SCREENING SITE INSPECTION REPORT
FOR
LINDEN ROAD
SOUTH BEND, INDIANA
U.S. EPA ID: IND980904221
SS ID: NONE
TDD: F05-8611-148
PAN: FIN0451SA

EPA Region 5 Records Ctr.
316227

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APRIL 5, 1989

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International Specialists in the Environment

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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 Linden Road site under contract number 68-01-7347.

The site was initially discovered through a Notification of Hazardous Waste Site Form submitted in accordance with Section 103(c) of CERCLA, which was filed on March 28, 1984. Filed by the Bendix Corporation, the notification was submitted as a protective measure because Bendix believed that the site may have been one of 17 areas where it disposed of industrial waste. The site was evaluated in the form of a preliminary assessment (PA) that was submitted to U.S. EPA. The PA was prepared by Susanne Buthman of the Indiana State Board of Health (ISBH) and is dated June 21, 1985. PA functions in Indiana are now handled by the Indiana Department of Environmental Management (IDEM).

A site inspection (SI) was to be performed at the Linden Road site, including the installation of monitoring wells, but changes in the Pre-Remedial Program strategy shifted the objective of the inspection to an SSI. The SSI was performed to determine the presence or absence of TCL compounds and TAL analytes before drilling is performed as part of a possible listing site inspection (LSI). The SSI of the Linden Road site was conducted on April 5, 1988, under TDD F05-8611-148, issued on November 1, 1986, and amended on April 28, 1988.

The FIT SSI included an interview with site representatives, a reconnaissance inspection of the site, and the collection of ten soil samples and seven 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 and/or environmental threat.

2. SITE BACKGROUND

2.1 INTRODUCTION

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

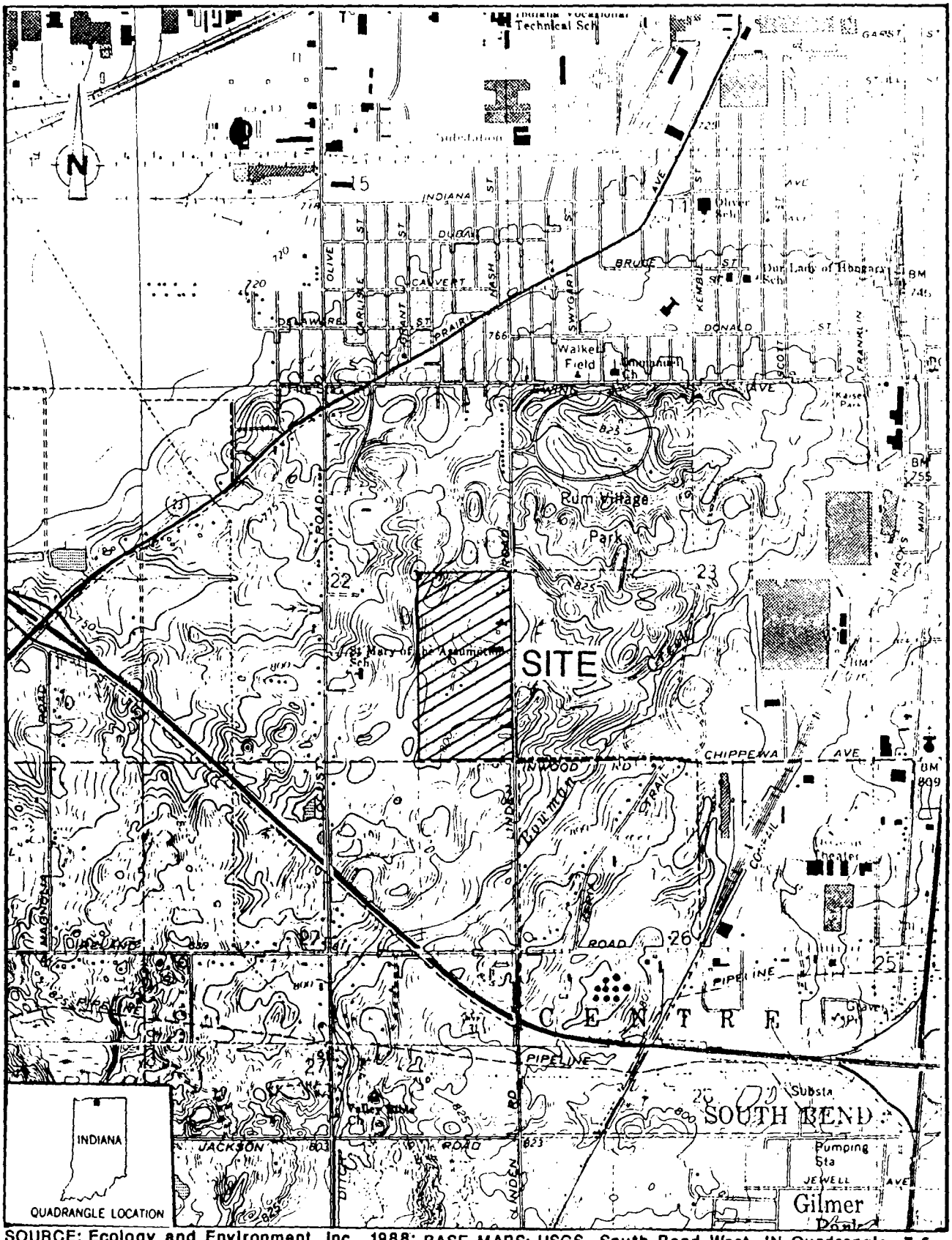
2.2 SITE DESCRIPTION

The Linden Road site consists of four active facilities, all of which were used for storage and/or disposal of industrial waste at one time or another during their history of operations. The four active facilities are Steve and Genes Auto and Truck Parts, a junkyard and auto repair shop; Sturgis Iron and Metal, also a junkyard; Western Avenue Iron and Metal Company/North Side Iron and Paper Company (a single facility), formerly a landfill and now a junkyard; and Weaver Truck and Equipment Company, also a junkyard.

The site is a former dump site where drums were alleged to have been burned, buried and disposed of in an open dump (ISBH 1985). The site is located on a 112-acre parcel of land in a sparsely populated area on the southwestern edge of South Bend, Indiana, in St. Joseph County (SE1/4 sec. 22, T.34N., R.7E.). The site is on Linden Road (aka Gertrude Street) (see Figure 2-1). A 4-mile radius map of the Linden Road site is provided in Appendix A.

2.3 SITE HISTORY

The site was originally identified by the Bendix Corporation in a Form 103(c) notification as encompassing more property than the site is now understood to encompass. During an interview with site representa-



SOURCE: Ecology and Environment, Inc., 1988; BASE MAPS: USGS, South Bend West, IN Quadrangle, 7.5 Minute Series, 1969, USGS, Lakeville, IN Quadrangle, 7.5 Minute Series, 1974.

SCALE

0 0.5 1 MILE

FIGURE 2-1 SITE LOCATION

tives, conducted by Bridget Haugh of FIT, it was indicated that the southern site boundary was even with Chippewa Avenue, which is approximately 1,000 feet north of what had previously been identified as the southern site boundary. The Bendix Corporation filed the 103(c) form based on the recollections of former employees of the company (Bendix Corporation 1984).

Bendix truckers identified 17 sites at which industrial waste was believed to have been disposed. Specific waste types and quantities are not known because of Bendix Corporation's practice of destroying its records after four years during the 1970s (Dagnall 1986). The Linden Road site is also known as the Gertrude Avenue site. The Western Avenue Iron and Metal parcel is mentioned in the Bendix Corporation Form 103(c) (Bendix Corporation 1984).

The Ashland Chemical Company also submitted a Notification of Hazardous Waste Site Form for the Linden Road facility on June 8, 1981. Ashland Chemical indicated that an unknown amount of waste had been disposed of at this site beginning at an unknown date and continuing to 1977 (Ashland Chemical 1981).

Additional file information indicates that during the years from 1962 to 1967, drivers from Stevens Chemical Company, now owned by Ashland Chemical Company, would pick up approximately 30 barrels every 2 weeks from the Miratile Company in Elkhart, Indiana. The content of the barrels was believed to have been flammable liquids. The drivers would allegedly "open the drums, roll them into an earthen pit, ignite them and run." The total number of barrels disposed was approximately 3,900 (Hunter 1985). The exact on-site location of this disposal practice is unknown.

At present, the Linden Road site is divided into four separately owned parcels. The owners are Steven P. Leopald and Eugene Hancz of Steve and Genes Auto and Truck Parts; Delmar Richards of Sturgis Iron and Metal; Albert and Arthur Schulman of Western Avenue Iron and Metal/ Northside Iron and Paper Company (referred to herein as Western Avenue Iron and Metal or Western Avenue); and Bill Weaver of Weaver Trucking Company.

The area of the site known as Steve and Genes is the northernmost parcel of land on the site. Currently, this facility is operating as a

junkyard and auto and truck repair shop. No documentation exists concerning waste types or quantities disposed of at this property; however, Hancz stated in an interview with FIT that the Studebaker Car Company and the Bendix Corporation disposed of wastes on the property approximately 30 to 40 years ago. The property was purchased by Steve and Genes in 1962 from Harold Hagquist (Hancz 1988). No regulatory response-related activities are known to have taken place at this property.

The area of the site known as Sturgis Iron and Metal is the next northernmost parcel of land on-site. At present, Sturgis operates as a scrap metal junkyard. The Sturgis property was purchased from the Superior Companies Investment Corporation within the past year. The parcel was previously operated by Bremen Iron and Metal Company, owned by Charles and Ida Ochstein (Richards 1988). Exact dates of ownership and past disposal practices are unknown. No regulatory-related response activities are known to have taken place at this location.

The area of the site known as Western Avenue Iron and Metal is the third northernmost parcel of land on-site. This parcel is also a junkyard where scrap paper is baled and iron is cut up for recycling (Schulman 1988). The property was purchased in 1968 by Albert and Arthur Schulman who operated a landfill known as Western Avenue Disposal. On August 26, 1971, the ISBH approved a proposal to operate the sanitary landfill. The approval number was SW48. The St. Joseph County Health Department (SJCHD) also approved a permit dated June 7, 1971, for operation of a refuse disposal area at the same location (SJCHD 1971). The permit proposal was prepared by Engineering Planning Services, Inc., of Mishawaka, Indiana, for General Realty Corporation of South Bend, Indiana, believed to have been owned by the Schulmans (Lamm 1976). On September 12, 1970, a representative of ISBH, Division of Water Pollution Control, Industrial Waste Disposal Section, conducted an inspection at the landfill area. The inspection revealed that solvents from the general products division of the Jeep Corporation were being disposed of in a pit at this location (ISBH 1970). An inspection conducted by ISBH on February 23, 1976, discovered that a grayish-blue sludge had been disposed of at the landfill (ISBH 1976). On March 3, 1976, ISBH suspended operations at the landfill for permit violations. Available

file information indicates that no additional regulatory-related response activities have taken place at this parcel of the Linden Road site.

The southernmost parcel of the site is known as Weaver Trucking Company, also known as International Realty. This property is currently operated as a junkyard. The property was purchased by Bill Weaver in 1950 from Arco Auto Carriers. Arco used this property to store Studebaker automobiles (Weaver 1988). There is no other documentation of past disposal practices at this parcel of the Linden Road site. No regulatory-related response activities are known to have taken place at this parcel.

The exact dates of ownership and prior operations at each parcel are unknown. Documented file information recording past disposal practices at each parcel is lacking.

3. SCREENING SITE INSPECTION PROCEDURES AND FIELD OBSERVATIONS

3.1 INTRODUCTION

This section outlines procedures and observations of the SSI of the Linden Road 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 Linden Road site is provided in Appendix B. The U.S. EPA Immediate Removal Action Checksheet for the Linden Road site is provided in Appendix C.

3.2 SITE REPRESENTATIVE INTERVIEW

Steven E. Anderson, FIT team leader, conducted interviews with several site representatives on April 5, 1988. An interview was conducted with Delmar Richards at the Sturgis Iron and Metal property at 3113 Gertrude Street at 8:30 a.m. A second interview was conducted with Eugene Hancz at Steve and Genes Auto/Truck Repair property at 3109 Gertrude Street at 9:30 a.m. Present at both interviews were Gordon Ferguson, Phillip Smith, and John Nordine, all of FIT. Telephone interviews with site representatives Arthur Schulman and Bill Weaver were also conducted. The telephone interviews were conducted to aid FIT in gathering information necessary to complete the SSI Report.

3.3 RECONNAISSANCE INSPECTION

Following the site representative interviews, FIT conducted reconnaissance inspections of the individual properties that constitute the Linden Road site. The properties were inspected 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 needed to conduct on-site activities and to make observations to aid in characterizing the site. FIT also determined exact sampling locations during the reconnaissance inspection.

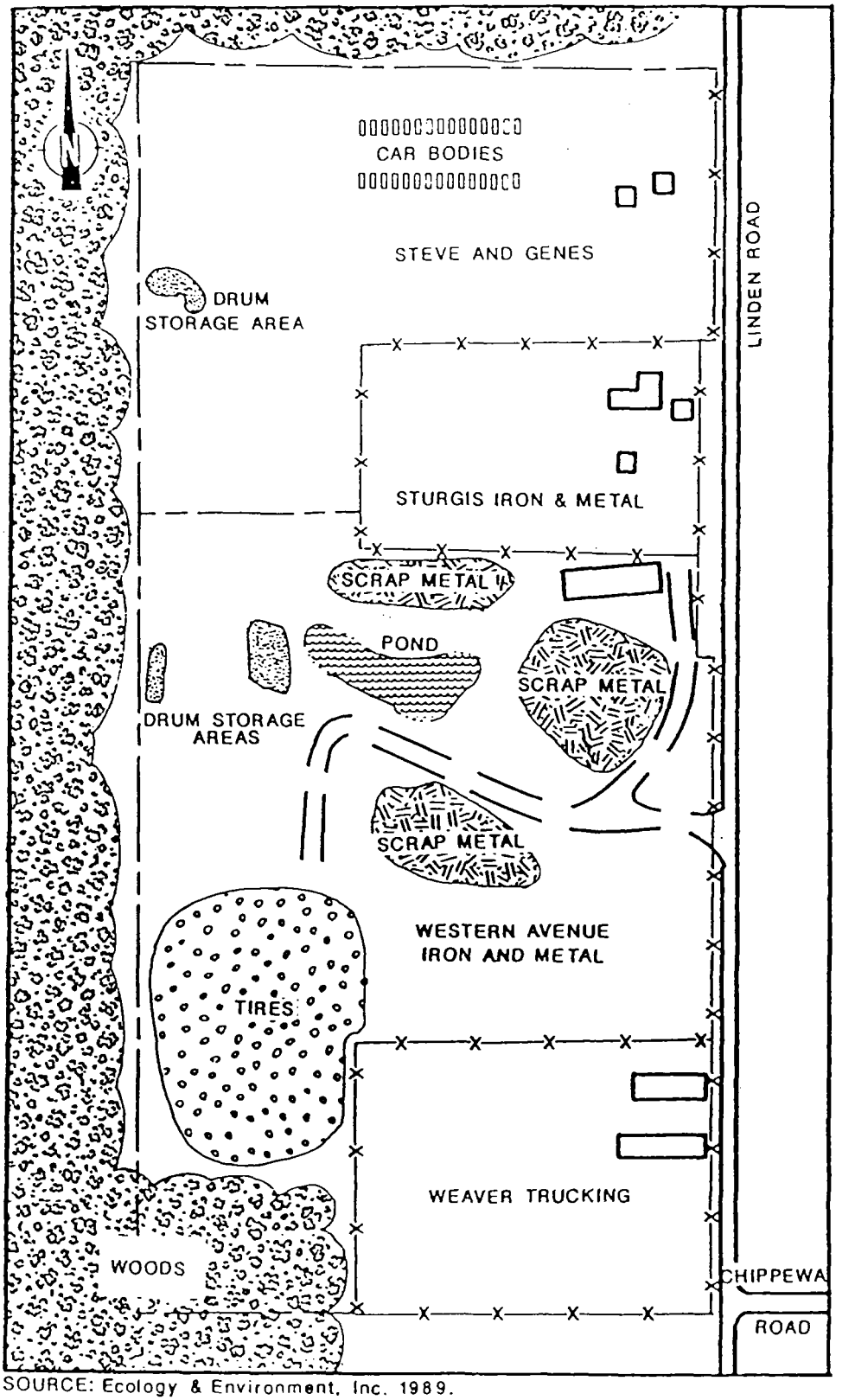
The reconnaissance inspection was begun on April 5, 1988, at 8:00 a.m. During the reconnaissance inspection of the Sturgis Iron and Metal property, FIT was accompanied by Delmar Richards. During the reconnaissance inspections of the other three properties, FIT was not accompanied by any site representatives.

