2,4-Dimethylphenol	1000	U
65-85-0	Benzoic Acid	4800	U
111-91-1	bis(2-Chloroethoxy)Methane	1000	U
120-83-2	2,4-Dichlorophenol	1000	U
120-82-1	1,2,4-Trichlorobenzene	1000	U
91-20-3	Naphthalene	1000	U
106-47-8	4-Chloroaniline	1000	U
87-68-3	Hexachlorobutadiene	1000	U
59-50-7	4-Chloro-3-Methylphenol	1000	U
91-57-6	2-Methylnaphthalene	1000	U
77-47-4	Hexachlorocyclopentadiene	1000	U
88-06-2	2,4,6-Trichlorophenol	1000	U
95-95-4	2,4,5-Trichlorophenol	4800	U
91-58-7	2-Chloronaphthalene	1000	U
88-74-4	2-Nitroaniline	4800	U
131-11-3	Dimethyl Phthalate	1000	U
208-96-8	Acenaphthylene	1000	U
606-20-2	2,6-Dinitrotoluene	1000	U

200297

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV96

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803764

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B128

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 67 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4800	U
83-32-9	Acenaphthene	1000	U
51-28-5	2,4-Dinitrophenol	4800	U
100-02-7	4-Nitrophenol	4800	U
132-64-9	Dibenzofuran	1000	U
121-14-2	2,4-Dinitrotoluene	1000	U
84-66-2	Diethylphthalate	1000	U
7005-72-3	4-Chlorophenyl-phenylether	1000	U
86-73-7	Fluorene	1000	U
100-10-6	4-Nitroaniline	4800	U
534-52-1	4,6-Dinitro-2-Methylphenol	4800	U
86-30-6	N-Nitrosodiphenylamine (1)	1000	U
101-55-3	4-Bromophenyl-phenylether	1000	U
118-74-1	Hexachlorobenzene	1000	U
87-86-5	Pentachlorophenol	4800	U
85-01-8	Phenanthrene	1000	U
120-12-7	Anthracene	1000	U
84-74-2	Di-n-Butylphthalate	6900	~~E~~ ~~1000~~ U
206-44-0	Fluoranthene	1000	U
129-00-0	Pyrene	1000	U
85-68-7	Butylbenzylphthalate	1000	U
91-94-1	3,3'-Dichlorobenzidine	2000	U
56-55-3	Benzo(a)Anthracene	1000	U
218-01-9	Chrysene	1000	U
117-81-7	bis(2-Ethylhexyl)Phthalate	130	~~EBJ~~ 1000 U
117-84-0	Di-n-Octyl Phthalate	1000	U
205-99-2	Benzo(b)Fluoranthene	1000	U
207-08-9	Benzo(k)Fluoranthene	1000	U
50-32-8	Benzo(a)Pyrene	1000	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1000	U
53-70-3	Dibenz(a,h)Anthracene	1000	U
191-24-2	Benzo(g,h,i)Perylene	1000	U

(1) - Cannot be separated from Diphenylamine

T.H. 10/4/88

200298

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAV96

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803764

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B128

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 67 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.00

Number TICs found: 19

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.59	720	BJ
2. 20019-64-1	2(5H)-FURANONE, 5,5-DIMETHYL	10.37	830	BJ
3. 18641-71-9	3-HEPTANONE, 2,4-DIMETHYL-	11.47	840	BJ
4.	UNKNOWN	12.94	1200	BJ
5. 629-78-7	HEPTADECANE	26.22	580	J
6. 2091-29-4	9-HEXADECENOIC ACID	30.16	490	J
7. 57-10-3	HEXADECANOIC ACID	30.42	730	J
8.	UNKNOWN	31.09	410	J
9.	UNKNOWN	32.21	670	J
10. 74764-11-7	IRON, TRICARBONYL[N-(PHENYL-	40.09	1200	J
11.	UNKNOWN	40.54	980	J
12. 36237-66-8	6,10,14-HEXADECATRIEN-1-OL,	41.98	1500	J
13. 74764-11-7	IRON, TRICARBONYL[N-(PHENYL-	42.88	1100	J
14.	UNKNOWN	43.49	990	J
15.	UNKNOWN	48.56	430	J
16.	UNKNOWN	49.06	440	J
17.	UNKNOWN	49.34	1000	J
18.	UNKNOWN	52.29	460	J
19.	UNKNOWN	53.44	420	J

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EAV97

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803765

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B129

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 30 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	470	U
111-44-4	bis(2-Chloroethyl)Ether	470	U
95-57-8	2-Chlorophenol	470	U
541-73-1	1,3-Dichlorobenzene	470	U
106-46-7	1,4-Dichlorobenzene	470	U
100-51-6	Benzyl Alcohol	470	U
95-50-1	1,2-Dichlorobenzene	470	U
95-48-7	2-Methylphenol	470	U
39638-32-9	bis(2-Chloroisopropyl)Ether	470	U
106-44-5	4-Methylphenol	470	U
621-64-7	N-Nitroso-Di-n-Propylamine	470	U
67-72-1	Hexachloroethane	470	U
98-95-3	Nitrobenzene	470	U
78-59-1	Isophorone	470	U
88-75-5	2-Nitrophenol	470	U
105-67-9	2,4-Dimethylphenol	470	U
65-85-0	Benzoic Acid	2300	U
111-91-1	bis(2-Chloroethoxy)Methane	470	U
120-83-2	2,4-Dichlorophenol	470	U
120-82-1	1,2,4-Trichlorobenzene	470	U
91-20-3	Naphthalene	470	U
106-47-8	4-Chloroaniline	470	U
87-68-3	Hexachlorobutadiene	470	U
59-50-7	4-Chloro-3-Methylphenol	470	U
91-57-6	2-Methylnaphthalene	470	U
77-47-4	Hexachlorocyclopentadiene	470	U
88-06-2	2,4,6-Trichlorophenol	470	U
95-95-4	2,4,5-Trichlorophenol	2300	U
91-58-7	2-Chloronaphthalene	470	U
88-74-4	2-Nitroaniline	2300	U
131-11-3	Dimethyl Phthalate	470	U
208-96-8	Acenaphthylene	470	U
606-20-2	2,6-Dinitrotoluene	470	U

200331

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV97

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803765

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B129

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 30 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2300	U
83-32-9	Acenaphthene	470	U
51-28-5	2,4-Dinitrophenol	2300	U
100-02-7	4-Nitrophenol	2300	U
132-64-9	Dibenzofuran	470	U
121-14-2	2,4-Dinitrotoluene	470	U
84-66-2	Diethylphthalate	470	U
7005-72-3	4-Chlorophenyl-phenylether	470	U
86-73-7	Fluorene	470	U
100-10-6	4-Nitroaniline	2300	U
534-52-1	4,6-Dinitro-2-Methylphenol	2300	U
86-30-6	N-Nitrosodiphenylamine (1)	470	U
101-55-3	4-Bromophenyl-phenylether	470	U
118-74-1	Hexachlorobenzene	470	U
87-86-5	Pentachlorophenol	2300	U
85-01-8	Phenanthrene	39	J
120-12-7	Anthracene	470	U
84-74-2	Di-n-Butylphthalate	3800	~~B~~ U
206-44-0	Fluoranthene	68	J
129-00-0	Pyrene	69	J
85-68-7	Butylbenzylphthalate	470	U
91-94-1	3,3'-Dichlorobenzidine	940	U
56-55-3	Benzo(a)Anthracene	32	J
218-01-9	Chrysene	34	J
117-81-7	bis(2-Ethylhexyl)Phthalate	68	~~BJ~~ 470 U
117-84-0	Di-n-Octyl Phthalate	470	U
205-99-2	Benzo(b)Fluoranthene	21	J
207-08-9	Benzo(k)Fluoranthene	34	J
50-32-8	Benzo(a)Pyrene	33	J
193-39-5	Indeno(1,2,3-cd)Pyrene	470	U
53-70-3	Dibenz(a,h)Anthracene	470	U
191-24-2	Benzo(g,h,i)Perylene	470	U

(1) - Cannot be separated from Diphenylamine

Y.Y. 10/4/88

200332

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAV97

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803765

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B129

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 30 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.00

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.70	320	BJ
2.	UNKNOWN	10.09	600	J
3. 20019-64-1	2(5H)-FURANONE, 5,5-DIMETHYL	10.50	280	BJ
4. 18641-71-9	3-HEPTANONE, 2,4-DIMETHYL-	11.60	490	BJ
5.	UNKNOWN	13.07	950	BJ
6. 638-66-4	OCTADECANAL	42.18	270	J
7. 74764-11-7	IRON, TRICARBONYL[N-(PHENYL-	43.09	240	J
8.	UNKNOWN	43.71	490	J
9. 1560-97-0	DODECANE, 2-METHYL-	47.13	200	J

200333

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV98

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803766

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B130

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 80 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1700	U
111-44-4	bis(2-Chloroethyl)Ether	1700	U
95-57-8	2-Chlorophenol	1700	U
541-73-1	1,3-Dichlorobenzene	1700	U
106-46-7	1,4-Dichlorobenzene	1700	U
100-51-6	Benzyl Alcohol	1700	U
95-50-1	1,2-Dichlorobenzene	1700	U
95-48-7	2-Methylphenol	1700	U
39638-32-9	bis(2-Chloroisopropyl)Ether	1700	U
106-44-5	4-Methylphenol	1700	U
621-64-7	N-Nitroso-Di-n-Propylamine	1700	U
67-72-1	Hexachloroethane	1700	U
98-95-3	Nitrobenzene	1700	U
78-59-1	Isophorone	1700	U
88-75-5	2-Nitrophenol	1700	U
105-67-9	2,4-Dimethylphenol	1700	U
65-85-0	Benzoic Acid	8000	U
111-91-1	bis(2-Chloroethoxy)Methane	1700	U
120-83-2	2,4-Dichlorophenol	1700	U
120-82-1	1,2,4-Trichlorobenzene	1700	U
91-20-3	Naphthalene	1700	U
106-47-8	4-Chloroaniline	1700	U
87-68-3	Hexachlorobutadiene	1700	U
59-50-7	4-Chloro-3-Methylphenol	1700	U
91-57-6	2-Methylnaphthalene	1700	U
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	1700	U
95-95-4	2,4,5-Trichlorophenol	8000	U
91-58-7	2-Chloronaphthalene	1700	U
88-74-4	2-Nitroaniline	8000	U
131-11-3	Dimethyl Phthalate	1700	U
208-96-8	Acenaphthylene	1700	U
606-20-2	2,6-Dinitrotoluene	1700	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV98

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803766

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B130

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 80 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	8000	U
83-32-9	Acenaphthene	1700	U
51-28-5	2,4-Dinitrophenol	8000	U
100-02-7	4-Nitrophenol	8000	U
132-64-9	Dibenzofuran	1700	U
121-14-2	2,4-Dinitrotoluene	1700	U
84-66-2	Diethylphthalate	1700	U
7005-72-3	4-Chlorophenyl-phenylether	1700	U
86-73-7	Fluorene	1700	U
100-10-6	4-Nitroaniline	8000	U
534-52-1	4,6-Dinitro-2-Methylphenol	8000	U
86-30-6	N-Nitrosodiphenylamine (1)	1700	U
101-55-3	4-Bromophenyl-phenylether	1700	U
118-74-1	Hexachlorobenzene	1700	U
87-86-5	Pentachlorophenol	8000	U
85-01-8	Phenanthrene	1700	U
120-12-7	Anthracene	1700	U
84-74-2	Di-n-Butylphthalate	12000	~~B~~ U
206-44-0	Fluoranthene	1700	U
129-00-0	Pyrene	1700	U
85-68-7	Butylbenzylphthalate	1700	U
91-94-1	3,3'-Dichlorobenzidine	3300	U
56-55-3	Benzo(a)Anthracene	1700	U
218-01-9	Chrysene	1700	U
117-81-7	bis(2-Ethylhexyl)Phthalate	260	~~BJ~~ 700 U
117-84-0	Di-n-Octyl Phthalate	1700	U
205-99-2	Benzo(b)Fluoranthene	1700	U
207-08-9	Benzo(k)Fluoranthene	1700	U
50-32-8	Benzo(a)Pyrene	1700	U
193-39-5	Indeno(1,2,3-cd)Pyrene	1700	U
53-70-3	Dibenz(a,h)Anthracene	1700	U
191-24-2	Benzo(g,h,i)Perylene	1700	U

(1) - Cannot be separated from Diphenylamine

2.4. 10/4/88

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAV98

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803766

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B130

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 80 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.00

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	9.67	1600	BJ
2.	20019-64-1	2(5H)-FURANONE, 5,5-DIMETHYL	10.47	990	BJ
3.	18641-71-9	3-HEPTANONE, 2,4-DIMETHYL-	11.57	1800	BJ
4.		UNKNOWN	13.04	1500	BJ
5.	629-78-7	HEPTADECANE	26.34	2100	J
6.		UNKNOWN	29.36	750	J
7.		UNKNOWN	40.64	690	J
8.		UNKNOWN	40.82	1300	J
9.		UNKNOWN	41.12	900	J
10.		UNKNOWN	41.37	670	J
11.	36237-66-8	6,10,14-HEXADECATRIEN-1-OL,	42.09	1200	J
12.	55162-61-3	TETRACONTANE, 3,5,24-TRIMETH	42.99	750	J
13.		UNKNOWN	44.28	920	J
14.		UNKNOWN	45.21	890	J
15.		UNKNOWN	48.86	1200	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV99

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803767

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B131

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 49 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	650	U
111-44-4	bis(2-Chloroethyl)Ether	650	U
95-57-8	2-Chlorophenol	650	U
541-73-1	1,3-Dichlorobenzene	650	U
106-46-7	1,4-Dichlorobenzene	650	U
100-51-6	Benzyl Alcohol	650	U
95-50-1	1,2-Dichlorobenzene	650	U
95-48-7	2-Methylphenol	650	U
39638-32-9	bis(2-Chloroisopropyl)Ether	650	U
106-44-5	4-Methylphenol	650	U
621-64-7	N-Nitroso-Di-n-Propylamine	650	U
67-72-1	Hexachloroethane	650	U
98-95-3	Nitrobenzene	650	U
78-59-1	Isophorone	650	U
88-75-5	2-Nitrophenol	650	U
105-67-9	2,4-Dimethylphenol	650	U
65-85-0	Benzoic Acid	3100	U
111-91-1	bis(2-Chloroethoxy)Methane	650	U
120-83-2	2,4-Dichlorophenol	650	U
120-82-1	1,2,4-Trichlorobenzene	650	U
91-20-3	Naphthalene	650	U
106-47-8	4-Chloroaniline	650	U
87-68-3	Hexachlorobutadiene	650	U
59-50-7	4-Chloro-3-Methylphenol	650	U
91-57-6	2-Methylnaphthalene	650	U
77-47-4	Hexachlorocyclopentadiene	650	U
88-06-2	2,4,6-Trichlorophenol	650	U
95-95-4	2,4,5-Trichlorophenol	3100	U
91-58-7	2-Chloronaphthalene	650	U
88-74-4	2-Nitroaniline	3100	U
131-11-3	Dimethyl Phthalate	650	U
208-96-8	Acenaphthylene	650	U
606-20-2	2,6-Dinitrotoluene	650	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV99

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803767

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B131

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 49 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3100	U
83-32-9	Acenaphthene	650	U
51-28-5	2,4-Dinitrophenol	3100	U
100-02-7	4-Nitrophenol	3100	U
132-64-9	Dibenzofuran	650	U
121-14-2	2,4-Dinitrotoluene	650	U
84-66-2	Diethylphthalate	650	U
7005-72-3	4-Chlorophenyl-phenylether	650	U
86-73-7	Fluorene	650	U
100-10-6	4-Nitroaniline	3100	U
534-52-1	4,6-Dinitro-2-Methylphenol	3100	U
86-30-6	N-Nitrosodiphenylamine (1)	650	U
101-55-3	4-Bromophenyl-phenylether	650	U
118-74-1	Hexachlorobenzene	650	U
87-86-5	Pentachlorophenol	3100	U
85-01-8	Phenanthrene	650	U
120-12-7	Anthracene	650	U
84-74-2	Di-n-Butylphthalate	5600	~~B~~ U
206-44-0	Fluoranthene	34	J
129-00-0	Pyrene	40	J
85-68-7	Butylbenzylphthalate	650	U
91-94-1	3,3'-Dichlorobenzidine	1300	U
56-55-3	Benzo(a)Anthracene	650	U
218-01-9	Chrysene	650	U
117-81-7	bis(2-Ethylhexyl)Phthalate	69	~~BJ~~ 650 U
117-84-0	Di-n-Octyl Phthalate	650	U
205-99-2	Benzo(b)Fluoranthene	650	U
207-08-9	Benzo(k)Fluoranthene	650	U
50-32-8	Benzo(a)Pyrene	650	U
193-39-5	Indeno(1,2,3-cd)Pyrene	650	U
53-70-3	Dibenz(a,h)Anthracene	650	U
191-24-2	Benzo(g,h,i)Perylene	650	U

(1) - Cannot be separated from Diphenylamine

tly. 10/4/88

200403

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAV99

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803767

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B131

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 49 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: 1.00

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.70	1100	BJ
2. 5754-32-5	1,3-DIOXOLANE-2-ETHANOL, 2-M	11.47	850	J
3. 55045-11-9	TRIDECANE, 5-PROPYL-	43.09	270	J
4.	UNKNOWN	43.81	340	J
5.	UNKNOWN	45.93	330	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW00

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803768

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 80848132

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 42 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	570	U
111-44-4	bis(2-Chloroethyl)Ether	570	U
95-57-8	2-Chlorophenol	570	U
541-73-1	1,3-Dichlorobenzene	570	U
106-46-7	1,4-Dichlorobenzene	570	U
100-51-6	Benzyl Alcohol	570	U
95-50-1	1,2-Dichlorobenzene	570	U
95-48-7	2-Methylphenol	570	U
39638-32-9	bis(2-Chloroisopropyl)Ether	570	U
106-44-5	4-Methylphenol	570	U
621-64-7	N-Nitroso-Di-n-Propylamine	570	U
67-72-1	Hexachloroethane	570	U
98-95-3	Nitrobenzene	570	U
78-59-1	Isophorone	570	U
88-75-5	2-Nitrophenol	570	U
105-67-9	2,4-Dimethylphenol	570	U
65-85-0	Benzoic Acid	2800	U
111-91-1	bis(2-Chloroethoxy)Methane	570	U
120-83-2	2,4-Dichlorophenol	570	U
120-82-1	1,2,4-Trichlorobenzene	570	U
91-20-3	Naphthalene	570	U
106-47-8	4-Chloroaniline	570	U
87-68-3	Hexachlorobutadiene	570	U
59-50-7	4-Chloro-3-Methylphenol	570	U
91-57-6	2-Methylnaphthalene	570	U
77-47-4	Hexachlorocyclopentadiene	570	U
88-06-2	2,4,6-Trichlorophenol	570	U
95-95-4	2,4,5-Trichlorophenol	2800	U
91-58-7	2-Chloronaphthalene	570	U
88-74-4	2-Nitroaniline	2800	U
131-11-3	Dimethyl Phthalate	570	U
208-96-8	Acenaphthylene	570	U
606-20-2	2,6-Dinitrotoluene	570	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW00

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803768

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B132

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 42 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2800	U
83-32-9	Acenaphthene	570	U
51-28-5	2,4-Dinitrophenol	2800	U
100-02-7	4-Nitrophenol	2800	U
132-64-9	Dibenzofuran	570	U
121-14-2	2,4-Dinitrotoluene	570	U
84-66-2	Diethylphthalate	570	U
7005-72-3	4-Chlorophenyl-phenylether	570	U
86-73-7	Fluorene	570	U
100-10-6	4-Nitroaniline	2800	U
534-52-1	4,6-Dinitro-2-Methylphenol	2800	U
86-30-6	N-Nitrosodiphenylamine (1)	570	U
101-55-3	4-Bromophenyl-phenylether	570	U
118-74-1	Hexachlorobenzene	570	U
87-86-5	Pentachlorophenol	2800	U
85-01-8	Phenanthrene	570	U
120-12-7	Anthracene	570	U
84-74-2	Di-n-Butylphthalate	4100	~~B~~ U
206-44-0	Fluoranthene	570	U
129-00-0	Pyrene	32	J
85-68-7	Butylbenzylphthalate	570	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
56-55-3	Benzo(a)Anthracene	570	U
218-01-9	Chrysene	570	U
117-81-7	bis(2-Ethylhexyl)Phthalate	240	~~BJ~~ 570 U
117-84-0	Di-n-Octyl Phthalate	570	U
205-99-2	Benzo(b)Fluoranthene	570	U
207-08-9	Benzo(k)Fluoranthene	570	U
50-32-8	Benzo(a)Pyrene	570	U
193-39-5	Indeno(1,2,3-cd)Pyrene	570	U
53-70-3	Dibenz(a,h)Anthracene	570	U
191-24-2	Benzo(g,h,i)Perylene	570	U

(1) - Cannot be separated from Diphenylamine

y.y. 10/4/88

200427

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EBW00

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803768

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 80848132

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 42 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.00

Number TICs found: 20

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.82	600	BJ
2. 5754-32-5	1,3-DIOXOLANE-2-ETHANOL, 2-M	11.50	330	J
3. 544-76-3	HEXADECANE	24.62	360	J
4. 629-78-7	HEPTADECANE	26.39	950	J
5. 593-45-3	OCTADECANE	28.06	550	J
6. 638-66-4	OCTADECANAL	29.42	400	J
7. 629-92-5	NONADECANE	29.66	500	J
8. 2091-29-4	9-HEXADECENOIC ACID	30.34	350	J
9. 57-10-3	HEXADECANOIC ACID	30.61	670	J
10. 74764-11-7	IRON, TRICARBONYL[N-(PHENYL-	31.17	320	J
11. 629-78-7	HEPTADECANE	32.62	310	J
12. 150-86-7	2-HEXADECEN-1-OL, 3,7,11,15-	33.19	410	J
13. 6971-40-0	17-PENTATRIACONTENE	40.69	260	J
14.	UNKNOWN	42.14	2200	J
15.	UNKNOWN	43.64	980	J
16. 58-95-7	2H-1-BENZOPYRAN-6-OL, 3,4-DI	48.71	570	J
17.	UNKNOWN	49.24	530	J
18.	UNKNOWN	49.58	370	J
19.	UNKNOWN	52.48	460	J
20.	UNKNOWN	53.64	270	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV88

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803756

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 15 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.4	U
319-85-7	beta-BHC	9.4	U
319-86-8	delta-BHC	9.4	U
58-89-9	gamma-BHC (Lindane)	9.4	U
76-44-8	Heptachlor	9.4	U
309-00-2	Aldrin	9.4	U
1024-57-3	Heptachlor epoxide	9.4	U
959-98-8	Endosulfan I	9.4	U
60-57-1	Dieldrin	19	U
72-55-9	4,4'-DDE	19	U
72-20-8	Endrin	19	U
33213-65-9	Endosulfan II	19	U
72-54-8	4,4'-DDD	19	U
1031-07-8	Endosulfan sulfate	19	U
50-29-3	4,4'-DDT	19	U
72-43-5	Methoxychlor	94	U
53494-70-5	Endrin ketone	19	U
5103-71-9	alpha-Chlordane	94	U
5103-74-2	gamma-Chlordane	94	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	94	U
11104-28-2	Aroclor-1221	94	U
11141-16-5	Aroclor-1232	94	U
53469-21-9	Aroclor-1242	94	U
12672-29-6	Aroclor-1248	94	U
11097-69-1	Aroclor-1254	190	U
11096-82-5	Aroclor-1260	190	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV89

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803757

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 13 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.2	U
319-85-7	beta-BHC	9.2	U
319-86-8	delta-BHC	9.2	U
58-89-9	gamma-BHC (Lindane)	9.2	U
76-44-8	Heptachlor	9.2	U
309-00-2	Aldrin	9.2	U
1024-57-3	Heptachlor epoxide	9.2	U
959-98-8	Endosulfan I	9.2	U
60-57-1	Dieldrin	18	U
72-55-9	4,4'-DDE	18	U
72-20-8	Endrin	18	U
33213-65-9	Endosulfan II	18	U
72-54-8	4,4'-DDD	18	U
1031-07-8	Endosulfan sulfate	18	U
50-29-3	4,4'-DDT	40	
72-43-5	Methoxychlor	92	U
53494-70-5	Endrin ketone	18	U
5103-71-9	alpha-Chlordane	92	U
5103-74-2	gamma-Chlordane	92	U
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	92	U
11104-28-2	Aroclor-1221	92	U
11141-16-5	Aroclor-1232	92	U
53469-21-9	Aroclor-1242	92	U
12672-29-6	Aroclor-1248	92	U
11097-69-1	Aroclor-1254	180	U
11096-82-5	Aroclor-1260	180	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV90DL

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803758

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 78 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/31/88

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	180	U
319-85-7	beta-BHC	180	U
319-86-8	delta-BHC	180	U
58-89-9	gamma-BHC (Lindane)	180	U
76-44-8	Heptachlor	180	U
309-00-2	Aldrin	180	U
1024-57-3	Heptachlor epoxide	180	U
959-98-8	Endosulfan I	180	U
60-57-1	Dieldrin	360	U
72-55-9	4,4'-DDE	360	U
72-20-8	Endrin	360	U
33213-65-9	Endosulfan II	360	U
72-54-8	4,4'-DDD	1100	D
1031-07-8	Endosulfan sulfate	360	U
50-29-3	4,4'-DDT	460	D
72-43-5	Methoxychlor	1800	U
53494-70-5	Endrin ketone	360	U
5103-71-9	alpha-Chlordane	1800	U
5103-74-2	gamma-Chlordane	1800	U
8001-35-2	Toxaphene	3600	U
12674-11-2	Aroclor-1016	1800	U
11104-28-2	Aroclor-1221	1800	U
11141-16-5	Aroclor-1232	1800	U
53469-21-9	Aroclor-1242	1800	U
12672-29-6	Aroclor-1248	1800	U
11097-69-1	Aroclor-1254	3600	U
11096-82-5	Aroclor-1260	3600	U

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EAV91

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803759

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 40 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	13	U
319-85-7	beta-BHC	13	U
319-86-8	delta-BHC	13	U
58-89-9	gamma-BHC (Lindane)	13	U
76-44-8	Heptachlor	13	U
309-00-2	Aldrin	13	U
1024-57-3	Heptachlor epoxide	13	U
959-98-8	Endosulfan I	13	U
60-57-1	Dieldrin	27	U
72-55-9	4,4'-DDE	27	U
72-20-8	Endrin	27	U
33213-65-9	Endosulfan II	27	U
72-54-8	4,4'-DDD	27	U
1031-07-8	Endosulfan sulfate	27	U
50-29-3	4,4'-DDT	27	U
72-43-5	Methoxychlor	130	U
53494-70-5	Endrin ketone	27	U
5103-71-9	alpha-Chlordane	130	U
5103-74-2	gamma-Chlordane	130	U
8001-35-2	Toxaphene	270	U
12674-11-2	Aroclor-1016	130	U
11104-28-2	Aroclor-1221	130	U
11141-16-5	Aroclor-1232	130	U
53469-21-9	Aroclor-1242	130	U
12672-29-6	Aroclor-1248	130	U
11097-69-1	Aroclor-1254	270	U
11096-82-5	Aroclor-1260	270	U

responses, the above samples were not reanalyzed a second time.

- Pesticide Analysis. DDT was found above the detection limit in the quantitation analysis of sample EAV90DL (1 to 5). A peak was present just outside the retention time window in the confirmation analysis. The peak was identified as DDT because of the following:
  1. DDD is also found in the sample (a degredation product of DDT).
  2. The retention time window of DDT in the confirmation column is relatively narrow (16.52 to 16.70 min.).

- Data Reporting Qualifiers.

  Pesticide fraction: The 'X' flag denotes that the compound was interfered with, and a higher dilution should be referenced for a more accurate detection limit.

  The 'Y' flag denotes that the compound was found above the detection limit in a higher dilution.

If you have any questions regarding this case or need any further clarifications, please feel free to call.

Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Theodore P. Johnson
Theodore P. Johnson
Documentation/QA Officer
Environmental Analysis

9-26-88
Date

cc: Region V
EMSL-LV
Central File
Case File

SAMPLE DELIVERY GROUP (SDG)
TRAFFIC REPORT (TR) COVER SHEET

Lab Name: Hazleton Laboratories America Contract No.: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____-___

Full Sample Analysis Price in Contract: $ 889.00

SDG No./First Sample in SDG: EAV88 Sample Receipt Date: 08/18/88 (MM/DD/YY)
(Lowest EPA Sample Number in first shipment of samples received under SDG)

Last Sample in SDG: EBW00 Sample Receipt Date: 08/18/88 (MM/DD/YY)
(Highest EPA Sample Number in last shipment of samples received under SDG)

EPA Sample Numbers in the SDG (listed in alphanumeric order):

1	EAV88	11	EAV98
2	EAV89	12	EAV99
3	EAV90	13	EBW00
4	EAV91	14	
5	EAV92	15	
6	EAV93	16	
7	EAV94	17	
8	EAV95	18	
9	EAV96	19	
10	EAV97	20	

Note: There are a maximum of 20 field samples in an SDG.