Reconnaissance Inspection Observations. The Linden Road site is located in an area of gently rolling hills and is surrounded by wooded areas. Residences are scattered throughout the vicinity of the site. Land use surrounding the site is agricultural, residential, and industrial (see Figure 3-1 for locations of site features).

The site is bordered on the east by Linden Road (aka Gertrude Street). On the north, south, and west, the site is surrounded by wooded areas.

The Sturgis Iron and Metal property and the Weaver Trucking property are both surrounded by chain link fences with locking gates. The Steve and Genes property and the Western Avenue Iron and Metal property have chain link fences with locking gates along their eastern border facing Linden Road. No fence was discerned on the western or northern boundaries of the Steve and Genes property or on the northern, southern, or western boundaries of the Western Avenue property. No 24-hour security guard is employed at any of the properties; however, security dogs were observed at the Weaver Trucking property and the Steve and Genes property.

The Steve and Genes property has a large number of scrap automobile bodies on it. Additionally, on the southwestern edge of the Steve and Genes property in a wooded area, FIT observed a drum storage area. In



SOURCE: Ecology & Environment, Inc. 1989.

SCALE
0 500 1000 1500 2000 FEET

FIGURE 3-1 SITE FEATURES

an interview, Eugene Hancz identified the 55-gallon drums as old asphalt drums. Approximately 150 drums were counted by FIT at the storage area. Some of the drums were crushed and many drums were missing lids. The drums were stored directly on the ground with no evidence of any engineered containment structure.

The Sturgis Iron and Metal facility is essentially an open field without grass cover, littered with small pieces of scrap metal.

The Western Avenue property was covered by large piles of scrap metal. FIT observed a pond in the center of the property. The pond was bordered by a marshy area to the north and west. The southwestern portion of the Western Avenue property was a large open field littered with scattered piles of tires. Also, at least three 55-gallon drums were observed in the tire field area. On the western edge of the property, two separate drum storage areas were observed. A western drum storage area contained approximately 50, 55-gallon drums. Some of the drums in this area had weathered labels on them such as "American Cyanamid" and "Malthion Concrete." An eastern drum area contained approximately 70, 55-gallon drums. Some labels on the drums in this pile were "Caustic Sodas," "Union Carbide polypropylene glycol," and "Valvoline motor oil." The drums in this area were in a deteriorated physical condition; many were crushed and without lids.

The Weaver Truck property was covered by scrap car, bus, and airplane bodies. A 55-gallon capacity drum was also observed on this property. The southern portion of the Weaver property was covered with grass. A local resident alleged that the Bendix Corporation had deposited foundry sand on the open field. Additionally, it has been indicated to FIT that soil or possibly fill material removals have taken place at this field. There is a slight ridge along the Weaver property's southern fence that slopes down to the open field. An area resident indicated that this ridge is the previous elevation of the field (Berta 1988).

Photographs of the Linden Road site are provided in Appendix D.

3.4 SAMPLING PROCEDURES

Samples were collected by FIT at locations determined during the reconnaissance inspection to determine levels of U.S. EPA Target

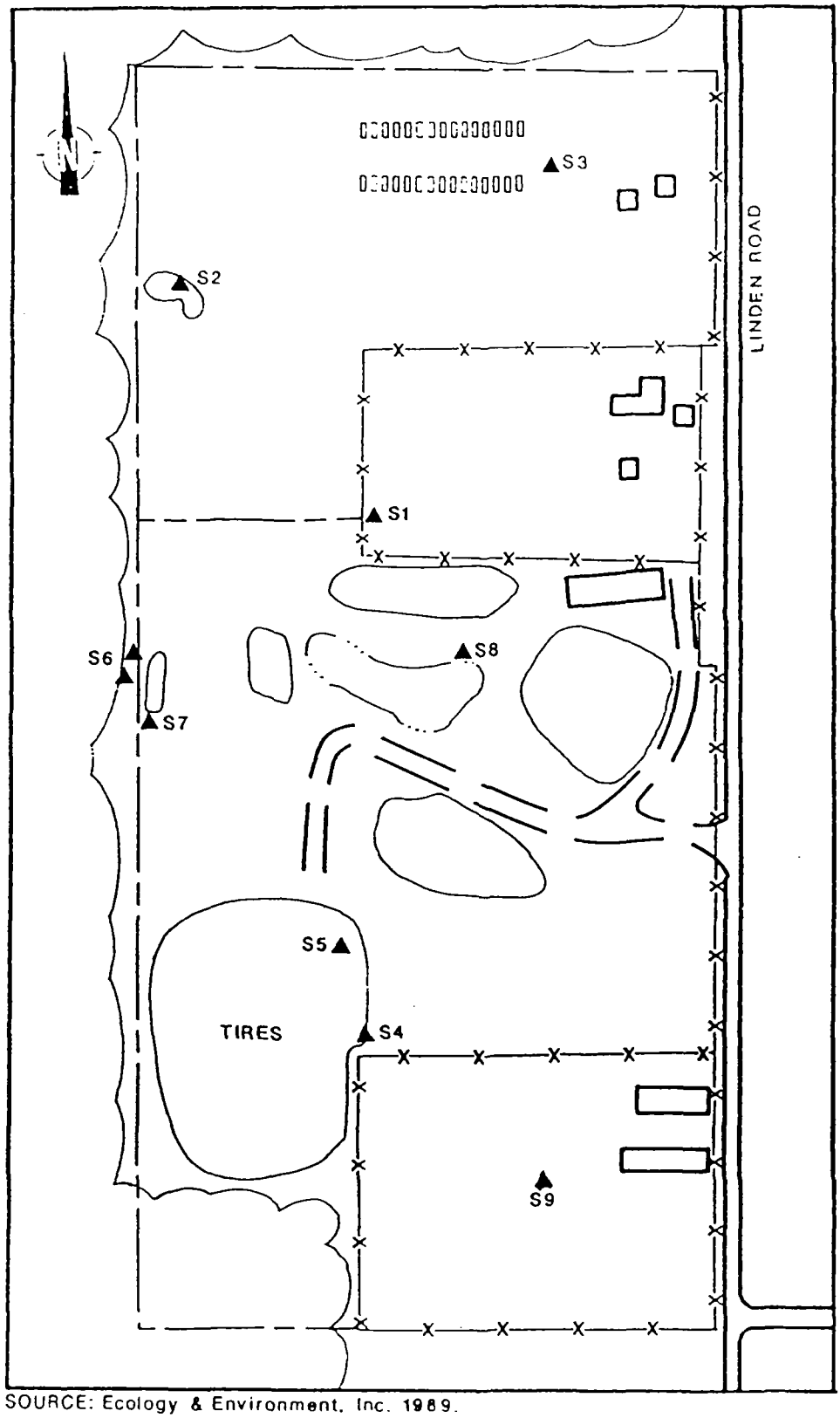
Compound List (TCL) compounds and U.S. EPA Target Analyte List (TAL) analytes present at the site. The TCL and TAL are provided in Appendix E.

On April 5, 1988, FIT collected five surface soil samples, three sediment samples, one subsurface soil sample, and one potential background soil sample. On April 5, 1988, FIT also collected samples from seven residential wells. Portions of samples were offered to site representatives but were declined.

Soil Sampling Procedures. Surface soil sample S1 was collected on the southwestern corner of the Sturgis Iron and Metal property in a small ditch (see Figure 3-2 for on-site soil sampling locations). Surface soil sample S2 was collected at the base of the drum storage area on the Steve and Genes property. Surface soil sample S3 was a composite soil sample collected at the base of a hill on the Steve and Genes property. Surface soil sample S4 was a surficial sediment sample collected from a marshy area just east of the tire field on the Western Avenue Iron and Metal property. Soil sample S5 was collected from a red-brown leachate seep in the tire field at the Western Avenue property. Subsurface soil sample S6 was collected at a depth of approximately 2 feet at the base of the northern side of the western drum disposal area on the Western Avenue Iron and Metal property.

Surface soil sample S7 was collected at the southern side of the western drum disposal area on the Western Avenue Iron and Metal property. Surface sediment sample S8 was collected at the northern edge of the pond on the Western Avenue Iron and Metal property. Surface soil sample S9 was collected at the base of the drum on the Weaver Truck property. A potential background soil sample, S10, was collected in a wooded area approximately 1,500 feet southeast of the site (see Figure 3-3 for the off-site soil sampling location).

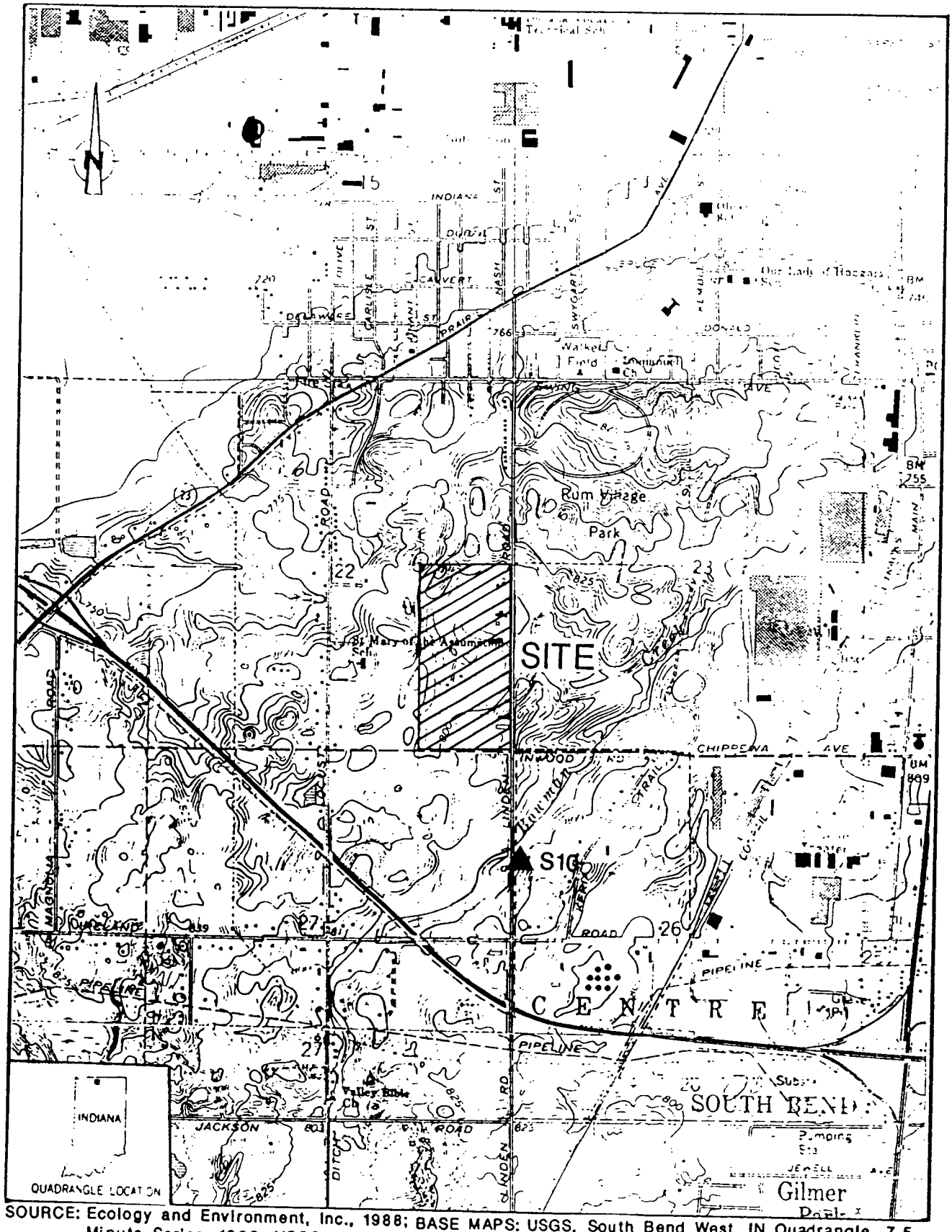
Sample S1 was collected to determine whether TCL compounds or TAL analytes had been deposited in the ditch from any surface runoff. Samples S2, S6, S7, and S9 were collected at drum disposal areas to determine whether the drums may have contained TCL compounds and/or TAL analytes that had leaked onto the soil. Sample S3 was collected to assess whether surface runoff at the Steve and Genes facility may have deposited TCL compounds and/or TAL analytes at the base of the slope.



SOURCE: Ecology & Environment, Inc. 1989.

SCALE
0 500 1000 1500 2000 FEET

FIGURE 3-2 ON-SITE SOIL SAMPLING LOCATIONS



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SCALE
0 0.5 1 MILE

FIGURE 3-3 OFF-SITE SOIL SAMPLING LOCATION

Sample S4 was collected to determine whether the marshy area adjacent to the tire field contained TCL compounds and/or TAL analytes. Sample S5 was collected from a red-brown leachate seep to determine whether any TCL compounds and/or TAL analytes were present in the leachate seep. Sample S8 was collected to assess whether hazardous materials may have been deposited in the pond or were carried into the pond via surface water runoff or groundwater recharge.

The potential background soil sample, S10, was collected to determine the representative chemical content of the soil of the area surrounding the site. The location was chosen because the ground surface appeared to be in an undisturbed state.

Samples S1, S2, S3, S4, S5, S7, S9, and S10 were obtained using a garden trowel to dig to an approximate depth of 6 inches. Soil from the shallow excavated hole was transferred to a stainless steel bowl with the trowel. The soil was then transferred to sample bottles from the bowl using the trowel and stainless steel spoons.

Sample S6 was collected using a bucket auger to auger to an approximate depth of 2 feet. Soil from this depth was then transferred to a stainless steel bowl from the borehole. A garden trowel and a stainless steel spoon were then used to transfer the sample material from the stainless steel bowl to sample bottles.

Sample S8 was collected using a shovel to scoop sediment from the pond benthos. The sediment was then placed in a stainless steel bowl and transferred from the bowl to sample bottles using a garden trowel and a stainless steel spoon.

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

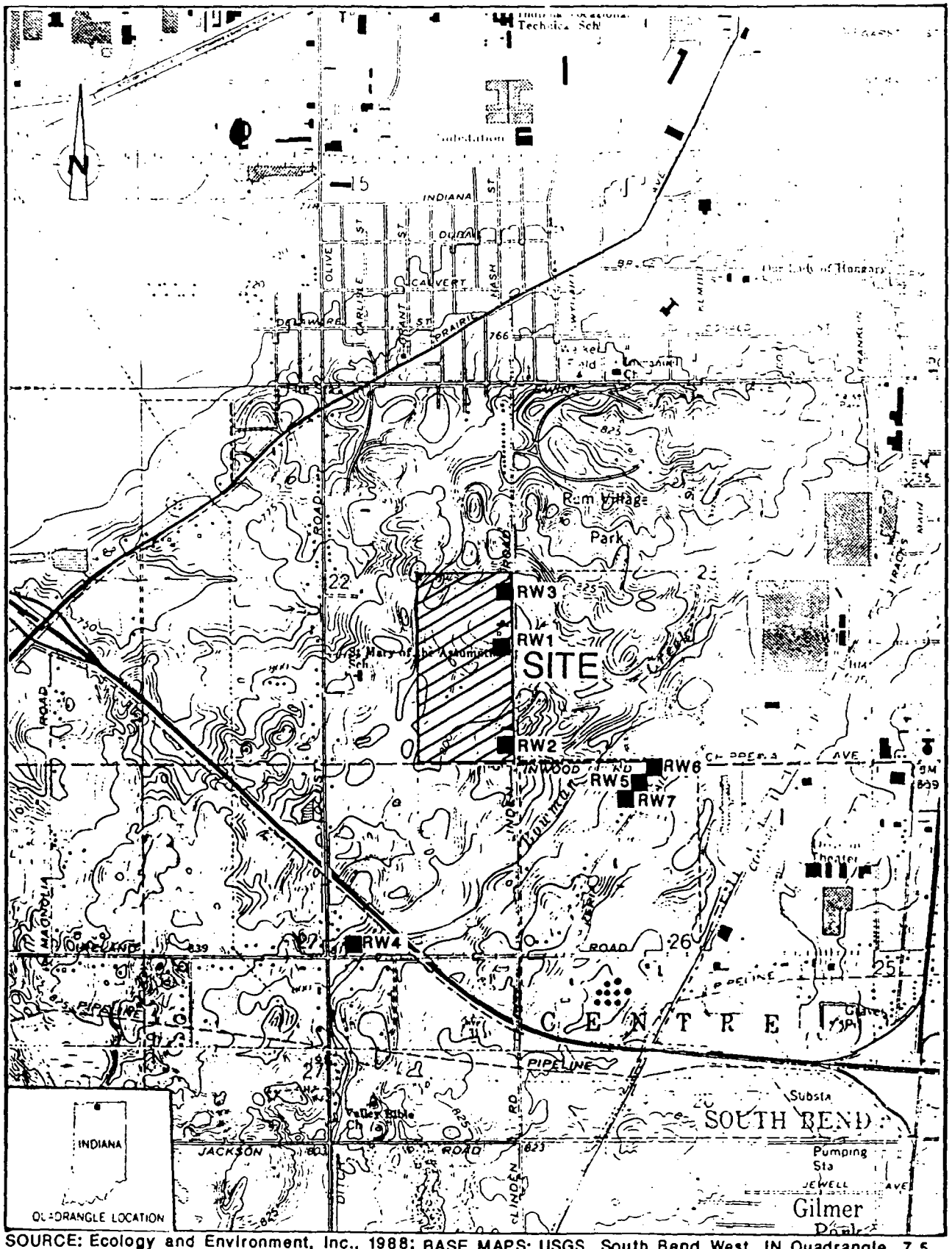
As directed by U.S. EPA, all soil samples were analyzed for TCL compounds by Environmental Monitoring Systems of Indianapolis, Indiana, and for TAL analytes by Northern Labs and Engineering of Valparaiso, Indiana.

Residential Well Sampling Procedures. Residential well samples (indicated as RW1, RW2, RW3, RW4, RW5, RW6, and RW7) were collected to determine whether TCL compounds and/or TAL analytes had migrated from the site via groundwater.

The residential well sampling locations were chosen because of their proximity to the site and based on residential well availability. Samples RW1, RW2, and RW3 were collected from wells on-site (see Figure 3-4 for residential well sampling locations). Sample RW4 was collected approximately 2,500 feet southwest of the site. Samples RW5, RW6, and RW7 were collected approximately 1,500 feet southeast of the site. A field blank and a duplicate residential well sample were also collected in accordance with U.S. EPA quality assurance/quality control (QA/QC) requirements. The duplicate sample was collected at location RW1 (see Table 3-1 for addresses of residential well sampling locations).

All residential well samples were obtained from outlets that by-passed water treatment systems and/or storage tanks. The water was allowed to discharge from the outlets for 15 minutes before samples were collected to ensure that the sample sources had been purged of standing water. 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 Enseco/California Analytical Laboratory of West Sacramento, California, and for TAL analytes by U.S. EPA Central Regional Laboratory of Chicago, Illinois.



SOURCE: Ecology and Environment, Inc., 1988; BASE MAPS: USGS, South Bend West, IN Quadrangle, 7.5 Minute Series, 1969, USGS, Lakeville, IN Quadrangle, 7.5 Minute Series, 1974.

SCALE
0 0.5 1 MILE

FIGURE 3-4 RESIDENTIAL WELL SAMPLING LOCATIONS

Table 3-1

ADDRESSES OF RESIDENTIAL WELL
SAMPLING LOCATIONS

Sample	Address
RW1	P.O. Box 545 South Bend, IN 46624
RW2	P.O. Box 5 South Bend, IN 46624
RW3	non-responsive (Ex. 6)
RW4	
RW5	
RW6	
RW7	

Source: Ecology and Environment, Inc. 1989.

4. ANALYTICAL RESULTS

4.1 INTRODUCTION

This section includes results of chemical analysis of FIT-collected soil samples and residential well samples for TCL compounds and TAL analytes.

4.2 RESULTS OF CHEMICAL ANALYSIS OF FIT-COLLECTED SAMPLES

Chemical analysis of FIT-collected soil samples revealed substances from the following groups of TCL compounds and TAL analytes: sulfur hydrocarbons, halogenated hydrocarbons, aromatics, pesticides, polychlorinated biphenyls, other inorganic compounds, polyaromatic hydrocarbons (PAHs), phthalates, metals, common laboratory artifacts, and common soil constituents (see Table 4-1 for complete soil sample chemical analysis results).

Analysis of FIT-collected residential well samples revealed substances from the following groups of TCL compounds and TAL analytes: halogenated hydrocarbons, polyaromatic hydrocarbons, metals, and common groundwater constituents (see Table 4-2 for complete residential well sample chemical analysis results).

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

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

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Date	4/5/88	4/5/88	4/5/88	4/5/88	4/5/88	4/5/88	4/5/88	4/5/88	4/5/88	4/5/88
Time	0850	0940	1005	1140	1205	1300	1340	1510	1545	1630
Organic Traffic Report Number	EW306	EW307	EW308	EW309	EW310	EW311	EW312	EW313	EW314	EW315
Inorganic Traffic Report Number	MEW826	MEW827	MEW828	MEW829	MEW830	MEW831	MEW832	MEW833	MEW834	MEW835
Compound Detected (values in µg/kg)										
Volatile Organics										
methylene chloride	5J	8	3J	--	--	--	2J	3J	2J	3J
carbon disulfide	17	29	3J	--	--	--	--	1J	--	--
1,1,1-trichloroethane	1J	1J	--	--	--	--	--	--	--	--
tetrachloroethene	5	1J	--	--	--	--	--	--	--	--
toluene	3J	--	--	--	--	--	--	--	4J	6
xylenes (total)	--	--	--	--	--	--	--	--	--	2J
Semivolatile Organics										
1,4-dichlorobenzene	--	--	--	--	--	38J	--	--	--	--
1,2-dichlorobenzene	320J	--	--	--	--	--	--	--	--	--
naphthalene	31J	610J	200J	--	19J	--	--	29J	--	--
2-methylnaphthalene	36J	--	1,300	--	13J	--	--	18J	--	--
acenaphthylene	--	--	51J	--	--	--	--	--	--	--
acenaphthene	24J	1,800J	140J	--	110J	--	--	--	--	--
dibenzofuran	16J	930J	53J	--	37J	--	--	--	--	--
diethylphthalate	17J	--	--	--	--	--	--	--	150J	24J
fluorene	25J	2,400J	350J	--	120J	--	--	--	--	--
phenanthrene	520	32,000	1,500	--	1,300	--	--	34J	--	--
anthracene	160J	9,500	220J	--	390J	--	--	--	--	--
di-n-butylphthalate	97J	--	300J	--	35J	--	--	33J	160J	100J
fluoranthene	1,200	57,000	91J	--	2,400	--	--	54J	--	--
pyrene	1,500	35,000	1,800	--	3,700	--	--	76J	--	--
butylbenzylphthalate	250J	--	2,400	--	--	--	--	350J	110J	--
benzo[a]anthracene	810	22,000	480J	--	980	--	--	--	--	--
chrysene	570	23,000	770J	--	1,000	--	--	72J	--	--
di-n-octylphthalate	--	--	3,200	--	--	--	--	--	--	--
benzo[b]fluoranthene	1,600	43,000	870	--	1,200	--	--	--	--	--
benzo[k]fluoranthene	500	--	--	--	710	--	--	--	--	--
benzo[a]pyrene	800	20,000	--	--	1,100	--	--	--	--	--
indeno[1,2,3-cd]pyrene	1,100	13,000	--	--	1,000	--	--	--	--	--
dibenzo[a,h]anthracene	--	2,100J	--	--	--	--	--	--	--	--
benzo[g,h,i]perylene	1,200	14,000	--	--	1,100	--	--	--	--	--
Pesticides/PCBs										
Heptachlor	--	--	--	--	--	--	2.1J	--	--	--
Heptachlor epoxide	--	--	--	--	1.1J	--	--	--	--	--

Table 4-1 (Cont.)

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
4,4'-DDE	--	--	--	--	--	--	6.4J	110	--	--
4,4'-DDD	--	--	--	--	7.0J	--	--	130	--	--
4,4'-DDT	--	--	--	--	13J	--	12J	110	--	--
alpha Chlordane	--	--	--	--	--	--	2.0J	--	--	--
gamma Chlordane	--	--	--	--	--	--	5.6J	--	--	--
Aroclor 1248	250J	1,800	170J	--	--	--	--	--	--	--
Aroclor 1254	1,000	4,800	190J	--	--	--	--	--	--	--
Analyte Detected (values in mg/kg)										
aluminum	4,020	8,900	4,520	9,510	5,830	17,300	4,650	2,120	3,670	3,750
antimony	21NJ	82NJ	11NJ	--	--	--	--	--	--	--
arsenic	4.5NJ	15NJ	5.3NJ	4.6NJ	3.3NJ	--	--	10NJ	3.9NJ	--
barium	127	736	185	83	87	76	[33]	[27]	47	[38]
cadmium	12	51	7.7	3.7	4	3.7	2.2	2.9	6.2	1.5
calcium	11,900	26,900	13,100	4,840	25,200	2,300	[1,100]	49,700	32,500	1,480
chromium	74	191	14	13	12	21	7.2	8.6	7.9	5.0
cobalt	[3.4]	13	[6.6]	[4.8]	[5.4]	[5.6]	[3.7]	[2.6]	[5.3]	[2.3]
copper	166	513	66	8.0	17	12	6.8	12	27	--
iron	29,200	98,400	18,900	13,400	13,900	15,100	10,700	11,500	12,100	4,890
lead	585	1,840	479	26	154	18	26	25	82	18
magnesium	3,070	7,700	3,790	2,090	10,500	2,900	[720]	25,600	11,000	[598]
manganese	1,480	3,130	530	468	353	92	329	155	697	388
mercury	.46N*J	1.6N*J	.18N*J	.16N*J	.13N*J	--	--	--	[.1]N*	[.1]N*
nickel	32	72	23	[9.1]	12	15	[3.7]	12	[8.2]	[4.4]
potassium	[270]	[830]	[501]	[624]	[605]	[552]	[195]	[315]	[392]	[203]
silver	8.2	2.8	--	--	[1]	--	--	[.6]	--	[.8]
sodium	[207]	[318]	[407]	[82]	[156]	[99]	[88]	[246]	[87]	[78]
vanadium	[7.3]	24	9.4	21	13	32	14	[4.8]	[9.7]	[7.5]
zinc	1,320	3,810	737	56	197	42	29	82	62	26
cyanide	--	9.9	--	--	--	--	--	--	--	--

-- Not detected.

Table 4-1 (Cont.)

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

ANALYTE QUALIFIERS	DEFINITION	INTERPRETATION
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.
J	Value is above CRDL and is an estimated value because of a QC protocol.	Value may be semiquantitative.

Source: Ecology and Environment, Inc. 1989.

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

Sample Collection Information and Parameters	Sample Number RW1	RW2	RW3	RW4	RW5	RW6	RW7	Blank	Duplicate
Date	4/5/88	4/5/88	4/5/88	4/5/88	4/5/88	4/5/88	4/5/88	4/5/88	4/5/88
Time	1115	1200	1220	1315	1440	1545	1615	1235	1115
Organic Traffic Report Number	EW316	EW318	EW319	EW320	EW321	EW322	EW323	EW324	EW317
Central Regional Laboratory Number	88FA16S31	88FA16S32	88FA16S33	88FA16S34	88FA16S35	88FA16S36	88FA16S37	88FA16R04	88FA16D31
Temperature (°C)	10	11	11	12	12	12	10	14	10
Specific Conductivity (µmhos)	520	655	490	400	400	250	450	0	520
pH	7.30	7.13	7.11	7.26	7.54	7.04	7.50	5.30	7.30
Compound Detected (values in µg/L [ppb])									
Volatile Organics									
acetone	--	3JB	--	--	--	--	--	--	--
1,1,1-trichloroethane	--	--	10	--	--	--	--	--	--
toluene	2	2	1	1	--	--	2	3	1
Semivolatile Organics									
naphthalene	--	3	--	--	--	--	--	--	--
Analyte Detected (values in µg/L)									
barium	26.9	37.1	25.9	33.2	29.4	14.8	40.5	--	27.2
cadmium	--	1.6	--	--	--	--	.2	--	--
calcium	78,000	104,000	77,900	73,000	66,400	47,000	63,200	--	78,000
copper	12.7	44.9	--	6.5	7.3	31.9	21.8	--	12.9
iron	102	119	--	--	--	--	498	--	--
lead	--	--	--	--	--	--	6.4	--	--
magnesium	26,600	37,800	27,000	28,200	19,200	13,500	19,300	--	26,400
manganese	--	--	--	--	--	--	5.49	--	--
sodium	18,600	20,300	17,100	3,480	21,300	5,900	32,400	--	18,400
zinc	761	2,150	793	--	431	207	608	--	710

-- Not detected.

Table 4-2 (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).

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/or TAL analytes that may be attributable to the Linden Road site.

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

5.2 GROUNDWATER

TCL compounds and TAL analytes were detected in groundwater within a 1-mile radius of the site, but do not appear to be attributable to the Linden Road site.

A potential does exist for TCL compounds and/or 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 were detected on-site in surface soil, subsurface soil, and sediment samples collected by FIT. TCL compounds and TAL analytes were also detected in groundwater samples collected by FIT from residential wells in the area. Cadmium, lead, and zinc detected in well samples may be attributable to the site. These compounds were detected in both on-site soil samples and residential well samples in the area of the site. Residential well samples collected may all be upgradient because general groundwater flow is in a northwesterly direction toward Lake Michigan; however, local groundwater flow is unknown. No monitoring wells were available for sampling or determining groundwater flow.

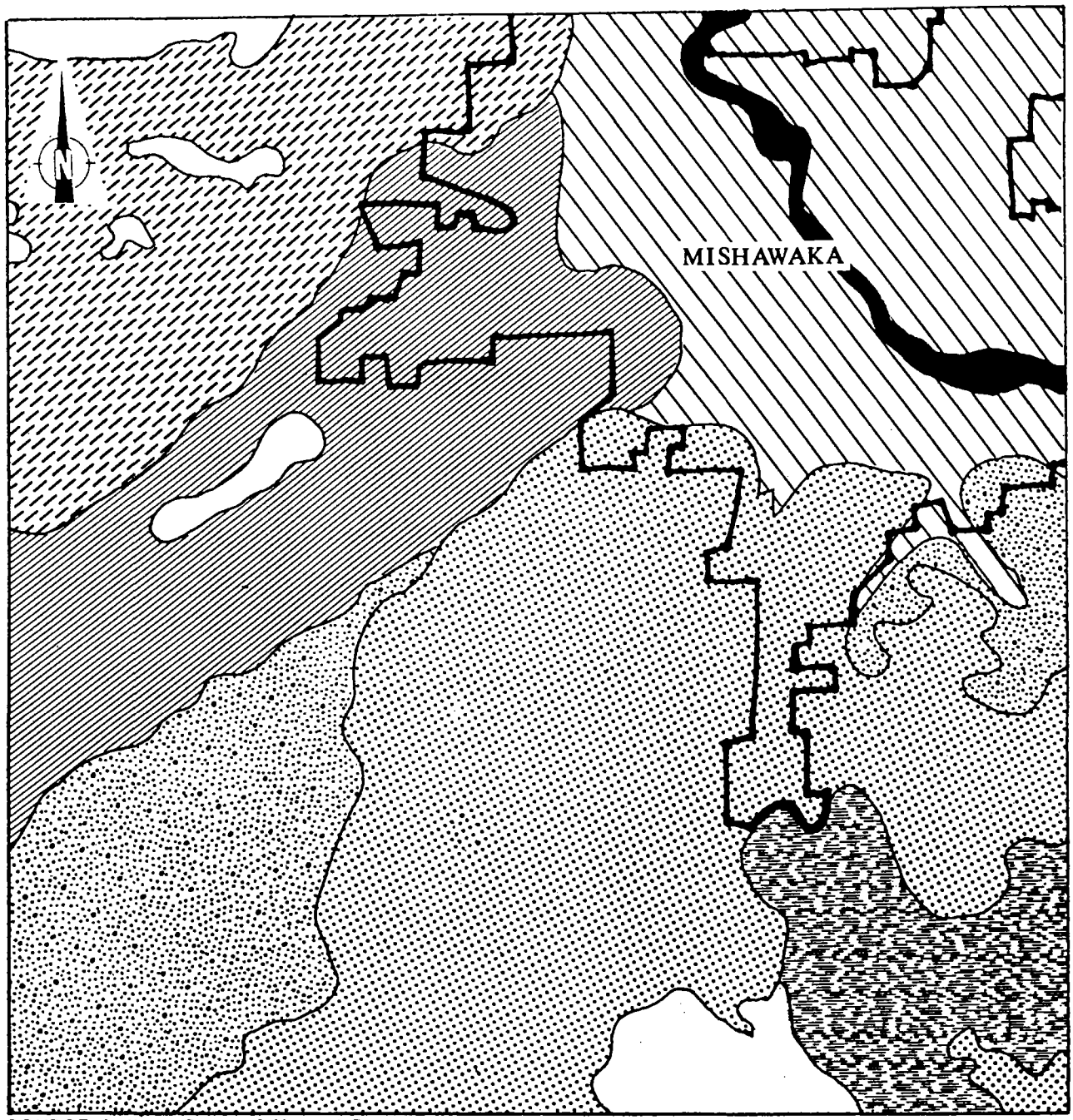
Elevated levels of TCL compounds and TAL analytes were detected in soil samples collected on-site. Some of the specific compounds and concentrations detected include phenanthrene at 32,000 µg/kg, fluoranthene at 57,000 µg/kg, Aroclor 1254 at 4,800 µg/kg, chromium at 191 mg/kg, and lead at 1,840 mg/kg (refer to Table 4-1 for a complete listing of chemical analysis of all FIT-collected soil samples). Available information indicates that no type of liner has been used at this site. Information on disposal practices and visual observations of 55-gallon drums in a state of deterioration indicate that containment of waste has not been adequate and that no means of engineered containment exists at the site. The high permeability of the unsaturated zone and a very high water table in the area may facilitate migration of TCL compounds and TAL analytes to the groundwater.