Attach Traffic Reports to this form in alphanumeric order (i.e., the order listed on this form).

Steven R. Crupi 08/18/88
Sample Custodian Date

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 10185

SAS NO: (IF APPLICABLE)

ORGANIC TRAFFIC REPORT
(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA (SI) ESI RIFS RD RA ER
NPLD O&M OTHER
NON-SUPERFUND— PROGRAM

SAMPLE DESCRIPTION
(ENTER IN BOX A)
1. SURFACE WATER 5. SEDIMENT
2. GROUND WATER 6. OIL (SAS)
3. LEACHATE 7. WASTE (SAS)

REGION NO: IV
SAMPLING COMPANY ②
SAMPLER: (NAME) Philip Smith

SHIP TO: ③
Hazleton Labs, Inc.
3301 Kinsman Blvd.
Madison, WI 53707
ATTN: Mark Wirtz

SAMPLING DATE: ④
BEGIN: 8/17/88 END: 8/17/88
DATE SHIPPED: 8/17/88 CARRIER: F ⑤
AIRBILL NO: 8260579272

DATE REC'D: 08/18/88
SDG NO: ⑥ EAV88
REC'D BY: Steven R. Cangi
LABORATORY CONTRACT NO. UNIT PRICE
68-01-7418 $889.00

TRANSFER TO: DATE REC'D: ⑦
REC'D BY: CONTRACT NO./PRICE:

Shipment is complete

SAMPLE NUMBER (FROM LABELS)	A SAMPLE DESCRIPTION (FROM BOX 1)	B CONCENTRATION L = LOW/MED. H = HIGH (SAS)	C RAS ANALYSIS VOLATILE	BASE/NEUT./ACID	PESTICIDE/PCB's		D SPECIAL HANDLING	E STATION LOCATION	F SAMPLE CONDITION ON RECEIPT	G HIGH CONC. PHASES (CHECK) SOLID	WATER—MIS LIQUID	NON WATER—MIS LIQUID
EAV88	4	L	✓	✓	✓			S1	Samples received			
EAV89	4	L	✓	✓	✓			S2	cool, intact,			
EAV90	4	L	✓	✓	✓			S3	under custody			
EAV91	4	L	✓	✓	✓			S4	and in good			
EAV92	4	L	✓	✓	✓			S5	condition.			
EAV93	4	L	✓	✓	✓			S6				
EAV94	4	L	✓	✓	✓			S7				
EAV95	4	L	✓	✓	✓			S8				
EAV96	4	L	✓	✓	✓			S9				
EAV97	4	L	✓	✓	✓			S10				
EAV98	4	L	✓	✓	✓			S11				
EAV99	4	L	✓	✓	✓			S12				
EBW00	4	L	✓	✓	✓			S13				

The last sample received for this case and SDG is EBW00.

S. Cangi 8/18/88

EPA Form 2075-7 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

2B
SOIL VOLATILE SURROGATE RECOVERY

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	EAV88	114	78	91		0
02	EAV89	105	81	91		0
03	EAV90	119 *	71 *	91		2
04	EAV90RE	135 *	71 *	96		2
05	EAV91	101	88	94		0
06	EAV92	121 *	82	87		1
07	EAV92RE	125 *	72 *	98		2
08	EAV93	101	104	89		0
09	EAV94	119 *	87	93		1
10	EAV94RE	123 *	75	97		1
11	EAV95	114	83	87		0
12	EAV96	127 *	74	84		1
13	EAV96RE	126 *	71 *	97		2
14	EAV97	117	93	91		0
15	EAV98	117	87	91		0
16	EAV99	131 *	83	88		1
17	EAV99RE	135 *	68 *	96		2
18	EBW00	116	81	94		0
19	ZZZZZ	100	103	99		0
20	EBW00MS	115	74	98		0
21	EBW00MSD	107	78	96		0
22	VBLK01	97	94	89		0
23	VBLK02	100	103	91		0
24	VBLK03	104	98	95		0

	QC LIMITS
S1 (TOL) = Toluene-d8	(81-117)
S2 (BFB) = Bromofluorobenzene	(74-121)
S3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

100002

FORM II VOA-2 1/87 Rev.

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	EAV88	33	35	46	34	31	34		0
02	EAV89	51	56	81	54	47	61		0
03	EAV90	34	39	69	45	36	57		0
04	EAV91	41	49	84	47	41	65		0
05	EAV92	53	58	83	58	50	62		0
06	EAV93	48	54	85	56	48	70		0
07	EAV94	29	36	70	38	33	48		0
08	EAV95	65	66	76	67	66	61		0
09	EAV96	44	46	78	56	46	61		0
10	EAV97	44	50	74	51	43	61		0
11	EAV98	40	47	71	47	41	55		0
12	EAV99	49	52	72	51	46	60		0
13	EBW00	36	41	61	38	35	49		0
14	EAV88MS	40	47	67	44	36	44		0
15	EAV88MSD	46	56	78	50	42	53		0
16	SBLK01	47	51	69	52	45	40		0
17	SBLK02	81	81	95	86	82	75		0

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(23-120)
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)
S3 (TPH)	= Terphenyl	(18-137)
S4 (PHL)	= Phenol-d5	(24-113)
S5 (2FP)	= 2-Fluorophenol	(25-121)
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

2F
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
01	EAV88	96	0
02	EAV89	75	0
03	EAV90	80	0
04	EAV90DL	112	0
05	EAV91	78	0
06	EAV92	71	0
07	EAV93	81	0
08	EAV94	87	0
09	EAV95	59	0
10	EAV96	55	0
11	EAV97	65	0
12	EAV98	65	0
13	EAV98DL	0 D	0
14	EAV99	59	0
15	EBW00	142	0
16	EAV88MS	81	0
17	EAV88MSD	97	0
18	PBLK01	108	0

ADVISORY
QC LIMITS
(20-150)

S1 (DBC) = Dibutlychlorendate

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix Spike - EPA Sample No.: EBW00 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	86.2	0	52.6	61	59-172
Trichloroethene	86.2	0	87.1	101	62-137
Benzene	86.2	0	87.9	102	66-142
Toluene	86.2	1.86	102	116	59-139
Chlorobenzene	86.2	0	102	118	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	86.2	50.3	58 *	5	22	59-172
Trichloroethene	86.2	86.2	100	1	24	62-137
Benzene	86.2	85.5	99	3	21	66-142
Toluene	86.2	97.2	111	4	21	59-139
Chlorobenzene	86.2	101	117	1	21	60-133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 1 out of 10 outside limits

COMMENTS: EBW00 5.0G + 250NG IS,SS
CASE 10185, INST. 5100A

100003

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix Spike - EPA Sample No.: EAV88 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	3960	0	1680	42	26- 90
2-Chlorophenol	3960	0	1570	40	25-102
1,4-Dichlorobenzene	1980	0	733	37	28 104
N-Nitroso-di-n-prop.(1)	1980	0	848	43	41 126
1,2,4-Trichlorobenzene	1980	0	860	43	38 107
4-Chloro-3-methylphenol	3960	0	1970	50	26 103
Acenaphthene	1980	0	991	50	31-137
4-Nitrophenol	3960	0	1900	48	11-114
2,4-Dinitrotoluene	1980	0	1150	58	28- 89
Pentachlorophenol	3960	0	1220	31	17-109
Pyrene	1980	61.1	1380	67	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	3960	1900	48	-13	35	26- 90
2-Chlorophenol	3960	1780	45	-12	50	25-102
1,4-Dichlorobenzene	1980	805	41	-10	27	28 104
N-Nitroso-di-n-prop.(1)	1980	916	46	-7	38	41 126
1,2,4-Trichlorobenzene	1980	928	47	-9	23	38 107
4-Chloro-3-methylphenol	3960	2240	57	-13	33	26 103
Acenaphthene	1980	1150	58	-15	19	31-137
4-Nitrophenol	3960	1950	49	-2	50	11-114
2,4-Dinitrotoluene	1980	1250	63	-8	47	28- 89
Pentachlorophenol	3960	626	16 *	64 *	47	17-109
Pyrene	1980	1610	78	-15	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 1 out of 11 outside limits
Spike Recovery: 1 out of 22 outside limits

COMMENTS: 1UL EAV88 LOW SOIL:08/19/88
CASE 10185 HAZLETON FINN

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix Spike - EPA Sample No.: EAV88 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	31.6	0	23.1	73	46-127
Heptachlor	31.6	0	24.2	77	35-130
Aldrin	31.6	0	28.6	91	34-132
Dieldrin	78.9	0	65.3	83	31-134
Endrin	78.9	0	98.6	125	42-139
4,4'-DDT	78.9	0	84.4	107	23-134

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	31.6	22.7	72	2	50	46-127
Heptachlor	31.6	23.5	74	3	31	35-130
Aldrin	31.6	28.1	89	2	43	34-132
Dieldrin	78.9	67.9	86	-4	38	31-134
Endrin	78.9	92.3	117	7	45	42-139
4,4'-DDT	78.9	104	132	-21	50	23-134

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Lab File ID: 8085A145 Lab Sample ID: VBLK01

Date Analyzed: 08/18/88 Time Analyzed: 1838

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: 5100A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EAV88	80803756	8085A146	1954
02	EAV89	80803757	8085A147	2057
03	EAV90	80803758	8085A148	2135
04	EAV91	80803759	8085A149	2218

COMMENTS: VBLK
CASE#10185 , INST.5100A

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Lab File ID: 8085A153 Lab Sample ID: VBLK02

Date Analyzed: 08/19/88 Time Analyzed: 1152

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: 5100A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EAV92	80803760	8085A154	1320
02	EAV93	80803761	8085A155	1417
03	EAV94	80803762	8085A156	1503
04	EAV95	80803763	8085A157	1542
05	EAV96	80803764	8085A158	1630
06	EAV97	80803765	8085A159	1721
07	EAV98	80803766	8085A160	1810
08	EAV99	80803767	8085A161	1911

COMMENTS: VBLK
CASE 10185, INST. 5100A

100005

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Lab File ID: 8085A163 Lab Sample ID: VBLK03

Date Analyzed: 08/22/88 Time Analyzed: 0952

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: 5100A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EAV90RE	80803758	8085A168	1528
02	EAV92RE	80803760	8085A169	1615
03	EAV94RE	80803762	8085A173	1902
04	EAV96RE	80803764	8085A171	1740
05	EAV99RE	80803767	8085A172	1819
06	EBW00	80803768	8085A164	1112
07	ZZZZZ	HOLD_BLK	8085A167	1419
08	EBW00MS	80803769	8085A165	1200
09	EBW00MSD	80803770	8085A166	1320

COMMENTS: VBLK
CASE 10185, INST. 5100A

100006

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Lab File ID: 8084B116 Lab Sample ID: MB0819

Date Extracted: 08/19/88 Extraction:(SepF/Cont/Sonc) SONC

Date Analyzed: 08/24/88 Time Analyzed: 1350

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: FINN

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EAV88	80803756	8084B117	08/24/88
02	EAV89	80803757	8084B120	08/24/88
03	EAV90	80803758	8084B121	08/24/88
04	EAV91	80803759	8084B122	08/24/88
05	EAV92	80803760	8084B123	08/24/88
06	EAV93	80803761	8084B124	08/24/88
07	EAV94	80803762	8084B125	08/24/88
08	EAV96	80803764	8084B128	08/25/88
09	EAV97	80803765	8084B129	08/25/88
10	EAV98	80803766	8084B130	08/25/88
11	EAV99	80803767	8084B131	08/25/88
12	EBW00	80803768	8084B132	08/25/88
13	EAV88MS	80803769	8084B118	08/24/88
14	EAV88MSD	80803770	8084B119	08/24/88

COMMENTS: 1UL SBLK01 LOW SOIL:08/19/88
CASE 10185 HAZLETON FINN

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Lab File ID: 8094B040 Lab Sample ID: MB0909

Date Extracted: 09/09/88 Extraction:(SepF/Cont/Sonc) SONC

Date Analyzed: 09/09/88 Time Analyzed: 1418

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: FINN

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EAV95	80803763	8094B039	09/09/88

COMMENTS: 1UL SBLK02 LOW SOIL:09/09/88
CASE 10185 HAZLETON FINN

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Lab Sample ID: _____ Lab File ID: _____

Matrix:(soil/water) SOIL Level:(low/med) LOW

Date Extracted: 08/19/88 Extraction:(SepF/Cont/Sonc) SONC

Date Analyzed (1): 08/25/88 Date Analyzed (2): 08/31/88

Time Analyzed (1): 1106 Time Analyzed (2): 1917

Instrument ID (1): HP5710 Instrument ID (2): HP5890

GC Column ID (1): MIXPHASE GC Column ID (2): 3 SP2100

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EAV88	80803756	08/25/88	
02	EAV88MS	80803769	08/25/88	
03	EAV88MSD	80803770	08/25/88	
04	EAV89	80803757	08/25/88	08/31/88
05	EAV90	80803758	08/25/88	
06	EAV90DL	80803758	08/31/88	09/14/88
07	EAV91	80803759	08/25/88	
08	EAV92	80803760	08/25/88	
09	EAV93	80803761	08/25/88	
10	EAV94	80803762	08/25/88	
11	EAV95	80803763	08/30/88	
12	EAV96	80803764	08/30/88	
13	EAV97	80803765	08/30/88	
14	EAV98	80803766	08/30/88	
15	EAV98DL	80803766	08/30/88	09/14/88
16	EAV99	80803767	08/30/88	
17	EBW00	80803768	08/30/88	

COMMENTS:

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK01

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: VBLK01

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A145

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 08/18/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	13	
67-64-1	Acetone	6	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	0.9	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

VBLK01

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: VBLK01

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A145

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 08/18/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1066-40-6	SILANOL, TRIMETHYL-	12.90	19	J
2. 110-54-3	HEXANE	17.10	6	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK02

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: VBLK02

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A153

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 08/19/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	6	
67-64-1	Acetone	23	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	2	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK02

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: VBLK02

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A153

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 08/19/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1066-40-6	SILANOL, TRIMETHYL-	12.95	28	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK03

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: VBLK03

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A163

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 08/22/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	6	
67-64-1	Acetone	20	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	2	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK03

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: VBLK03

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A163

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 08/22/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1066-40-6	SILANOL, TRIMETHYL-	12.95	34	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ZZZZZ

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: HOLD BLK

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A167

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. ____ Date Analyzed: 08/22/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	12	B
67-64-1	Acetone	32	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	2	BJ
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	2	BJ
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylenes (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ZZZZZ

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: HOLD BLK

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A167

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. ____ Date Analyzed: 08/22/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1066-40-6	SILANOL, TRIMETHYL-	12.90	33	BJ

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK01

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: MB0819

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B116

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
100-51-6	Benzyl Alcohol	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
39638-32-9	bis(2-Chloroisopropyl)Ether	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
65-85-0	Benzoic Acid	1600	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	1600	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	1600	U
131-11-3	Dimethyl Phthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK01

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: MB0819

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B116

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1600	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	1600	U
100-02-7	4-Nitrophenol	1600	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-10-6	4-Nitroaniline	1600	U
534-52-1	4,6-Dinitro-2-Methylphenol	1600	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	1600	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
84-74-2	Di-n-Butylphthalate	800	
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	660	U
56-55-3	Benzo(a)Anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)Phthalate	170	J
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

200550

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK01

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: MB0819

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8084B116

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/24/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.54	• 230	J
2. 20019-64-1	2(5H)-FURANONE, 5,5-DIMETHYL	10.35	300	J
3. 18641-71-9	3-HEPTANONE, 2,4-DIMETHYL-	11.44	340	J
4.	UNKNOWN	12.89	160	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK02

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: MB0909

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8094B040

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 09/09/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/09/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
100-51-6	Benzyl Alcohol	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
39638-32-9	bis(2-Chloroisopropyl)Ether	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
65-85-0	Benzoic Acid	1600	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	1600	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	1600	U
131-11-3	Dimethyl Phthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U

200568

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK02

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: MB0909

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8094B040

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 09/09/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/09/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1600	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	1600	U
100-02-7	4-Nitrophenol	1600	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-10-6	4-Nitroaniline	1600	U
534-52-1	4,6-Dinitro-2-Methylphenol	1600	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	1600	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	660	U
56-55-3	Benzo(a)Anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)Phthalate	31	J
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

200569

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK02

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: MB0909

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 8094B040

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 09/09/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 09/09/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	9.44	510	J
2. 6006-01-5	3,7,11-TRIDECATRIENENITRILE,	41.81	180	J
3.	UNKNOWN	43.26	370	J

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

PBLK01

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: _____

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. ____ dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.0	U
319-85-7	beta-BHC	8.0	U
319-86-8	delta-BHC	8.0	U
58-89-9	gamma-BHC (Lindane)	8.0	U
76-44-8	Heptachlor	8.0	U
309-00-2	Aldrin	8.0	U
1024-57-3	Heptachlor epoxide	8.0	U
959-98-8	Endosulfan I	8.0	U
60-57-1	Dieldrin	16	U
72-55-9	4,4'-DDE	16	U
72-20-8	Endrin	16	U
33213-65-9	Endosulfan II	16	U
72-54-8	4,4'-DDD	16	U
1031-07-8	Endosulfan sulfate	16	U
50-29-3	4,4'-DDT	16	U
72-43-5	Methoxychlor	80	U
53494-70-5	Endrin ketone	16	U
5103-71-9	alpha-Chlordane	80	U
5103-74-2	gamma-Chlordane	80	U
8001-35-2	Toxaphene	160	U
12674-11-2	Aroclor-1016	80	U
11104-28-2	Aroclor-1221	80	U
11141-16-5	Aroclor-1232	80	U
53469-21-9	Aroclor-1242	80	U
12672-29-6	Aroclor-1248	80	U
11097-69-1	Aroclor-1254	160	U
11096-82-5	Aroclor-1260	160	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV90RE

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803758

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A168

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 79 Date Analyzed: 08/22/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	48	U
74-83-9	Bromomethane	48	U
75-01-4	Vinyl Chloride	48	U
75-00-3	Chloroethane	48	U
75-09-2	Methylene Chloride	130	~~UB~~ U
67-64-1	Acetone	640	~~UB~~ U
75-15-0	Carbon Disulfide	24	U
75-35-4	1,1-Dichloroethene	24	U
75-34-3	1,1-Dichloroethane	24	U
540-59-0	1,2-Dichloroethene (total)	24	U
67-66-3	Chloroform	15	~~BJ~~ 24U
107-06-2	1,2-Dichloroethane	24	U
78-93-3	2-Butanone	46	J
71-55-6	1,1,1-Trichloroethane	24	U
56-23-5	Carbon Tetrachloride	24	U
108-05-4	Vinyl Acetate	48	U
75-27-4	Bromodichloromethane	24	U
78-87-5	1,2-Dichloropropane	24	U
10061-01-5	cis-1,3-Dichloropropene	24	U
79-01-6	Trichloroethene	24	U
124-48-1	Dibromochloromethane	24	U
79-00-5	1,1,2-Trichloroethane	24	U
71-43-2	Benzene	24	U
10061-02-6	Trans-1,3-Dichloropropene	24	U
75-25-2	Bromoform	24	U
108-10-1	4-Methyl-2-Pentanone	48	U
591-78-6	2-Hexanone	48	U
127-18-4	Tetrachloroethene	24	U
79-34-5	1,1,2,2-Tetrachloroethane	24	U
108-88-3	Toluene	8	~~BJ~~ 24U
108-90-7	Chlorobenzene	24	U
100-41-4	Ethylbenzene	24	U
100-42-5	Styrene	24	U
1330-20-7	Xylenes (total)	19	J

T.M. 10/5/88

T.M. 10/5/88

FORM I VOA 1/87 Rev.

100084

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EAV90RE

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803758

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A168

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 79 Date Analyzed: 08/22/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1066-40-6	SILANOL, TRIMETHYL-	12.95	190	BJ

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV92RE

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803760

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A169

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 49 Date Analyzed: 08/22/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
74-87-3	Chloromethane	20	U	
74-83-9	Bromomethane	20	U	
75-01-4	Vinyl Chloride	20	U	
75-00-3	Chloroethane	20	U	
75-09-2	Methylene Chloride	62	~~B~~ U	
67-64-1	Acetone	170	~~B~~ U	
75-15-0	Carbon Disulfide	10	U	T.G.
75-35-4	1,1-Dichloroethene	10	U	
75-34-3	1,1-Dichloroethane	10	U	10/3/88
540-59-0	1,2-Dichloroethene (total)	10	U	
67-66-3	Chloroform	15	~~B~~ U	
107-06-2	1,2-Dichloroethane	10	U	
78-93-3	2-Butanone	20	U	
71-55-6	1,1,1-Trichloroethane	10	U	
56-23-5	Carbon Tetrachloride	10	U	
108-05-4	Vinyl Acetate	20	U	
75-27-4	Bromodichloromethane	10	U	
78-87-5	1,2-Dichloropropane	10	U	
10061-01-5	cis-1,3-Dichloropropene	10	U	
79-01-6	Trichloroethene	10	U	
124-48-1	Dibromochloromethane	10	U	
79-00-5	1,1,2-Trichloroethane	10	U	
71-43-2	Benzene	10	U	
10061-02-6	Trans-1,3-Dichloropropene	10	U	
75-25-2	Bromoform	10	U	
108-10-1	4-Methyl-2-Pentanone	20	U	
591-78-6	2-Hexanone	20	U	
127-18-4	Tetrachloroethene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	10	U	
108-88-3	Toluene	3	~~BJ~~ 10U	T.G.
108-90-7	Chlorobenzene	10	U	
100-41-4	Ethylbenzene	10	U	10/3/88
100-42-5	Styrene	10	U	
1330-20-7	Xylenes (total)	10	U	

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EAV92RE

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803760

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A169

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 49 Date Analyzed: 08/22/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1066-40-6	SILANOL, TRIMETHYL-	12.85	66	BJ

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV94RE

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803762

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A173

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 81 Date Analyzed: 08/22/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	53	U
74-83-9	Bromomethane	53	U
75-01-4	Vinyl Chloride	53	U
75-00-3	Chloroethane	53	U
75-09-2	Methylene Chloride	120	~~B~~ U
67-64-1	Acetone	940	~~B~~ U
75-15-0	Carbon Disulfide	26	U
75-35-4	1,1-Dichloroethene	26	U
75-34-3	1,1-Dichloroethane	26	U
540-59-0	1,2-Dichloroethene (total)	26	U
67-66-3	Chloroform	18	~~BJ~~ J
107-06-2	1,2-Dichloroethane	26	U
78-93-3	2-Butanone	56	
71-55-6	1,1,1-Trichloroethane	26	U
56-23-5	Carbon Tetrachloride	26	U
108-05-4	Vinyl Acetate	53	U
75-27-4	Bromodichloromethane	26	U
78-87-5	1,2-Dichloropropane	26	U
10061-01-5	cis-1,3-Dichloropropene	26	U
79-01-6	Trichloroethene	26	U
124-48-1	Dibromochloromethane	26	U
79-00-5	1,1,2-Trichloroethane	26	U
71-43-2	Benzene	26	U
10061-02-6	Trans-1,3-Dichloropropene	26	U
75-25-2	Bromoform	26	U
108-10-1	4-Methyl-2-Pentanone	53	U
591-78-6	2-Hexanone	53	U
127-18-4	Tetrachloroethene	26	U
79-34-5	1,1,2,2-Tetrachloroethane	26	U
108-88-3	Toluene	26	U
108-90-7	Chlorobenzene	26	U
100-41-4	Ethylbenzene	26	U
100-42-5	Styrene	26	U
1330-20-7	Xylenes (total)	26	U

7.4' 8/31/88

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAV94RE

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803762

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A173

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 81 Date Analyzed: 08/22/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 60-29-7	DIETHYL ETHER	9.85	29	J
2. 1066-40-6	SILANOL, TRIMETHYL-	12.90	130	BJ
3. 110-54-3	HEXANE	17.10	28	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV96RE

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803764

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A171

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 67 Date Analyzed: 08/22/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	30	U
74-83-9	Bromomethane	30	U
75-01-4	Vinyl Chloride	30	U
75-00-3	Chloroethane	30	U
75-09-2	Methylene Chloride	44	~~UB~~ U
67-64-1	Acetone	200	~~UB~~ U
75-15-0	Carbon Disulfide	15	U
75-35-4	1,1-Dichloroethene	15	U
75-34-3	1,1-Dichloroethane	15	U
540-59-0	1,2-Dichloroethene (total)	15	U
67-66-3	Chloroform	10	~~BJ~~ 15U
107-06-2	1,2-Dichloroethane	15	U
78-93-3	2-Butanone	13	J
71-55-6	1,1,1-Trichloroethane	15	U
56-23-5	Carbon Tetrachloride	15	U
108-05-4	Vinyl Acetate	30	U
75-27-4	Bromodichloromethane	15	U
78-87-5	1,2-Dichloropropane	15	U
10061-01-5	cis-1,3-Dichloropropene	15	U
79-01-6	Trichloroethene	15	U
124-48-1	Dibromochloromethane	15	U
79-00-5	1,1,2-Trichloroethane	15	U
71-43-2	Benzene	15	U
10061-02-6	Trans-1,3-Dichloropropene	15	U
75-25-2	Bromoform	15	U
108-10-1	4-Methyl-2-Pentanone	30	U
591-78-6	2-Hexanone	30	U
127-18-4	Tetrachloroethene	15	U
79-34-5	1,1,2,2-Tetrachloroethane	15	U
108-88-3	Toluene	15	U
108-90-7	Chlorobenzene	15	U
100-41-4	Ethylbenzene	15	U
100-42-5	Styrene	15	U
1330-20-7	Xylenes (total)	15	U

7.4.91 10/3/88

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAV96RE

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803764

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A171

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 67 Date Analyzed: 08/22/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 60-29-7	DIETHYL ETHER	9.85	21	J
2. 1066-40-6	SILANOL, TRIMETHYL-	12.90	85	BJ

100261

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAV99RE

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803767

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A172

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 49 Date Analyzed: 08/22/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	20	U
74-83-9	Bromomethane	20	U
75-01-4	Vinyl Chloride	20	U
75-00-3	Chloroethane	20	U
75-09-2	Methylene Chloride	44	~~B~~ U
67-64-1	Acetone	170	~~B~~ U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	18	~~B~~ U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
108-05-4	Vinyl Acetate	20	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes (total)	10	U

TLH 10/3/88

1E

EPA SAMPLE NO.

EAV99RE

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803767

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 8085A172

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 49 Date Analyzed: 08/22/88

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1066-40-6	SILANOL, TRIMETHYL-	12.90	63	BJ

100341

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EAV90

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 88803758

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 78 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/25/88

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	36	U
319-85-7	beta-BHC	36	U
319-86-8	delta-BHC	36	U
58-89-9	gamma-BHC (Lindane)	36	U
76-44-8	Heptachlor	36	U
309-00-2	Aldrin	36	U
1024-57-3	Heptachlor epoxide	36	U
959-98-8	Endosulfan I	36	U
60-57-1	Dieldrin	73	U
72-55-9	4,4'-DDE	73	U
72-20-8	Endrin	73	U
33213-65-9	Endosulfan II	73	U
72-54-8	4,4'-DDD	73	UY
1031-07-8	Endosulfan sulfate	73	U
50-29-3	4,4'-DDT	73	UY
72-43-5	Methoxychlor	360	U
53494-70-5	Endrin ketone	73	U
5103-71-9	alpha-Chlordane	360	U
5103-74-2	gamma-Chlordane	360	U
8001-35-2	Toxaphene	730	U
12674-11-2	Aroclor-1016	360	U
11104-28-2	Aroclor-1221	360	U
11141-16-5	Aroclor-1232	360	U
53469-21-9	Aroclor-1242	360	U
12672-29-6	Aroclor-1248	360	U
11097-69-1	Aroclor-1254	730	U
11096-82-5	Aroclor-1260	730	U

EPA SAMPLE NO.