Regionally in the St. Joseph County area, groundwater is derived from unconsolidated glacial deposits of Quaternary age, consisting of four hydrologically connected units designated, in descending order, as Units 1, 2, 3, and 4 (see Figure 5-1 for surficial geology of the area) (Hunn and Rosenshein 1969). The aquifer in this system has been named the St. Joseph Aquifer System and designated a Sole Source Aquifer in the South Bend area by the U.S. EPA (53 FR 26382, June 23, 1988). The units are as follows.

- Unit 1: Unit 1 is not present in St. Joseph County and has no role in the area of the site.

- Unit 2: Unit 2 is a silty, sandy, somewhat clayey till unit containing continuous lenses of sand and gravel of small areal extent. At the site area, it forms dissected ground and terminal moraines and is exposed at the surface in approximately half of the 4-mile radius area. Unit 2 is utilized locally for limited domestic and farm water supplies. Thickness of the unit ranges from 0 to 140 feet, averaging 50 feet.

- Unit 3: Unit 3 is a sand and gravel unit locally containing thick clays of small areal extent and is the principal



SOURCE: Indiana Dept. of Natural Resources, 1972.

SCALE

0 1 2 3 4 5 MILES

LEGEND

- MUCK OR SILT OVER SAND AND GRAVEL
- GRAVEL, SAND, SILT
- GRAVEL, SAND, SILT; VALLEY-TRAIN DEPOSITS
- GRAVEL, SAND, SILT; OUTWASH-PLAIN DEPOSITS
- SAND, GRAVEL, TILL
- GROUND MORAINE DEPOSITS

FIGURE 5-1 SURFICIAL GEOLOGY MAP OF MISHAWAKA, INDIANA AREA

aquifer underlying St. Joseph County. The aquifer is surficial, except in half the area overlain by Unit 2 in the southeastern part of the county, where it is artesian. Unit 3 is utilized extensively in St. Joseph County for municipal, domestic, and farm water supplies. Thickness ranges from 10 to 250 feet, averaging 120 feet.

- Unit 4: Unit 4 is a clay till containing zones of sand and gravel, which are discontinuous and small in areal extent. This unit, underlying 90% of St. Joseph County, is never exposed at the surface. This unit is used locally as a source for industrial, municipal, and occasionally, domestic and farm water supplies. For most of St. Joseph County, however, Unit 3 is a better producer. Thickness of Unit 4 ranges from 0 to 300 feet, and averages 80 feet.

A review of area well logs and pertinent technical reports indicate that the principal aquifer in the area, Unit 3, is composed of glaciofluvial sand and gravel locally interbedded with thick zones of clay (Rosenshein and Hunn 1962). This unit, the aquifer of concern (AOC), is surficial in the immediate area of the site, where it is an unconfined water table aquifer averaging 150 feet in thickness. Elsewhere within the 4-mile radius, the AOC is a confined artesian-type aquifer, overlain by 50 to 150 feet of Unit 2 deposits (Hunn and Rosenshein 1969). Well logs within the 4-mile radius show depth to water ranging from 18 to 100 feet depending upon the occurrence and thickness of Unit 2 overburden.

The potential targets of groundwater contamination include two groups: residents of the city of South Bend and a population drawing on groundwater outside the water distribution boundaries for South Bend.

The city of South Bend has approximately 30 wells, five of which are within a 3-mile radius of the site. Water from the wells is blended before distribution. All five of the wells draw from the aquifer of concern and range in depth from 175 feet to 206 feet. The city of South Bend supplies water to approximately 127,000 people. The city of South Bend blends it water (Callas 1987). Additionally, there is a population drawing on groundwater outside the water distribution

boundaries of South Bend. Based on USGS maps of the South Bend East, Indiana, 1986 Quadrangle, the South Bend West, Indiana, and the Wakarusa, Indiana, 1961 Quadrangles, 587 houses were counted in the 3-mile radius outside South Bend water distribution boundaries. 1980 Census information for St. Joseph County indicates an average of 2.68 persons per household can be used to calculate the population. A total of approximately 1,573 persons are served by private wells drawing from the aquifer of concern. The total groundwater target population includes the population served by municipal water and the population drawing from private wells and totals approximately 130,000 persons.

5.3 SURFACE WATER

Surface water samples were not collected during the SSI of the Linden Road site; however, a sediment sample (S8) was collected from an unnamed pond located in a depression on the Western Avenue Iron and Metal property. TCL compounds and TAL analytes were detected in this sample. The substances detected in sample S8 may be attributable to the site. Most of the compounds and analytes detected in the sediment sample from the pond were also detected in soil samples collected on-site. The concentrations of these compounds and analytes in S8 are well above the concentrations detected in the potential background sample (S10). Waste was deposited at this site in the form of liquid, solid, and sludge (Hunter 1985), which may have facilitated migration of substances to the on-site pond. Topography at the site is relatively flat.

Two unnamed bodies of water on-site have a potential to receive surface water runoff and/or drainage from on-site disposal areas because they are located in depressions. Intervening terrain between the on-site ponds and off-site surface water bodies would appear to preclude the potential for migration of TCL compounds and TAL analytes. In addition, no overland migration route between the site and off-site surface water bodies exists based on intervening terrain and the relatively flat topography of the site.

No documentation was available concerning use of on-site surface water bodies. Other surface water bodies within the 3-mile radius

include Bowman Creek, Warton Lake, and the St. Joseph River. These bodies of water have recreational uses (Hunter 1985). No surface water intakes for drinking water are located within a 3-mile radius of the site.

5.4 AIR

A release of TCL compounds and/or TAL analytes to the air was not documented during the SSI of the Linden Road site. During the reconnaissance inspection, FIT site-entry instruments (OVA 128, hydrogen cyanide monitor, oxygen meter, 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 potential does exist for eolian forces to carry TCL compounds and/or TAL analytes detected in surface soil samples from the site.

5.5 FIRE AND EXPLOSION

Assistant Chief Bernie Dobski of the South Bend Fire Department stated in a phone conversation with Ron Short of FIT that at the time of his inspection, no flammable or explosive materials were present on-site (Dobski 1987). 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, there is no documentation of an incident of direct contact with TCL compounds and/or TAL analytes at the Linden Road site. A potential does exist for the public to come into direct contact with TCL compounds and/or TAL analytes detected at the site. The potential for direct contact is based on the following information:

- Access to the site is not completely restricted; no 24-hour security guards are used, but security dogs were observed at two of the four site properties;

- The site is not completely fenced; and

- TCL compounds and TAL analytes have been detected at levels above background in surface and subsurface soil samples collected at the site.

According to calculations based on a USGS topographic map (South Bend West, Indiana, 1980 Quadrangle) of the area of the site, the population within a 1-mile radius of the site is approximately 174 persons. The figure for residents outside the South Bend municipal limits was obtained by multiplying 65 counted houses by the St. Joseph County Census average of 2.68 persons per household.

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2008:7

APPENDIX A

SITE 4-MILE RADIUS MAP

SDMS US EPA Region V

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APPENDIX B

U.S. EPA FORM 2070-13

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	0980904221

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Linden Rd. Site	Linden Rd & Chippewa Rd

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
South Bend	IN	46614	ST. Joseph	141	003

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Check one)
41° 38' 20.5	086° 16' 30.5	■ A. PRIVATE ☐ B. FEDERAL ____ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER ____ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
4 15 88 (MONTH DAY YEAR)	■ ACTIVE ☐ INACTIVE	UNKNOWN ~1977 (BEGINNING YEAR, ENDING YEAR) ____ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA ■ B. EPA CONTRACTOR Ecology & Environment (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.
Steve Anderson	Geologist	E+E Inc	(312) 663-9415

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
John Nordine	Geologist	E+E Inc	(312) 663-9415
Gordon Ferguson	Bacteriologist	E+E Inc	(312) 663-9415
Tim Mayers	Geographer	E+E Inc	(312) 663-9415
Phil Smith	Geologist	E+E Inc	(312) 663-9415
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Delmer Richards	site Owner	Box 579, Sturgis, MI	(616) 651-7851
Bill Weaver	site Owner	3700 Gertrude, St South Bend IN.	(219) 288-8304
Arthur and Albert Schulman	site Owner	3701 Gertrude, ST South Bend IN	(219) 288-1490
Eugene Hanc Z	site Owner	3703 Gertrude, ST South Bend IN	(219) 288-1565
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
■ PERMISSION ☐ WARRANT	8:00 AM	Clear skies ~60°F winds ~10 mph Westerly

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Harry Atkinson	IDEM	317-232-8927

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Matt Arnold	U.S.E.P.A	E+E INC	312 663-9415	11 20 88 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

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
OCC	Fluoranthene	206-44-0	" "	57000	ug/Kg
OCC	pyrene	129-00-0	" "	35,000	ug/Kg
OCC	butylbenzylphthalate	85-68-7	" "	2,400	ug/Kg
OCC	benzo[a]anthracene	56-55-3	" "	22,000	ug/Kg
OCC	chrysene	218-01-9	" "	23,000	ug/Kg
OCC	di-n-octylphthalate	117-84-0	" "	3200	ug/Kg
OCC	benzo[b]fluoranthene	205-99-2	" "	43,000	ug/Kg
OCC	benzo[k]fluoranthene	207-08-9	" "	710	ug/Kg
OCC	benzo[a]pyrene	50-32-8	" "	29000	ug/Kg
OCC	indeno[1,2,3-cd]pyrene	193-39-5	" "	13,000	ug/Kg
OCC	dibenzo[a,h]anthracene	53-70-3	" "	2100 J	ug/Kg
OCC	benzo[g,h,i]perylene	191-24-2	" "	14,000	ug/Kg
Pest	heptachlor	76-44-8	" "	2.1 J	ug/Kg
Pest	Heptachlor epoxide	1024-57-3	" "	1.1 J	ug/Kg
Pest	4,4'-DDE	72-55-9	" "	110	ug/Kg
Pest	4,4'-DDT	72-54-8	" "	130	ug/Kg
Pest	alpha Chlordane	5103-71-9	" "	2.0 J	ug/Kg
Pest	gamma Chlordane	5103-74-2	" "	5.6 J	ug/Kg
PCB	Aroclor 1248	12672-29-6	" "	1,800	ug/Kg
PCB	Aroclor 1254	11097-69-1	" "	4,800	ug/Kg
Metal	antimony	7440-36-0	" "	82 NJ	mg/Kg
Metal	arsenic	7440-38-2	" "	15 NJ	mg/Kg
Metal	cadmium	7440-43-9	" "	51	mg/Kg
Metal	chromium	7440-47-3	" "	191	mg/Kg
Metal	cobalt	7440-48-4	" "	[6.6]	mg/Kg
Metal	copper	7440-50-8	" "	513	mg/Kg
Metal	Lead	7439-92-1	" "	1,840	mg/Kg
Metal	Manganese	7439-96-5	" "	3130	mg/Kg
Metal	Mercury	7439-97-6	" "	1.6 N*J	mg/Kg
Metal	Nickel	7440-02-0	" "	73	mg/Kg
Metal	silver	7440-22-4	" "	8.2	mg/Kg
Metal	vanadium	7440-62-2	" "	24	mg/Kg
IOC	cyanide	57-12-5	" "	9.9	mg/Kg
Metal	Zinc	7440-66-6	" "	3810	mg/Kg

All values listed represent the highest concentration for each contaminant.
* denotes duplicate values outside QC protocols
J denotes an estimated value

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D980904221

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

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

TONS UNKNOWN
CUBIC YARDS UNKNOWN
NO. OF DRUMS ~273

03 WASTE CHARACTERISTICS (Check all that apply)

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

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	UNKNOWN	N/A	
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	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SOL	carbon disulfide	75-15-0	F.I.T. collected soil	29	ug/Kg
SOL	1,1,1 trichloroethane	71-55-6	samples on 4-5-88	1 J	ug/Kg
SOL	tetrachloroethene	127-18-4		5	ug/Kg
SOL	xylenes	1330-02-7		2 J	ug/Kg
OCC	1,4-dichlorobenzene	106-46-7	"	38 J	ug/Kg
OCC	1,2-dichlorobenzene	95-50-1	"	320 J	ug/Kg
OCC	naphthalene	91-20-3	"	610 J	ug/Kg
OCC	2-methylnaphthalene	95-48-7	"	1300	ug/Kg
OCC	acenaphthylene	208-96-8	"	51 J	ug/Kg
OCC	acenaphthene	83-32-9	"	1800 J	ug/Kg
OCC	dibenzofuran	132-64-9	"	930 J	ug/Kg
OCC	diethylphthalate	84-66-2	"	150 J	ug/Kg
OCC	fluorene	86-73-7	"	2400 J	ug/Kg
OCC	phenanthrene	85-01-8	"	32000	ug/Kg
OCC	anthracene	120-12-7	"	9500	ug/Kg
OCC	di-n-butylphthalate	84-74-2	"	300 J	ug/Kg

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	N/A		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

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

E+E FIT files
Site inspection conducted by F.I.T on 4-5-88

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IN	980904422 1

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ■ A. GROUNDWATER CONTAMINATION ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~130,000
04 NARRATIVE DESCRIPTION
The potential exists due to TCL compounds and TAL Analytes detected in FIT collected soil samples on site. Permeable conditions exist in the unsaturated zone throughout the site area. The aquifer of concern in the area of the site is in sand and gravel and wells draw from depths of 50 to 150 feet deep.

01 ■ B. SURFACE WATER CONTAMINATION 02 ■ OBSERVED (DATE: 4-5-88) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0
04 NARRATIVE DESCRIPTION
TCL compounds and TAL analytes were detected in an unnamed surface water body on site. This body of water, an on-site pond, is not connected to any other water body. No over land migration route to off site surface water seems to exists, there are no surface water intakes within the three mile radius.

01 ■ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____
04 NARRATIVE DESCRIPTION
No documented release to the air exists, E+E FIT site entry equipment did not identify a release to the air at the time of the site inspection.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0
04 NARRATIVE DESCRIPTION
Assistant Fire Chief Dobski of the South Bend Fire department visited the site and indicated that there were no flammable or explosive conditions on site. FIT entry equipment (explosimeter) did not detect a fire or explosion threat

01 ■ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~174
04 NARRATIVE DESCRIPTION
A potential exists due to TCL and TAL analytes detected in FIT collected soil samples on site. Also the site is not entirely fenced and there are no guards on duty 24 hours.

01 ■ F. CONTAMINATION OF SOIL 02 ■ OBSERVED (DATE: 4-5-88) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: ~112
04 NARRATIVE DESCRIPTION
Results of chemical analysis for FIT collected soil samples shows the presence of TCL compounds and TAL Analytes in soil on-site.

01 ■ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~130,000
04 NARRATIVE DESCRIPTION
A potential exists for drinking water contamination due to TCL and TAL compounds and analytes detected in soil samples collected on-site. Municipal and residential wells are located within 3 miles. Groundwater is the only source for drinking water in the area. see A above

01 ■ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: UNK
04 NARRATIVE DESCRIPTION
A potential for worker exposure injury exists due to the presence of TCL compounds and TAL analytes detected in FIT collected on site soil samples.

01 ■ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 130,000
04 NARRATIVE DESCRIPTION
A potential exists for population exposure/injury to occur.

See parts A and E above

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IN	980904221

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ■ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
A potential for damage to flora exists due to the presence of TCL compounds and TAL analytes detected in on-site FIT collected soil samples.

01 ■ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
TCL compounds and TAL analytes were detected in on-site soil samples. Also a unnamed body of water on site was affected. This body of water may be used for drinking by indigenous fauna.

01 ■ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Species hunted for sustenance may come in contact with TAL analytes and/or TCL compounds detected on-site.
See J and K above

01 ■ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ■ OBSERVED (DATE: 4-5-88) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~130,000 — 04 NARRATIVE DESCRIPTION
55 gallon capacity drums were observed in a state of deterioration during the site inspection. Many were opened and spilled on the ground. There is no liner at the site.

01 ■ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
No damage to offsite property was reported or observed; however, the potential exists for TCL compounds and/or TAL analytes to migrate offsite.

01 ■ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
A potential exists for contamination of sewers. The site is on the city sewer system and TAL analytes & TCL compounds have been detected on site.

01 ■ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) POTENTIAL ■ ALLEGED
04 NARRATIVE DESCRIPTION
A potential exists that illegal/unauthorized dumping occurred. This site has accepted waste since 1940, and the history of past disposal practices for most of this time period is unknown.

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

None

III. TOTAL POPULATION POTENTIALLY AFFECTED: ~130,000

IV. COMMENTS

Total population includes the municipal well service distribution area and private wells within the three mile radius. The principal routes of concern include the potential for groundwater contamination and direct contact.

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

E+E FIT Files
E+E FIT Site Inspection 4-5-88

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D9809044221

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
■ G. STATE (Specify)	SW-84	8-26-71	unknown	Indiana State Heath
■ H. LOCAL (Specify)	UNKNOWN	8-26-71	unknown	Countyhealth Department
☐ 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	~273	55 gal
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
■ F. LANDFILL	unknown	—
☐ G. LANDFARM		
■ H. OPEN DUMP	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 NONE (Specify)

05 OTHER

- ■ A. BUILDINGS ON SITE: 8 buildings

06 AREA OF SITE: ~112 (Acres)

07 COMMENTS

Amounts are unknown due to inadequate records of past disposal practices.
A large amount of tires and general metal refuse was obseved on all properties of the site through out the inspection

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 site has no liner. Approximatley 273 drums were observed in a state of deterioration.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ■ YES ☐ NO

02 COMMENTS

The site is not completely fenced and does not employ a 24 hour security guard

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

E+E FIT site Inspection 4-5-88.
E+E FIT Files.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D980904221

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)	SURFACE	WELL	02 STATUS ENDANGERED	AFFECTED	MONITORED	03 DISTANCE TO SITE
COMMUNITY	A. ☐	B. ■	A. ☐	B. ☐	C. ■	A. ~1/4 (mi)
NON-COMMUNITY	C. ☐	D. ■	D. ☐	E. ■	F. ☐	B. ~1/4 (mi)

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 ~139,000

03 DISTANCE TO NEAREST DRINKING WATER WELL ON site (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
~18 (ft)	Northeast	~18 (ft)	UNKNOWN (gpd)	■ YES ☐ NO

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

Private wells in the area range in depth from 36 to 150 feet and draw from sand and gravel. Municipal wells in the area range in depth from 150 to 200 feet and are also drawing from sand and gravel. The municipal water system is used for residential and commercial uses.

10 RECHARGE AREA		11 DISCHARGE AREA	
■ YES ☐ NO	COMMENTS Locally recharge occurs through precipitation to groundwater via the unsaturated zone	☐ YES ■ NO	COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

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

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
unnamed pond on-site	■	on site (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. ~174 NO. OF PERSONS	B. ~9000 NO. OF PERSONS	C. ~40,000 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION .05 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE ~350

04 DISTANCE TO NEAREST OFF-SITE BUILDING 1/4 (mi)

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)

Both rural and urban populations are included within the 3 mile radius of this site. The site is located just outside South Bend Ind.

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D980904221

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
4 (in)	2.5 (in)	≤ 3 %	N/A	≤ 3% %

09 FLOOD POTENTIAL

SITE IS IN N/A YEAR FLOODPLAIN

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

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: A. N/A (mi) OTHER: B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

N/A (mi)

ENDANGERED SPECIES: None

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. 0 (mi)	B. N/A (mi)	C. N/A (mi)	D. N/A (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

See Appendix A – 4-mile radius map.

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

E+E FIT Files
E+E FIT Site Inspection. (4-5-88)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IN	D980904422L

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	7	ENSCO CAL Sacramento CA / Central Regional Lab CHICAGO IL.	Available
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL		ENV. Monitoring Systems Indianapolis / Northern Labs and Engineering Valparaiso IN.	Available
SOIL	9		
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
OVA-128	No readings above background
Explosimeter	0% LEL
Hydrogen cyanide Monitor	Zero ppm readings on site
Radiation Monitor	No readings above background
Oxygen meter	21% reading on site (Not above background)

IV. PHOTOGRAPHS AND MAPS

01 TYPE ■ GROUND ■ AERIAL

02 IN CUSTODY OF Ecology and Environment INC
(Name of organization or individual)

03 MAPS ☐ YES ☐ NO

04 LOCATION OF MAPS Ecology + Environment INC. FIT Files, Chicago ILL.

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

None

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

E+E Site Inspection - 4-5-88

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D980904221

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
STEVEN P. Leopold/Eugene Hancz		3109 Gertrude Street		South Bend	IN	46614
Bill Weaver		P.O. Box 5		South Bend	IN	46614
Delmer Richmond		P.O. BOX 579		Sturgis	MI	49091
Albert + Arthur Schulman		P.O. Box 545		South Bend	IN	46624

PARENT COMPANY (If applicable)

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

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

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Superior Companies INC.						
Arco Auto Carriers						
Harold Haggvist						

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

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
General Reality				South Bend	IN	46614
International Reality				South Bend	IN	46614

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

E+E FIT FILES CHICAGO

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
IN	D980904221

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
Albert + Arthur Schulman	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
P.O. Box 545	

05 CITY	06 STATE	07 ZIP CODE
South Bend	IN	46624

08 YEARS OF OPERATION	09 NAME OF OWNER
	Albert + Arthur Schulman

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER
N/A	

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
Bremen Iron + Metal Co.	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
3113 Gertrude St	

05 CITY	06 STATE	07 ZIP CODE
South Bend	IN	46624

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD
UNKNOWN	Charles + Ida Ochstein

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER
N/A	

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

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER
N/A	

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

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER
N/A	

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

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER
N/A	

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

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER
N/A	

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)

E+E FIT Files CHICAGO
E+E Site Inspection 4-5-88

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IN	D980904422 1

II. ON-SITE GENERATOR

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

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Allied/Bendix Corp		401 N Bendix Drive		South Bend	IN	46634
Miratile		unknown		Elkhart	IN	
Ashland Chemical Co.		P.O. Box 2219		Columbus	OH	43216
N/A						

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Bendix Corp		401 N Bendix Drive		South Bend	IN	46634
N/A						
Stevens Chemical		unknown		unknown		
N/A						

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

E+E FIT Files Chicago

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IN	D980964221

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ D. SPILLED MATERIAL REMOVED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ F. WASTE REPACKAGED 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ H. ON SITE BURIAL 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ L. ENCAPSULATION 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ N. CUTOFF WALLS 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION N/A	02 DATE	03 AGENCY
01 ☐ Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION N/A	02 DATE	03 AGENCY

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IN	D980904221

II PAST RESPONSE ACTIVITIES (Continued)

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

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

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

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

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

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

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

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

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

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

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

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

NONE

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

E+E FIT Site Inspection (4-5-88) Log Book
E+E FIT Files

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
IN	IN980904221

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ■ NO

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

None

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

E+E FIT Files

APPENDIX C

U.S. EPA
IMMEDIATE REMOVAL ACTION
CHECKSHEET

Immediate Removal Action Check Sheet

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

Comments:

#1 - Site is not completely fenced, but guard dogs were observed by FIT. Several homes are located adjacent to the site area.

#2 - More than 150 deteriorating and rusted drums were observed on-site.

#3 - TCL compounds and TAL analytes were detected in on-site surface soil samples. The potential exists for these substances to migrate into the aquifer comprised of shallow unconsolidated glacial deposits.

APPENDIX D

FIT SITE PHOTOGRAPHS

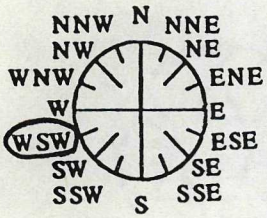
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME Linden Road Site PAN: F I N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 0850

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

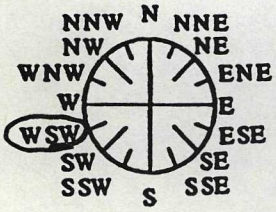
SAMPLE ID# (if applicable) S1

DESCRIPTION: Surface grab sample collected at southwest corner of Sturgis Iron & Metal property, a close up photograph.

DATE April 5, 1988

TIME (2400) 0850

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) S1

DESCRIPTION: Surface grab sample collected at southwest corner of Sturgis Iron & Metal property, a perspective photograph.

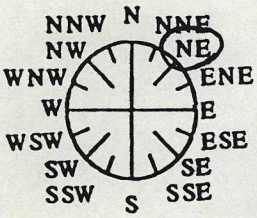
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME Linden Road Site PAN: F I N 0 4 5 1 S A

DATE April 5, 1988.

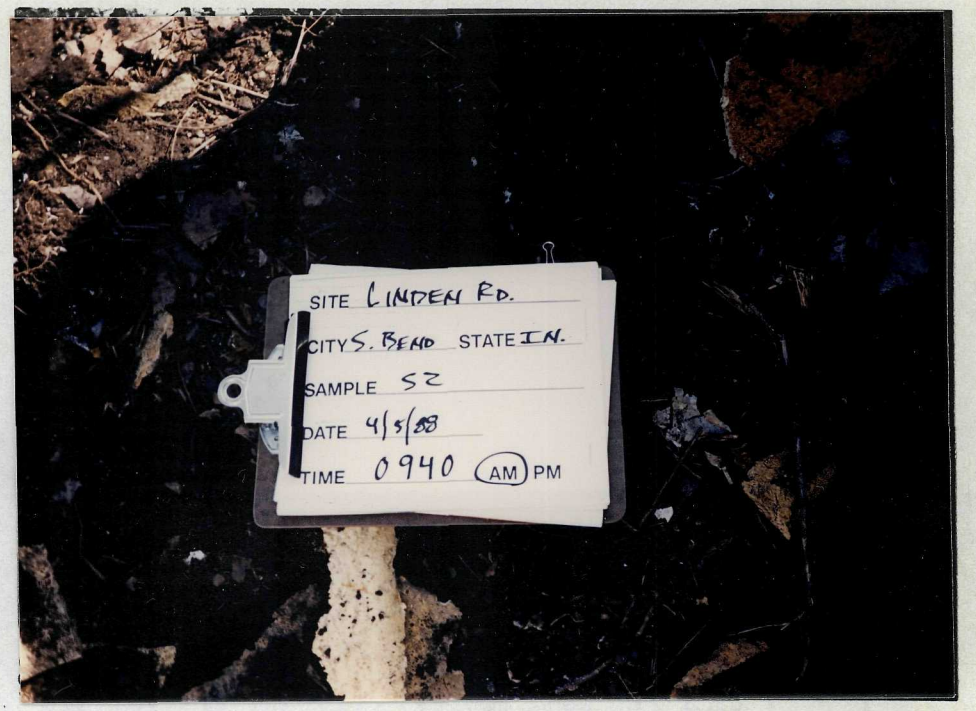
TIME (2400) 0940

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) S2

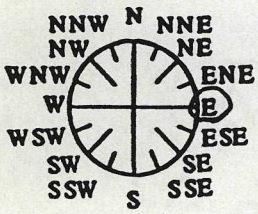


DESCRIPTION: Surface soil collected in drum storage area on Steve and Gene's Auto-Truck Parts property, a close-up photograph.

DATE April 5, 1988

TIME (2400) 0940

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) S2

DESCRIPTION: Surface soil collected in drum storage area on Steve and Gene's Auto-Truck Parts property, a perspective photograph.

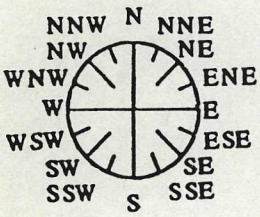
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME Linden Road Site PAN: F I N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1005

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

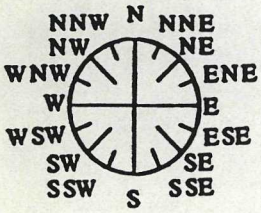
SAMPLE ID# (if applicable) S3

DESCRIPTION: Composite surficial soil sample collected from Steve and Gene's Auto-Truck Parts property, a close-up photograph

DATE April 5, 1988

TIME (2400) 1005

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) S3

SEE PAGE FOUR PHOTO

DESCRIPTION:

FIELD PHOTOGRAPHY LOG SHEET

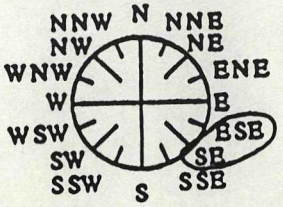
SITE NAME Linden Road. Site

PAN: F 1 N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1005

PHOTO DIRECTION



PHOTOGRAPHED BY:

S. Anderson

SAMPLE ID#
(if applicable)

S3

DESCRIPTION: Composite surficial soil sample collected from Steve and Gene's Auto-Truck Parts property, panorama photographs.

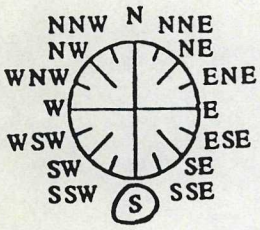
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME Linden Road Site PAN: F 1 N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1140

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

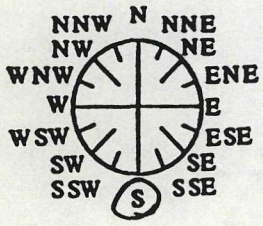
SAMPLE ID# (if applicable) S4

DESCRIPTION: A grab surface soil sample collected on the southern edge of the Western Avenue Iron and Metal property, a close-up photograph.

DATE April 5, 1988

TIME (2400) 1140

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) S4

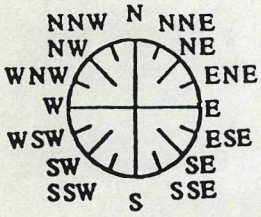
DESCRIPTION: A grab surface soil sample collected on the southern edge of the Western Avenue Iron and Metal property, a perspective photograph.

SITE NAME Linden Road Site PAN: F 1 N 0 4 5 1 S A

DATE April 5, 1988.

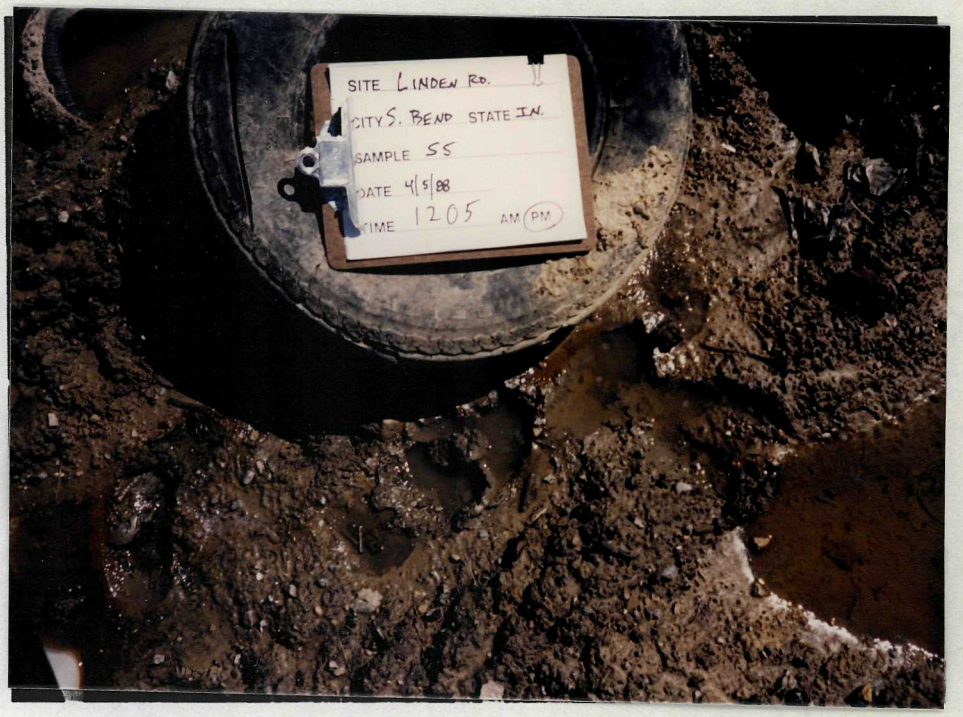
TIME (2400) 1205

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) S5

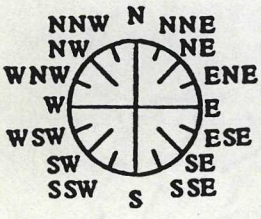


DESCRIPTION: A grab surficial soil sample collected from a red-brown leachate seep on the Western Avenue Iron and Metal property, a close-up photograph

DATE April 5, 1988

TIME (2400) 1205

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) S5

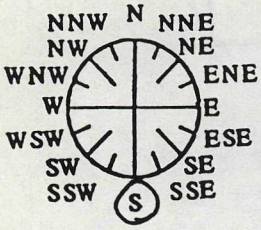
DESCRIPTION: A grab surficial soil sample collected from a red-brown leachate seep on the Western Avenue Iron and Metal property, a perspective photograph.