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EAV98DL

Lab Name: HAZLET Contract: 68-01-7418

Lab Code: HAZLET Case No.: 10185 SAS No.: _____ SDG No.: EAV88

Matrix: (soil/water) SOIL Lab Sample ID: 80803766

Sample wt/vol: 30 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/18/88

% Moisture: not dec. 80 dec. ____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH: 7.7 Dilution Factor: 20

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	800	U
319-85-7	beta-BHC	800	U
319-86-8	delta-BHC	800	U
58-89-9	gamma-BHC (Lindane)	800	U
76-44-8	Heptachlor	800	U
309-00-2	Aldrin	800	U
1024-57-3	Heptachlor epoxide	800	U
959-98-8	Endosulfan I	800	U
60-57-1	Dieldrin	1600	U
72-55-9	4,4'-DDE	1600	U
72-20-8	Endrin	1600	U
33213-65-9	Endosulfan II	1600	U
72-54-8	4,4'-DDD	1600	U
1031-07-8	Endosulfan sulfate	1600	U
50-29-3	4,4'-DDT	1600	U
72-43-5	Methoxychlor	8000	U
53494-70-5	Endrin ketone	1600	U
5103-71-9	alpha-Chlordane	8000	U
5103-74-2	gamma-Chlordane	8000	U
8001-35-2	Toxaphene	16000	U
12674-11-2	Aroclor-1016	8000	U
11104-28-2	Aroclor-1221	8000	U
11141-16-5	Aroclor-1232	8000	U
53469-21-9	Aroclor-1242	8000	U
12672-29-6	Aroclor-1248	8000	U
11097-69-1	Aroclor-1254	16000	U
11096-82-5	Aroclor-1260	16000	U

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

CRL Receipt Date 9/2/88 FIT Receipt Date 9/22/88 Review Completed 9/23/88

TO: M. Nestrzenko
FROM: Mary Gzyra
SUBJECT: Former Klysian
PAN: UN0202SB (1 hour charged for review) Case # 10185

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
# ____	Low Soil	# 13	Low Soil
____	Low Water	____	Low Water
____	Drinking Water	____	Drinking Water
____	Other	____	Other

Project Data Status ____ Completed!!

✓ Incomplete, awaiting soil org.; D.W. org; DW. + soil 2,4-D & 2,4,5,-T.

FIT Data Review Findings:

As, Cd, Cr, Pb, Hg, detected
- other heavy metals detected

Check Data Sheets for Transcription Errors

✓ Compounds were detected in sample(s); see enclosed sheet.

Book No. 8 Page No. 192 Date Sampled 8/17

0759:2

* Physical state of pure material, not necessarily the physical state of the waste.

** For Section II of 2070-13.

*** For Section III of 2070-13.

Abbreviations for waste characteristics:

A - Toxic
B - Corrosive
C - Radiative
D - Persistent
E - Soluble
F - Infectious
G - Flammable
H - Ignitable
I - Highly volatile
J - Explosive
K - Reactive
L - Incompatible
M - Not applicable

SI Memo & Category Abbreviations:

A - Aromatic
CLA - Common lab artifact
CSC - Common soil constituent
HA - Halogenated - aromatic
HH - Halogenated - hydrocarbon
HM - Heavy metal
HYD - Hydrocarbon
IOC - Other inorganic compound
K - Ketone
M - Metal (density < 5x water density)
NA - Nitrogen - aromatic
NH - Nitrogen - hydrocarbon
OCC - Other organic compound
P - Phenol
PAH - Polyaromatic hydrocarbon
PCB - Polychlorinated biphenyl
PEST - Pesticide
PH - Phthalate
SH - Sulfur - hydrocarbon
SOL - Solvent

0916:1

Table

2070-13				
Physical State*	Waste Characteristics**	Category***	SI Memo	Sample and Pa
				Analyt (value
Solid	A,D	MES	CSC	alumin
Solid	A,D	MES	HM	antimo
Solid	A,D	MES	HM	arseni
Solid	A,D	MES	CSC	barium
Solid	A,D	MES	M	beryll
Solid	A,D	MES	HM	cadmiu
Solid	D	MES	CSC	calciu
Solid	A,D	MES	HM	chromi
Solid	A,D	MES	HM	cobalt
Solid	A,D	MES	HM	copper
Solid	A,D	MES	HM,CSC	iron
Solid	A,D	MES	HM	lead
Solid	A,D	MES	CSC	magnesi
Solid	A,D	MES	HM	mangane
Liquid	A,D	MES	HM	mercury
Solid	A,D	MES	HM	nickel
Solid	D	MES	CSC	potassi
Solid	A,D	MES	M	seleniu
Solid	A,D	MES	HM	silver
Solid	D	MES	CSC	sodium
Solid	A,D	MES	HM	thalliu
Solid	A,D	MES	HM	vanadiu
Solid	A,D	MES	CSC,HM	zinc
Solid	A	IOC	IOC	cyanide

— Not

NOTE: Aluminum + Magnesium were flagged "*" by the lab i error. Data is acceptable. BJ 9/23/8

COMPOUND QUALIFIERS

U
J
UJ

C

B

E

B

A

R
X

ANALYTE QUALIFIERS

OLD	NEW
E	E
S	S
R	N
*	*
+	+
[ ]	B
UJ	
J	
U	U
	M
	W
	R

9/27

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 9.19.88

SUBJECT: Review of Region V CLP Data
Received for Review on 9-2-88

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory Ida Levin

TO: Data User: FIT

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

SITE NAME: Former Elysian City Dump, MN SMO Case No. 10185 SAS 3846E

EPA Data Set No. SF 5484 No. of Samples: 7 D.U./Activity Numbers Y905/C721ZZ

CRL No. 88FN28S37-S41

SMO Traffic No. MEBR94-99 ; MEANØØ

CLP Laboratory: Chemtech Hrs. Required for Review: 5

Following are our findings:

The laboratory's portion of case 10185/SAS3846E consists of seven (7) low level water samples analyzed for total metals and total cyanide.

ICP Analyses: The 0% Al spike recovery indicates a low bias and all Al data are unusable(R). The 3% Fe spike recovery indicates a low bias. Fe on MEAN00 is unusable(R); all other Fe data are estimated(J). The 248% Zn spike recovery indicates a high bias. Zn data on samples MEBR94, MEBR96-98 are estimated (J). All other Zn data were LIDL and are acceptable. The Mn spike recovery (225%) and serial dilution (168%) are out of control. All Mn data are estimated(J) due to interference. The 117% Ni spike recovery indicates a high bias; however, all Ni data are <CRDL and therefore acceptable.

<<<please see next page>>> JWG

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

Data Qualifiers

Laboratory: Chemtech **Case: 10185**

GFAA Analyses: The Pb duplicate (> ± CRDL) indicates poor precision and all Pb data are estimated(J). The Pb ICB was incorrectly recorded 2u on form III; this value was changed to 2.6 (> CRDL) by the reviewer. Sample MEAN00 is a field blank and contained Pb at 5ug/L. Pb on samples MEBR94-96, 99 contained Pb at >CRDL but <5x MEAN00. Pb data are qualified as stated above. The Tl result on CCB1 was incorrectly recorded as 2u; this value was changed to 2.8 (>CRDL) by the reviewer. Tl on MEAN00 was >CRDL but <5X CCB1; therefore, Tl on MEAN00 is estimated(J). All other Tl data were <CRDL and acceptable.

Other Qualifiers: All mercury and cyanide data are acceptable.

Sample MEAN00 is a field blank and was found to contain Ca at 3310ug/L, Cu at 95ug/L, Pb at 5ug/L, Na at 1980ug/L, Tl at 2.2ug/L. All Ca data were >5X the blank and are therefore acceptable. All Tl data are qualified as stated above. Pb data are qualified as stated above. All Cu and Na data were >CRDL's but <5X the blank; all Cu and Na data are estimated(J).

Samples MEBR95 and MEBR99 are field duplicates. The Cu RPD was 48.2% and the As results were >± CRDL.

Reviewed by: John W. Ganz John W. Ganz
Date: 9/16/88

* Physical state of pure material, not necessarily the physical state of the waste.

** For Section II of 2070-13.

*** For Section III of 2070-13.

Abbreviations for waste characteristics:

A - Toxic
B - Corrosive
C - Radiative
D - Persistent
E - Soluble
F - Infectious
G - Flammable
H - Ignitable
I - Highly volatile
J - Explosive
K - Reactive
L - Incompatible
M - Not applicable

SI Memo & Category Abbreviations:

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HYD - Hydrocarbon
IOC - Other inorganic compound
K - Ketone
M - Metal (density < 5x water density)
NA - Nitrogen - aromatic
NH - Nitrogen - hydrocarbon
OCC - Other organic compound
P - Phenol
PAH - Polyaromatic hydrocarbon
PCB - Polychlorinated biphenyl
PEST - Pesticide
PH - Phthalate
SH - Sulfur - hydrocarbon
SOL - Solvent

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. ME BR-94

Date 9/1/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME Chemtech Consulting Group

CASE NO. 10185/3846E

SOW NO. 785

Lab Receipt Date 8/19/88

LAB SAMPLE ID. NO. G3-1371-01

QC REPORT NO. G3-1371

Elements Identified and Measured

Concentration: Low X Medium ____

Matrix: Water X Soil ____ Sludge ____ Other ____

(ug/L) or mg/kg dry weight (Circle One)

1.	Aluminum	1000 P N	13.	Magnesium	21400 P
2.	Antimony	50 FS	14.	Manganese	120 P N E
3.	Arsenic	13 FS	15.	Mercury	0.7
4.	Barium	286 P	16.	Nickel	8 U P N
5.	Beryllium	2 U P	17.	Potassium	2100
6.	Cadmium	0.50 FS	18.	Selenium	2 U FS
7.	Calcium	69100 P	19.	Silver	5 U P
8.	Chromium	6 U P	20.	Sodium	8950 P
9.	Cobalt	10 U P	21.	Thallium	2 U FS
10.	Copper	94 P	22.	Vanadium	7 U P
11.	Iron	1760 P N	23.	Zinc	47 P N
12.	Lead	5.8 FS		Percent Solids (%)	
	Cyanide	10 U			

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Color: Before- Colorless After- Colorless. Clarity: clear

Lab Manager [signature]

Form 1

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. MEBR.95

Date 9/1/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME Chemtech Consulting Group

CASE NO. 10185/3846 G

SOW NO. 785

Lab Receipt Date 8/19/88

LAB SAMPLE ID. NO. G2-1371-02

QC REPORT NO. G2-1371

Elements Identified and Measured

Concentration: Low X Medium ____

Matrix: Water X Soil ____ Sludge ____ Other ____

(ug/L) or mg/kg dry weight (Circle One)

1.	Aluminum	1000 P N	13.	Magnesium	24500 P
2.	Antimony	50 FS	14.	Manganese	63 P NE
3.	Arsenic	7.8 FS	15.	Mercury	0.20
4.	Barium	292 P	16.	Nickel	8 U P N
5.	Beryllium	2 U P	17.	Potassium	2000 A
6.	Cadmium	0.50 FS	18.	Selenium	2 U FS
7.	Calcium	76400 P	19.	Silver	5 U P
8.	Chromium	6 U P	20.	Sodium	8250 P
9.	Cobalt	10 U P	21.	Thallium	2 U FS
10.	Copper	74 P	22.	Vanadium	7 U P
11.	Iron	1070 P N	23.	Zinc	20 U P N
12.	Lead	4.3 FS		Percent Solids (%)	
	Cyanide	10 U			

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Color: Before- Colorless After- ~~Colorless~~ Yellow, Clarity: clear

Lab Manager [signature]

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. ME BR-96

Date 9/11/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME Chemtech Consulting Group

CASE NO. 10185/3846E

SOW NO. 785

Lab Receipt Date 8/19/88

LAB SAMPLE ID. NO. G2-1371-03

QC REPORT NO. G2-1371

Elements Identified and Measured

Concentration: Low X Medium ____

Matrix: Water X Soil ____ Sludge ____ Other ____

(ug/L) or mg/kg dry weight (Circle One)

1.	Aluminum	100 U P N	13.	Magnesium	34400 P
2.	Antimony	50 UFS	14.	Manganese	740 PNE
3.	Arsenic	5 U FS	15.	Mercury	0.2 U
4.	Barium	255 P	16.	Nickel	8 U P N
5.	Beryllium	2 U P	17.	Potassium	1500 A
6.	Cadmium	0.5 U FS	18.	Selenium	2 U FS
7.	Calcium	85500 P	19.	Silver	5.1 P
8.	Chromium	6 U P	20.	Sodium	5130 P
9.	Cobalt	10 U P	21.	Thallium	2 U FS
10.	Copper	111 P	22.	Vanadium	7 U P
11.	Iron	139 PN	23.	Zinc	32 PN
12.	Lead	3.6 FS		Percent Solids (%)	
	Cyanide	10 U			

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Color: Before- Colorless After- Colorless Clarity: Clear

Lab Manager [signature]

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. MGBR-97

Date 9/1/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME Chemtech Consulting Group
CASE NO. 10185/3846 E
SOW NO. 785
Lab Receipt Date 8/19/88
LAB SAMPLE ID. NO. G2-1371-04
QC REPORT NO. G2-1371

Elements Identified and Measured

Concentration: Low X Medium ____

Matrix: Water X Soil ____ Sludge ____ Other ____

(ug/L) or mg/kg dry weight (Circle One)

1.	Aluminum	1000 P N	13.	Magnesium	27100 P
2.	Antimony	5 U FS	14.	Manganese	171 P NE
3.	Arsenic	12 FS	15.	Mercury	0.20
4.	Barium	260 P	16.	Nickel	8 U P N
5.	Beryllium	2 U P	17.	Potassium	[1300] A
6.	Cadmium	0.50 FS	18.	Selenium	2 U FS
7.	Calcium	76400 P	19.	Silver	5 U P
8.	Chromium	6 U P	20.	Sodium	5290 P
9.	Cobalt	10 U P	21.	Thallium	2 U FS
10.	Copper	128 P	22.	Vanadium	7 U P
11.	Iron	3820 P N	23.	Zinc	47 P N
12.	Lead	27 FS		Percent Solids (%)	
	Cyanide	10 U			

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Color: Before- Colorless. After- Yellow, Clarity: Clear

Lab Manager [signature]

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.
ME BR-98

Date 9/1/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME Chemtech Consulting Group
CASE NO. 10125/3846E
SOW NO. 785
Lab Receipt Date 8/19/88
LAB SAMPLE ID. NO. G2-1371-05
QC REPORT NO. G2-1371

Elements Identified and Measured

Concentration: Low X Medium ____

Matrix: Water X Soil ____ Sludge ____ Other ____

(ug/L) or mg/kg dry weight (Circle One)

1.	Aluminum	1000 P N	13.	Magnesium	26400 P
2.	Antimony	5U FS	14.	Manganese	186 P NE
3.	Arsenic	5U FS	15.	Mercury	0.2U
4.	Barium	349 P	16.	Nickel	8U P N
5.	Beryllium	2U P	17.	Potassium	1600 A
6.	Cadmium	11 FS	18.	Selenium	2U FS
7.	Calcium	80600 P	19.	Silver	5U P
8.	Chromium	6U P	20.	Sodium	6610 P
9.	Cobalt	10U P	21.	Thallium	2U FS
10.	Copper	78 P	22.	Vanadium	7U P
11.	Iron	6470 P N	23.	Zinc	8060 P N
12.	Lead	30 FS		Percent Solids (%)	
	Cyanide	10U			

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Color: Before- Colorless After- Colorless. Clarity: clear
Dilution factor for Cd x5

Lab Manager [signature]

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. ME BR-99

Date 9/1/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME Chemtech Consulting Group

CASE NO. 10185/3846E

SOW NO. 785

Lab Receipt Date 8/19/88

LAB SAMPLE ID. NO. G2-1371-06

QC REPORT NO. G2-1371

Elements Identified and Measured

Concentration: Low X Medium ____

Matrix: Water X Soil ____ Sludge ____ Other ____

(ug/L) or mg/kg dry weight (Circle One)

1.	Aluminum	100 U P N	13.	Magnesium	25000 P
2.	Antimony	5 U FS	14.	Manganese	72 P N E
3.	Arsenic	5 U FS	15.	Mercury	0.2 U
4.	Barium	295 P	16.	Nickel	8 U P N
5.	Beryllium	2 U P	17.	Potassium	1900 A
6.	Cadmium	0.5 U FS	18.	Selenium	2 U FS
7.	Calcium	76500 P	19.	Silver	5 U P
8.	Chromium	6 U P	20.	Sodium	8430 P
9.	Cobalt	10 U P	21.	Thallium	2 U FS
10.	Copper	121 P	22.	Vanadium	7 U P
11.	Iron	1040 P N	23.	Zinc	20 U P N
12.	Lead	3.5 FS		Percent Solids (%)	
	Cyanide	10 U			

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Color: Before- Colorless After- Colorless. Clarity: Clear

Lab Manager ____

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No. MEAN-00

Date 9/1/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME Chemtech Consulting Group

CASE NO. 10185/3846E

SOW NO. 785

Lab Receipt Date 8/19/88

LAB SAMPLE ID. NO. G2-1371-07

QC REPORT NO. G2-1371

Elements Identified and Measured

Concentration: Low X Medium ____

Matrix: Water X Soil ____ Sludge ____ Other ____

(ug/L) or mg/kg dry weight (Circle One)

1.	Aluminum	1000 P N	13.	Magnesium	[752] E
2.	Antimony	5 U FS	14.	Manganese	7 U P N E
3.	Arsenic	5 U FS	15.	Mercury	0.2 U
4.	Barium	490 P	16.	Nickel	8 U P N
5.	Beryllium	2 U P	17.	Potassium	900 U A
6.	Cadmium	0.50 FS	18.	Selenium	2 U FS
7.	Calcium	3310 P	19.	Silver	5 U P
8.	Chromium	6 U P	20.	Sodium	1980 E
9.	Cobalt	10 U P	21.	Thallium	2.2 FS
10.	Copper	95 P	22.	Vanadium	7 U P
11.	Iron	1000 P N	23.	Zinc	200 P N
12.	Lead	[5.0 FS]		Percent Solids (%)	
	Cyanide	10 U			

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Color: Before- Colorless After- Colorless. Clarity: clear

Lab Manager

QC EXCEPTION SUMMARY REPORT

CASE # 10185/SAS 3846E
DATA SET # 5484
LAB Q.C.# 62-1571
DATE: 9/12/88

SITE Former Elysian
LAB Chemtech
REVIEWED BY John Ganz

MATRIX: Water
CONC. : Low
MATRIX:
CONC. :

WATER SAMPLE SPK.
WATER SAMPLE DUP.
SOIL SAMPLE SPK.
SOIL SAMPLE DUP.

	OVERALL CASE QC									MATRIX SPECIFIC QC						SAMPLE SPECIFIC QC		FIELD QC			REGIONAL QC			OTHER/ COMMENTS
	Holding Time	Cal Blanks	Init Calver	Contin Calver	Prep Blk AQ	Prep Blk SOL	ICS %R	LCS % AQ	LCS % SOL	Sol Dup RPD	Sol Spk %R	AQ Dup RPD	AQ Spk %R	Ser Dilu AQ	Ser Dilu SOL	GFAA Dup	GFAA Spike	Blank	Dup RPD	Spike %R	Blind Blank	Blind Spike %R	Split Sample RPD	
Aluminum													0											
Antimony																								
Arsenic																								
Barium																								
Beryllium																								
Cadmium																								
Calcium																		3310						
Chromium																								
Cobalt																								
Copper																		95						
Iron													3											
Lead		2.6>CRDL	2.10L(u)									±CRDL						5						
Magnesium																								
Manganese													225	168										
Mercury																								~~[illegible]~~
Nickel													117											
Potassium																								
Selenium																								
Silver																								
Sodium																		1980						
Thallium		2.8>CRDL	>1m.(u)															2.2						
Tin																								
Vanadium																								
Zinc													248	~~[illegible]~~										
Cyanide																								

MEANØØ is a field blank.

Region V

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. 10185/SAS 3846E

SITE Former Elysian

LABORATORY Chemtech

NO. OF SAMPLES/ MATRIX 7/Water

SDG# MEBR 94

REVIEWER (IF NOT ESD) Weston ESAT

SOW# 785

REVIEWER'S NAME John Ganz

DPO: ACTION _____ FYI _____

COMPLETION DATE _____

DATA ASSESSMENT SUMMARY

		ICP	AA	Hg	CYANIDE
1.	HOLDING TIMES	O	O	O	O
2.	CALIBRATIONS				
3.	BLANKS				
4.	ICS				
5.	LCS				
6.	DUPLICATE ANALYSIS				
7.	MATRIX SPIKE				
8.	MSA				
9.	SERIAL DILUTION				
10.	SAMPLE VERIFICATION				
11.	OTHER QC				
12.	OVERALL ASSESSMENT	✓	✓	✓	✓

O = Data had no problems/or qualified due to minor problems.
M = Data qualified due to major problems.
Z = Data unacceptable.
X = Problems, but do not affect data.

ACTION ITEMS: Al unusable (R); Fe on ØØ unusable (R), all other Fe estimated (J); Zn on MEBR94-99 estimated (J); Mn estimated (J); Pb estimated (J); Tl on MEANØØ ~~estimated~~ qualified (u); Cu and Na qualified (u); Pb on MEBR 94-96, 99 qualified (u).

AREAS OF CONCERN: _____

NOTABLE PERFORMANCE: _____

WA85-0839 - AMENDMENT THREE (3)
U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

Date 9/1/88

COVER PAGE
INORGANIC ANALYSES DATA PACKAGE

Lab Name Chemtech Consulting Group
Case No. 10185/3846 E
SOW No. 785
Q.C. Report No. G2-1371

Sample Numbers

EPA No.	Lab ID No.	EPA No.	Lab ID No.
MEBR-94	G2-1371-01		
95	02		
96	03		
97	04		
98	05		
99	06		
MEAN-00	07		

RECEIVED
SEP 02 1988
U.S. EPA CENTRAL REGIONAL LAB

Comments:

ICP interelement and background corrections applied? Yes X No ____

If yes, corrections applied before X or after ____ generation of raw data.

Footnotes:

NR - Not required by contract at this time

Form I:

Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract-required detection limit, report the value in brackets (i.e., [10]). Indicate the analytical method used with P (for ICP), A (for Flame AA) or F (for Furnace AA).

U - Indicates element was analyzed for but not detected. Report with the instrument detection limit value (e.g., 10U).

E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.

S - Indicates value determined by Method of Standard Addition.

N - Indicates spike sample recovery is not within control limits.

* - Indicates duplicate analysis is not within control limits.

+ - Indicates the correlation coefficient for method of standard addition is less than 0.995

M - Indicates duplicate injection results exceeded control limits.

Indicate method used: P for ICP; A for Flame AA and F for Furnace.

WA85-J839 - AMENDMENT THREE (3)

Form III-A

Q. C. Report No. G2-1371

BLANKS

LAB NAME Chemtech Consulting Group

CASE NO. 10185/3846 E

DATE 9/01/88

UNITS ug/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank[1] Matrix: Water ug/L	Matrix: 2
Metals:							
1. Aluminum	100 U	100 U	100 U	100 U	100 U	100 U	
2. Antimony	5 U	5 U	5 U	5 U		NR	
3. Arsenic	5 U	5 U	5 U			NR	
4. Barium	49 U	49 U	49 U	49 U	49 U	49 U	
5. Beryllium	2 U	2 U	2 U	2 U	2 U	2 U	
6. Cadmium	0.5 U	0.5 U	0.5 U	0.5 U		NR	
7. Calcium	423 U	423 U	423 U	423 U	423 U	423 U	
8. Chromium	6 U	6 U	6 U	6 U	6 U	6 U	
9. Cobalt	10 U	10 U	10 U	10 U	10 U	10 U	
10. Copper	9 U	9 U	9 U	9 U	9 U	9 U	
11. Iron	100 U	100 U	100 U	100 U	100 U	100 U	
12. Lead	2.6 ~~2~~ ~~U~~	2 U	2 U			NR	
13. Magnesium	600 U	600 U	600 U	600 U	600 U	600 U	
14. Manganese	7 U	7 U	7 U	[7.1]	7 U	7 U	
15. Mercury	0.2 U	0.2 U				0.2 U	
16. Nickel	8 U	8 U	8 U	8 U	8 U	8 U	
17. Potassium	900 U	900 U	900 U			900 U	
18. Selenium	2 U	2 U	2 U			NR	
19. Silver	5 U	5 U	5 U	5 U	5 U	5 U	
20. Sodium	652 U	652 U	652 U	652 U	652 U	652 U	
21. Thallium	2 U	2.8 ~~2 U~~	2 U			NR	
22. Vanadium	7 U	7 U	7 U	7 U	7 U	7 U	
23. Zinc	20 U	20 U	20 U	20 U	20 U	20 U	
Other: LEAD(P)	NR U	NR	NR	NR	NR	NR	
Cyanide	10 U	10 U	10 U			10 U	

[1] Reporting Units: aqueous, ug/L; solid, mg/kg

Form III-B

Q. C. Report No. G12-1371

BLANKS

LAB NAME Chemtech Consulting Group

CASE NO. 10185/3846 G

DATE 9/01/88

UNITS ug/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank[1] Matrix: 1	Matrix: 2
Metals:							
1. Aluminum	U	100 U	100 U				
2. Antimony	U						
3. Arsenic	U						
4. Barium	U	49 U	49 U				
5. Beryllium	U	2 U	2 U				
6. Cadmium	U						
7. Calcium	U	423 U	423 U				
8. Chromium	U	6 U	6 U				
9. Cobalt	U	10 U	10 U				
10. Copper	U	9 U	9 U				
11. Iron	U	100 U	100 U				
12. Lead	U						
13. Magnesium	U	600 U	600 U				
14. Manganese	U	7 U	7 U				
15. Mercury	U						
16. Nickel	U	8 U	8 U				
17. Potassium	U						
18. Selenium	U						
19. Silver	U	5 U	5 U				
20. Sodium	U	652 U	652 U				
21. Thallium	U						
22. Vanadium	U	7 U	7 U				
23. Zinc	U	20 U	20 U				
Other: LEAD(P)	U	NR	NR				
Cyanide							

[1] Reporting Units: aqueous, ug/L; solid, mg/kg

Form V - A

Q. C. Report No. 62-1371

SPIKE SAMPLE RECOVERY

LAB NAME Chemtech Consulting Group

CASE NO. 10185/3846 E

EPA Sample No. MEBR-95

DATE 9/01/88

Lab Sample ID No. 62-1371-02

Units ug/L

Matrix LOW WATER

PDS # 1

Compound	Control Limit %R	Spiked Sample Result (SSR)	Sample Result (SR)	Spiked Added (SA)	%R[1]
Metals:					
1. Aluminum	(85-115) ~~75-125~~	100 U	100 U	2000	0.0 N
2. Antimony	-			500	NR
3. Arsenic	-			20	NR
4. Barium	-	2220	292	2000	96
5. Beryllium	-	54	2 U	50	108
6. Cadmium	-			50	NR
7. Calcium	-			—	NR
8. Chromium	-	189	6 U	200	94
9. Cobalt	-	498	10 U	500	100
10. Copper	-	342	74	250	107
11. Iron	-	1100	1070	1000	3.0 N
12. Lead	-			20	NR
13. Magnesium	-			—	NR
14. Manganese	-	513	63	200	225 N
15. Mercury	(80-120)	1.0	0.2 U	1.0	100
16. Nickel	(85-115)	468	8 U	400	117 N
17. Potassium	-			—	NR
18. Selenium	-			20	NR
19. Silver	-	48	5 U	50	96
20. Sodium	-			—	NR
21. Thallium	-			50	NR
22. Vanadium	-	460	7 U	500	92
23. Zinc	-	497	20 U	200	248 N
Other: LEAD(P)		NR	NR	500	NR
Cyanide	(80-120)	102	10 U	100	102

[1] %R = [(SSR - SR)/SA] x 100

"N" - out of control

"NR" - Not required

Comments:

Form V-B

C. C. Report No. G12-1371

SPIKE SAMPLE RECOVERY

LAB NAME Chemtech Consulting Group

CASE NO. 10185/3846 E

EPA Sample No. MEBR-95

DATE 9/01/88

Lab Sample ID No. G1371-02

Units ug/L

Matrix LOW WATER

PDS #2

Compound	Control Limit %R	Spiked Sample Result (SSR)	Sample Result (SR)	Spiked Added (SA)	%R[1]
Metals:					
1. Aluminum	(85-115) ~~75-125~~			2000	
2. Antimony	-			500	
3. Arsenic	-			20	
4. Barium	-			2000	
5. Beryllium	-			50	
6. Cadmium	-			50	
7. Calcium	-	119000	76400	50,000	85
8. Chromium	-			200	
9. Cobalt	-			500	
10. Copper	-			250	
11. Iron	-			1000	
12. Lead	-			20	
13. Magnesium	-	48000	24500	25000	94
14. Manganese	-			200	
15. Mercury	(80-120)			1.0	
16. Nickel	(85-115)			400	
17. Potassium	-	20,000	2000	20,000	98
18. Selenium	-			10	
19. Silver	-			50	
20. Sodium	-	55000	8250	50,000	94
21. Thallium	-			50	
22. Vanadium	-			500	
23. Zinc	-			200	
Other: LEAD(P)				500	
Cyanide	(80-120)				

[1] %R = [(SSR - SR)/SA] x 100

"N" - out of control

"NR" - Not required

Comments:

Form VI

Q. C. Report No. 62-137

DUPLICATES

LAB NAME Chemtech Consulting Group

DATE 9/01/88

CASE NO. 10185/3846 E
EPA Sample No. MEBR-94
Lab Sample ID No. 62-1371-01
Units ug/L

Matrix LOW WATER

Compound	Control Limit[1]	Sample(S)	Duplicate(D)	RPD[2]
Metals:				
1. Aluminum		100 U	100 U	NC
2. Antimony		5 U	5 U	NC
3. Arsenic	± 5	13	12	8.0
4. Barium	± 20%	286	285	0.4
5. Beryllium		2 U	2 U	NC
6. Cadmium		0.5 U	0.5 U	NC
7. Calcium	± 20%	69100	70600	2.1
8. Chromium		6 U	6 U	NC
9. Cobalt		10 U	10 U	NC
10. Copper	± 20%	94	87	7.7
11. Iron	± 20%	1760	1780	1.1
12. Lead	± 2	5.8	3.7	44 *
13. Magnesium	± 20%	21400	21600	0.9
14. Manganese	± 20%	120	121	0.8
15. Mercury	± 0.2	0.7	0.6	15 *
16. Nickel		8 U	8 U	NC
17. Potassium	± 2000	2100	2100	0.0
18. Selenium		2 U	2 U	NC
19. Silver		5 U	5 U	NC
20. Sodium	± 20%	8950	8940	0.1
21. Thallium		2 U	2 U	NC
22. Vanadium		7 U	7 U	NC
23. Zinc	± 20	47	46	2.2
Other:				
Cyanide		10 U	10 U	NC

* Out of Control

[1] To be added at a later date.

[2] RPD = [|S − D|/((S + D)/2)] x 100

NC − Non calculable RPD due to value(s) less than CRDL

Form VII

Q. C. Report No. G12-1371

INSTRUMENT DETECTION LIMITS AND

LABORATORY CONTROL SAMPLE.

LAB NAME Chemtech Consulting Group CASE NO. 10185/3846 E DATE 9/01/88

Compound	Required Detection Limits (CRDL)-ug/L	Instrument Detection Limits (IDL) - ug/L ICP/AA ID #: 9000	Furnace ID #: 1	2	3	4	Lab Control Sample ug/L True	Found	%R
Metals:									
1. Aluminum.	100	100					1045	903	86
2. Antimony	5		5	5	5	5	505	NR	NR
3. Arsenic	5		5	5	5	5	49	NR	NR
4. Barium	50	49					1005	956	95
5. Beryllium	5	2					250	233	93
6. Cadmium	0.5		.5	.5	.5	.5	246	NR	NR
7. Calcium	1000	423					25100	22700	90
8. Chromium	10	6					252	234	93
9. Cobalt	10	10					249	227	91
10. Copper	10	9					260	262	101
11. Iron	100	100					1040	980	94
12. Lead	2		2	2	2	2	49	NR	NR
13. Magnesium	1000	600					12850	11500	89
14. Manganese	10	7					252	254	101
15. Mercury	0.2	0.15					5.2		NR
16. Nickel	20	8					242	211	87
17. Potassium	2000	900*					10000	10400	104
18. Selenium	2		2	2	2	2	104	NR	NR
19. Silver	5	5					242	241	100
20. Sodium	1000	652					25750	23600	92
21. Thallium	2		2	2	2	2	49	NR	NR
22. Vanadium	10	7					252	230	91
23. Zinc	20	20					1460	1330	91
OtherLead(P)	5	31					2480	NR	NR
Cyanide	10	NR	NR				100	100	100

NR- Not required

AA ID # 1. Hitachi
2. P.E. 30/30
3. P.E. 5000
4. P.E. 30/30Z

* Hitachi Flame

ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415

International Specialists in the Environment

CRL Receipt Date 9/23/88 FIT Receipt Date 10/7/88 Review Completed 10/13/88

TO: Kostuezko

FROM: Mary Gzyra

SUBJECT: Former Elysian City dump

PAN: UN0202SB (1 hour charged for review) Case # 10185/3919

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
# _____	Low Soil	# _____	Low Soil
_____	Low Water	_____	Low Water
7	Drinking Water	_____	Drinking Water
_____	Other	_____	Other

Project Data Status _____ Completed!!

✓ Incomplete, awaiting soil dig, D.W + soil 2,4 D, 2,4,5-T.

FIT Data Review Findings:

CLA; trace phenol detected in EPW05

Check Data Sheets for Transcription Errors

_____ Compounds were detected in sample(s); see enclosed sheet.

Book No. 8 Page No. 192 Date Sampled 8/18

0759:2

* Physical state of pure material, not necessarily the physical state of the waste.

** For Section II of 2070-13.

*** For Section III of 2070-13.

Abbreviations for waste characteristics:

A - Toxic
B - Corrosive
C - Radiative
D - Persistent
E - Soluble
F - Infectious
G - Flammable
H - Ignitable
I - Highly volatile
J - Explosive
K - Reactive
L - Incompatible
M - Not applicable

SI Memo & Category Abbreviations:

A - Aromatic
CLA - Common lab artifact
CSC - Common soil constituent
HA - Halogenated - aromatic
HH - Halogenated - hydrocarbon
HM - Heavy metal
HYD - Hydrocarbon
IOC - Other inorganic compound
K - Ketone
M - Metal (density < 5x water density)
NA - Nitrogen - aromatic
NH - Nitrogen - hydrocarbon
OCC - Other organic compound
P - Phenol
PAH - Polyaromatic hydrocarbon
PCB - Polychlorinated biphenyl
PEST - Pesticide
PH - Phthalate
SH - Sulfur - hydrocarbon
SOL - Solvent

0916:1

9/22

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 9.19.88

SUBJECT: Review of Region V CLP Data
Received for Review on 9-02-88

FROM: Curtis Ross ,Director (5SCRL)
Central Regional Laboratory

TO: Data User : FIT

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

SITE NAME: FORMER ELYSIAN CITY DUMP, MN SMO case No. 10185

EPA Data Set No. SF 5484 No.of Samples: 13 D.U/Activity Numbers Y905/C721ZZ

CRL No. 88FN28S24 - 36

SMO Traffic No. MEBR 81 - 93

CLP Laboratory: NLE Hrs.required for Review 6 1/2

Following are our findings: This review covers the analysis of 13 low soil samples for metals and cyanide.

ICAP Analysis: The matrix spike recovery for Sb (27.4%) indicates low bias and for Pb (204%) and Zn (196%) high bias is indicated. All Sb results are unusable (R). All Pb results and all Zn results are estimated (J).

Duplicate analysis for Al (22.7% RPD), Cu (35.5% RPD), and Mg (22.6% RPD) were flagged "*" by the lab. Since the control limit for soils is 35 percent RPD, the results for Al and Mg are acceptable. All Cu results are estimated (J).

Serial dilution analysis for Na (20.9% diff.) indicates interference and has been flagged "E" by the lab. All Na results are estimated (J).

GFAA Analysis: Matrix spike recovery for Tl (69%) indicates low bias. All Tl results are estimated (UJ) and detection limits may be elevated.

Duplicate analysis for As (43.7% RPD) was flagged "*" by the lab indicating poor precision. All As results are estimated (J).

>>>>> PLEASE SEE NEXT PAGE >>>>>

Richard Dilz
9-16-88

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

cc: Carla Dempsey, Quality Assurance Officer, EPA Support Services
James Petty,Chief Quality Assurance Research,EMSL,Las Vegas

EPA FORM 1320-6 (Rev. 5/87)

DATA QUALIFIERS

Contractor: NLE Case: 10165

The matrix spike recovery for Hg (127%) indicates high bias. Hg results for MEBR82, MEBR83, MEBR84, MEBR91, MEBR92, and MEBR93 are acceptable. The remaining Hg results are estimated (J).

Cyanide results are acceptable.

Reviewed by : Richard Dilg Richard Dilg

Date : 9-16-88 9-16-88

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.
MEBR 81

Date: 31-Aug-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 10185

SOW NO. 785 Lab Receipt Date: 08-18-88

LAB SAMPLE ID. NO.: MEBR 81 QC. REPORT NO. 116

Concentration: Low Matrix: Soil Units: mg/kg, dry weight.

1. Aluminum	4670 P *	13. Magnesium	14500 P *
2. Antimony	3.9 U P N	14. Manganese	552 P
3. Arsenic	4.2 F *	15. Mercury	0.36 N
4. Barium	158 P	16. Nickel	16 P
5. Beryllium	0.2 U P	17. Potassium	1380 P
6. Cadmium	4.1 P	18. Selenium	0.9 U F
7. Calcium	38300 P	19. Silver	[0.7] P
8. Chromium	11 P	20. Sodium	[179] P E
9. Cobalt	[5.5] P	21. Thallium	19 U F N
10. Copper	30 P *	22. Vanadium	14 P
11. Iron	14000 P	23. Zinc	238 P N
12. Lead	218 F N	Percent Solids (%)	84.5
Cyanide	9.4 U		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Brown, fine texture.
Thallium diluted 10x.

Lab Manager John D. Lavenger

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.

MEBR 82

Date: 31-Aug-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 10185

SOW NO. 785 Lab Receipt Date: 08-18-88

LAB SAMPLE ID. NO.: MEBR 82 QC. REPORT NO. 116

Concentration: Low Matrix: Soil Units: mg/kg, dry weight.

1. Aluminum	2090 P *	13. Magnesium	10400 P *
2. Antimony	3.9 U P N	14. Manganese	923 P
3. Arsenic	2.6 F *	15. Mercury	0.10 U N
4. Barium	61 P	16. Nickel	9.6 P
5. Beryllium	0.2 U P	17. Potassium	[509] P
6. Cadmium	2.1 P	18. Selenium	0.7 U F
7. Calcium	30700 P	19. Silver	[0.7] P
8. Chromium	4.2 P	20. Sodium	[186] P E
9. Cobalt	[3.7] P	21. Thallium	14 U F N
10. Copper	6.8 P *	22. Vanadium	[6.4] P
11. Iron	6820 P	23. Zinc	44 P N
12. Lead	30 P N	Percent Solids (%)	87.5
Cyanide	6.8 U		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Brown, fine texture.
Thallium diluted 10x.

Lab Manager John P. Pavenger

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.

MEBR 83

Date: 31-Aug-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 10185

SOW NO. 785 Lab Receipt Date: 08-18-88

LAB SAMPLE ID. NO.: MEBR 83 QC. REPORT NO. 116

Concentration: Low Matrix: Soil Units: mg/kg, dry weight.

1.	Aluminum	15000 P *	13.	Magnesium	20800 P *
2.	Antimony	15 U P N	14.	Manganese	349 P
3.	Arsenic	7.5 U F *	15.	Mercury	0.42 U N
4.	Barium	514 P	16.	Nickel	[34] P
5.	Beryllium	0.9 U P	17.	Potassium	7250 P
6.	Cadmium	9.0 P	18.	Selenium	3.8 U F
7.	Calcium	45600 P	19.	Silver	1.8 U P
8.	Chromium	160 P	20.	Sodium	[605] P E
9.	Cobalt	[13] P	21.	Thallium	7.5 U F N
10.	Copper	[19] P *	22.	Vanadium	[35] P
11.	Iron	32500 P	23.	Zinc	946 P N
12.	Lead	90 P N		Percent Solids (%)	20.1
	Cyanide	16 U			

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Black, fine texture.

Lab Manager John P. Powenger

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.

MEBR 84

Date: 31-Aug-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 10185

SOW NO. 785 Lab Receipt Date: 08-18-88

LAB SAMPLE ID. NO.: MEBR 84 QC. REPORT NO. 116

Concentration: Low Matrix: Soil Units: mg/kg, dry weight.

1. Aluminum	3200 P *	13. Magnesium	5690 P *
2. Antimony	4.3 U P N	14. Manganese	229 P
3. Arsenic	2.2 U F *	15. Mercury	0.13 U N
4. Barium	70 P	16. Nickel	[8.9] P
5. Beryllium	0.2 U P	17. Potassium	[903] P
6. Cadmium	2.0 P	18. Selenium	1.1 U F
7. Calcium	17200 P	19. Silver	0.5 U P
8. Chromium	6.3 P	20. Sodium	[164] P E
9. Cobalt	[3.7] P	21. Thallium	2.2 U F N
10. Copper	8.6 P *	22. Vanadium	[10] P
11. Iron	8110 P	23. Zinc	54 P N
12. Lead	27 P N	Percent Solids (%)	72.2
Cyanide	6.5 U		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Black, fine texture.

Lab Manager John R. Powers

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.
MEBR 85

Date: 31-Aug-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 10185

SOW NO. 785 Lab Receipt Date: 08-18-88

LAB SAMPLE ID. NO.: MEBR 85 QC. REPORT NO. 116

Concentration: Low Matrix: Soil Units: mg/kg, dry weight.

1. Aluminum	5150 P *	13. Magnesium	7150 P *
2. Antimony	6.8 U P N	14. Manganese	1280 P
3. Arsenic	5.4 F *	15. Mercury	0.26 N
4. Barium	157 P	16. Nickel	[12] P
5. Beryllium	0.4 U P	17. Potassium	[652] P
6. Cadmium	3.2 P	18. Selenium	1.3 U F
7. Calcium	29300 P	19. Silver	0.8 U P
8. Chromium	8.3 P	20. Sodium	[255] P E
9. Cobalt	[5.8] P	21. Thallium	26 U F N
10. Copper	12 P *	22. Vanadium	[16] P
11. Iron	12800 P	23. Zinc	193 P N
12. Lead	49 P N	Percent Solids (%)	49.0
Cyanide	14 U		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Brown, coarse texture.
Thallium diluted 10x.

Lab Manager John P. Pavenger

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.

MEBR 86

Date: 31-Aug-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 10185

SOW NO. 785 Lab Receipt Date: 08-18-88

LAB SAMPLE ID. NO.: MEBR 86 QC. REPORT NO. 116

Concentration: Low Matrix: Soil Units: mg/kg, dry weight.

1. Aluminum	3690 P *	13. Magnesium	5570 P *
2. Antimony	7.5 U P N	14. Manganese	287 P
3. Arsenic	4.2 F *	15. Mercury	0.24 N
4. Barium	99 P	16. Nickel	[14] P
5. Beryllium	0.4 U P	17. Potassium	[866] P
6. Cadmium	2.7 P	18. Selenium	1.8 U F
7. Calcium	22900 P	19. Silver	0.9 U P
8. Chromium	8.3 P	20. Sodium	[288] P E
9. Cobalt	[4.7] P	21. Thallium	3.6 U F N
10. Copper	14 P *	22. Vanadium	[14] P
11. Iron	10100 P	23. Zinc	176 P N
12. Lead	60 P N	Percent Solids (%)	43.6
Cyanide	6.6 U		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Black, fine texture with organic matter.

Lab Manager John D. Pavenger

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.

MEBR 87

Date: 31-Aug-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 10185

SOW NO. 785 Lab Receipt Date: 08-18-88

LAB SAMPLE ID. NO.: MEBR 87 QC. REPORT NO. 116

Concentration: Low Matrix: Soil Units: mg/kg, dry weight.

1. Aluminum	5750 P *	13. Magnesium	7250 P *
2. Antimony	19 U P N	14. Manganese	365 P
3. Arsenic	9.5 U F *	15. Mercury	0.76 N
4. Barium	[152] P	16. Nickel	[15] P
5. Beryllium	1.1 U P	17. Potassium	[1580] P
6. Cadmium	[4.3] P	18. Selenium	4.7 U F
7. Calcium	31000 P	19. Silver	2.3 U P
8. Chromium	[9.2] P	20. Sodium	[680] P E
9. Cobalt	[4.3] P	21. Thallium	95 U F N
10. Copper	30 P *	22. Vanadium	[18] P
11. Iron	9120 P	23. Zinc	953 P N
12. Lead	271 P N	Percent Solids (%)	16.8
Cyanide	24 U		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Black, fine texture.
Thallium diluted 10x.

Lab Manager John P. Pawenger

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.

MEBR 88

Date: 31-Aug-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 10185

SOW NO. 785 Lab Receipt Date: 08-18-88

LAB SAMPLE ID. NO.: MEBR 88 QC. REPORT NO. 116

Concentration: Low Matrix: Soil Units: mg/kg, dry weight.

1.	Aluminum	4560 P *	13.	Magnesium	[2280] P *
2.	Antimony	14 U P N	14.	Manganese	212 P
3.	Arsenic	6.5 U F *	15.	Mercury	0.46 N
4.	Barium	[98] P	16.	Nickel	[8.2] P
5.	Beryllium	0.8 U P	17.	Potassium	[934] P
6.	Cadmium	[1.8] P	18.	Selenium	3.2 U F
7.	Calcium	9840 P	19.	Silver	1.6 U P
8.	Chromium	11 P	20.	Sodium	[487] P E
9.	Cobalt	[4.6] P	21.	Thallium	65 U F N
10.	Copper	[11] P *	22.	Vanadium	[15] P
11.	Iron	5750 P	23.	Zinc	74 P N
12.	Lead	43 P N		Percent Solids (%)	22.2
	Cyanide	18 U			

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Black, fine texture.
Thallium diluted 10x.

Lab Manager John P. Pwenger

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.
MEBR 89

Date: 31-Aug-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 10185

SOW NO. 785 Lab Receipt Date: 08-18-88

LAB SAMPLE ID. NO.: MEBR 89 QC. REPORT NO. 116

Concentration: Low Matrix: Soil Units: mg/kg, dry weight.

1. Aluminum	4010 P *	13. Magnesium	[2740] P *
2. Antimony	9.7 U P N	14. Manganese	319 P
3. Arsenic	4.2 U F *	15. Mercury	0.52 N
4. Barium	[110] P	16. Nickel	[9.7] P
5. Beryllium	0.6 U P	17. Potassium	[1020] P
6. Cadmium	[1.9] P	18. Selenium	2.1 U F
7. Calcium	10600 P	19. Silver	1.1 U P
8. Chromium	8.4 P	20. Sodium	[365] P E
9. Cobalt	[3.3] P	21. Thallium	42 U F N
10. Copper	[10] P *	22. Vanadium	[13] P
11. Iron	5760 P	23. Zinc	68 P N
12. Lead	27 P N	Percent Solids (%)	29.8
Cyanide	17 U		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Black, fine texture with organic matter.
Thallium diluted 10x.

Lab Manager John P. Pavenger

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.
MEBR 90

Date: 31-Aug-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 10185

SOW NO. 785 Lab Receipt Date: 08-18-88

LAB SAMPLE ID. NO.: MEBR 90 QC. REPORT NO. 116

Concentration: Low Matrix: Soil Units: mg/kg, dry weight.

1. Aluminum	1210 P *	13. Magnesium	4570 P *
2. Antimony	3.6 U P N	14. Manganese	95 P
3. Arsenic	2.3 U F *	15. Mercury	0.24 N
4. Barium	[32] P	16. Nickel	[3.8] P
5. Beryllium	0.2 U P	17. Potassium	[263] P
6. Cadmium	[0.8] P	18. Selenium	1.1 U F
7. Calcium	11500 P	19. Silver	[0.4] P
8. Chromium	3.3 P	20. Sodium	[118] P E
9. Cobalt	[1.1] P	21. Thallium	23 U F N
10. Copper	[3.6] P *	22. Vanadium	[3.4] P
11. Iron	2380 P	23. Zinc	31 P N
12. Lead	19 P N	Percent Solids (%)	70.5
Cyanide	7.2 U		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Black, fine texture.
Thallium diluted 10x.

Lab Manager John D. Pavenger

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.
MEBR 91

Date: 31-Aug-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 10185

SOW NO. 785 Lab Receipt Date: 08-18-88

LAB SAMPLE ID. NO.: MEBR 91 QC. REPORT NO. 116

Concentration: Low Matrix: Soil Units: mg/kg, dry weight.

1. Aluminum	2760 P *	13. Magnesium	11400 P *
2. Antimony	18 U P N	14. Manganese	1120 P
3. Arsenic	7.5 U F *	15. Mercury	0.49 U N
4. Barium	216 P	16. Nickel	[7.6] P
5. Beryllium	1.0 U P	17. Potassium	[771] P
6. Cadmium	2.1 U P	18. Selenium	3.8 U F
7. Calcium	82700 P	19. Silver	2.1 U P
8. Chromium	[10] P	20. Sodium	[486] P E
9. Cobalt	[3.5] P	21. Thallium	75 U F N
10. Copper	[9.9] P *	22. Vanadium	3.1 U P
11. Iron	6780 P	23. Zinc	76 P N
12. Lead	55 P N	Percent Solids (%)	17.7
Cyanide	29 U		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Brown, fine texture.
Thallium dilted 10x.

Lab Manager John P. Lauenger

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.

MEBR 92

Date: 31-Aug-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 10185

SOW NO. 785 Lab Receipt Date: 08-18-88

LAB SAMPLE ID. NO.: MEBR 92 QC. REPORT NO. 116

Concentration: Low Matrix: Soil Units: mg/kg, dry weight.

1. Aluminum	6770 P *	13. Magnesium	12400 P *
2. Antimony	5.9 U P N	14. Manganese	1240 P
3. Arsenic	7.8 F *	15. Mercury	0.17 U N
4. Barium	178 P	16. Nickel	19 P
5. Beryllium	0.4 U P	17. Potassium	[1200] P
6. Cadmium	5.1 P	18. Selenium	1.7 U F
7. Calcium	47600 P	19. Silver	[0.8] P
8. Chromium	13 P	20. Sodium	[338] P E
9. Cobalt	[8.2] P	21. Thallium	34 U F N
10. Copper	16 P *	22. Vanadium	22 P
11. Iron	18000 P	23. Zinc	436 P N
12. Lead	57 P N	Percent Solids (%)	48.5
Cyanide	13 U		

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Brown, coarse texture with organic matter.
Thallium diluted 10x.

Lab Manager John D. Pavenger

Form I

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.
MEBR 93

Date: 31-Aug-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 10185

SOW NO. 785 Lab Receipt Date: 08-18-88

LAB SAMPLE ID. NO.: MEBR 93 QC. REPORT NO. 116

Concentration: Low Matrix: Soil Units: mg/kg, dry weight.

1.	Aluminum	3790 P *	13.	Magnesium	6590 P *
2.	Antimony	4.6 U P N	14.	Manganese	1160 P
3.	Arsenic	8.4 F *	15.	Mercury	0.14 U N
4.	Barium	228 P	16.	Nickel	[9.6] P
5.	Beryllium	0.3 U P	17.	Potassium	[604] P
6.	Cadmium	4.2 P	18.	Selenium	1.2 U F
7.	Calcium	16900 P	19.	Silver	0.5 U P
8.	Chromium	6.2 P	20.	Sodium	[158] P E
9.	Cobalt	[4.3] P	21.	Thallium	24 U F N
10.	Copper	[6.4] P *	22.	Vanadium	[13] P
11.	Iron	18100 P	23.	Zinc	161 P N
12.	Lead	9.6 P N		Percent Solids (%)	56.5
	Cyanide	5.1 U			

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: Brown, fine texture.
Thallium diluted 10x.

Lab Manager John P. Puenger

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

Date 8/30/88

COVER PAGE
INORGANIC ANALYSES DATA PACKAGE

Lab Name Northern Labs & Engineering Inc. Case No. 10185

SOW No. 785 Q.C. Report No. 116

Sample Numbers

EPA No.	Lab ID No.	EPA No.	Lab ID No.
MEBR 81	Same	MEBR 89	Same
MEBR 82	Same	MEBR 90	Same
MEBR 83	Same	MEBR 91	Same
MEBR 84	Same	MEBR 92	Same
MEBR 85	Same	MEBR 93	Same
MEBR 86	Same		
MEBR 87	Same		
MEBR 88	Same		

Comments:

RECEIVED
SEP 01 1988
U.S. EPA CENTRAL
REGIONAL LABO

ICP interelement and background corrections applied? Yes ✓ No ___.

If yes, corrections applied before ✓ or after ___ generation of raw data.

Footnotes:

NR - Not required by contract at this time

Form I:

Value - If the result is a value greater than or equal to the instrument detecion limit but less than the contract-required detection limit, report the value in brackets (i.e., [10]). Indicate the analytical method used with P (for ICP), A (for Flame AA) or F (for Furnace AA).

U - Indicates element was analyzed for but not detected. Report with the instrument detection limit value (e.g., 10U).

E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.

S - Indicates value determined by Method of Standard Addition.

N - Indicates spike sample recovery is not within control limits.

* - Indicates duplicate analysis is not within control limits.

+ - Indicates the correlation coefficient for method of standard addition is less than 0.995

M - Indicates duplicate injection results exceeded control limits.

Indicate method used: P for ICP; A for Flame AA and F for Furnace.

QC EXCEPTION SUMMARY REPORT

CASE # 10185
DATA SET # SF 5484
LAB Q.C.# 116
DATE: 9-16-88

SITE FORMER ELYSIAN CITY DUMP, MN
LAB NLE
REVIEWED BY R. DILG

MATRIX: SOIL
CONC. : LOW
MATRIX:
CONC. :

WATER SAMPLE SPK.
WATER SAMPLE DUP.
SOIL SAMPLE SPK.
SOIL SAMPLE DUP.

	OVERALL CASE QC									MATRIX SPECIFIC QC						SAMPLE SPECIFIC QC		FIELD QC			REGIONAL QC			OTHER/ COMMENT
	Holding Time	Cal Blanks	Mid Calver	Contin Calver	Prep Blk AQ	Prep Blk SOL	ICS %R	LCS % AQ	LCS % SOL	Sol Dup RPD	Sol Spk %R	AQ Dup RPD	AQ Spk %R	Ser Dilu AQ	Ser Dilu SOL	GFAA Dup	GFAA Spike	Blank	Dup RPD	Spike %R	Blind Blank	Blind Spike %R	Split Sample RPD	
Aluminum										(22.7)														
Antimony											27.4													
Arsenic										43.7														
Barium																								
Beryllium																								
Cadmium																								
Calcium																								
Chromium																								
Cobalt																								
Copper										35.5														
Iron																								
Lead											204.1													
Magnesium										(22.6)														
Manganese																								
Mercury											127.4													
Nickel																								
Potassium																								
Selenium																								
Silver																								
Sodium															20.9									
Thallium											69.4													
Tin																								
Vanadium																								
Zinc											195.9													
Cyanide																								

Form III A

Q.C. Report No. 116

BLANKS

LAB NAME: Northern Labs & Eng., Inc. CASE NO. 10185

DATE: 29-Aug-88 UNITS ug/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value				Preparation Blank[1] Matrix	
Metals:		1	2	3	4	water[1]	soil[2]
1. Aluminum	19 U	19 U	19 U	19 U			[6.4]
2. Antimony	17 U	17 U	17 U	17 U			3.4 U
3. Arsenic							
4. Barium	1 U	1 U	1 U	1 U			0.2 U
5. Beryllium	1 U	1 U	1 U	1 U			0.2 U
6. Cadmium	2 U	2 U	2 U	2 U			0.4 U
7. Calcium	[10]	[21]	[22]	[24]			1.6 U
8. Chromium	6 U	6 U	6 U	6 U			1.2 U
9. Cobalt	3 U	3 U	3 U	3 U			0.6 U
10. Copper	3 U	3 U	3 U	3 U			0.6 U
11. Iron	5 U	[6.7]	5 U	[18]			[3.4]
12. Lead	16 U	16 U	16 U	16 U			3.2 U
13. Magnesium	21 U	21 U	21 U	21 U			4.2 U
14. Manganese	1 U	1 U	1 U	1 U			0.2 U
15. Mercury							
16. Nickel	5 U	5 U	5 U	5 U			1 U
17. Potassium	93 U	93 U	93 U	93 U			18.6 U
17. Selenium							
19. Silver	2 U	2 U	2 U	[2.7]			[0.6]
20. Sodium	15 U	15 U	15 U	15 U			3 U
21. Thallium							
22. Vanadium	3 U	3 U	3 U	3 U			0.6 U
23. Zinc	1 U	[1.9]	[1.9]	[2.6]			[0.8]
Other							
Cyanide							

1 Reporting Units: aqueous, ug/L; solid mg/kg

Q. C. Report No. 116

BLANKS

LAB NAME Northern Labs

CASE NO. 10185

DATE 8/31/88

UNITS ug/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank Matrix: Soil 1	Matrix: 2
Metals:							
1. Aluminum							
2. Antimony							
3. Arsenic	2.5 u	2.5 u	2.5 u	2.5 u	2.5 u	0.50 u	
4. Barium							
5. Beryllium							
6. Cadmium							
7. Calcium							
8. Chromium							
9. Cobalt							
10. Copper							
11. Iron							
12. Lead							
13. Magnesium							
14. Manganese							
15. Mercury	0.2 u	0.2 u	0.2 u	0.2 u	0.2 u	0.1 u	
16. Nickel							
17. Potassium							
18. Selenium	2.9 u	2.9 u	2.9 u	2.9 u	2.9 u		
19. Silver							
20. Sodium							
21. Thallium	4.4 u	4.4 u	4.4 u	4.4 u		0.88 u	
22. Vanadium							
23. Zinc							
Other:							
Cyanide	10 u	10 u	10 u	10 u		1 u	

[1] Reporting Units: aqueous, ug/L; solid mg/kg

Q. C. Report No. 116

BLANKS

LAB NAME Northern Labs

CASE NO. 10185

DATE 8/31/88

UNITS µg/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank Matrix: Soil 1	Matrix: 2
Metals:							
1. Aluminum							
2. Antimony							
3. Arsenic		2.5 u					
4. Barium							
5. Beryllium							
6. Cadmium							
7. Calcium							
8. Chromium							
9. Cobalt							
10. Copper							
11. Iron							
12. Lead							
13. Magnesium							
14. Manganese							
15. Mercury							
16. Nickel							
17. Potassium							
18. Selenium		2.9 u	2.9 u	2.9 u	2.9 u	0.58 u	
19. Silver							
20. Sodium							
21. Thallium	4.4 u	4.4 u	4.4 u	4.4 u	4.4 u		
22. Vanadium							
23. Zinc							
Other:							
Cyanide							

[1] Reporting Units: aqueous, ug/L; solid mg/kg

Q. C. Report No. 11b

BLANKS

LAB NAME Northern Labs

CASE NO. 10185

DATE 8/31/88

UNITS µg/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank Matrix: 1	Matrix: 2
Metals:							
1. Aluminum							
2. Antimony							
3. Arsenic							
4. Barium							
5. Beryllium							
6. Cadmium							
7. Calcium							
8. Chromium							
9. Cobalt							
10. Copper							
11. Iron							
12. Lead							
13. Magnesium							
14. Manganese							
15. Mercury							
16. Nickel							
17. Potassium							
18. Selenium		2.9 u	2.9 u				
19. Silver							
20. Sodium							
21. Thallium							
22. Vanadium							
23. Zinc							
Other:							
Cyanide							

[1] Reporting Units: aqueous, ug/L; solid mg/kg

Form V

Q. C. Report No. 116

SPIKE SAMPLE RECOVERY

LAB NAME Northern Labs

DATE 8/30/88

CASE NO. 10185

EPA Sample No. MEBR 81

Lab Sample ID No. Same

Units mg/kg, dry weight

Matrix Soil

Compound	Control Limit %R	Spiked Sample Result (SSR)	Sample Result (SR)	Spiked Added (SA)	%R[1]	
Metals:						
1. Aluminum	75-125	5215.24	4672.60	NR	NR	
2. Antimony	-	31.82	3.94 u	116.31	27.4	N
3. Arsenic	-	11.88	4.22	6.88	111.2	
4. Barium	-	641.32	157.64	465.23	104.0	
5. Beryllium	-	12.56	0.23 u	11.63	108.0	
6. Cadmium	-	15.70	4.12	11.63	99.6	
7. Calcium	-	32496.40	38320.9	NR	NR	
8. Chromium	-	60.04	11.21	46.52	105.0	
9. Cobalt	-	123.03	[5.53]	116.31	101.0	
10. Copper	-	95.84	29.92	58.15	113.4	
11. Iron	-	12991.58	14020.11	NR	NR	
12. Lead	-	455.69	218.32	116.31	204.1	N
13. Magnesium	-	10786.39	14543.41	NR	NR	
14. Manganese	-	791.82	552.01	116.31	206.2	
15. Mercury	-	1.06	0.36	0.55	127.4	N
16. Nickel	-	133.20	16.25	116.31	100.5	
17. Potassium	-	1475.25	1384.41	NR	NR	
18. Selenium	-	1.58	0.94 u	1.72	92.0	
19. Silver	-	12.70	[0.67]	11.63	103.4	
20. Sodium	-	[169.09]	[178.71]	NR	NR	
21. Thallium	-	5.97	18.8 u	8.61	69.4	N
22. Vanadium	-	133.27	14.45	116.31	102.2	
23. Zinc	-	465.46	237.57	116.31	195.9	N
Other:						
Cyanide	-	38.92	9.42 u	50.76	76.7	

[1] %R = [(SSR - SR)/SA] x 100

"N" - out of control

"NR" - Not required

Comments:

Form VI

Q. C. Report No. 116

DUPLICATES

LAB NAME Northern Labs & Engineering, Inc.