SITE NAME Linden Road Site PAN: F 1 N 0 4 5 1 S A

DATE April 5, 1988.

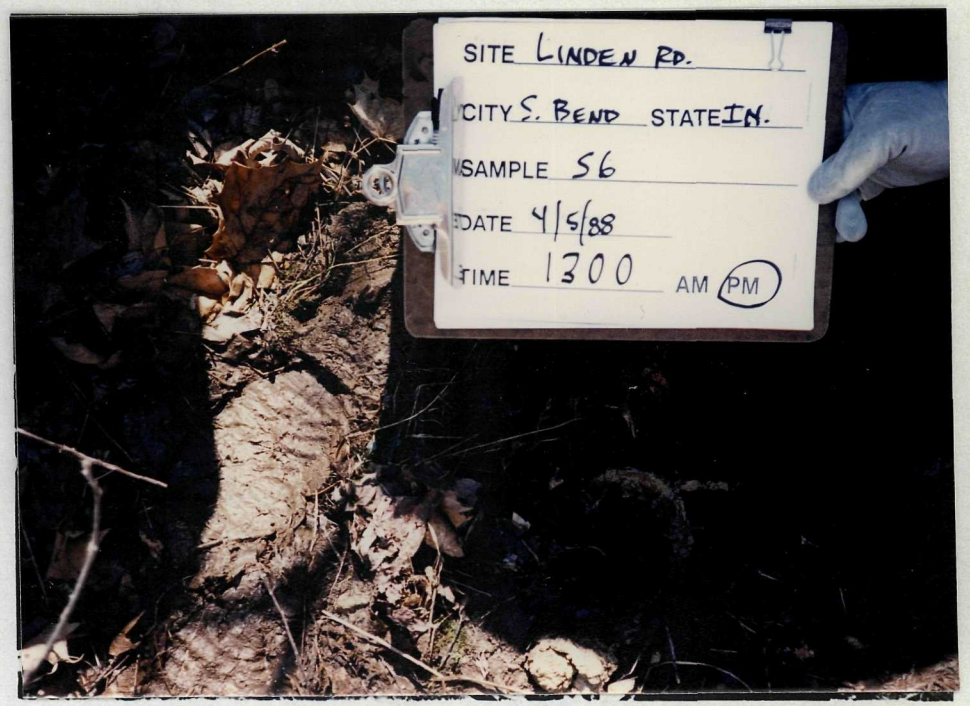
TIME (2400) 1300

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) S6

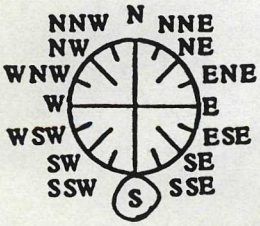


DESCRIPTION: A grab soil sample collected at ~1' depth on the Western Avenue Iron & Metal property, a close-up photograph.

DATE April 5, 1988

TIME (2400) 1300

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) S6

DESCRIPTION: A grab soil sample collected at ~1' depth on the Western Avenue Iron & Metal property, a perspective property.

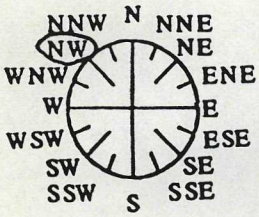
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME Linden Road Site PAN: F 1 N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1340

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

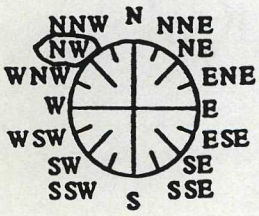
SAMPLE ID# (if applicable) S7

DESCRIPTION: A grab surficial soil sample collected on the Western Avenue Iron & Metal property, a close up property.

DATE April 5, 1988

TIME (2400) 1340

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) S7

DESCRIPTION: A grab surficial soil sample collected on the Western Avenue Iron & Metal property, a perspective photograph.

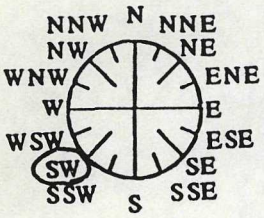
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME Linden Road Site PAN: F 1 N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1510

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

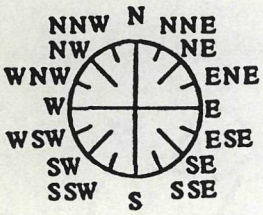
SAMPLE ID# (if applicable) S8

DESCRIPTION: A grab surficial soil sample collected in a marsh on the Western Avenue Iron & Metal property, a close-up photograph.

DATE N/A

TIME (2400) N/A

PHOTO DIRECTION



PHOTOGRAPHED BY: N/A

SAMPLE ID# (if applicable) N/A

NO PHOTO

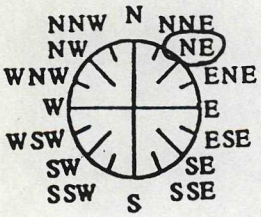
DESCRIPTION: N/A

SITE NAME Linden Road Site PAN: F I N 0 4 5 1 S A

DATE April 5, 1988.

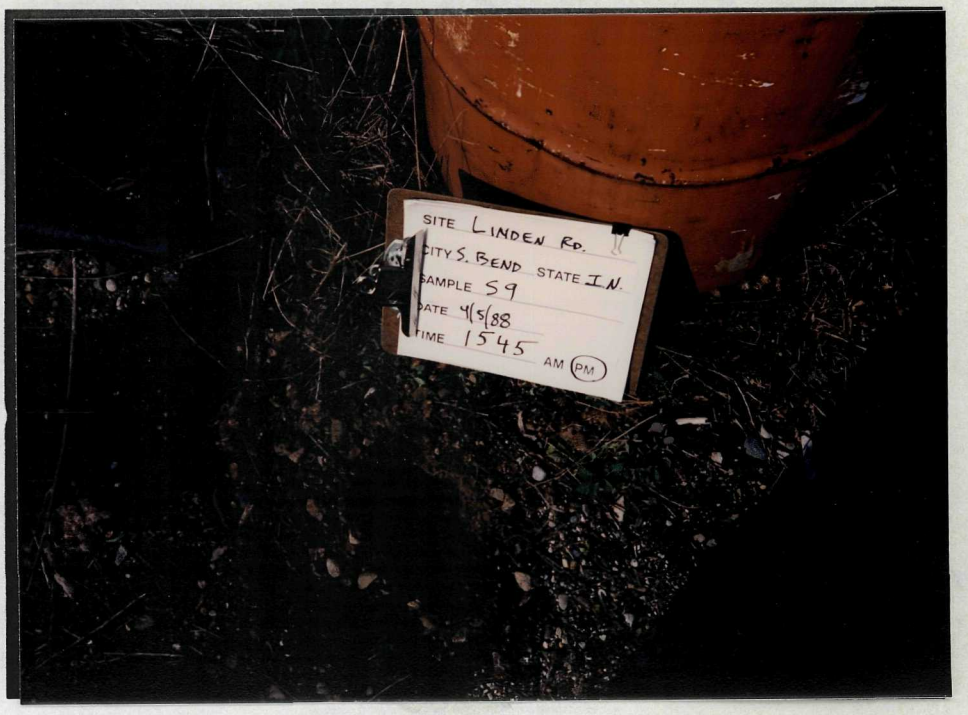
TIME (2400) 1545

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) S9

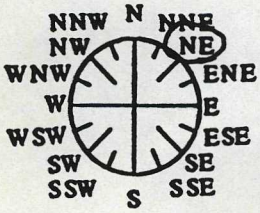


DESCRIPTION: A surficial soil sample collected near the base of a 55 gallon drum on the Weaver Truck and Equipment property, a close-up photograph.

DATE April 5, 1988

TIME (2400) 1545

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) S9

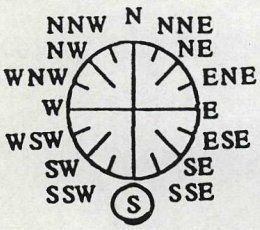
DESCRIPTION: A surficial soil sample collected near the base of a 55 gallon drum on the Weaver Truck and Equipment property, a perspective photograph.

SITE NAME Linden Road Site PAN: F 1 N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1630

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

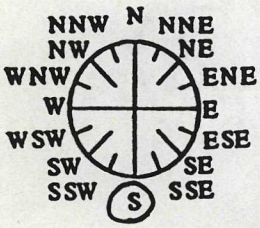
SAMPLE ID# (if applicable) S10

DESCRIPTION: A surficial grab potential background soil sample, a close-up photograph.

DATE April 5, 1988

TIME (2400) 1630

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) S10

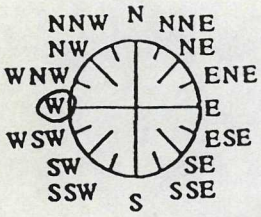
DESCRIPTION: A surficial grab potential background soil sample, a close up photograph

SITE NAME Linden Road Site PAN: F I N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1115

PHOTO DIRECTION



PHOTOGRAPHED BY: P. Smith

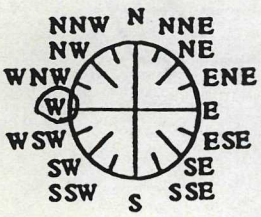
SAMPLE ID# (if applicable) RW1 & DUP

DESCRIPTION: Close-up of RW1.

DATE April 5, 1988

TIME (2400) 1115

PHOTO DIRECTION



PHOTOGRAPHED BY: P. Smith

SAMPLE ID# (if applicable) RW1 & DUP

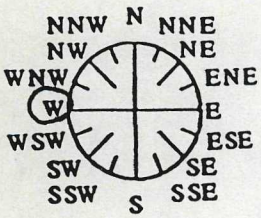
DESCRIPTION: Perspective of RW1.

SITE NAME Linden Road Site PAN: F I N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1200

PHOTO DIRECTION



PHOTOGRAPHED BY: P. Smith

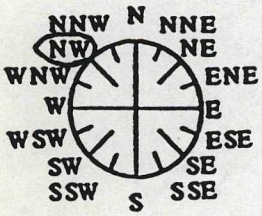
SAMPLE ID# (if applicable) RW2

DESCRIPTION: Close up of RW2

DATE April 5, 1988

TIME (2400) 1200

PHOTO DIRECTION



PHOTOGRAPHED BY: P. Smith

SAMPLE ID# (if applicable) RW2

DESCRIPTION: Perspective of RW2

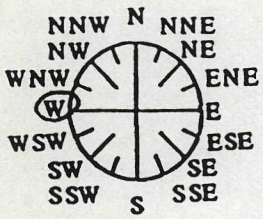
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME Linden Road Site PAN: F1N045 1SA

DATE April 5, 1988.

TIME (2400) 1220

PHOTO DIRECTION



PHOTOGRAPHED BY: P. Smith

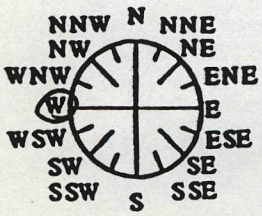
SAMPLE ID# (if applicable) RW3

DESCRIPTION: Close up of RW3.

DATE April 5, 1988

TIME (2400) 1220

PHOTO DIRECTION



PHOTOGRAPHED BY: P. Smith

SAMPLE ID# (if applicable) RW3

DESCRIPTION: Perspective of RW3.

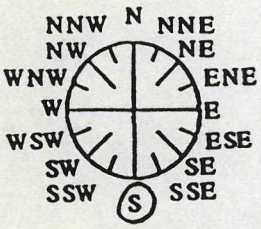
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME Linden Road Site PAN: F I N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1315

PHOTO DIRECTION



PHOTOGRAPHED BY: P. Smith

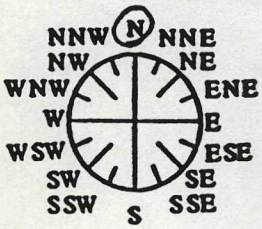
SAMPLE ID# (if applicable) RW4

DESCRIPTION: Close up of RW4.

DATE April 5, 1988

TIME (2400) 1315

PHOTO DIRECTION



PHOTOGRAPHED BY: P. Smith

SAMPLE ID# (if applicable) RW4

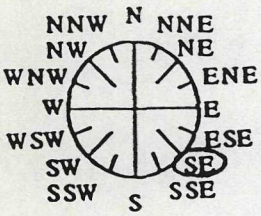
DESCRIPTION: Perspective of RW4

SITE NAME Linden Road Site PAN: F I N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1440

PHOTO DIRECTION



PHOTOGRAPHED BY: P. Smith

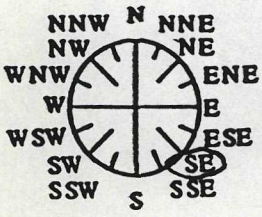
SAMPLE ID# (if applicable) RW5

DESCRIPTION: Close up of RW5.

DATE April 5, 1988

TIME (2400) 1440

PHOTO DIRECTION



PHOTOGRAPHED BY: P. Smith

SAMPLE ID# (if applicable) RW5

DESCRIPTION: Perspective of RW5.

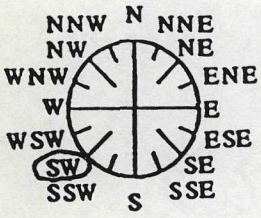
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME Linden Road Site PAN: F I N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1545

PHOTO DIRECTION



PHOTOGRAPHED BY: P. Smith

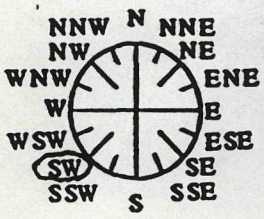
SAMPLE ID# (if applicable) RW6

DESCRIPTION: Close up of RW6.

DATE April 5, 1988

TIME (2400) 1545

PHOTO DIRECTION



PHOTOGRAPHED BY: P. Smith

SAMPLE ID# (if applicable) RW6

DESCRIPTION: Perspective of RW6.

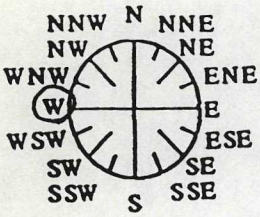
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME Linden Road Site PAN: F 1 N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1615

PHOTO DIRECTION



PHOTOGRAPHED BY: P. Smith

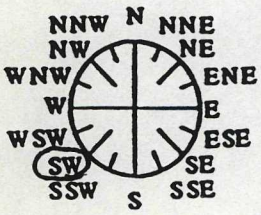
SAMPLE ID# (if applicable) RW7

DESCRIPTION: Close up of RW7

DATE April 5, 1988

TIME (2400) 1615

PHOTO DIRECTION



PHOTOGRAPHED BY: P. Smith

SAMPLE ID# (if applicable) RW7

DESCRIPTION: Perspective of RW7

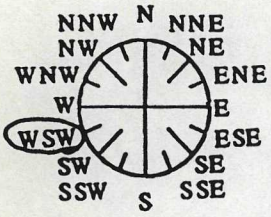
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME Linden Road Site PAN: F 1 N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1000

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

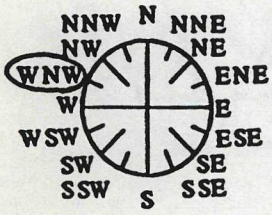
SAMPLE ID# (if applicable) N/A

DESCRIPTION: A view of the Sturgis Iron & Metal property.