DATE 8/30/88

CASE NO. 10185

EPA Sample No. MEBR 81

Lab Sample ID No. Same

Units mg/kg, dry weight

Matrix Soil

Compound	Control Limit[1]	Sample(S)	Duplicate(D)	RPD[2]	
Metals:					
1. Aluminum		4672.60	5866.27	22.7	*
2. Antimony		3.94 u	3.64 u	NC	
3. Arsenic		4.22	6.59	43.7	*
4. Barium	46.31	157.64	184.43	15.7	
5. Beryllium		0.23 u	0.21 u	NC	
6. Cadmium	1.16	4.12	4.48	8.3	
7. Calcium		38320.9	38308.6	0.0	
8. Chromium	2.32	11.21	12.83	13.5	
9. Cobalt		[5.53]	[7.09]	NC	
10. Copper		29.92	42.83	35.5	*
11. Iron		14020.11	14642.12	4.3	
12. Lead		218.32	227.97	4.3	
13. Magnesium	1157.73	14543.41	11595.4	22.6	*
14. Manganese		552.01	589.84	6.6	
15. Mercury	0.10	0.36	0.34	6.1	
16. Nickel	9.26	16.25	17.33	6.4	
17. Potassium	1157.73	1384.41	1580.12	13.2	
18. Selenium		0.94 u	0.88 u	NC	
19. Silver		[0.67]	0.43 u	NC	
20. Sodium		[178.71]	[178.50]	NC	
21. Thallium		18.8 u	17.7 u	NC	
22. Vanadium	11.58	14.45	18.34	23.7	
23. Zinc		237.57	260.10	9.1	
Other:					
Cyanide		9.42 u	8.07 u	NC	

* Out of Control

[1] To be added at a later date.

[2] RPD = [|S - D|/((S + D)/2)] x 100

NC - Non calculable RPD due to value(s) less than CRDL

Form VII A

Q.C. Report No. 116

INSTRUMENT DETECTION LIMITS AND

LABORATORY CONTROL SAMPLE

LAB NAME: Northern Labs CASE NO. 10185 DATE: 31-Aug-88

LCS NO. SP-0822-1
SF-0824-1, CN-0822
SH-0823-2

Compound	Required Detection Limits (CRDL)-ug/L	Instrum. Detection Limits (IDL)-ug/L ICP ID# J/A 9000	Furnace AA-975 PE 5100	Lab Control Sample ug/L True	Found	%R
Metals:						
1. Aluminum	200	19		1980	2045	103.3%
2. Antimony	60	17		1010	1020	101.0%
3. Arsenic	10	48	2.5	23.5	23.2	98.7%
4. Barium	200	1		1980	1930	97.5%
5. Beryllium	5	1		481	462.8	96.2%
6. Cadmium	5	2		489	488.9	100.0%
7. Calcium	5000	8		49800	49700	99.8%
8. Chromium	10	6		506	502.6	99.3%
9. Cobalt	50	3		474	488.6	103.1%
10. Copper	25	3		542	529	97.6%
11. Iron	100	5		1990	1948	97.9%
12. Lead	5	16	1.4	4510	4528	100.4%
13. Magnesium	5000	21		25000	24800	99.2%
14. Manganese	15	1		513	489.2	95.4%
15. Mercury	0.2		0.2	5.2	5.469	105.2%
16. Nickel	40	5		496	479.4	96.7%
17. Potassium	5000	93		50200	53370	106.3%
17. Selenium	5	88	2.9	52	53.4	102.7%
19. Silver	10	2		509	492.7	96.8%
20. Sodium	5000	15		50700	47990	94.7%
21. Thallium	10	260	4.4	48.65	54.48	112.0%
22. Vanadium	50	3		511	512.4	100.3%
23. Zinc	20	1		3100	2935	94.7%
Other						
Cyanide	10	NR	NR	500	550	110.0%

NR - Not required

1M
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW07

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87714

Sample wt/vol: 25 (g/mL) ML Lab File ID: C87714V

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ Date Analyzed: 08/22/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	2	U
75-09-2	Methylene Chloride	~~7~~ 1	~~BJ~~ u
67-64-1	Acetone	~~3~~ 5	~~BJ~~ u
75-15-0	Carbon Disulfide	3	U
75-35-4	1,1-Dichloroethene	2	U
75-34-3	1,1-Dichloroethane	2	U
540-59-0	1,2-Dichloroethene (total)	2	U
67-66-3	Chloroform	2	U
107-06-2	1,2-Dichloroethane	2	U
78-93-3	2-Butanone	50	U
71-55-6	1,1,1-Trichloroethane	1	J
56-23-5	Carbon Tetrachloride	~~2~~	~~U~~
108-05-4	Vinyl Acetate	15	U
75-27-4	Bromodichloromethane	2	U
78-87-5	1,2-Dichloropropane	2	U
10061-01-5	cis-1,3-Dichloropropene	2	U
79-01-6	Trichloroethene	2	U
124-48-1	Dibromochloromethane	2	U
79-00-5	1,1,2-Trichloroethane	2	U
71-43-2	Benzene	2	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	2	U
108-10-1	4-Methyl-2-Pentanone	3	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	2	U
79-34-5	1,1,2,2-Tetrachloroethane	2	U
108-88-3	Toluene	~~3~~ 0.3	~~J~~ J
108-90-7	Chlorobenzene	2	U
100-41-4	Ethylbenzene	2	U
100-42-5	Styrene	1	U

RK 9/28/88.

RK 9/30/88

1N

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW07

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87714

Sample wt/vol: 25 (g/mL) ML Lab File ID: C87714V

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ Date Analyzed: 08/22/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
107-02-8	Acrolein	100	U
107-13-1	Acrylonitrile	50	U
110-75-8	2-Chloroethylvinylether		
108-38-3	M-Xylene	2	U
1330-20-7	O- & P-Xylene	3	U

FORM I

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EBW07

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87714

Sample wt/vol: 25 (g/mL) ML Lab File ID: C87714V

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ Date Analyzed: 08/22/88

Column: (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-28-5	2-METHYLPROPANE	3.50	3	JB
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW01

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87708

Sample wt/vol: 943 (g/mL) ML Lab File ID: A87708S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	2	U
111-44-4	bis(2-Chloroethyl)ether	2	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	2	U
106-46-7	1,4-Dichlorobenzene	2	U
100-51-6	Benzyl alcohol	6	U
95-50-1	1,2-Dichlorobenzene	3	U
95-48-7	2-Methylphenol	1	U
108-60-1	bis(2-Chloroisopropyl)ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-di-n-propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	3	U
78-59-1	Isophorone	3	U
88-75-5	2-Nitrophenol	2	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic acid	32	U
111-91-1	bis(2-Chloroethoxy)methane	3	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	2	U
91-20-3	Naphthalene	2	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	3	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	2	U
77-47-4	Hexachlorocyclopentadiene	6	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	2	U
88-74-4	2-Nitroaniline	6	U
131-11-3	Dimethylphthalate	2	U
208-96-8	Acenaphthylene	2	U
606-20-2	2,6-Dinitrotoluene	1	U

1L

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW01

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87708

Sample wt/vol: 943 (g/mL) ML Lab File ID: A87708S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	6	U
83-32-9	Acenaphthene	2	U
51-28-5	2,4-Dinitrophenol	16	U
100-02-7	4-Nitrophenol	6	U
132-64-9	Dibenzofuran	1	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	1	U
100-01-6	4-Nitroaniline	6	U
534-52-1	4,6-Dinitro-2-methylphenol	16	U
86-30-6	N-Nitrosodiphenylamine (1)	2	U
101-55-3	4-Bromophenyl-phenylether	2	U
118-74-1	Hexachlorobenzene	2	U
87-86-5	Pentachlorophenol	6	U
85-01-8	Phenanthrene	1	U
120-12-7	Anthracene	3	U
84-74-2	Di-n-butylphthalate	2	U
206-44-0	Fluoranthene	2	U
129-00-0	Pyrene	2	U
85-68-7	Butylbenzylphthalate	4	U
56-55-3	Benzo(a)anthracene	2	U
218-01-9	Chrysene	2	U
117-81-7	bis(2-Ethylhexyl)phthalate	1 ~~7~~	~~BJ~~ M RK 9/30/88
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	2	U
207-08-9	Benzo(k)fluoranthene	2	U
50-32-8	Benzo(a)pyrene	2	U
193-39-5	Indeno(1,2,3-cd)pyrene	4	U
53-70-3	Dibenz(a,h)anthracene	6	U
191-24-2	Benzo(g,h,i)perylene	4	U

(1) - Cannot be separated from Diphenylamine

FORM I

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EBW01

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87708

Sample wt/vol: 943 (g/mL) ML Lab File ID: A87708S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.60	16	JAB. RK 9/29/88
2.				
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW02

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87709

Sample wt/vol: 952 (g/mL) ML Lab File ID: A87709S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/24/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/05/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	2	U
111-44-4	bis(2-Chloroethyl)ether	2	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	2	U
106-46-7	1,4-Dichlorobenzene	2	U
100-51-6	Benzyl alcohol	6	U
95-50-1	1,2-Dichlorobenzene	3	U
95-48-7	2-Methylphenol	1	U
108-60-1	bis(2-Chloroisopropyl)ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-di-n-propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	3	U
78-59-1	Isophorone	3	U
88-75-5	2-Nitrophenol	2	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic acid	32	U
111-91-1	bis(2-Chloroethoxy)methane	3	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	2	U
91-20-3	Naphthalene	2	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	3	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	2	U
77-47-4	Hexachlorocyclopentadiene	6	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	2	U
88-74-4	2-Nitroaniline	6	U
131-11-3	Dimethylphthalate	2	U
208-96-8	Acenaphthylene	2	U
606-20-2	2,6-Dinitrotoluene	1	U

1L

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW02

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87709

Sample wt/vol: 952 (g/mL) ML Lab File ID: A87709S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/24/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/05/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	6	U
83-32-9	Acenaphthene	2	U
51-28-5	2,4-Dinitrophenol	16	U
100-02-7	4-Nitrophenol	6	U
132-64-9	Dibenzofuran	1	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	1	U
100-01-6	4-Nitroaniline	6	U
534-52-1	4,6-Dinitro-2-methylphenol	16	U
86-30-6	N-Nitrosodiphenylamine (1)	2	U
101-55-3	4-Bromophenyl-phenylether	2	U
118-74-1	Hexachlorobenzene	2	U
87-86-5	Pentachlorophenol	6	U
85-01-8	Phenanthrene	1	U
120-12-7	Anthracene	3	U
84-74-2	Di-n-butylphthalate	2	U
206-44-0	Fluoranthene	2	U
129-00-0	Pyrene	2	U
85-68-7	Butylbenzylphthalate	4	U
56-55-3	Benzo(a)anthracene	2	U
218-01-9	Chrysene	2	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	~~B~~ U
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	2	U
207-08-9	Benzo(k)fluoranthene	2	U
50-32-8	Benzo(a)pyrene	2	U
193-39-5	Indeno(1,2,3-cd)pyrene	4	U
53-70-3	Dibenz(a,h)anthracene	6	U
191-24-2	Benzo(g,h,i)perylene	4	U

RK 9/20/88

(1) - Cannot be separated from Diphenylamine

FORM I

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EBW02

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87709

Sample wt/vol: 952 (g/mL) ML Lab File ID: A87709S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/24/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/05/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.35	6	J ~~XBAK~~ 9/30/88
2.				
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW03RE

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87710

Sample wt/vol: 949 (g/mL) ML Lab File ID: A87710E2S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 09/06/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/06/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	2	U
111-44-4	bis(2-Chloroethyl)ether	2	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	2	U
106-46-7	1,4-Dichlorobenzene	2	U
100-51-6	Benzyl alcohol	6	U
95-50-1	1,2-Dichlorobenzene	3	U
95-48-7	2-Methylphenol	1	U
108-60-1	bis(2-Chloroisopropyl)ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-di-n-propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	3	U
78-59-1	Isophorone	3	U
88-75-5	2-Nitrophenol	2	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic acid	32	U
111-91-1	bis(2-Chloroethoxy)methane	3	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	2	U
91-20-3	Naphthalene	2	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	3	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	2	U
77-47-4	Hexachlorocyclopentadiene	6	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	2	U
88-74-4	2-Nitroaniline	6	U
131-11-3	Dimethylphthalate	2	U
208-96-8	Acenaphthylene	2	U
606-20-2	2,6-Dinitrotoluene	1	U

1L

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW03RE

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87710

Sample wt/vol: 949 (g/mL) ML Lab File ID: A87710E2S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 09/06/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/06/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	6	U
83-32-9	Acenaphthene	2	U
51-28-5	2,4-Dinitrophenol	16	U
100-02-7	4-Nitrophenol	6	U
132-64-9	Dibenzofuran	1	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	1	U
100-01-6	4-Nitroaniline	6	U
534-52-1	4,6-Dinitro-2-methylphenol	16	U
86-30-6	N-Nitrosodiphenylamine (1)	2	U
101-55-3	4-Bromophenyl-phenylether	2	U
118-74-1	Hexachlorobenzene	2	U
87-86-5	Pentachlorophenol	6	U
85-01-8	Phenanthrene	1	U
120-12-7	Anthracene	3	U
84-74-2	Di-n-butylphthalate	2	U
206-44-0	Fluoranthene	2	U
129-00-0	Pyrene	2	U
85-68-7	Butylbenzylphthalate	4	U
56-55-3	Benzo(a)anthracene	2	U
218-01-9	Chrysene	2	U
117-81-7	bis(2-Ethylhexyl)phthalate	~~.9~~ 1	~~B~~
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	2	U
207-08-9	Benzo(k)fluoranthene	2	U
50-32-8	Benzo(a)pyrene	2	U
193-39-5	Indeno(1,2,3-cd)pyrene	4	U
53-70-3	Dibenz(a,h)anthracene	6	U
191-24-2	Benzo(g,h,i)perylene	4	U

(1) - Cannot be separated from Diphenylamine

RK 9/30/88

FORM I

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EBW03RE

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87710

Sample wt/vol: 949 (g/mL) ML Lab File ID: A87710E2S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 09/06/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/06/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	8.55	6	JAB
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW04

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87711

Sample wt/vol: 960 (g/mL) ML Lab File ID: A87711S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	2	U
111-44-4	bis(2-Chloroethyl)ether	2	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	2	U
106-46-7	1,4-Dichlorobenzene	2	U
100-51-6	Benzyl alcohol	6	U
95-50-1	1,2-Dichlorobenzene	3	U
95-48-7	2-Methylphenol	1	U
108-60-1	bis(2-Chloroisopropyl)ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-di-n-propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	3	U
78-59-1	Isophorone	3	U
88-75-5	2-Nitrophenol	2	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic acid	31	U
111-91-1	bis(2-Chloroethoxy)methane	3	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	2	U
91-20-3	Naphthalene	2	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	3	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	2	U
77-47-4	Hexachlorocyclopentadiene	6	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	2	U
88-74-4	2-Nitroaniline	6	U
131-11-3	Dimethylphthalate	2	U
208-96-8	Acenaphthylene	2	U
606-20-2	2,6-Dinitrotoluene	1	U

1L

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EBW04

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87711

Sample wt/vol: 960 (g/mL) ML Lab File ID: A87711S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	6	U
83-32-9	Acenaphthene	2	U
51-28-5	2,4-Dinitrophenol	16	U
100-02-7	4-Nitrophenol	6	U
132-64-9	Dibenzofuran	1	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	1	U
100-01-6	4-Nitroaniline	6	U
534-52-1	4,6-Dinitro-2-methylphenol	16	U
86-30-6	N-Nitrosodiphenylamine (1)	2	U
101-55-3	4-Bromophenyl-phenylether	2	U
118-74-1	Hexachlorobenzene	2	U
87-86-5	Pentachlorophenol	6	U
85-01-8	Phenanthrene	1	U
120-12-7	Anthracene	3	U
84-74-2	Di-n-butylphthalate	2	U
206-44-0	Fluoranthene	2	U
129-00-0	Pyrene	2	U
85-68-7	Butylbenzylphthalate	4	U
56-55-3	Benzo(a)anthracene	2	U
218-01-9	Chrysene	2	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	U
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	2	U
207-08-9	Benzo(k)fluoranthene	2	U
50-32-8	Benzo(a)pyrene	2	U
193-39-5	Indeno(1,2,3-cd)pyrene	4	U
53-70-3	Dibenz(a,h)anthracene	6	U
191-24-2	Benzo(g,h,i)perylene	4	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EBW04

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87711

Sample wt/vol: 960 (g/mL) ML Lab File ID: A87711S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.58	19	JAB
2.				
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RK 9/24/88

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW05

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87712

Sample wt/vol: 984 (g/mL) ML Lab File ID: A87712S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	.7	J
111-44-4	bis(2-Chloroethyl)ether	2	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	2	U
106-46-7	1,4-Dichlorobenzene	2	U
100-51-6	Benzyl alcohol	6	U
95-50-1	1,2-Dichlorobenzene	3	U
95-48-7	2-Methylphenol	1	U
108-60-1	bis(2-Chloroisopropyl)ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-di-n-propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	3	U
78-59-1	Isophorone	3	U
88-75-5	2-Nitrophenol	2	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic acid	30	U
111-91-1	bis(2-Chloroethoxy)methane	3	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	2	U
91-20-3	Naphthalene	2	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	3	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	2	U
77-47-4	Hexachlorocyclopentadiene	6	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	2	U
88-74-4	2-Nitroaniline	6	U
131-11-3	Dimethylphthalate	2	U
208-96-8	Acenaphthylene	2	U
606-20-2	2,6-Dinitrotoluene	1	U

1L

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW05

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87712

Sample wt/vol: 984 (g/mL) ML Lab File ID: A87712S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	6	U
83-32-9	Acenaphthene	2	U
51-28-5	2,4-Dinitrophenol	15	U
100-02-7	4-Nitrophenol	6	U
132-64-9	Dibenzofuran	1	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	1	U
100-01-6	4-Nitroaniline	6	U
534-52-1	4,6-Dinitro-2-methylphenol	15	U
86-30-6	N-Nitrosodiphenylamine (1)	2	U
101-55-3	4-Bromophenyl-phenylether	2	U
118-74-1	Hexachlorobenzene	2	U
87-86-5	Pentachlorophenol	6	U
85-01-8	Phenanthrene	1	U
120-12-7	Anthracene	3	U
84-74-2	Di-n-butylphthalate	2	U
206-44-0	Fluoranthene	2	U
129-00-0	Pyrene	2	U
85-68-7	Butylbenzylphthalate	4	U
56-55-3	Benzo(a)anthracene	2	U
218-01-9	Chrysene	2	U
117-81-7	bis(2-Ethylhexyl)phthalate	1 ~~6~~	BJ
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	2	U
207-08-9	Benzo(k)fluoranthene	2	U
50-32-8	Benzo(a)pyrene	2	U
193-39-5	Indeno(1,2,3-cd)pyrene	4	U
53-70-3	Dibenz(a,h)anthracene	6	U
191-24-2	Benzo(g,h,i)perylene	4	U

(1) - Cannot be separated from Diphenylamine

FORM I

1F

EPA SAMPLE NO.

EBW05

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87712

Sample wt/vol: 984 (g/mL) ML Lab File ID: A87712S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.57	21	JAB
2.				
3.				
4.				
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW06

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87713

Sample wt/vol: 957 (g/mL) ML Lab File ID: A87713S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	2	U
111-44-4	bis(2-Chloroethyl)ether	2	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	2	U
106-46-7	1,4-Dichlorobenzene	2	U
100-51-6	Benzyl alcohol	6	U
95-50-1	1,2-Dichlorobenzene	3	U
95-48-7	2-Methylphenol	1	U
108-60-1	bis(2-Chloroisopropyl)ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-di-n-propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	3	U
78-59-1	Isophorone	3	U
88-75-5	2-Nitrophenol	2	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic acid	31	U
111-91-1	bis(2-Chloroethoxy)methane	3	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	2	U
91-20-3	Naphthalene	2	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	3	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	2	U
77-47-4	Hexachlorocyclopentadiene	6	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	2	U
88-74-4	2-Nitroaniline	6	U
131-11-3	Dimethylphthalate	2	U
208-96-8	Acenaphthylene	2	U
606-20-2	2,6-Dinitrotoluene	1	U

1L

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW06

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87713

Sample wt/vol: 957 (g/mL) ML Lab File ID: A87713S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	6	U
83-32-9	Acenaphthene	2	U
51-28-5	2,4-Dinitrophenol	16	U
100-02-7	4-Nitrophenol	6	U
132-64-9	Dibenzofuran	1	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	1	U
100-01-6	4-Nitroaniline	6	U
534-52-1	4,6-Dinitro-2-methylphenol	16	U
86-30-6	N-Nitrosodiphenylamine (1)	2	U
101-55-3	4-Bromophenyl-phenylether	2	U
118-74-1	Hexachlorobenzene	2	U
87-86-5	Pentachlorophenol	6	U
85-01-8	Phenanthrene	1	U
120-12-7	Anthracene	3	U
84-74-2	Di-n-butylphthalate	2	U
206-44-0	Fluoranthene	2	U
129-00-0	Pyrene	2	U
85-68-7	Butylbenzylphthalate	4	U
56-55-3	Benzo(a)anthracene	2	U
218-01-9	Chrysene	2	U
117-81-7	bis(2-Ethylhexyl)phthalate	1.9	BJ
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	2	U
207-08-9	Benzo(k)fluoranthene	2	U
50-32-8	Benzo(a)pyrene	2	U
193-39-5	Indeno(1,2,3-cd)pyrene	4	U
53-70-3	Dibenz(a,h)anthracene	6	U
191-24-2	Benzo(g,h,i)perylene	4	U

(1) - Cannot be separated from Diphenylamine

RK 9/30/88

FORM I

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EBW06

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87713

Sample wt/vol: 957 (g/mL) ML Lab File ID: A87713S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.47	14	JAB
2.				
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW07

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87714

Sample wt/vol: 893 (g/mL) ML Lab File ID: A87714S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/05/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	2	U
111-44-4	bis(2-Chloroethyl)ether	2	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	2	U
106-46-7	1,4-Dichlorobenzene	2	U
100-51-6	Benzyl alcohol	7	U
95-50-1	1,2-Dichlorobenzene	3	U
95-48-7	2-Methylphenol	1	U
108-60-1	bis(2-Chloroisopropyl)ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-di-n-propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	3	U
78-59-1	Isophorone	3	U
88-75-5	2-Nitrophenol	2	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic acid	34	U
111-91-1	bis(2-Chloroethoxy)methane	3	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	2	U
91-20-3	Naphthalene	2	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	3	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	2	U
77-47-4	Hexachlorocyclopentadiene	7	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	2	U
88-74-4	2-Nitroaniline	7	U
131-11-3	Dimethylphthalate	2	U
208-96-8	Acenaphthylene	2	U
606-20-2	2,6-Dinitrotoluene	1	U

1L

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW07

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87714

Sample wt/vol: 893 (g/mL) ML Lab File ID: A87714S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/05/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	7	U
83-32-9	Acenaphthene	2	U
51-28-5	2,4-Dinitrophenol	17	U
100-02-7	4-Nitrophenol	7	U
132-64-9	Dibenzofuran	1	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	1	U
100-01-6	4-Nitroaniline	7	U
534-52-1	4,6-Dinitro-2-methylphenol	17	U
86-30-6	N-Nitrosodiphenylamine (1)	2	U
101-55-3	4-Bromophenyl-phenylether	2	U
118-74-1	Hexachlorobenzene	2	U
87-86-5	Pentachlorophenol	7	U
85-01-8	Phenanthrene	1	U
120-12-7	Anthracene	3	U
84-74-2	Di-n-butylphthalate	2	U
206-44-0	Fluoranthene	2	U
129-00-0	Pyrene	2	U
85-68-7	Butylbenzylphthalate	4	U
56-55-3	Benzo(a)anthracene	2	U
218-01-9	Chrysene	2	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	~~B~~ J
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	2	U
207-08-9	Benzo(k)fluoranthene	2	U
50-32-8	Benzo(a)pyrene	2	U
193-39-5	Indeno(1,2,3-cd)pyrene	4	U
53-70-3	Dibenz(a,h)anthracene	7	U
191-24-2	Benzo(g,h,i)perylene	4	U

(1) - Cannot be separated from Diphenylamine

RK 9/30/88

FORM I

1F

EPA SAMPLE NO.

EBW07

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87714

Sample wt/vol: 893 (g/mL) ML Lab File ID: A87714S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/05/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.57	22	~~JAB~~ AK 9
2.				
3.				
4.				
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30.				

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW01

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87708(SCU)

Sample wt/vol: 923 (g/mL) ML Lab File ID: V083035

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	.011	U
319-85-7	beta-BHC	.0054	U
319-86-8	delta-BHC	.0054	U
58-89-9	gamma-BHC (Lindane)	.0054	U
76-44-8	Heptachlor	.033	U
309-00-2	Aldrin	.0054	U
1024-57-3	Heptachlor epoxide	.0054	U
959-98-8	Endosulfan I	.011	U
60-57-1	Dieldrin	.011	U
72-55-9	4,4'-DDE	.0054	U
72-20-8	Endrin	.011	U
33213-65-9	Endosulfan II	.011	U
72-54-8	4,4'-DDD	.022	U
1031-07-8	Endosulfan sulfate	.11	U
50-29-3	4,4'-DDT	.022	U
72-43-5	Methoxychlor	.022	U
53494-70-5	Endrin ketone	.033	U
5103-71-9	alpha-Chlordane		
5103-74-2	gamma-Chlordane		
8001-35-2	Toxaphene	.27	U
12674-11-2	Aroclor-1016		
11104-28-2	Aroclor-1221		
11141-16-5	Aroclor-1232		
53469-21-9	Aroclor-1242	.11	U
12672-29-6	Aroclor-1248	.11	U
11097-69-1	Aroclor-1254	.11	U
11096-82-5	Aroclor-1260	.11	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW02

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87709

Sample wt/vol: 933 (g/mL) ML Lab File ID: V083037

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	.011	U
319-85-7	beta-BHC	.0054	U
319-86-8	delta-BHC	.0054	U
58-89-9	gamma-BHC (Lindane)	.0054	U
76-44-8	Heptachlor	.032	U
309-00-2	Aldrin	.0054	U
1024-57-3	Heptachlor epoxide	.0054	U
959-98-8	Endosulfan I	.011	U
60-57-1	Dieldrin	.011	U
72-55-9	4,4'-DDE	.0054	U
72-20-8	Endrin	.011	U
33213-65-9	Endosulfan II	.011	U
72-54-8	4,4'-DDD	.021	U
1031-07-8	Endosulfan sulfate	.11	U
50-29-3	4,4'-DDT	.021	U
72-43-5	Methoxychlor	.021	U
53494-70-5	Endrin ketone	.032	U
5103-71-9	alpha-Chlordane		
5103-74-2	gamma-Chlordane		
8001-35-2	Toxaphene	.27	U
12674-11-2	Aroclor-1016		
11104-28-2	Aroclor-1221		
11141-16-5	Aroclor-1232		
53469-21-9	Aroclor-1242	.11	U
12672-29-6	Aroclor-1248	.11	U
11097-69-1	Aroclor-1254	.11	U
11096-82-5	Aroclor-1260	.11	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW03

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87710

Sample wt/vol: 922 (g/mL) ML Lab File ID: V083039

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	.011	U
319-85-7	beta-BHC	.0054	U
319-86-8	delta-BHC	.0054	U
58-89-9	gamma-BHC (Lindane)	.0054	U
76-44-8	Heptachlor	.033	U
309-00-2	Aldrin	.0054	U
1024-57-3	Heptachlor epoxide	.0054	U
959-98-8	Endosulfan I	.011	U
60-57-1	Dieldrin	.011	U
72-55-9	4,4'-DDE	.0054	U
72-20-8	Endrin	.011	U
33213-65-9	Endosulfan II	.011	U
72-54-8	4,4'-DDD	.022	U
1031-07-8	Endosulfan sulfate	.11	U
50-29-3	4,4'-DDT	.022	U
72-43-5	Methoxychlor	.022	U
53494-70-5	Endrin ketone	.033	U
5103-71-9	alpha-Chlordane		
5103-74-2	gamma-Chlordane		
8001-35-2	Toxaphene	.27	U
12674-11-2	Aroclor-1016		
11104-28-2	Aroclor-1221		
11141-16-5	Aroclor-1232		
53469-21-9	Aroclor-1242	.11	U
12672-29-6	Aroclor-1248	.11	U
11097-69-1	Aroclor-1254	.11	U
11096-82-5	Aroclor-1260	.11	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW04

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87711

Sample wt/vol: 964 (g/mL) ML Lab File ID: V083045

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	.010	U
319-85-7	beta-BHC	.0052	U
319-86-8	delta-BHC	.0052	U
58-89-9	gamma-BHC (Lindane)	.0052	U
76-44-8	Heptachlor	.031	U
309-00-2	Aldrin	.0052	U
1024-57-3	Heptachlor epoxide	.0052	U
959-98-8	Endosulfan I	.010	U
60-57-1	Dieldrin	.010	U
72-55-9	4,4'-DDE	.0052	U
72-20-8	Endrin	.010	U
33213-65-9	Endosulfan II	.010	U
72-54-8	4,4'-DDD	.021	U
1031-07-8	Endosulfan sulfate	.10	U
50-29-3	4,4'-DDT	.021	U
72-43-5	Methoxychlor	.021	U
53494-70-5	Endrin ketone	.031	U
5103-71-9	alpha-Chlordane		
5103-74-2	gamma-Chlordane		
8001-35-2	Toxaphene	.26	U
12674-11-2	Aroclor-1016		
11104-28-2	Aroclor-1221		
11141-16-5	Aroclor-1232		
53469-21-9	Aroclor-1242	.10	U
12672-29-6	Aroclor-1248	.10	U
11097-69-1	Aroclor-1254	.10	U
11096-82-5	Aroclor-1260	.10	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW05

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87712(SCU)

Sample wt/vol: 975 (g/mL) ML Lab File ID: V083047

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	.010	U
319-85-7	beta-BHC	.0051	U
319-86-8	delta-BHC	.0051	U
58-89-9	gamma-BHC (Lindane)	.0051	U
76-44-8	Heptachlor	.031	U
309-00-2	Aldrin	.0051	U
1024-57-3	Heptachlor epoxide	.0051	U
959-98-8	Endosulfan I	.010	U
60-57-1	Dieldrin	.010	U
72-55-9	4,4'-DDE	.0051	U
72-20-8	Endrin	.010	U
33213-65-9	Endosulfan II	.010	U
72-54-8	4,4'-DDD	.021	U
1031-07-8	Endosulfan sulfate	.10	U
50-29-3	4,4'-DDT	.021	U
72-43-5	Methoxychlor	.021	U
53494-70-5	Endrin ketone	.031	U
5103-71-9	alpha-Chlordane		
5103-74-2	gamma-Chlordane		
8001-35-2	Toxaphene	.26	U
12674-11-2	Aroclor-1016		
11104-28-2	Aroclor-1221		
11141-16-5	Aroclor-1232		
53469-21-9	Aroclor-1242	.10	U
12672-29-6	Aroclor-1248	.10	U
11097-69-1	Aroclor-1254	.10	U
11096-82-5	Aroclor-1260	.10	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW06

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87713

Sample wt/vol: 987 (g/mL) ML Lab File ID: V083049

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	.010	U
319-85-7	beta-BHC	.0051	U
319-86-8	delta-BHC	.0051	U
58-89-9	gamma-BHC (Lindane)	.0051	U
76-44-8	Heptachlor	.030	U
309-00-2	Aldrin	.0051	U
1024-57-3	Heptachlor epoxide	.0051	U
959-98-8	Endosulfan I	.010	U
60-57-1	Dieldrin	.010	U
72-55-9	4,4'-DDE	.0051	U
72-20-8	Endrin	.010	U
33213-65-9	Endosulfan II	.010	U
72-54-8	4,4'-DDD	.020	U
1031-07-8	Endosulfan sulfate	.10	U
50-29-3	4,4'-DDT	.020	U
72-43-5	Methoxychlor	.020	U
53494-70-5	Endrin ketone	.030	U
5103-71-9	alpha-Chlordane		
5103-74-2	gamma-Chlordane		
8001-35-2	Toxaphene	.25	U
12674-11-2	Aroclor-1016		
11104-28-2	Aroclor-1221		
11141-16-5	Aroclor-1232		
53469-21-9	Aroclor-1242	.10	U
12672-29-6	Aroclor-1248	.10	U
11097-69-1	Aroclor-1254	.10	U
11096-82-5	Aroclor-1260	.10	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW07

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87714

Sample wt/vol: 901 (g/mL) ML Lab File ID: V083051

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	.011	U
319-85-7	beta-BHC	.0055	U
319-86-8	delta-BHC	.0055	U
58-89-9	gamma-BHC (Lindane)	.0055	U
76-44-8	Heptachlor	.033	U
309-00-2	Aldrin	.0055	U
1024-57-3	Heptachlor epoxide	.0055	U
959-98-8	Endosulfan I	.011	U
60-57-1	Dieldrin	.011	U
72-55-9	4,4'-DDE	.0055	U
72-20-8	Endrin	.011	U
33213-65-9	Endosulfan II	.011	U
72-54-8	4,4'-DDD	.022	U
1031-07-8	Endosulfan sulfate	.11	U
50-29-3	4,4'-DDT	.022	U
72-43-5	Methoxychlor	.022	U
53494-70-5	Endrin ketone	.033	U
5103-71-9	alpha-Chlordane		
5103-74-2	gamma-Chlordane		
8001-35-2	Toxaphene	.28	U
12674-11-2	Aroclor-1016		
11104-28-2	Aroclor-1221		
11141-16-5	Aroclor-1232		
53469-21-9	Aroclor-1242	.11	U
12672-29-6	Aroclor-1248	.11	U
11097-69-1	Aroclor-1254	.11	U
11096-82-5	Aroclor-1260	.11	U

RECEIVED 8/30/88 9:00

SUPERFUND 5484

SAMPLE DATES: [illegible]
LOG IN DATE: 8/30/88
DUE DATE: 10/27/88

CENTRAL REGIONAL LABORATORY SAMPLE DATA REPORT
ORGANICS/INORGANICS
THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY

CASE NUMBER/SAS No. 10185/3919E/3846E SITE NAME Former Elysian City Dump LABORATORY Aqualec/Chemlech DATE SHIPPED 8/18/88

SUPERFUND DU NUMBER 4905 EPA RPM or OSC (S.M.S.)/(CES) _____ CERCLIS NUMBER MND981528177 PAGE 2 OF 43

ACTIVITY NUMBER C72100

CRL LOG NUMBER	ORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No.	INORGANIC TRAFFIC REPORT NUMBER	WATER OR LIQUIDS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN UG/L TOX17574	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN UG/L TOX17564	WATER POLYCHLORINATED BIPHENYLS UG/L PES 17144	WATER CHLORINATED PESTICIDES UG/L PES17134	TOTAL METALS IN WATER UG/L MET111	WATER CYANIDE UG/L MIN74919	NITRATE/NITRITE MG/L MIN7284	AMMONIA MG/L MIN7294	RESIDUE, FILTERABLE TDS MG/L MIN7362	RESIDUE, NON-FILT TSS MG/L MIN7372	SEDIMENTS or SOILS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN MG/KG TOX215722	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN MG/KG TOX215622	SEDIMENTS POLYCHLORINATED BIPHENYLS MG/KG PES211422	SEDIMENT CHLORINATED PESTICIDES MG/KG 211322	TOTAL METALS MG/KG MET413	CYANIDE MG/KG MIN44930	EP TOXICITY METALS MG/KG	AMMONIA MG/KG MIN42925
[illegible]N28537	EBW01 ✓	MEBR94	✓	✓	✓	✓	✓	✓												
[illegible]N28538	EBW02 ✓	MEBR95	✓	✓	✓	✓	✓	✓												
[illegible]N28539	EBW03 ✓	MEBR96	✓	✓	✓	✓	✓	✓												
[illegible]N28540	EBW04 ✓	MEBR97	✓	✓	✓	✓	✓	✓												
[illegible]N28541	EBW05 ✓	MEBR98	✓	✓	✓	✓	✓	✓												
[illegible]N28D38	EBW06 ✓	MEBR99	✓	✓	✓	✓	✓	✓												
[illegible]N28K03	EBW07 ✓	MEAR00	✓	✓	✓	✓	✓	✓												
	data																			

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 10135 | SAS NO: 3554E (IF APPLICABLE)

ORGANIC TRAFFIC REPORT
(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA SI ESI RIFS RD RA ER NPLD O&M OTHER ____
NON-SUPERFUND— ____ PROGRAM

SAMPLE DESCRIPTION
(ENTER IN BOX A)
1. SURFACE WATER 4. SOIL
2. GROUND WATER 5. SEDIMENT
3. LEACHATE 6. OIL (SAS)
7. WASTE (SAS)

REGION NO: V
SAMPLING COMPANY ②: FIT
SAMPLER: (NAME) Philip A. Smith

SHIP TO: ③
Aquatec, Inc
75 Green Mountain Dr.
S. Burlington, VT
ATTN: Janine Bonn

SAMPLING DATE: ④
BEGIN: 8/18/88 END: 8/18/88
DATE SHIPPED 8/18/88 CARRIER: F ⑤
AIRBILL NO: 8260579423

DATE REC'D: 8/19/88 @ 0545 SDG NO: EBW01 ⑥
[signature] EBW01
REC'D BY: [signature] 8-19-88
~~8710~~ [signature]
LABORATORY CONTRACT NO. UNIT PRICE
68-01-7410

TRANSFER TO: DATE REC'D: ⑦
REC'D BY: CONTRACT NO./PRICE:

Shipment Complete
• CLP SAMPLE NUMBER (FROM LABELS)

Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW/MED. H = HIGH (SAS)	Ⓒ RAS ANALYSIS: VOLATILE	BASE/NEUT /ACID	PESTICIDE /PCB's		Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION	Ⓕ SAMPLE CONDITION ON RECEIPT	Ⓖ HIGH CONC PHASES (CHECK): SOLID	WATER—MIS LIQUID	NON WATER—MIS LIQUID
EBW01	2	L	✓	✓	✓	MSD	RW1	All samples were			
EBW02	2	L	✓	✓	✓		RW2	received intact			
EBW03	2	L	✓	✓	✓		RW3	inside cooler with			
EBW04	2	L	✓	✓	✓		RW4	ice. Cooler was intact			
EBW05	2	L	✓	✓	✓		RW5	as were custody seals			
EBW06	2	L	✓	✓	✓		RW6	on outside of cooler.			
EBW07	3	L	✓	✓	✓	BLANK	BLK	Chain of custody was			
								present. Sample tags			
								were present on all			
								samples. All caps			
								sealed with clear			
								reinforced tape.			
								Final Sample			
								of SDG # ~~3554~~ EBW01			
								15 # EBW07 8/19/88			

EPA Form 2075-7 (8-87)

000816

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 1115

SAS NO: 3574E
(IF APPLICABLE)

ORGANIC TRAFFIC REPORT
(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA SI ESI RIFS RD RA ER
NPLD O&M OTHER _____
NON-SUPERFUND—_____PROGRAM

SAMPLE DESCRIPTION
(ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

REGION NO: V
SAMPLING COMPANY ② FIT
SAMPLER: (NAME) Philip H. Smith

SHIP TO: ③
Aquatec, Inc
75 Green Mountain Dr.
S. Burlington, VT
ATTN: Janine Bonn

SAMPLING DATE: ④
BEGIN: 8/18/88 END: 8/18/88

DATE SHIPPED: 8/18/88 CARRIER: F ⑤
AIRBILL NO: 8260579423

DATE REC'D: 8/19/88 SDG NO: EBW01 ⑥
EBW01
REC'D BY: FPE 8-19-88
LABORATORY CONTRACT NO. UNIT PRICE
68-01-7410

TRANSFER TO: DATE REC'D: ⑦
REC'D BY: CONTRACT NO./PRICE:

Shipment is complete CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW/MED. H = HIGH (SAS)	Ⓒ RAS ANALYSIS: VOLATILE	BASE/NEUT /ACID	PESTICIDE /PCB's		Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION	Ⓕ SAMPLE CONDITION ON RECEIPT	Ⓖ HIGH CONC. PHASES (CHECK): SOLID	WATER—MIS LIQUID	NON WATER—MIS LIQUID
EBW01	2	L	✓	✓	✓		MSD	RW1	All samples were			
EBW02	2	L	✓	✓	✓			RW2	received intact,			
EBW03	2	L	✓	✓	✓			RW3	inside cooler with			
EBW04	2	L	✓	✓	✓			RW4	ice. Cooler was intact			
EBW05	2	L	✓	✓	✓			RW5	as were custody seals			
EBW06	2	L	✓	✓	✓			RW6	on outside of cooler.			
EBW07	3	L	✓	✓	✓		PLANK	PLK	Chain of custody was			
									present. Sample tags			
									were present on all			
									samples. All caps			
									sealed with clear			
									reinforced tape.			
									Final Sample			
									of SDG # ~~3574~~ EBW01			
									FPE 8/19/88			
									is EBW07			

EPA Form 2075-7 (8-87)

000800

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

aquatec INC. ENVIRONMENTAL SERVICES

75 GREEN MOUNTAIN DRIVE, SOUTH BURLINGTON, VERMONT 05403, TELEPHONE (802) 658-1074

22 September 1988

U.S. Environmental Protection Agency
Contract Laboratory Program
Sample Management Office
209 Madison Street
Alexandria, VA 22314

Re: Contract No. 68-01-7410
Case No. 10185, SDG No. EBW01 (SAS 3554E)
Aquatec Project No. 87110

Gentlemen:

Enclosed are the analytical results for Case 10185, SDG No. EBW01.

This case consists of seven (7) aqueous samples for full organics analysis, as specified in the scope of services for SAS 3554E.

The samples were received intact by Aquatec on 19 August 1988.

Laboratory numbers were assigned and are designated as follows:

EPA	Aquatec	Sample Matrix
EBW01	87708	aqueous
EBW02	87709	aqueous
EBW03	87710	aqueous
EBW04	87711	aqueous
EBW05	87712	aqueous
EBW06	87713	aqueous
EBW07	87714	aqueous

Low background levels of high boiling polynuclear aromatic hydrocarbons were identified in the analysis of the method blank SBLKW1. This was apparently the result of spot contamination within the analytical process and did not affect the sample analyses.

Sample EBW03 was analyzed for semivolatile organics and the results yielded low acid surrogate recoveries. The sample was re-extracted and reanalyzed and the low recoveries replicated. The results of both analyses are included in this submittal. The low recovery of acid surrogates was also observed in sample EBW04. In this instance, the recoveries meet the acceptance criteria. The sample was re-extracted and reanalyzed to satisfy internal quality assurance objectives and the results replicated. Only the results of the initial analysis are included in this submittal. The results of the reanalysis are retained on file at Aquatec.

Hydrographic Studies and Analyses • Water Quality Studies • Analytical Laboratories
Ecological Studies • Computer Simulations • Industrial Waste Surveys

Check standard CX010DHV exhibited high percent differences for methylene chloride and acetone. This probably reflects changes in the background concentrations in the ambient air of the laboratory. In addition, an unstable instrument response to the anilines is apparent in the instrument calibration for the semivolatile organics. This was brought to the attention of Ms. Jan Pels, who is coordinating the work for EPA Region V, at the time it was observed by the laboratory.

It should be noted that the analysis of samples EBW01, EBW01MS, EBW01MSD, and EBW05 for pesticide/PCB's included sulfur cleanup of the extracts. The associated method blank also went through the cleanup process and has been identified as PBLKW1 (SCU).

Enhanced total ion peak heights were used for the purpose of evaluating and quantitating "Tentatively Identified Compounds" associated with these samples.

Because of the common occurrence of mass 43 with low molecular weight hydrocarbons, the laboratory has used mass 58 as the quantitation ion for acetone in the volatile organics analysis of the samples.

The laboratory has used the contract specification for reporting significant figures for volatile and semivolatile organic results, "Report analytical results to one significant figure if the value is less than 10, and two significant figures above 10". This extends to the reporting limits as they appear on Form I, however, it should be noted that the application of the "J" qualifier is based on the reporting limits as specified in the scope of services.

Additional qualifiers are currently being used by the laboratory in reporting the pesticide results. These are listed and defined as follows:

M - The compound was added by the laboratory as an analyte spike.

The data summary forms submitted in this data package represent a translation of the forms produced by EPA Cincinnati software. Details that reflect the constraints of that software have not been corrected. These include, the reporting of percent difference on Form VII as an absolute percent difference and the reporting of the both spiked and nonspiked analytes on Form I for the matrix spike and matrix spike duplicate analyses.

For the benefit of interested parties, documentation of sample handling and preparation is included at the end of the "Sample Data Package". A colored sheet of paper entitled "Sample Preparation Package" has been used to explicitly mark the location of these documents.

Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Please note the addition of page 000005A as part of the case documentation.

Sincerely,

Joseph Comeau

Joseph K. Comeau, Ph.D.
Laboratory Director

9/22/88
Date

Enclosure

cc: EMSL
EPA Region V

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name:AQUATEC, INC. Contract:68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
01	VBLKD1	103	103	99		0
02	EBW02	103	108	111		0
03	EBW03	104	107	112		0
04	VBLKF2	103	103	102		0
05	EBW04	99	97	102		0
06	EBW01	107	106	106		0
07	EBW01MS	106	104	107		0
08	EBW01MSD	96	95	99		0
09	EBW05	99	96	103		0
10	EBW06	98	97	102		0
11	EBW07	97	97	101		0
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	QC LIMITS
S1 (TOL) = Toluene-d8	(88-110)
S2 (BFB) = Bromofluorobenzene	(86-115)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name:AQUATEC, INC. Contract:68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
01	SBLKW1	53	57	66	20	30	34		0
02	EBW03	51	58	69	0 *	0 *	8 *		3
03	EBW01	52	59	70	20	30	34		0
04	EBW01MS	61	62	69	21	31	38		0
05	EBW01MSD	58	63	65	20	29	34		0
06	EBW04	53	59	64	11	16 *	27		1
07	EBW05	50	56	64	17	28	40		0
08	EBW06	49	54	61	16	25	29		0
09	EBW07	48	52	57	20	31	34		0
10	SBLKW2	54	53	58	21	35	39		0
11	EBW02	55	59	59	19	31	38		0
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		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(35-114)
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)
S3 (TPH)	= Terphenyl-d14	(33-141)
S4 (PHL)	= Phenol-d6	(10-94)
S5 (2FP)	= 2-Fluorophenol	(21-100)
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

000316

FORM II SV-1

1/87 Rev.

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
01	SBLKW3	60	64	69	18	31	45		0
02	EBW03RE	56	64	69	2 *	4 *	15		2
03									
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		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(35-114)
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)
S3 (TPH)	= Terphenyl-d14	(33-141)
S4 (PHL)	= Phenol-d6	(10-94)
S5 (2FP)	= 2-Fluorophenol	(21-100)
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

000317

FORM II SV-1 1/87 Rev.

2E

WATER PESTICIDE SURROGATE RECOVERY

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

	EPA SAMPLE NO.	S1 (DBC) #	OTHER
01	PBLKW1	95	
02	PBLKW1(SCU)	96	
03	EBW01	90	
04	EBW02	93	
05	EBW03	93	
06	EBW04	95	
07	EBW05	88	
08	EBW06	98	
09	EBW07	87	
10	EBW01MS	82	
11	EBW01MSD	82	
12			
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ADVISORY QC LIMITS (24-154)

S1 (DBC) = Dibutylchlorendate

Column used to flag recovery values

* Values outside of QC limits

D Surrogates diluted out

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name:AQUATEC, INC. Contract:68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix Spike - EPA Sample No.: EBW01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	10	0	6	61	61-145
Trichloroethene	10	0	7	72	71-120
Benzene	10	0	8	85	76-127
Toluene	10	0	9	90	76-125
Chlorobenzene	10	0	9	90	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	10	7	69	11	14	61-145
Trichloroethene	10	8	80	11	14	71-120
Benzene	10	9	92	8	11	76-127
Toluene	10	10	96	7	13	76-125
Chlorobenzene	10	10	97	8	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix Spike - EPA Sample No.: EBW01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	#	QC LIMITS REC.
Phenol	42	0	12	28		12- 89
2-Chlorophenol	42	0	26	61		27-123
1,4-Dichlorobenzene	21	0	12	55		36- 97
N-Nitroso-di-n-prop.(1)	21	0	12	59		41-116
1,2,4-Trichlorobenzene	21	0	12	60		39- 98
4-Chloro-3-methylphenol	42	0	23	56		23- 97
Acenaphthene	21	0	15	69		46-118
4-Nitrophenol	42	0	10	24		10- 80
2,4-Dinitrotoluene	21	0	12	55		24- 96
Pentachlorophenol	42	0	20	47		9-103
Pyrene	21	0	13	64		26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
Phenol	44	12	26		7		42	12- 89
2-Chlorophenol	44	26	58		6		40	27-123
1,4-Dichlorobenzene	22	11	52		7		28	36- 97
N-Nitroso-di-n-prop.(1)	22	13	60		2		38	41-116
1,2,4-Trichlorobenzene	22	13	57		5		28	39- 98
4-Chloro-3-methylphenol	44	21	48		15		42	23- 97
Acenaphthene	22	16	71		3		31	46-118
4-Nitrophenol	44	8	18		26		50	10- 80
2,4-Dinitrotoluene	22	12	54		3		38	24- 96
Pentachlorophenol	44	22	50		6		50	9-103
Pyrene	22	14	63		3		31	26-127

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

COMMENTS:

3E

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name:AQUATEC, INC. Contract:68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix Spike - EPA Sample No.: EBW01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	.04	.00	.04	101	56-123
Heptachlor	.04	.00	.05	106	40-131
Aldrin	.04	.00	.04	89	40-120
Dieldrin	.11	.00	.11	103	52-126
Endrin	.11	.00	.10	97	56-121
4,4'-DDT	.11	.00	.10	89	38-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	.04	.05	107	5	15	56-123
Heptachlor	.04	.05	115	8	20	40-131
Aldrin	.04	.04	100	12	22	40-120
Dieldrin	.11	.12	109	6	18	52-126
Endrin	.11	.11	103	6	21	56-121
4,4'-DDT	.11	.10	90	1	27	38-127

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

COMMENTS: 4,4-DDT RESULTS WERE CALCULATED FROM 4,4-DDT CURVE

000663

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Lab File ID: CXB001DV Lab Sample ID: CXB001DV

Date Analyzed: 08/20/88 Time Analyzed: 1541

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: OWAC

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EBW02	87709	C87709V	2249
02	EBW03	87710	C87710V	2327
03				
04				
05				
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COMMENTS:

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Lab File ID: CXB002FV Lab Sample ID: CXB002FV

Date Analyzed: 08/22/88 Time Analyzed: 1234

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: OWAC

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EBW04	87711	C87711V	1346
02	EBW01	87708	C87708V	1448
03	EBW01MS	M87708	C87708MV	1539
04	EBW01MSD	MD87708	C87708MDV	1632
05	EBW05	87712	C87712V	1717
06	EBW06	87713	C87713V	1801
07	EBW07	87714	C87714V	1845
08				
09				
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COMMENTS:

1M
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD1

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: CXB001DV

Sample wt/vol: 25 (g/mL) ML Lab File ID: CXB001DV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec. _____ Date Analyzed: 08/20/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	2	U
75-09-2	Methylene Chloride	.9	J
67-64-1	Acetone	2	J
75-15-0	Carbon Disulfide	3	U
75-35-4	1,1-Dichloroethene	2	U
75-34-3	1,1-Dichloroethane	2	U
540-59-0	1,2-Dichloroethene (total)	2	U
67-66-3	Chloroform	2	U
107-06-2	1,2-Dichloroethane	2	U
78-93-3	2-Butanone	1	J
71-55-6	1,1,1-Trichloroethane	2	U
56-23-5	Carbon Tetrachloride	2	U
~~108-05-4~~	~~Vinyl Acetate~~	15	U
75-27-4	Bromodichloromethane	2	U
78-87-5	1,2-Dichloropropane	2	U
10061-01-5	cis-1,3-Dichloropropene	2	U
79-01-6	Trichloroethene	2	U
124-48-1	Dibromochloromethane	2	U
79-00-5	1,1,2-Trichloroethane	2	U
71-43-2	Benzene	2	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	2	U
108-10-1	4-Methyl-2-Pentanone	.7	J
591-78-6	2-Hexanone	.6	J
127-18-4	Tetrachloroethene	2	U
79-34-5	1,1,2,2-Tetrachloroethane	2	U
108-88-3	Toluene	2	U
108-90-7	Chlorobenzene	2	U
100-41-4	Ethylbenzene	2	U
100-42-5	Styrene	1	U

1N

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD1

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: CXB001DV

Sample wt/vol: 25 (g/mL) ML Lab File ID: CXB001DV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ Date Analyzed: 08/20/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
107-02-8	Acrolein	8	J
107-13-1	Acrylonitrile	50	U
110-75-8	2-Chloroethylvinylether		
108-38-3	M-Xylene	2	U
1330-20-7	O- & P-Xylene	3	U

FORM I

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKD1

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: CXB001DV

Sample wt/vol: 25 (g/mL) ML Lab File ID: CXB001DV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ Date Analyzed: 08/20/88

Column: (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-28-5	2-METHYLPROPANE	3.70	14	J
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1M

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKF2

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: CXB002FV

Sample wt/vol: 25 (g/mL) ML Lab File ID: CXB002FV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ Date Analyzed: 08/22/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	2	U
75-09-2	Methylene Chloride	2	
67-64-1	Acetone	1	J
75-15-0	Carbon Disulfide	3	U
75-35-4	1,1-Dichloroethene	2	U
75-34-3	1,1-Dichloroethane	2	U
540-59-0	1,2-Dichloroethene (total)	2	U
67-66-3	Chloroform	2	U
107-06-2	1,2-Dichloroethane	2	U
78-93-3	2-Butanone	50	U
71-55-6	1,1,1-Trichloroethane	2	U
56-23-5	Carbon Tetrachloride	2	U
108-05-4	Vinyl Acetate	15	U
75-27-4	Bromodichloromethane	2	U
78-87-5	1,2-Dichloropropane	2	U
10061-01-5	cis-1,3-Dichloropropene	2	U
79-01-6	Trichloroethene	2	U
124-48-1	Dibromochloromethane	2	U
79-00-5	1,1,2-Trichloroethane	2	U
71-43-2	Benzene	2	U
10061-02-6	trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	2	U
108-10-1	4-Methyl-2-Pentanone	3	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	2	U
79-34-5	1,1,2,2-Tetrachloroethane	2	U
108-88-3	Toluene	2	U
108-90-7	Chlorobenzene	2	U
100-41-4	Ethylbenzene	2	U
100-42-5	Styrene	1	U