DATE April 5, 1988

TIME (2400) 1000

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) N/A

DESCRIPTION: A view of the Sturgis Iron & Metal property.

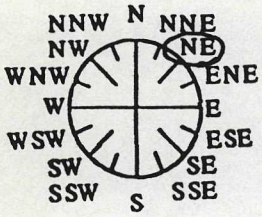
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME Linden Road Site PAN: F I N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 0945

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

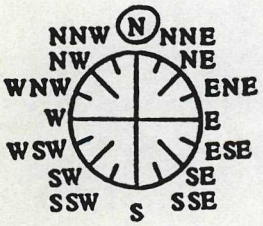
SAMPLE ID# (if applicable) N/A

DESCRIPTION: A view of a drum storage area on the western side of Steve & Gene's Auto-Truck Parts property.

DATE April 5, 1988

TIME (2400) 0950

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) N/A

DESCRIPTION: A view of a drum storage area on the western side of Steve & Gene's Auto-Truck Parts property.

FIELD PHOTOGRAPHY LOG SHEET

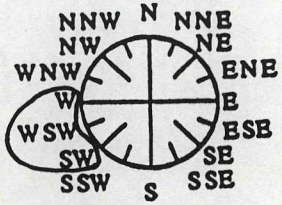
SITE NAME Linden Road Site

PAN: F 1 N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1015

PHOTO DIRECTION



PHOTOGRAPHED BY:

S. Anderson

SAMPLE ID#
(if applicable)

N/A

DESCRIPTION: Panorama of Steve and Gene's Auto-Truck Parts rear lot.

FIELD PHOTOGRAPHY LOG SHEET

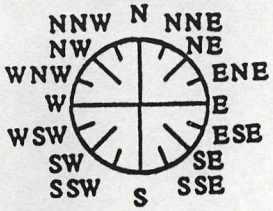
SITE NAME Linden Road Site

PAN: F 1 N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1120

PHOTO DIRECTION



PHOTOGRAPHED BY:

S. Anderson

SAMPLE ID#
(if applicable)

N/A

DESCRIPTION: Panorama of the southwestern portion of Western Avenue Iron and Metal.

FIELD PHOTOGRAPHY LOG SHEET

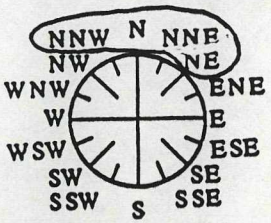
SITE NAME Linden Road Site

PAN: F I N O 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1240

PHOTO DIRECTION



PHOTOGRAPHED BY:

S. Anderson

SAMPLE ID#
(if applicable)

N/A

DESCRIPTION: A panorama of the pond and the junkyard on the Western Avenue Iron & Metal property

FIELD PHOTOGRAPHY LOG SHEET

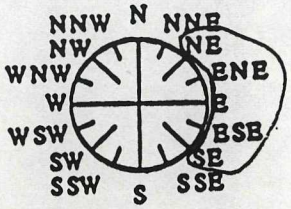
SITE NAME Linden Road Site

PAN: F I N O 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1240

PHOTO DIRECTION



PHOTOGRAPHED BY:

S. Anderson

SAMPLE ID#
(if applicable)

N/A

DESCRIPTION: A panorama of the junkyard at the Western Avenue Iron & Metal property.

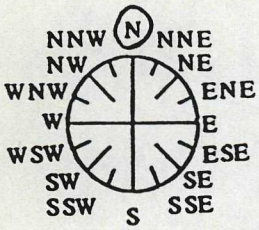
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME Linden Road Site PAN: F1N0457SA

DATE April 5, 1988.

TIME (2400) 1245

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

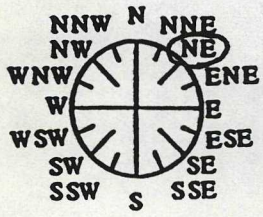
SAMPLE ID# (if applicable) N/A

DESCRIPTION: An American Cyanamid Company label on a 55 gallon drum that was located on the Western Avenue Iron & Metal Property.

DATE April 5, 1988.

TIME (2400) 1250

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) N/A

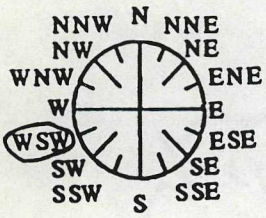
DESCRIPTION: 55 gallon drums and miscellaneous refuse on the western edge of the Western Avenue Iron & Metal Property.

SITE NAME Linden Road Site PAN: F 1 N 0 4 5 1 S A

DATE April 5, 1988.

TIME (2400) 1700

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

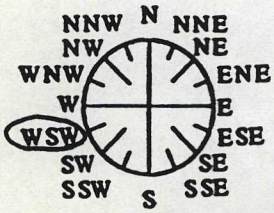
SAMPLE ID# (if applicable) N/A

DESCRIPTION: View of southern part of Linden Road Site, note deer in foreground.

DATE April 5, 1988

TIME (2400) 1700

PHOTO DIRECTION



PHOTOGRAPHED BY: S. Anderson

SAMPLE ID# (if applicable) N/A

DESCRIPTION: View of southern part of Linden Road Site, note deer in foreground.

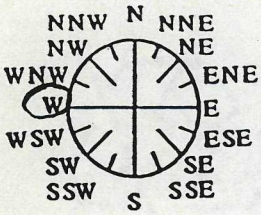
FIELD PHOTOGRAPHY LOG SHEET

SITE NAME Linden Road Site PAN: F.1.N.0.4.5.1.S.A

DATE April 5, 1988.

TIME (2400) 1545

PHOTO DIRECTION



PHOTOGRAPHED BY:

S. Anderson

SAMPLE ID#
(if applicable)

N/A

DESCRIPTION: A view of the southern portion of the site, just south of Weaver Truck and Equipment Co. White blur from top of photograph to bottom is a photographic error.

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 WATER	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

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-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 **
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 #.

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

CRL Receipt Date CRL ~~analyzed~~ lost it! FIT Receipt Date 5/4/88 Review Completed 5/19/88

TO: Anderson
FROM: Loretta Guzdziol
SUBJECT: Linden Road
PAN: IN0451 (1 hour charged for review) Case # 9307/3758

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
#	Low Soil	#	Low Soil
	Low Water		Low Water
	Drinking Water	9	Drinking Water
	Other		Other

Project Data Status _____ Completed!!

✓ Incomplete, awaiting org + inorg soils

FIT Data Review Findings:
Note Iron & Lead hits

Check Data Sheets for Transcription Errors

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

Book No. 7 Page No. 296 Date Sampled 4/5/88

recycled paper

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CHEMICAL EVALUATION FORM

SITE NAME: Linden Road
CASE # 9307/3758
PAN # IN0451
UNITS - µg/l
DATE: 5/19/88
REVIEWER: LAM

COMPOUND	CRDL** RAS SOIL mg/Kg (ppm)	CRDL** RAS WATER ug/L (ppb)	CRDL** SAS DRINKING WATER ug/L (ppb)	88FA16: S31	D31	S32	S33	S34	S35
ALUMINUM *	40	200	100						
ANTIMONY	2.4	60	5						
ARSENIC	2	10	5						
BARIUM *	40	200	50	26.9	27.2	37.1	25.9	33.2	29.4
BERYLLIUM	1	5	5						
CADMIUM	1	5	0.5			1.6			
CALCIUM *	1000	5000	1000	78000	78000	104000	77900	73000	66400
CHROMIUM	2	10	10						
COBALT	10	50	10						
COPPER	5	25	10	12.7	12.9	44.9		6.5	7.3
IRON *	20	100	100	102		119			
LEAD	1	5	2						
MAGNESIUM *	1000	5000	1000	26,600	26,400	37800	27000	28200	19200
MANGANESE *	3	15	10						
MERCURY	0.008	0.2	0.2						
NICKEL	8	40	20						
POTASSIUM *	1000	5000	2000						
SELENIUM	1	5	2						
SILVER	2	10	5						
SODIUM *	1000	5000	1000	18,600	18400	20300	17,100	3,480	21,300
THALLIUM	2	10	2						
VANADIUM	10	50	10						
ZINC *	4	20	20	761	710	2150	793	~~431~~ 18	431 ~~2070~~
CYANIDE	2	10	10						

* NOT GENERALLY USED FOR HRS SCORING
** SPECIFIC DETECTION LIMITS ARE HIGHLY MATRIX DEPENDENT. THE DETECTION LIMITS LISTED HEREIN ARE PROVIDED FOR GUIDANCE AND MAY NOT ALWAYS BE ACHIEVABLE.

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CHEMICAL EVALUATION FORM

SITE NAME: Linden Road PAN # IN0451 DATE: 5/19/88
CASE # 93071 3758 UNITS - µg/l REVIEWER: LAY

COMPOUND	CRDL** RAS SOIL mg/Kg (ppm)	CRDL** RAS WATER ug/L (ppb)	CRDL** SAS DRINKING WATER ug/L (ppb)	S36	S37	R04				
ALUMINUM *	40	200	100							
ANTIMONY	2.4	60	5							
ARSENIC	2	10	5							
BARIUM *	40	200	50	14.8	40.5					
BERYLLIUM	1	5	5							
CADMIUM	1	5	0.5		0.2					
CALCIUM *	1000	5000	1000	47000	63200					
CHROMIUM	2	10	10							
COBALT	10	50	10							
COPPER	5	25	10	31.9	21.8					
IRON *	20	100	100		498					
LEAD	1	5	2		6.4					
MAGNESIUM *	1000	5000	1000	13500	19300					
MANGANESE *	3	15	10		5.49					
MERCURY	0.008	0.2	0.2							
NICKEL	8	40	20							
POTASSIUM *	1000	5000	2000							
SELENIUM	1	5	2							
SILVER	2	10	5							
SODIUM *	1000	5000	1000	~~2400~~ 3940 LD	32400					
THALLIUM	2	10	2							
VANADIUM	10	50	10							
ZINC *	4	20	20	207	608					
CYANIDE	2	10	10				No Cyanide detected			

* NOT GENERALLY USED FOR HRS SCORING
** SPECIFIC DETECTION LIMITS ARE HIGHLY MATRIX DEPENDENT. THE DETECTION LIMITS LISTED HEREIN ARE PROVIDED FOR GUIDANCE AND MAY NOT ALWAYS BE ACHIEVABLE.

DATA SET	SITE	OU/ACT
SF 4978	Linden Road	Y905/C761ZZ

SAMPLES	PARAMETER(S)
88FA16 S31,S31,S32,S33,S34,S35 S36,S37,R04	ICP

SAMPLED	RECEIVED	DUE	LAB
5 Apr 88	6 Apr 88	27 Apr 88	CRL

SHIPPED	DATA RECEIVED	CONTRACT
NA	→	→

TEAM LEADER	SECTION CHIEF	QC COORD.	DATA COORD.
JVM 15 Apr 88			Sg 4-18-88

Comments By Reviewer: Dick Dilg's first run on his own V, Ti high on QC but all samples are < d.l. so allowed JVM

DATA MANAGEMENT COORDINATOR

RECEIVED	TRANSMITTED		CLERICAL SUPPORT RECEIVED	COMPLETED
(X) REVIEWED	( ) UNREVIEWED	TEAM LEADER/DATE John Vmon 15 Apr 88		
( ) REVIEWED	( ) UNREVIEWED	SECTION CHIEF/DATE		
( ) REVIEWED	( ) UNREVIEWED	QC COORDINATOR/DATE		

REVIEWED BY CONTRACT COORDINATOR/DATE

RECEIVED	TRANSMITTED	DATA MANAGEMENT COORDINATOR
4-18-88	4-18-88	[signature]

Jvm
26 Apr 88

ACTIVITY # C7612Z
8TFA05WUZZ

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: METALS

DIVISION/BRANCH SUPERFUND (FIT) SAMPLE DATE 4/5/88 LAB ARRIVAL DATE 4/6/88 DUE DATE 4/27/88

DU NUMBER Y905 DATA SET NUMBER 4978 STUDY LINDEN ROAD PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION	CRL TAG#	TOTAL METALS WATER TOTAL ICAP UG/L MET111	TOTAL METALS WATER AS UG/L MET161	TOTAL METALS WATER PB UG/L MET1191	TOTAL METALS WATER SB UG/L MET1201	TOTAL METALS WATER SE UG/L MET1211	TOTAL METALS WATER TL UG/L MET1221
88FA16S31	RW1	5-077044	X	X PM 4-13-88 <2	X <2	X <2	X <2	X <2
88FA16D31	DUPLICATE	5-077051	X	X PM 4-13-88 <2	X <2	X <2	X <2	X <2
88FA16S32	RW2	5-077058	X	X PM 4-13-88 <2	X <2	X <2	X <2	X <2
88FA16S33	RW3	5-077070	X	X PM 4-13-88 <2	X <2	X <2	X <2	X <2
88FA16S34	RW4	5-077077	X	X MMT 4/15/88 <2	X <2	X <2	X <2	X <2
88FA16S35	RW5	5-077084	X	X <2	X <2	X <2	X <2	X <2
88FA16S36	RW6	5-077091	X	X <2	X <2	X <2	X <2	X <2
88FA16S37	RW7	5-077098	X	X <2	X 6.4	X <2	X <2	X <2
88FA16R04	BLANK	5-077205	X	X PM 4-13-88 <2	X <2	X <2	X <2	X <2
						PM	PM	PM
					4/11/88	4-13-88	4-25-88	4-15-88
					H. Phan			

RJD 4-14-88

JVM 15 April

LINDEN ROAD 8TFA05 WU ZZ
Y905
C761 ZZ

DATA SET : SF4978

ELEMENT	FA16R04	FA16S31	FA16D31	FA16S32
AG mg/l	< 6.00	< 6.00	< 6.00	< 6.00
AL	< 80.0	< 80.0	< 80.0	< 80.0
B	< 80.	83.	< 80.	165.
BA	< 6.0	26.9	27.2	37.1
BE	< 1.00	< 1.00	< 1.00	< 1.00
CO	< 6.00	< 6.00	< 6.00	< 6.00
CR	< 8.00	< 8.00	< 8.00	< 8.00
CU	< 6.0	12.7	12.9	44.9
FE	< 80.	102.	< 80.	119.
LI	< 10.0	10.0	< 10.0	12.9
MN	< 5.00	< 5.00	< 5.00	< 5.00
MO	< 15.0	< 15.0	< 15.0	< 15.0
NI	< 15.0	< 15.0	< 15.0	< 15.0
SN	< 40.0	< 40.0	< 40.0	< 40.0
SR	< 10.	78.	78.	106.
TI	< 25.0	< 25.0	< 25.0	< 25.0
V	< 5.00	< 5.00	< 5.00	< 5.00
Y	< 5.00	< 5.00	< 5.00	< 5.00
ZN	< 40.	761.	710.	2150.
mg/l				
CA	< 0.	78.	78.	104.
K	< 5.00	< 5.00	< 5.00	< 5.00
MG	< 0.1	26.6	26.4	37.8
NA	< 1.0	18.6	18.4	20.3

QJD 4-14-88

JVM 15 Apr 88

LINDEN ROAD

DL1:[001,054]RUN612.BRN 14-APR-88 09:51:26 PAGE 3

DATA SET : SF4978

ELEMENT		FA16S33		FA16S34		FA16S35		FA16S36
AG ug/l	<	6.00	<	6.00	<	6.00	<	6.00
AL	<	80.0	<	80.0	<	80.0	<	80.0
B	<	80.0	<	80.0	<	80.0	<	80.0
BA		25.9		33.2		29.4		14.8
BE	<	1.00	<	1.00	<	1.00	<	1.00
CO	<	6.00	<	6.00	<	6.00	<	6.00
CR	<	8.00	<	8.00	<	8.00	<	8.00
CU	<	6.0		6.5		7.3		31.9
FE	<	80.0	<	80.0	<	80.0	<	80.0
LI	<	10.0	<	10.0	<	10.0	<	10.0
MN	<	5.00	<	5.00	<	5.00	<	5.00
MO	<	15.0	<	15.0	<	15.0	<	15.0
NI	<	15.0	<	15.0	<	15.0	<	15.0
SN	<	40.0	<	40.0	<	40.0	<	40.0
SR		74.8		67.6		63.5		43.5
TI	<	25.0	<	25.0	<	25.0	<	25.0
V	<	5.00	<	5.00	<	5.00	<	5.00
Y	<	5.00	<	5.00	<	5.00	<	5.00
ZN		793.	<	40.		431.		207.
mg/l								
CA		77.9		73.0		66.4		47.0
K	<	5.00	<	5.00	<	5.00	<	5.00
MG		27.0		28.2		19.2		13.5
NA		17.1		3.48		21.3		5.94