1N

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKF2

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: CXB002FV

Sample wt/vol: 25 (g/mL) ML Lab File ID: CXB002FV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ Date Analyzed: 08/22/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
107-02-8	Acrolein	100	U
107-13-1	Acrylonitrile	50	U
110-75-8	2-Chloroethylvinylether		
108-38-3	M-Xylene	2	U
1330-20-7	O- & P-Xylene	3	U

FORM I

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKF2

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: CXB002FV

Sample wt/vol: 25 (g/mL) ML Lab File ID: CXB002FV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ Date Analyzed: 08/22/88

Column: (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-28-5	2-METHYL PROPANE	3.75	3	J
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4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Lab File ID: AB0823W1S Lab Sample ID: AB0823W1S

Date Extracted: 08/23/88 Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 09/04/88 Time Analyzed: 1637

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: 5100A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EBW01	87708	A87708S	09/04/88
02	EBW01MS	M87708	A87708MS	09/04/88
03	EBW01MSD	MD87708	A87708MDS	09/04/88
04	EBW03	87710	A87710S	09/04/88
05	EBW04	87711	A87711S	09/04/88
06	EBW05	87712	A87712S	09/04/88
07	EBW06	87713	A87713S	09/04/88
08	EBW07	87714	A87714S	09/05/88
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COMMENTS:

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Lab File ID: AB0824W1S Lab Sample ID: AB0824W1S

Date Extracted: 08/24/88 Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 09/05/88 Time Analyzed: 0146

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: 5100A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EBW02	87709	A87709S	09/05/88
02				
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04				
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07				
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COMMENTS:

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Lab File ID: AB0906W1S Lab Sample ID: AB0906W1S

Date Extracted: 09/06/88 Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 09/06/88 Time Analyzed: 1535

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: 5100A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EBW03RE	87710	A87710E2S	09/06/88
02				
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COMMENTS:

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKW1

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: AB0823W1S

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AB0823W1S

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	2	U
111-44-4	bis(2-Chloroethyl)ether	2	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	2	U
106-46-7	1,4-Dichlorobenzene	2	U
100-51-6	Benzyl alcohol	6	U
95-50-1	1,2-Dichlorobenzene	3	U
95-48-7	2-Methylphenol	1	U
108-60-1	bis(2-Chloroisopropyl)ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-di-n-propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	3	U
78-59-1	Isophorone	3	U
88-75-5	2-Nitrophenol	2	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic acid	30	U
111-91-1	bis(2-Chloroethoxy)methane	3	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	2	U
91-20-3	Naphthalene	2	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	3	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	2	U
77-47-4	Hexachlorocyclopentadiene	6	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	2	U
88-74-4	2-Nitroaniline	6	U
131-11-3	Dimethylphthalate	2	U
208-96-8	Acenaphthylene	2	U
606-20-2	2,6-Dinitrotoluene	1	U

000572

1L

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKW1

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: AB0823W1S

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AB0823W1S

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	6	U
83-32-9	Acenaphthene	2	U
51-28-5	2,4-Dinitrophenol	15	U
100-02-7	4-Nitrophenol	6	U
132-64-9	Dibenzofuran	1	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	1	U
100-01-6	4-Nitroaniline	6	U
534-52-1	4,6-Dinitro-2-methylphenol	15	U
86-30-6	N-Nitrosodiphenylamine (1)	2	U
101-55-3	4-Bromophenyl-phenylether	2	U
118-74-1	Hexachlorobenzene	2	U
87-86-5	Pentachlorophenol	6	U
85-01-8	Phenanthrene	1	U
120-12-7	Anthracene	3	U
84-74-2	Di-n-butylphthalate	2	U
206-44-0	Fluoranthene	2	U
129-00-0	Pyrene	2	U
85-68-7	Butylbenzylphthalate	4	U
56-55-3	Benzo(a)anthracene	2	U
218-01-9	Chrysene	2	U
117-81-7	bis(2-Ethylhexyl)phthalate	.4	J
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	.6	J
207-08-9	Benzo(k)fluoranthene	.7	J
50-32-8	Benzo(a)pyrene	.7	J
193-39-5	Indeno(1,2,3-cd)pyrene	.9	J
53-70-3	Dibenz(a,h)anthracene	.8	J
191-24-2	Benzo(g,h,i)perylene	4	U

(1) - Cannot be separated from Diphenylamine

FORM I

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLKW1

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: AB0823W1S

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AB0823W1S

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.55	19	JA
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKW2

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: AB0824W1S

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AB0824W1S

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ dec._____ Date Extracted: 08/24/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/05/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	2	U
111-44-4	bis(2-Chloroethyl)ether	2	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	2	U
106-46-7	1,4-Dichlorobenzene	2	U
100-51-6	Benzyl alcohol	6	U
95-50-1	1,2-Dichlorobenzene	3	U
95-48-7	2-Methylphenol	1	U
108-60-1	bis(2-Chloroisopropyl)ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-di-n-propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	3	U
78-59-1	Isophorone	3	U
88-75-5	2-Nitrophenol	2	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic acid	30	U
111-91-1	bis(2-Chloroethoxy)methane	3	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	2	U
91-20-3	Naphthalene	2	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	3	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	2	U
77-47-4	Hexachlorocyclopentadiene	6	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	2	U
88-74-4	2-Nitroaniline	6	U
131-11-3	Dimethylphthalate	2	U
208-96-8	Acenaphthylene	2	U
606-20-2	2,6-Dinitrotoluene	1	U

1L

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKW2

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: AB0824W1S

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AB0824W1S

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ dec._____ Date Extracted: 08/24/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/05/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	6	U
83-32-9	Acenaphthene	2	U
51-28-5	2,4-Dinitrophenol	15	U
100-02-7	4-Nitrophenol	6	U
132-64-9	Dibenzofuran	1	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	1	U
100-01-6	4-Nitroaniline	6	U
534-52-1	4,6-Dinitro-2-methylphenol	15	U
86-30-6	N-Nitrosodiphenylamine (1)	2	U
101-55-3	4-Bromophenyl-phenylether	2	U
118-74-1	Hexachlorobenzene	2	U
87-86-5	Pentachlorophenol	6	U
85-01-8	Phenanthrene	1	U
120-12-7	Anthracene	3	U
84-74-2	Di-n-butylphthalate	2	U
206-44-0	Fluoranthene	2	U
129-00-0	Pyrene	2	U
85-68-7	Butylbenzylphthalate	4	U
56-55-3	Benzo(a)anthracene	2	U
218-01-9	Chrysene	2	U
117-81-7	bis(2-Ethylhexyl)phthalate	.9	J
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	2	U
207-08-9	Benzo(k)fluoranthene	2	U
50-32-8	Benzo(a)pyrene	2	U
193-39-5	Indeno(1,2,3-cd)pyrene	4	U
53-70-3	Dibenz(a,h)anthracene	6	U
191-24-2	Benzo(g,h,i)perylene	4	U

(1) - Cannot be separated from Diphenylamine

FORM I

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLKW2

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: AB0824W1S

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AB0824W1S

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ dec._____ Date Extracted: 08/24/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/05/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.32	13	JAB
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKW3

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: AB0906W1S

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AB0906W1S

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ dec._____ Date Extracted: 09/06/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/06/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	2	U
111-44-4	bis(2-Chloroethyl)ether	2	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	2	U
106-46-7	1,4-Dichlorobenzene	2	U
100-51-6	Benzyl alcohol	6	U
95-50-1	1,2-Dichlorobenzene	3	U
95-48-7	2-Methylphenol	1	U
108-60-1	bis(2-Chloroisopropyl)ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-di-n-propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	3	U
78-59-1	Isophorone	3	U
88-75-5	2-Nitrophenol	2	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic acid	30	U
111-91-1	bis(2-Chloroethoxy)methane	3	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	2	U
91-20-3	Naphthalene	2	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	3	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	2	U
77-47-4	Hexachlorocyclopentadiene	6	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	2	U
88-74-4	2-Nitroaniline	6	U
131-11-3	Dimethylphthalate	2	U
208-96-8	Acenaphthylene	2	U
606-20-2	2,6-Dinitrotoluene	1	U

1L

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKW3

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: AB0906W1S

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AB0906W1S

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ dec._____ Date Extracted: 09/06/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/06/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	6	U
83-32-9	Acenaphthene	2	U
51-28-5	2,4-Dinitrophenol	15	U
100-02-7	4-Nitrophenol	6	U
132-64-9	Dibenzofuran	1	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	1	U
100-01-6	4-Nitroaniline	6	U
534-52-1	4,6-Dinitro-2-methylphenol	15	U
86-30-6	N-Nitrosodiphenylamine (1)	2	U
101-55-3	4-Bromophenyl-phenylether	2	U
118-74-1	Hexachlorobenzene	2	U
87-86-5	Pentachlorophenol	6	U
85-01-8	Phenanthrene	1	U
120-12-7	Anthracene	3	U
84-74-2	Di-n-butylphthalate	2	U
206-44-0	Fluoranthene	2	U
129-00-0	Pyrene	2	U
85-68-7	Butylbenzylphthalate	4	U
56-55-3	Benzo(a)anthracene	2	U
218-01-9	Chrysene	2	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	J
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	2	U
207-08-9	Benzo(k)fluoranthene	2	U
50-32-8	Benzo(a)pyrene	2	U
193-39-5	Indeno(1,2,3-cd)pyrene	4	U
53-70-3	Dibenz(a,h)anthracene	6	U
191-24-2	Benzo(g,h,i)perylene	4	U

(1) - Cannot be separated from Diphenylamine

FORM I

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLKW3

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: AB0906W1S

Sample wt/vol: 1000 (g/mL) ML Lab File ID: AB0906W1S

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ dec._____ Date Extracted: 09/06/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/06/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.55	9	JA
2.				
3.				
4.				
5.				
6.				
7.				
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30.				

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Lab Sample ID: B082388W2P Lab File ID: V083031

Matrix: (soil/water) WATER Level: (low/med) LOW

Date Extracted: 08/23/88 Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed (1): 08/30/88 Date Analyzed (2): 08/26/88

Time Analyzed (1): 1303 Time Analyzed (2): 1801

Instrument ID (1): 764 HP Instrument ID (2): 850 HP

GC Column ID (1): RTX-35 GC Column ID (2): RTX-5

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EBW02	87709	08/30/88	08/26/88
02	EBW03	87710	08/30/88	08/26/88
03	EBW04	87711	08/30/88	08/26/88
04	EBW06	87713	08/30/88	08/26/88
05	EBW07	87714	08/30/88	08/26/88
06				
07				
08				
09				
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21				
22				
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24				
25				
26				

COMMENTS:

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Lab Sample ID: B082388W2P(S Lab File ID: V083033

Matrix: (soil/water) WATER Level: (low/med) LOW

Date Extracted: 08/23/88 Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed (1): 08/30/88 Date Analyzed (2): 08/29/88

Time Analyzed (1): 1333 Time Analyzed (2): 1939

Instrument ID (1): 764 HP Instrument ID (2): 850 HP

GC Column ID (1): RTX-35 GC Column ID (2): RTX-5

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EBW01	87708(SCU)	08/30/88	08/29/88
02	EBW05	87712(SCU)	08/30/88	08/29/88
03	EBW01MS	M87708(SCU)	08/30/88	08/26/88
04	EBW01MSD	MD87708(SCU)	08/30/88	08/27/88
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
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18				
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23				
24				
25				
26				

COMMENTS:

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKW1

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: B082388W2P

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V083031

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	.010	U
319-85-7	beta-BHC	.0050	U
319-86-8	delta-BHC	.0050	U
58-89-9	gamma-BHC (Lindane)	.0050	U
76-44-8	Heptachlor	.030	U
309-00-2	Aldrin	.0050	U
1024-57-3	Heptachlor epoxide	.0050	U
959-98-8	Endosulfan I	.010	U
60-57-1	Dieldrin	.010	U
72-55-9	4,4'-DDE	.0050	U
72-20-8	Endrin	.010	U
33213-65-9	Endosulfan II	.010	U
72-54-8	4,4'-DDD	.020	U
1031-07-8	Endosulfan sulfate	.10	U
50-29-3	4,4'-DDT	.020	U
72-43-5	Methoxychlor	.020	U
53494-70-5	Endrin ketone	.030	U
5103-71-9	alpha-Chlordane		
5103-74-2	gamma-Chlordane		
8001-35-2	Toxaphene	.25	U
12674-11-2	Aroclor-1016		
11104-28-2	Aroclor-1221		
11141-16-5	Aroclor-1232		
53469-21-9	Aroclor-1242	.10	U
12672-29-6	Aroclor-1248	.10	U
11097-69-1	Aroclor-1254	.10	U
11096-82-5	Aroclor-1260	.10	U

000778

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKW1(SCU)

Lab Name:AQUATEC, INC. Contract:68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water)WATER Lab Sample ID: B082388W2P(S

Sample wt/vol: 1000 (g/mL)ML Lab File ID: V083033

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 08/30/88

GPC Cleanup: (Y/N)N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)UG/L	Q
319-84-6	alpha-BHC	.010	U
319-85-7	beta-BHC	.0050	U
319-86-8	delta-BHC	.0050	U
58-89-9	gamma-BHC (Lindane)	.0050	U
76-44-8	Heptachlor	.030	U
309-00-2	Aldrin	.0050	U
1024-57-3	Heptachlor epoxide	.0050	U
959-98-8	Endosulfan I	.010	U
60-57-1	Dieldrin	.010	U
72-55-9	4,4'-DDE	.0050	U
72-20-8	Endrin	.010	U
33213-65-9	Endosulfan II	.010	U
72-54-8	4,4'-DDD	.020	U
1031-07-8	Endosulfan sulfate	.10	U
50-29-3	4,4'-DDT	.020	U
72-43-5	Methoxychlor	.020	U
53494-70-5	Endrin ketone	.030	U
5103-71-9	alpha-Chlordane		
5103-74-2	gamma-Chlordane		
8001-35-2	Toxaphene	.25	U
12674-11-2	Aroclor-1016		
11104-28-2	Aroclor-1221		
11141-16-5	Aroclor-1232		
53469-21-9	Aroclor-1242	.10	U
12672-29-6	Aroclor-1248	.10	U
11097-69-1	Aroclor-1254	.10	U
11096-82-5	Aroclor-1260	.10	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW03

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87710

Sample wt/vol: 944 (g/mL) ML Lab File ID: A87710S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	2	U
111-44-4	bis(2-Chloroethyl)ether	2	U
95-57-8	2-Chlorophenol	2	U
541-73-1	1,3-Dichlorobenzene	2	U
106-46-7	1,4-Dichlorobenzene	2	U
100-51-6	Benzyl alcohol	6	U
95-50-1	1,2-Dichlorobenzene	3	U
95-48-7	2-Methylphenol	1	U
108-60-1	bis(2-Chloroisopropyl)ether	3	U
106-44-5	4-Methylphenol	1	U
621-64-7	N-Nitroso-di-n-propylamine	2	U
67-72-1	Hexachloroethane	2	U
98-95-3	Nitrobenzene	3	U
78-59-1	Isophorone	3	U
88-75-5	2-Nitrophenol	2	U
105-67-9	2,4-Dimethylphenol	2	U
65-85-0	Benzoic acid	32	U
111-91-1	bis(2-Chloroethoxy)methane	3	U
120-83-2	2,4-Dichlorophenol	2	U
120-82-1	1,2,4-Trichlorobenzene	2	U
91-20-3	Naphthalene	2	U
106-47-8	4-Chloroaniline	2	U
87-68-3	Hexachlorobutadiene	3	U
59-50-7	4-Chloro-3-methylphenol	2	U
91-57-6	2-Methylnaphthalene	2	U
77-47-4	Hexachlorocyclopentadiene	6	U
88-06-2	2,4,6-Trichlorophenol	2	U
95-95-4	2,4,5-Trichlorophenol	2	U
91-58-7	2-Chloronaphthalene	2	U
88-74-4	2-Nitroaniline	6	U
131-11-3	Dimethylphthalate	2	U
208-96-8	Acenaphthylene	2	U
606-20-2	2,6-Dinitrotoluene	1	U

1L

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBW03

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87710

Sample wt/vol: 944 (g/mL) ML Lab File ID: A87710S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	6	U
83-32-9	Acenaphthene	2	U
51-28-5	2,4-Dinitrophenol	16	U
100-02-7	4-Nitrophenol	6	U
132-64-9	Dibenzofuran	1	U
121-14-2	2,4-Dinitrotoluene	1	U
84-66-2	Diethylphthalate	1	U
7005-72-3	4-Chlorophenyl-phenylether	1	U
86-73-7	Fluorene	1	U
100-01-6	4-Nitroaniline	6	U
534-52-1	4,6-Dinitro-2-methylphenol	16	U
86-30-6	N-Nitrosodiphenylamine (1)	2	U
101-55-3	4-Bromophenyl-phenylether	2	U
118-74-1	Hexachlorobenzene	2	U
87-86-5	Pentachlorophenol	6	U
85-01-8	Phenanthrene	1	U
120-12-7	Anthracene	3	U
84-74-2	Di-n-butylphthalate	2	U
206-44-0	Fluoranthene	2	U
129-00-0	Pyrene	2	U
85-68-7	Butylbenzylphthalate	4	U
56-55-3	Benzo(a)anthracene	2	U
218-01-9	Chrysene	2	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	U
117-84-0	Di-n-octylphthalate	2	U
205-99-2	Benzo(b)fluoranthene	2	U
207-08-9	Benzo(k)fluoranthene	2	U
50-32-8	Benzo(a)pyrene	2	U
193-39-5	Indeno(1,2,3-cd)pyrene	4	U
53-70-3	Dibenz(a,h)anthracene	6	U
191-24-2	Benzo(g,h,i)perylene	4	U

(1) - Cannot be separated from Diphenylamine

FORM I

1F

EPA SAMPLE NO.

EBW03

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: AQUATEC, INC. Contract: 68-01-7410

Lab Code: AQUAI Case No.: 10185 SAS No.: 3554E SDG No.: EBW01

Matrix: (soil/water) WATER Lab Sample ID: 87710

Sample wt/vol: 944 (g/mL) ML Lab File ID: A87710S

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec._____ dec._____ Date Extracted: 08/23/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 09/04/88

GPC Cleanup: (Y/N) N pH:____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.62	27	JAB RK 9/8/8
2.				
3.				
4.				
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ecology and environment, inc.
111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415
International Specialists in the Environment

CRL Receipt Date 9/19/88 FIT Receipt Date 10/19/88 Review Completed 10/30/88

TO: Nesterenko

FROM: Mary Gzyra

SUBJECT: Former Olympia City Dump

PAN: MN0202SB (1 hour charged for review) Case # 10185/4064E

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
# 13	Low Soil Herbicides	#	Low Soil
	Low Water		Low Water
7	Drinking Water Herbicides		Drinking Water
	Other		Other

Project Data Status: Completed!!

✓ Incomplete, awaiting [illegible]

FIT Data Review Findings:

No herbicides detected

Check Data Sheets for Transcription Errors

_____ Compounds were detected in sample(s); see enclosed sheet.

Book No. 8 Page No. 194 Date Sampled 8/17+8/18

0759:2

recycled paper

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 10/12/88 10/19

SUBJECT: Review of Region V CLP Data
Received for Review on 9-19-88

FROM: Curtis Ross, Director (5SCRL) Patrick J. Chuelle for
Central Regional Laboratory

TO: Data User: FIT

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

SITE NAME: Former Elysian City Dump, MN SMO Case No. SAS 4064E

EPA Data Set No. SF5484 No. of Samples: 20 D.U./Activity Numbers Y905/C721ZZ

CRL No. 88FN28S37-S41, S24-S36, D38, R03

SMO Traffic No. E01-E20

CLP Laboratory: GSRI Hrs. Required for Review: 8

Following are our findings:

THIS DATA REVIEW COVERS THE ANALYSIS OF SEVEN WATER AND THIRTEEN SOIL SAMPLES FOR HERBICIDES BY SAS 4064E. THERE WERE NO MAJOR PROBLEMS WHICH WOULD CAUSE THE CASE TO BE UNUSABLE. HOWEVER, THERE WERE SEVERAL PROBLEMS WHICH WILL BE DISCUSSED IN THE FOLLOWING PAGES.

Robert Katzen
WESTON/ESAT
10/11/88
~~10/11/88~~

( ) Data are acceptable for use.
(✓) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

DATA QUALIFIERS

Contractor: GSRI

Case SAS 406HF

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

(1) HOLDING TIME

WATER SAMPLES: ALL SAMPLES WERE EXTRACTED WITHIN 1 DAY OF RECEIPT OF SAMPLES ACCORDING TO PROTOCOL.

SOIL SAMPLES: ALL SAMPLES WERE EXTRACTED WITHIN 7 DAYS AND ANALYZED WITHIN 14 DAYS OF RECEIPT.

(2). GC INSTRUMENT PERFORMANCE

THE RT SHIFT FOR SILVEX ON 8/26/88 ON A MIXED GC COLUMN WAS FROM THE RANGE OF -3.0% FOR HBLKW2 TO +0.6% FOR SEVERAL EPA SAMPLE NUMBERS. THE SAMPLES RAN 8/30/88 HAD A RT SHIFT FOR SILVEX OF -0.9%D FOR HERB D TO 0.6%D FOR SEVERAL TEST SAMPLES ON A MIXED GC COLUMN. THE SAMPLES RAN ON 9/2/88 ON A SINGLE PHASE GC COLUMN HAD A %D RANGE OF -0.3 FOR HERB-E TO 0.9 FOR SEVERAL TEST SAMPLES.

(3) CALIBRATION

THE STANDARD CURVES WERE PROPERLY OBTAINED FROM EXTERNAL STANDARD CHROMATOGRAMS.

Reviewed by: Robert Kaiser

Phone: 312-353-2917

Date: 10/11/88

DATA QUALIFIERS

Contractor: GSRI

Case SAS 4064F

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

CALIBRATION - CONTINUED:

THE CHROMATOGRAPHS WERE CALIBRATED BY ANALYZING FIVE STANDARDS OF DIFFERENT CONCENTRATION/CHROMATOGRAPHIC PEAK AREA FOR EACH TARGET COMPOUND.

(4) METHOD BLANKS

NO HERBICIDES WERE DETECTED IN THE HERBICIDE LOW SOIL OR LOW WATER BLANKS.

(5) SURROGATE RECOVERIES

ALL LOW SOIL HERBICIDE SURROGATE RECOVERIES ARE SATISFACTORY.

THE FOLLOWING WATER HERBICIDE SURROGATE RECOVERIES ARE ABOVE THE ADVISORY Q.C. LIMITS OF 40-140:

4064E02DL
4064E03DL
4064E04DL
4064E05DL
4064E06DL
4064E07DL

SINCE THE UNDILUTED SAMPLES HAD SATISFACTORY 2,4,5-TP RECOVERIES, NO FLAGGING IS NECESSARY.

Reviewed by: Robert Katzer

Phone: 312-353-2917

Date: 10/11/88.

DATA QUALIFIERS

Contractor: GSRI

Case SAS 4064E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

SURROGATES - CONTINUED:

HPBLK W1 AND HPBLK W2 HAD SURROGATE RECOVERIES BELOW QC LIMITS. HPBLK W1 WAS RE-ANALYZED AS HPBLKW1DL WITH SATISFACTORY RESULTS; (HPBLK W2 WAS NOT RE-RAN AS REQUIRED. THEREFORE, HPBLK W2 IS FLAGGED ESTIMATED (J); HP BLK W2 HAD A SILVEX RECOVERY OF 36, BELOW THE QC LEVEL OF 40-140.

(6) MATRIX SPIKE / MATRIX SPIKE DUPLICATE.

THE W2 BLANK WAS SPIKED WITH 2,4-D AND 2,4,5-T TO DEMONSTATE THE SPECIFIC DETECTION LIMITS:

THE RECOVERIES ARE 135% FOR 2,4-D AND 105% FOR 2,4,5-T.

THE MATRIX SPIKE AND MATRIX SPIKE DUPLICATES ON WATER SAMPLE 4064E05 HAD 2,4-D WITH MS %REC OF 162 AND MSD %REC OF 108; 2,4,5-T HAD MS %REC OF 71 AND MSD %REC OF 74. THE RPD'S ARE BOTH UNDER 10%; QC LIMITS BEING 35%. QC LIMITS ARE NOT SPECIFIC FOR % REC.

THE MS/MSD ON SOIL SAMPLE 4064E09 HAD THE MATRIX SPIKE %REC. BELOW THE Q.C. LIMIT FOR 2,4,5-T AS WELL AS %RPD ABOVE THE Q.C. LIMIT OF 35 FOR 2,4,5-T.

Reviewed by: Robert Katzer

Phone: 312-353-2417

Date: 10/11/88.

DATA QUALIFIERS

Contractor: GRT

Case SAS 4064 E.

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

MATRIX SPIKE/MATRIX SPIKE DUPLICATE — CONTINUED:

THEREFORE, THE CORRESPONDING UNSPIKED SAMPLE (SOIL 4064 E09) HAS 2,4,5-T FLAGGED ESTIMATED (UJ) FOR THE QUANT. LIMIT.

(7) FIELD DUPLICATES

4064 E06 AND 4064E02 ARE DUPLICATES. NO HERBICIDE WAS DETECTED IN EITHER SAMPLE.

(8) COMPOUND IDENTIFICATION

GC ANALYSIS WAS PROPERLY RAN AND THE RESULTS WERE IDENTIFIED CORRECTLY.

(9) COMPOUND QUANTITATION AND REQUIRED DETECTION LIMITS.

THE CRQLS HAVE BEEN PROPERLY ADJUSTED TO REFLECT SAMPLE DILUTION.

(10) ADDITIONAL CASE SPECIFIC PROBLEMS

SOIL SAMPLE 4064E-10 HAD TO BE DILUTED X100 DUE TO A MATRIX PROBLEM.

Reviewed by: Robert Katzer

Phone: 312-353-2917

Date: 10/11/88.

Case: SAS 4064F

Contractor: GSRI

TENTATIVELY IDENTIFIED COMPOUNDS
MATCH ASSESSMENT

NOTE: Reviewer should note directly on Organic Analysis Data Sheet (OADS) those matches that in his opinion (based on contract criteria) are unreasonable.

CRITERIA

(1) Relative intensities of major ions (>10%) reference spectrum should be present in the sample spectrum.

(2) Relative intensities of major ions in sample spectrum should agree to within ± 20% of reference spectrum intensities.

(3) Molecular ions present in reference spectrum should be present in sample spectrum.

(4) Ions present in sample spectrum, but not in reference spectrum should be reviewed for possible background contamination or presence of coeluting interferences.

(5) Ions present in reference spectrum, but not in the sample spectrum should be reviewed for possible subtraction from the sample spectrum because of background contamination or coeluting interferences.

(6) If, in the reviewer's opinion, no valid identification can be made the compound should be labelled as "unknown" and the initials and date of the reviewer placed on the OADS.

Robert Katzen 10/11/88

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E01

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BRE01

Sample wt/vol: 500 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L OR ug/Kg) ug/L

COMPOUND		Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E01DL

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BRE01DL

Sample wt/vol: 500 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 50

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/L	Q
2. 4 - D	50	U
2. 4, 5 - T	50	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E02

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BRE02

Sample wt/vol: 500 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/L	Q
2. 4 - D	1.0	U
2. 4, 5 - T	1.0	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E02DL

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BRE02DL

Sample wt/vol: 500 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 50

CONCENTRATION UNITS:
(ug/L OR ug/Kg) ug/L

COMPOUND		Q
2, 4 - D	50	U
2, 4, 5 - T	50	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E03

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BRE03

Sample wt/vol: 500 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/L	Q
2. 4 - D	1.0	U
2. 4, 5 - T	1.0	U

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E03DL

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BRE03DL

Sample wt/vol: 500 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 50

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/L	Q
2. 4 - D	50	U
2. 4, 5 - T	50	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E04

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BRE04

Sample wt/vol: 500 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/L	Q
2. 4 - D	1.0	U
2. 4. 5 - T	1.0	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E04DL

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BRE04DL

Sample wt/vol: 500 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 50

CONCENTRATION UNITS:
(ug/L OR ug/Kg) ug/L

COMPOUND		Q
2. 4 - D	50	U
2. 4. 5 - T	50	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E05

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BRE05

Sample wt/vol: 250 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/L	Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E05DL

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BREC5DL

Sample wt/vol: 250 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 50

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/L	Q
2, 4 - D	50	U
2, 4, 5 - T	50	U

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E06

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BRE06

Sample wt/vol: 500 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/L	Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E06DL

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BRE06DL

Sample wt/vol: 500 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH: 7.3 Dilution Factor: 50

CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/L

COMPOUND		Q
2, 4 - D	50	U
2, 4, 5 - T	50	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E07

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BRE07

Sample wt/vol: 500 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 8.4 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/L	Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E07DL

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BRE07DL

Sample wt/vol: 500 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH: 8.4 Dilution Factor: 50

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/L	Q
2, 4 - D	50	U
2, 4, 5 - T	50	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E08

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BRE08

Sample wt/vol: 57 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. 12 Date Extracted: 08/22/88

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 8.3 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/Kg	Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E12

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BRE12

Sample wt/vol: 74 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. 32 Date Extracted: 08/22/88

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/Kg	Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E13

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BRE13

Sample wt/vol: 72 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. 30 Date Extracted: 08/22/88

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/Kg	Q
2. 4 - D	1.0	U
2. 4, 5 - T	1.0	U

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E14

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BRE14

Sample wt/vol: 150 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. 77 Date Extracted: 08/22/88

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 7.2 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/Kg	Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E15

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BRE15

Sample wt/vol: 128 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. 61 Date Extracted: 08/22/88

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/Kg	Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E16

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BRE16

Sample wt/vol: 100 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. 61 Date Extracted: 08/22/88

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/Kg	Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E17

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BRE17

Sample wt/vol: 56 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. 11 Date Extracted: 08/22/88

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/Kg	Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E1S

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BRE18

Sample wt/vol: 150 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. 69 Date Extracted: 08/22/88

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/Kg	Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E19

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BRE19

Sample wt/vol: 73 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. 31 Date Extracted: 08/22/88

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 7.6 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/Kg	Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E20

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BRE20

Sample wt/vol: 71 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. 29 Date Extracted: 08/22/88

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 6.9 Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L OR ug/Kg) ug/Kg

COMPOUND		Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

SUPERFUND 5484

AUG 26 1988

CENTRAL REGIONAL LABORATORY SAMPLE DATA REPORT
ORGANICS/INORGANICS

LOG IN DATE: 8/30/88
DUE DATE: 10/27/88

THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY

CASE NUMBER/SAS No. 4004E SITE NAME Former Elysian City Dump LABORATORY GSKI DATE SHIPPED 8/18/88

SUPERFUND DU NUMBER 4905 EPA RPM or OSC (S.M.S.)/(CES) _____ CERCLIS NUMBER MND981928177 PAGE 3 OF 13

ACTIVITY NUMBER C72100

CRL LOG NUMBER	ORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No.	INORGANIC TRAFFIC REPORT NUMBER	WATER OR LIQUIDS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN UG/L TOX17574	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN UG/L TOX17564	WATER POLYCHLORINATED BIPHENYLS UG/L PES 17144	WATER CHLORINATED PESTICIDES UG/L PES17134	TOTAL METALS IN WATER UG/L MET111	WATER CYANIDE UG/L MIN74919	NITRATE/NITRITE MG/L MIN7284	AMMONIA MG/L MIN7294	RESIDUE, FILTERABLE TDS MG/L MIN7262	RESIDUE, NON-FILT TSS MG/L MIN7372	2,4-D; 2,4,5-T		SEDIMENTS or SOILS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN MG/KG TOX215722	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN MG/KG TOX215622	SEDIMENTS POLYCHLORINATED BIPHENYLS MG/KG PES211422	SEDIMENT CHLORINATED PESTICIDES MG/KG 211322	TOTAL METALS MG/KG MET413	CYANIDE MG/KG MIN44930	EP TOXICITY METALS MG/KG	AMMONIA MG/KG MIN42925	2,4-D; 2,4,5-T			
88FN28537	4004E01	✓ —											✓													
88FN28538	4004E02	✓ —											✓													
88FN28539	4004E03	✓ —											✓													
88FN28540	4004E04	✓ —											✓													
88FN28541	4004E05	✓ —											✓													
88FN28D38	4004E06	✓ —											✓													
88FN28D03	4004E07	✓ —											✓													
88FN28524	4004E08	✓ —																				✓				
88FN28525	4004E09	✓ —																				✓				
88FN28526	4004E10	✓ —																				✓				
88FN28527	4004E11	✓ —																				✓				
88FN28528	4004E12	✓ —																				✓				
88FN28529	4004E13	✓ —																				✓				
88FN28530	4004E14	✓ —																				✓				
88FN28531	4004E15	✓ —																				✓				
88FN28532	4004E16	✓ —																				✓				
88FN28533	4004E17	✓ —																				✓				
88FN28534	4004E18	✓ —																				✓				
88FN28535	4004E19	✓ —																				✓				
88FN28536	4004E20	✓ —																				✓				

data

U.S. ENVIRONMENTAL PROTECTION AGENCY
CLP Sample Management Office
P.O. Box 818 - Alexandria, Virginia 22313
Phone: 703/557-2490 - FTS/557-2490

SAS Number
4-[illegible]4E

SPECIAL ANALYTICAL SERVICE
PACKING LIST

Sampling Office:	Sampling Date(s):	Ship To:	For Lab Use Only
FIT I	SOIL 8-17-88 WATER 8-18-88	Gulf South Research Institute 6301 Press Dr. (East) New Orleans, LA 70126	Date Samples Rec'd: 8-19-88
Sampling Contact: Philip Smith (name)	Date Shipped: 8-18-88		Received By: Kevin J. Kein
312-663-9415 (phone)	Site Name/Code: FMN[illegible]	Attn: Cindy Palazzo	

	Sample Numbers	Sample Description i.e., Analysis, Matrix, Concentration			Sample Condition on Receipt at Lab
1.	4-[illegible]4E01	RW1	low conc. WATER SOILS	245T + 241D	
2.	4-[illegible]4E02	RW2	"	"	
3.	4-[illegible]4E03	RW3	"	"	
4.	4-[illegible]4E04	RW4	"	"	
5.	4-[illegible]4E05	RW5	"	"	
6.	4-[illegible]4E06	RW6	"	"	
7.	4-[illegible]4E07	BLK	"	"	
8.	4-[illegible]4E08	S1	low conc. soil	"	
9.	4-[illegible]4E09	S2	"	"	
10.	4-[illegible]4E10	S3	"	"	
11.	4-[illegible]4E11	S4	"	"	
12.	4-[illegible]4E12	S5	"	"	
13.	4-[illegible]4E13	S6	"	"	
14.	4-[illegible]4E14	S7	"	"	
15.	4-[illegible]4E15	S8	"	"	
16.	4-[illegible]4E16	S9	"	"	
17.	4-[illegible]4E17	S10	"	"	
18.	4-[illegible]4E18	S11	"	"	
19.	4-[illegible]4E19	S12	"	"	
20.	4-[illegible]4E20	S13	"	"	

PARAMETER:	YES	NO
ICE PRESENT?	✓	
BOTTLES BROKEN?		✓
EPA TAG PRESENT?	✓	
SHIPPING SEALS?	✓	
CONTAINER SEALS?		✓
CUSTODY FORM OK?	✓	
LABELS ACCURATE?	✓	
NOTES COMMENTS (if none)		✓

For Lab Use Only

White - SMO Copy, Yellow - Region Copy, Pink - Lab Copy for return to SMO, Gold - Lab Copy

NARRATIVE

SAS 4064E consisted of seven (7) water and thirteen (13) soil samples which were received by Gulf South Research laboratory on August 19, 1988 and designated as GSRI Episode BRE. The samples were identified as follows:

4064E-01	4064E-06	4064E-11	4064E-16
4064E-02	4064E-07	4064E-12	4064E-17
4064E-03	4064E-08	4064E-13	4064E-18
4064E-04	4064E-09	4064E-14	4064E-19
4064E-05	4064E-10	4064E-15	4064E-20

These samples were analyzed for herbicides (2,4-D and 2,4,5-T only).

All samples were spiked with 2,4,5-TP (silvex) at 20 ug/L for waters and 20 ug/kg for soils. The chromatographic peaks for the surrogates in the water samples were off scale, and thus required dilution before quantitation could be accomplished. Surrogate recoveries are reported for both the concentrated and diluted samples, but the concentrated sample recoveries were distorted because of the off scale chromatographic peaks. One soil sample, 4064E-10, also had to be diluted because of matrix interferences. There were no herbicides found in any of the samples. Two blanks were run with the water samples. They were HBLKW1 and HBLKW2. The W2 blank was spiked with 2,4-D and 2,4,5-T to demonstrate the specified detection limits. All samples were derivatized using BF_3/methanol as the derivatizing agent.

James E. Henderson

James E. Henderson, Ph.D.
Manager, Analytical Chemistry
Department

9/16/88
Date

2F

WATER HERBICIDE SURROGATE RECOVERY

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Level: (low/med) LOW

	EPA SAMPLE NO.	2,4,5, - TP (SILVEX)
01	4064E01	68
02	4064E01DL	115
03	4064E02	61
04	4064E02DL	145 *
05	4064E03	59
06	4064E03DL	170 *
07	4064E04	59
08	4064E04DL	145 *
09	4064E05	93
10	4064E05DL	195 *
11	4064E06	59
12	4064E06DL	145 *
13	4064E07	63
14	4064E07DL	195 *
15	4064E05MS	90
16	4064E05MSD	91
17	HPBLKW1	32 *
18	HPBLKW1DL	95
19	HPBLKW2	36 *

ADVISORY QC LIMITS

~~(20-150)~~

9/19/88 (40-140)

Column to be used to flag recovery values

* Values outside to QC limits

D Surrogates diluted out

2F
SOIL HERBICIDE SURROGATE RECOVERY

Lab Name: S S R I Contract: _____

Lab Code: SULF Case No.: ~~4064E~~ my SAS No.: 4064C SDG No.: _____

Level: (low/med) LOW

	EPA SAMPLE NO.	2,4,5, - TF (SILVEX)
01	4064E08	44
02	4064E09	42
03	4064E10	82
04	4064E11	49
05	4064E12	40
06	4064E13	82
07	4064E14	53
08	4064E15	78
09	4064E16	74
10	4064E17	50
11	4064E18	41
12	4064E19	68
13	4064E20	54
14	4064E09MS	50
15	4064E09MSD	80
16	HPBLKL1	48

ADVISORY QC LIMITS
~~120-150~~
(90-140) JLH 9/16/88

Column to be used to flag recovery values

* Values outside to QC limits

D Surrogates diluted out

3E

WATER HERBICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix Spike - EPA Sample No.: 4064E05

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
2, 4 - D	20	0	32.46	162	*
2, 4, 5 - T	20	0	23.74	71	*

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
2, 4 - D	20	35.20	108	8	35	*
2, 4, 5 - T	20	23.14	74	3	35	*

* QC limits not specified.

COMMENTS: _____

3E

SOIL HERBICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: S S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix Spike - EPA Sample No.: 4064E09

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
2, 4 - D	30	0	18.5	62	47-108
2, 4, 5 - T	30	0	8.7	29*	47-108

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
2, 4 - D	30	22.6	75	20	35	47-108
2, 4, 5 - T	30	16.5	55	62*	35	47-108

Column to be used to flag recovery nd RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 2 outside limits
Spike Recovery: 1 out of 4 outside limits

COMMENTS: _____

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HBLKW2

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: SREHBLKW2

Sample wt/vol: 1000 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/L	Q
2, 4 - D	1.3489	
2, 4, 5 - T	1.0497	

Recoveries:

2,4-D 135%

2,4,5-T 105%

4C

HERBICIDE BLANK SUMMARY

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Lab Sample ID: BREPBLKW1 Lab File ID: _____

Matrix: (soil/water) WATER Level: (low/med) LOW

Date Extracted: 08/19/88 Extraction: (SepF/Cont/Sonc) Cont

Date Analyzed (1): 08/26/88 Date Analyzed (2): 09/02/88

Time Analyzed (1): 1225 Time Analyzed (2): 1252

Instrument ID (1): GCF Instrument ID (2): GCE

GC Column ID (1): MIXED GC Column ID (1): SINGLE

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	4064E01	BRE01	08/26/88	09/02/88
02	4064E02	BRE02	08/26/88	09/02/88
03	4064E03	BRE03	08/26/88	09/02/88
04	4064E04	BRE04	08/26/88	09/02/88
05	4064E05	BRE05	08/26/88	09/02/88
06	4064E06	BRE06	08/26/88	09/02/88
07	4064E07	BRE07	08/26/88	09/02/88
08	4064E05MS	BRE05MS	08/26/88	
09	4064E05MSD	BRE05MSD	08/26/88	
10	HBLKW2	BREHBLKW2	08/26/88	09/02/88

COMMENTS: _____

4C
HERBICIDE BLANK SUMMARY

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Lab Sample ID: BREPBLKW1DL Lab File ID: _____

Matrix: (soil/water) WATER Level: (low/med) LOW

Date Extracted: 08/19/88 Extraction: (SepF/Cont/Sonc) Cont

Date Analyzed (1): 08/30/88 Date Analyzed (2): 09/02/88

Time Analyzed (1): 1436 Time Analyzed (2): 1252

Instrument ID (1): GCF Instrument ID (2): GCE

GC Column ID (1): MIXED GC Column ID (1): SINGLE

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	4064E01DL	BRE01DL	08/30/88	09/02/88
02	4064E02DL	BRE02DL	08/30/88	09/02/88
03	4064E03DL	BRE03DL	08/30/88	09/02/88
04	4064E04DL	BRE04DL	08/30/88	09/02/88
05	4064E05DL	BRE05DL	08/30/88	09/02/88
06	4064E06DL	BRE06DL	08/30/88	09/02/88
07	4064E07DL	BRE07DL	08/30/88	09/02/88

COMMENTS: _____

4C
HERBICIDE BLANK SUMMARY

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Lab Sample ID: BREPBLKL1 Lab File ID: _____

Matrix: (soil/water) SOIL Level: (low/med) LOW

Date Extracted: 08/22/88 Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed (1): 08/26/88 Date Analyzed (2): 09/02/88

Time Analyzed (1): 1442 Time Analyzed (2): 1511

Instrument ID (1): GCF Instrument ID (2): GCE

GC Column ID (1): MIXED GC Column ID (1): SINGLE

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	4064E08	BRE08	08/26/88	09/02/88
02	4064E09	BRE09	08/26/88	09/02/88
03	4064E10	BRE10	08/26/88	09/02/88
04	4064E11	BRE11	08/26/88	09/02/88
05	4064E12	BRE12	08/26/88	09/02/88
06	4064E13	BRE13	08/26/88	09/02/88
07	4064E14	BRE14	08/26/88	09/02/88
08	4064E15	BRE15	08/26/88	09/02/88
09	4064E16	BRE16	08/26/88	09/02/88
10	4064E17	BRE17	08/26/88	09/02/88
11	4064E18	BRE18	08/26/88	09/02/88
12	4064E19	BRE19	08/26/88	09/02/88
13	4064E20	BRE20	08/26/88	09/02/88
14	4064E09MS	BRE09MS	08/26/88	
15	4064E09MS	BRE09MSD	08/26/88	

COMMENTS: _____

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HBLKW1

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BREHBLKW1

Sample wt/vol: 1000 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/L	Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HBLKW1DL

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: BREHBLKW1DL

Sample wt/vol: 1000 (g/mL) mL Lab File ID: _____

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/19/88

Extraction: (SepF/Cont/Sonc) Cont Date Analyzed: 08/30/88

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 50

CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/L

COMPOUND		Q
2, 4 - D	50	U
2, 4, 5 - T	50	U

1D
HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HBLKL1

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BREHBLKL1

Sample wt/vol: 50 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 08/22/88

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/Kg	Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E09

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BRE09

Sample wt/vol: 55 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. 8 Date Extracted: 08/22/88

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 8.2 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/Kg

COMPOUND		Q
2, 4 - D	1.0	U
2, 4, 5 - T	1.0	U

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E10

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BRE10

Sample wt/vol: 150 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. 76 Date Extracted: 08/22/88

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 100

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/Kg	Q
2, 4 - D	100	U
2, 4, 5 - T	100	U

1D

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

4064E11

Lab Name: G S R I Contract: _____

Lab Code: GULF Case No.: _____ SAS No.: 4064E SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BRE11

Sample wt/vol: 59 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 08/19/88

% Moisture: not dec. _____ dec. 15 Date Extracted: 08/22/88

Extraction: (SepF/Cont/Sonc) Sonc Date Analyzed: 08/26/88

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.0

COMPOUND	CONCENTRATION UNITS: (ug/L OR ug/Kg) ug/Kg	Q
2. 4 - D	1.0	U
2. 4, 5 - T	1.0	U

APPENDIX F

WELL LOGS OF THE AREA OF THE SITE

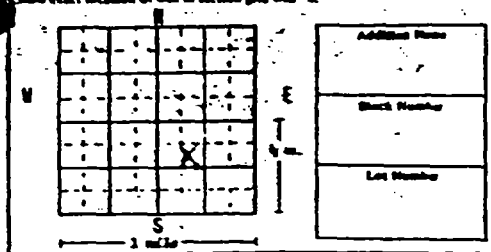
LeSueur M.G.S. 1767

County Name: LeSueur | Township Number: 109N | Range Number: 24W | Section No.: 35 | Fractions: SE NW SE

Elysian

Distance and Direction from Road Intersections, Street Address and City of Well Location

185' E. & 65' S. of intersection of N. Right-of-Way of Frank St. & E. R-o-W of 4th St., Elysian, Wi.



CODED

2. FORMATION LOG	COLOR	HARDNESS OF FORMATION	FROM	TO
PLTS, CLAY Clay	Yellow		0	90
PLTS CLAY, SAND Clay, Some Sand	Gray		90	181
PLTS GRVL, SAND Coarse Gravel & Sand			181	186
PLTS SAND Fine Sand	Gray		186	206
PLTS CLAY Clay	Gray		206	263
OPDC DLMT Lime, Sandy	Brown	T/810	283	330
OPDC SNDS Sandrock	White		330	335
OPDC DLMT Lime	Brown		335	356
OPDC DLMT Limerock	Gray-Brown		356	398
OPDC SNDS Sandrock			398	400
OPDC DLMT Lime	Pink		405	426
OPDC DLMT Lime	Red		426	430
OPDC DLMT Lime	Pink		430	493
OPDC DLMT Lime	Red		493	502
OPDC DLMT Lime	Pink		502	505
CJDN SNDS Sandrock	White T/502		505	585
CJDN SNDS Sandrock	Pink		585	590
CSTL, SHLE, DLMT Green Shale, Pink Lime		T/503	590	592
CSTL DLMT, SNDS Lime & Sandrock			592	595
CSTL SHLE Shale	Red		595	599

109-24-35 DBDACB ELEV. 1093'

No. 13 REMARKS: City has control of property within 50' of Well. Also additional ordinances prohibiting private sewage disposal. Nearest contaminents more than 500 feet.

M.G.S. No. 1427

3. PROPERTY OWNER'S NAME: ELYSIAN No. 2
City of Elysian
Elysian, Minnesota 56028

4. WELL DEPTH (completed): 595 ft. | Date of Completion: 10-9-78

5. ☒ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Boring ☐ Air ☐ Reverse ☐ Jetted ☐ Power Auger ☐ Sonic

6. USE: ☐ Domestic ☐ Public Supply ☐ Industry ☐ Irrigation ☒ Municipal ☐ Commercial ☐ Test Well ☐ Air Conditioning ☐

7. CASING: ☐ Black ☐ Threaded ☐ Galv. ☒ Welded ☐ 24 ☐ Height: Above 777 ft. Surface 1 ft. Drive Shoe? Yes ☒ No ☐
6 in. to 283 ft. Weight 62.58 lbs/ft.
6 in. to 520 ft. Weight 40.46 lbs/ft.
HOLE DIAM

8. SCREEN: Make ____ Type ____ Diameter ____ Length ____ Set between ____ ft. and ____ ft. Or open hole from 283 ft. to 595 ft. FITTINGS:

9. STATIC WATER LEVEL: 97 ft. below ☒ land surface ☐ above | Date Measured 10-9-78

10. PUMPING LEVEL (below land surface): 146' 10" ft. after 24 hrs. pumping 335 g.p.m.

11. WELL HEAD COMPLETION: ☐ Pitless adapter ☐ Basement offset ☒ At least 12" above grade

12. Well grouted? ☒ Yes ☐ No | Cu. Yds. 19 | ☒ Neat Cement ☐ Bentonite ☐ ____ | Depth: from 0 ft. to 520 ft.

13. Nearest source of possible contamination: SEE REMARKS | Distance ____ | Type ____ | Well disinfected upon completion? Yes ☒ No ☐

14. Pump: Aquaflo CJDN - CJDN | Date Installed ____ | ☒ Not installed | Manufacturer's Name ____ | Model No. ____ | Serial No. ____ | Capacity ____ g.p.m. | Drive Shaft ____ | Length ____ | Type ____ | Power Unit ____ | Other Equipment ____

CODED

15. WATER WELL CONTRACTOR'S CERTIFICATION

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

HYDRO ENGINEERING, INC. — Licensed Business Name | License No. 10318

Young America, Minnesota 55397

Signature: [illegible] — Authorized Representative | Date 10-12-78

Joseph F. Kloeckl — Name of Driller | Date 10-9-78

WELL RECORD St. Peter QD

KEYS WELL DRILLING COMPANY

WATER PRODUCERS

SAINT PAUL, MINNESOTA

109-26-4 BBDBBD

El- 885±5

74C

Owner North Star Concrete M.G.S. #854 Date Completed June, 1972

Location Kasota, Minnesota 3792 Driller Floyd C. O'Brien

Well No. 1 Size 30" x 24" Total Depth 852' Type Hinckley

DRILLERS LOG						WELL MATERIALS			
QUAT	0	to 32	Sand and Gravel	SAND, GRVL		72	of 30	" diameter of Outer Casing	
PLTS	32	to 71	Clay	CLAY		344	of 29	" diameter of Open Hole	
CPDC	71	to 116	Limerock (Shakopee)	DLMT T/814		416	of 24	" diameter of Inner Casing	
CJDN	116	to 211	Sandrock (Jordan)	SNDS T/761		434	of 23	" diameter of Open Hole	
CSLF	211	to 368	Shale	SHLE T/674		0	to 416'	Mix grout 905 (yds.) (Sacks)	
CFRN	368	to 414	Shaley Sandrock	SNDS, SHLE T/517				" diameter	Screen
CIGL	414	to 464	Sandrock	SNDS T/471					
CECR	464	to 471	Shale and Sandrock	SHLE, SNDS T/421					
CECR	471	to 486	Sandrock and Shale	SNDS, SHLE T/414		2,000	GPM 99'-3"	D.D. 10	Hours
CECR	486	to 598	Shale	SHLE T/399		1,800	GPM 91'	D.D. 10	Hours
CMTS	598	to 709	Sandrock	SNDS T/287		1,600	GPM 77'-3"	D.D. 4	Hours
CMTS	709	to 793	Shale and Sandrock	SHLE, SNDS T/176		1,300	GPM 54'	D.D. 10	Hours
CMTS	793	to 852	Hinckley	SNDS T/92		1,000	GPM 44	D.D. 6	Hours
		to							

RECORD OF TEST PUMPING

Static Water Level 84 ft. from top of pipe

Remarks:

Well was blasted with 12 shots of dynamite - total of 200 lbs. - from 840' - 670'. Boiled out 25 yds. of loose sandrock.

PERMANENT PUMP DATA (Later)

Mfg. Type Serial No.

Capacity GPM TDH

Motor Make Type

H. P. Volts Ph. RPM

ft. in. Col. pipe in. Shaft

ft. in Bowls Stages Type

ft. in. suction pipe &

ft. Total Length of Pump

ft. in. drop pipe & No. Cable

ft. in. air line

in. Pitless ft. bury in outlet

Splen 300-480

Aquifer

CIGL - CMTS

FORM 9-1642 (1-68) 213053

Well No. ~~109-23-27 DAA~~

WELL SCHEDULE

109-23-27dAA cdc

U. S. DEPT. OF THE INTERIOR — GEOLOGICAL SURVEY — WATER RESOURCES DIVISION

Elev. 1013±5

MASTER CARD

N22NE ± 11

Record by RWN Source of data WATER SUPT. Date 25 JUN 70 Map WATERVILLE 25

State MINN [27] County (or town) LE SUEUR [40]

Latitude: 441259N (deg min sec) Longitude: 0933402 (degree min sec) Sequential number:

Lat-long accuracy: 1 T 109 S. R 23 W Sec 27 . NE ¼. NE ¼. SE ¼

Local well number: 109N23W27DAA Other number: PUMPHOUSE WELL (B & M) ±1

Local use: MC CARTHY WELL CO Owner or name: CITY OF WATERVILLE

Owner or name: CITY WATERVILLE Address:

Ownership: (C) County, (F) Fed Gov't, (M) City, (N) Corp or Co, (P) Private, (S) State Agency, (V) Dist [M]

Use of water: (A) Air cond, (B) Bottling, (C) Comm, (D) Dewater, (E) Domestic, (F) Fire, (G) Irrig, (H) Ind, (I) Rec, (S) Stock, (T) Test, (U) Unused, (V) Repr, (W) Air-P S, (X) Mil-other, (Z) Other [P]

Use of well: (A) Active, (B) Abandoned, (C) Observation, (D) Recharge, (U) Unused, (W) Withdrawn, (X) Waste, (Z) Destroyed. [W]

DATA AVAILABLE: Well [ ] Field aquifer char.

Hyd. lab data:

Qual. water data: 109-23-27AA

Freq. sampling: Pumpage inventory: yes no period:

Aperture cards: yes

Log data: DRILL LOG ? 544 [D]

CODEL

WELL-DESCRIPTION CARD

stewart, well ONLY

SAME AS ON MASTER CARD Depth well: 300 ft [300] Meas. (rept) CITY RECORDER accuracy [6]

Depth cased (first perf.) ft Casing type: ; Diam. 10 in [10]

Finish: (C) porous concrete, (F) gravel w. (perf.), (G) gravel w. (screen), (H) horiz. gallery, (O) open end, (P) perf., screen, (S) sd. pt., (T) shored, (V) open hole, (Z) other

Method Drilled: (A) air rot, (B) bored, (C) cable, (D) dug, (H) hyd rot., (J) jetted, (P) air percussion, (R) reverse rotary, (T) trenching, (V) driven, (W) drive wash, (Z) other

Date Drilled: 1938 [938] Pump intake setting: ft

Driller: MC CARTHY

Lift (type): (A) air, (B) bucket, (C) cent, (J) jet, (L) multiple, (cent.) (M) multiple, (curb.) (N) none, (P) piston, (R) rot, (S) submerg, (T) turb, (Z) other [T] Deep Shallow [D]

Power (type): diesel, elec, nat gas, gasoline, hand, LP gas, wind; H.P. 15 [U] Trans. or meter no.

Descrip. MP PEF ft above below LSD, Alt. MP

Alt. LSD: 1013 [1013] Accuracy: (source) 10 CE [3]

Water Level 6 ft above below MP; Ft above below LSD [6] Accuracy: REPT. [G]

Date meas: JUN 1970 [670] Yield: 250 gpm [250] Method determined

Drawdown: 24 ft [24] Accuracy: REPT. [6] Pumping period hrs

QUALITY OF WATER DATA: Iron .026 ppm Sulfate ppm Chloride ppm Hard. ppm

Sp. Conduct 700 K x 10⁶ [4] Temp. 15°C °F Date sampled 25 JUN 70 [670]

Taste, color, etc. CLEAR

Well No. 109-23-27DAA

WL, Ht = 1007

W 97-41
(Rev. 1-61)

MINNESOTA CONSERVATION DEPARTMENT
DIVISION OF WATERS

WELL LOG STATEMENT

Director	
Publ.	
Ground W.	

109-23-27 Dn.
Well No.

Mail Report Promptly To Director, Division Of Waters, Centennial Office Bldg., St. Paul 1, Minn.

Location of Well (address) V. Clerk of Waterville

County: [illegible] City or town: [illegible]

Describe Further by Lot, Block, Nearest Highway.

old data from Thiel

Locate Well on Plat of Section

Sec. 26 or 27 or 32

Twp. 109

Range 23

Drilled for: Village of Waterville Driller

Address [illegible] Address

elevation 1010

Date of Completion

REPORT OF FINAL PUMPING TEST

Type of well (Dug, Driven, Bored, Drilled) Depth 204 ft. Duration of Test Hrs. Min. Date

Casing diameter inch, from to Rate of Pumping GPM

inch, from to Static Water Level Ft. Above / Below land s.

inch, from to Water Level While Pumping Ft.

Screen: Length Diameter Slot size Use: Domestic ☐ Industrial ☐ Irrigation ☐

Pump: Type Horsepower Public supply ☐ Commercial ☐ Stock ☐

WELL LOG

Geologic Formations Kind, Color, Hard or Soft	Depth in Feet From	Depth in Feet To	Geologic Formations Kind, Color, Hard or Soft	Depth in Feet From	Depth in Feet To
Surface Soil	0	102	102 T/911		
Blue Platteville	102	108	6 T/905 Cg		
Glenwood Beds	108	118	10 T/895 Csf		
White ss (St Peter)	118	[illegible]	86		
			809		