RJD 4-14-88

JM 15 Apr 88

LINDEN ROAD

DL1:[001,054]RUN612.BRN 14-APR-88 11:19:29 PAGE 4

DATA SET : SF4978

ELEMENT		FA16S37
AG ug/l	<	6.00
AL	<	80.0
B		85.9
BA		40.5
BE	<	1.00
CO	<	6.00
CR	<	8.00
CU		21.8
FE		498.
LI	<	10.0
MN		5.49
MO	<	15.0
NI	<	15.0
SN	<	40.0
SR		63.4
TI	<	25.0
V	<	5.00
Y	<	5.00
ZN		608.
mg/l		
CA		63.2
K	<	5.00
MG		19.3
NA		32.4

ACTIVITY # C76100

OK-PP 4/18/88

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: MINERALS - NUTRIENTS

DIVISION/BRANCH SUPERFUND (FIT) SAMPLE DATE 4/5/88 LAB ARRIVAL DATE 4/6/88 DUE DATE 4/27/88

DU NUMBER Y905 DATA SET NUMBER 4978 STUDY LINDEN ROAD PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION	CRL TAG #	WATER PHENOLICS UG PHENOL/L MIN 74818	WATER CYANIDE UG CN/L MIN 74919	WATER GROSS ALPHA P CI/L MIN 75020	WATER CR^{+6} UG CR^{+6}/L MIN 74616	WATER MERCURY UG HG/L MIN 74717
88FA16S31	RW1	5-077045		X K5			
88FA16D31	DUPLICATE	5-077052		X K5			
88FA16S32	RW2	5-077059		X K5			
88FA16S33	RW3	5-077071		X K5			
88FA16S34	RW4	5-077078		X K5			
88FA16S35	RW5	5-077085		X K5			
88FA16S36	RW6	5-077092		X K5			
88FA16S37	RW7	5-077099		X K5			
88FA16R04	BLANK	5-077206		X K5			
				Ra Bans			
				4-15-88			
	The above	samples	were	screened	using	auto UV method #	
				335.3			

ACTIVITY#C76100

(9)

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAMS METALS

DIVISION/BRANCH SUPERFUND (FIT) SAMPLING DATE 4/5/88 LAB ARRIVAL DATE 4/6/88 DUE DATE 4/27/88

RU NUMBER V905 DATASET NUMBER 4978 STUDY LINDEN ROAD PRIORITY N CONTRACTOR N

CRL LOG NUMBER	SAMPLE DESCRIPTION	MATRIX WATER TEST CO UNITS UG/L ME1235826
88FA16	CALTAG	
S31	RW1 5-077044	X < 0.2
D31	DUPLICATE 5-077051	X < 0.2
S32	RW2 5-077058	X 1.6
S33	RW3 5-077070	X < 0.2
S34	RW4 5-077077	X < 0.2
S35	RW5 5-077084	X < 0.2
S36	RW6 5-077091	X < 0.2
S37	RW7 5-077098	X 0.2
R04	BLANK 5-077205	X < 0.2
		4/20/88
		H. Pham

APR 28 1988

U.S. EPA CENTRAL REGIONAL LAB

CRL V.2: 3/85

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CRL Receipt Date 4/27 FIT Receipt Date 5/16 Review Completed 5/24/88

TO: Steve Anderson
FROM: Zena Gold-Kaufman ZGK
SUBJECT: Linden Rd
PAN: IN0451 (1 hour charged for review) Case # 9307

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
# _____	Low Soil	# 10	Low Soil
_____	Low Water	_____	Low Water
_____	Drinking Water	_____	Drinking Water
_____	Other	_____	Other

Project Data Status _____ Completed!!

_____ Incomplete, awaiting Low Soil organics

FIT Data Review Findings:

Many inorganic compounds detected, including cyanide, silver, mercury & cadmium.

Check Data Sheets for Transcription Errors

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

Book No. 7 Page No 294 Date Sampled 4/5/88

0759:2

recycled paper

.. REPORTING UNITS

A. Organics

1. Water Samples - ug/L or ppb (parts per billion)
2. Soils or Sediments - ug/kg or ppb (parts per billion)

B. Metals

1. Water Samples - ug/L or ppb (parts per billion)
2. Soils or Sediments - mg/kg or ppm (parts per million)

I. DEFINITION OF FOOTNOTES TO ANALYTICAL DATA

A. Organics

FOOTNOTE	DEFINITION	INTERPRETATION
U	Indicates compound was analyzed for but not detected.	Compound was not detected.
J	Indicates an estimated value.	Compound value may be semi-quantitative.
UJ	Quantitation limit is estimated due to a Quality Control (QC) protocol.	Compound was not detected.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides >10 ng/ul in the final extract shall be confirmed by GC/MS.	Compound was confirmed by mass spectroscop
B	This flag is used when the analyte 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 semi-quantitative if it is <5x the blank concentration (<10x the blank concentrations for common lab 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 semi-quantitative.
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.
A	This flag indicates that a TIC is a suspected aldol-condensation product.	Alerts data user of a lab artifact.
R	Results are unusable due to a major violation of QC protocol.	Compound value is not usable.

B. Metals

FOOTNOTE		DEFINITION	INTERPRETATION
	NEW		
E	E	Estimated or not reported due to inteference. See laboratory narrative.	Compound or element was not detected or value may be semi-quantitative.
S	S	Analysis by Method of Standard Additions.	Value may be 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 semi-quantitative.
+	+	Correlation coefficient for standard additions in 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.
)		DL is estimated because of a QC protocol. DL is possibly above or below CRDL.	Compound or element was not detected.
)		Value is above CRDL and is an estimated value because of a QC Protocol.	Value may be semi-quantitative.
)	U	Compound was analyzed for but not detected.	Compound was not detected.
	M	Duplicate injection precision not met.	Value may be semi-quantitative.
	W	Post digestion spike for furnance AA analysis is out of control limits (35-115%), while sample absorbance is <50% of spike absorbance.	Value may be semi-quantitative.

C. Other Symbols Used

NA Value not available due to insufficient data.
NR Value not calculated since chemical is not a carcinogen.
) Estimated value.

CHICAGO, ILLINOIS

CHEMICAL EVALUATION FORM

SITE NAME: LINDEN Rd PAN # DATE: 5/24/88

CASE # 9307 UNITS - mg/kg REVIEWER: ZCK

COMPOUND	CRDL** RAS SOIL mg/Kg (ppm)	CRDL** RAS WATER ug/L (ppb)	CRDL** SAS DRINKING WATER ug/L (ppb)	MEW 826 4020	827	828	829	830	831	832
ALUMINUM *	40	200	100	[illegible]	8900	4520	9510	5830	17300	4650
ANTIMONY J	2.4	60	5	21 NJ	82 NJ	11 ~~NJ~~ NJ	—	—	—	—
ARSENIC J	2	10	5	4.5 NJ	15 NJ	5.3 NJ	4.6 NJ	3.3 NJ	—	—
BARIUM *	40	200	50	127	736	185	83	87	76	[33]
BERYLLIUM	1	5	5	—	—	—	—	—	—	—
CADMIUM	1	5	0.5	12	51	7.7	3.7	4	3.7	2.2
CALCIUM *	1000	5000	1000	11900	26900	13100	4840	25200	2300	[1100]
CHROMIUM	2	10	10	74	191	14	13	12	21	7.2
COBALT	10	50	10	[3.4]	13	[6.6]	[4.8]	[5.4]	[5.6]	[3.7]
COPPER	5	25	10	166	513	66	8.0	17	12	6.8
IRON *	20	100	100	29200	98400	18900	13400	13900	15100	10700
LEAD	1	5	2	585	1840	479	26	154	18	26
MAGNESIUM *	1000	5000	1000	3070	7700	3790	2090	10500	2900	[720]
MANGANESE *	3	15	10	1480	3130	530	468	353	92	329
MERCURY R	0.008	0.2	0.2	.46 N*J	1.6 N*J	.18 N*J	.16 N*J	.13 N*J	—	—
NICKEL	8	40	20	32	72	23	[9.1]	12	15	[3.7]
POTASSIUM *	1000	5000	2000	[270]	[830]	[501]	[627]	[605]	[552]	[195]
SELENIUM	1	5	2	—	—	—	—	—	—	—
SILVER	2	10	5	8.2	2.8	—	—	[1]	—	—
SODIUM *	1000	5000	1000	[207]	[318]	[407]	[82]	[156]	[99]	[88]
THALLIUM	2	10	2	—	—	—	—	—	—	—
VANADIUM	10	50	10	[73]	24	9.4	21	13	32	14
ZINC *	4	20	20	1320	~~3~~ 3810	737	56	197	42	29
CYANIDE	2	10	10	—	9.9	—	—	—	—	—

* NOT GENERALLY USED FOR HRS SCORING

** SPECIFIC DETECTION LIMITS ARE HIGHLY MATRIX DEPENDENT. THE DETECTION LIMITS LISTED HEREIN ARE PROVIDED FOR GUIDANCE AND MAY NOT ALWAYS BE ACHIEVABLE.

CHICAGO, ILLINOIS

CHEMICAL EVALUATION FORM

SITE NAME: Linden Rd PAN # _____ DATE: 5/24/88

CASE # 9307 UNITS - mg/Kg REVIEWER: BGK

COMPOUND	CRDL** RAS SOIL mg/Kg (ppm)	CRDL** RAS WATER ug/L (ppb)	CRDL** SAS DRINKING WATER ug/L (ppb)	833	834	835				
ALUMINUM *	40	200	100	2120	3670	3750				
ANTIMONY	2.4	60	5	—	—	—				
ARSENIC	2	10	5	10 NJ	3.9 NJ	—				
BARIUM *	40	200	50	[27]	47	[38]				
BERYLLIUM	1	5	5	—	—	—				
CADMIUM	1	5	0.5	2.9	6.2	1.5				
CALCIUM *	1000	5000	1000	49700	32500	1480				
CHROMIUM	2	10	10	8.6	7.9	5.0				
COBALT	10	50	10	[2.6]	[5.3]	[2.3]				
COPPER	5	25	10	12	27	—				
IRON *	20	100	100	11500	12100	4890				
LEAD	1	5	2	25	82	18				
MAGNESIUM *	1000	5000	1000	25600	11000	[598]				
MANGANESE *	3	15	10	155	697	388				
MERCURY	0.008	0.2	0.2	—	[0.1]N *	[0.1]N *				
NICKEL	8	40	20	12	[8.2]	[4.4]				
POTASSIUM *	1000	5000	2000	[315]	[392]	[203]				
SELENIUM	1	5	2	—	—	—				
SILVER	2	10	5	[0.6]	—	[0.8]				
SODIUM *	1000	5000	1000	[246]	[87]	[78]				
THALLIUM	2	10	2	—	—	—				
VANADIUM	10	50	10	[4.8]	[9.7]	[7.5]				
ZINC *	4	20	20	82	62	26				
CYANIDE	2	10	10	—	—	—				

* NOT GENERALLY USED FOR HRS SCORING

** SPECIFIC DETECTION LIMITS ARE HIGHLY MATRIX DEPENDENT. THE DETECTION LIMITS LISTED HEREIN ARE PROVIDED FOR GUIDANCE AND MAY NOT ALWAYS BE ACHIEVABLE.

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

MEMORANDUM

DATE:

TO: File

FROM: Zena Gold-Kaufman

SUBJECT: LINDEN Rd

PAN ~~IDOS~~ IN049

Below is a list of elements whose spike recoveries were biased low:

Element	Spike Recovery
Sb	56
As	63
mercury	0%

The low recoveries rates biases the data low, thereby raising the detection limits and estimating any reported values. This means that in the worst case the true concentration is greater than the reported values and the data is an underestimation.

It is the opinion of this reviewer that the data is acceptable for HRS scoring.

0759:2

recycled paper

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

5/16/88 26 pages

DATE: 5-4-88

SUBJECT: Review of Region V CLP Data
Received for Review on 4-27-88

FROM: Curtis Ross, Director (SSCRL)
Central Regional Laboratory
Jay Thacker

TO: Data User: FIT

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

SITE NAME: Linden Rd (IN) SMO Case No. 9307

EPA Data Set No. SF 5022 No. of Samples: 10 D.U./Activity Numbers Y905/C72/ZZ

CRL No. 88FA17 S14-S23

SMO Traffic No. MEW 826-835

CLP Laboratory: NLE Hrs. Required for Review: 6

Following are our findings: pg 1 of 2

This review covers 10 soil samples analyzed for metals and cyanide. The spike recoveries for Sb and As are 56% and 63%, respectively and are biased low. The samples above detection limit for Sb (MEW 826-8) and for As (MEW826-830, 833-4) are estimated (J). The detection limits for the remainder of samples which went undetected for Sb and As are higher than stated and the results are estimated in these samples (UJ). The mercury spike is 0% recovery. The results for samples MEW831-3 are unusable (R). The possibility of false negatives exists and detection limits are higher than reported.

( ) 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. cont'd next pg.
( ) 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

FORM 1320-6 (REV 3-78)

DATA QUALIFIERS

Contractor: Northern Laboratories | Case 9307

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

The remainder of the samples are quantitatively questionable for mercury and the results could be biased significantly low. The reported concentrations are minimum concentrations are are estimates (J).

With regard to cyanide analysis, sample concentration was changed from U (undetected) to a hit if the concentration was higher than the lowest non-zero standard. This affected sample MEW827 only. The detection limit for the remainder of the samples was lowered to the lowest non-zero standard. See telephone log

R. Brown

Reviewed by: _____

Phone: 886-1974

Date: 5.3.88

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

APR 14 REC'D

SUPERFUND 5022

LOG IN DATE: 4/20/88
DUE DATE: 6/14/88

CASE NUMBER/SAS No. 9307 SITE NAME Linden Rd. LABORATORY EMSENVLE DATE SHIPPED 4/5/88

SUPERFUND DU NUMBER 1905 EPA RPM or OSC (S.M.S.)/(CES) CERCLIS NUMBER IND980404221 PAGE 1 OF 2

ACTIVITY NUMBER C72102

CRL LOG NUMBER	ORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No.	INORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No.	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
88FA17514	EW306	MEW826	✓	✓	✓								✓	✓	✓	✓	✓	✓		
88FA17515	EW307	MEW827	✓	✓	✓								✓	✓	✓	✓	✓	✓		
88FA17516	EW308	MEW828	✓	✓	✓								✓	✓	✓	✓	✓	✓		
88FA17517	EW309	MEW829	✓	✓	✓								✓	✓	✓	✓	✓	✓		
88FA17518	EW310	MEW830	✓	✓	✓								✓	✓	✓	✓	✓	✓		
88FA17519	EW311	MEW831	✓	✓	✓								✓	✓	✓	✓	✓	✓		
88FA17520	EW312	MEW832	✓	✓	✓								✓	✓	✓	✓	✓	✓		
88FA17521	EW313	MEW833	✓	✓	✓								✓	✓	✓	✓	✓	✓		
88FA17522	EW314	MEW834	✓	✓	✓								✓	✓	✓	✓	✓	✓		
88FA17523	EW315	MEW835	✓	✓	✓								✓	✓	✓	✓	✓	✓		
			OK	OK	Data															

SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 4304 (IF APPLICABLE)

INORGANIC TRAFFIC REPORT

(FOR EPA USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA SI ESI RIFS RD RA ER NPLD O&M OTHER ____
NON-SUPERFUND— ____ PROGRAM

SITE NAME: Lindem Rd.
CITY, STATE: South Bend In. SITE SPILL ID:

REGION NO: 5 SAMPLING COMPANY ② FIT
SAMPLER: (NAME) Tim Mayers

SHIP TO: ③ Northern Cas & Engineering, 2400 Cumberland Dr. Valparaiso, IN. 46383
ATTN: Paul Kowlowski

SAMPLING DATE: ④
BEGIN: 4/5/88 END: 4/5/88

DATE SHIPPED: 4/5/88 CARRIER: F ⑤
AIRBILL NO: 5857267360

SAMPLE DESCRIPTION ⑥
(ENTER IN BOX A)
1. SURFACE WATER 4. SOIL
2. GROUND WATER 5. SEDIMENT
3. LEACHATE 6. OIL (SAS) 7. WASTE (SAS)

DOUBLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

Shipment (15) is not complete

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW M = MED H = HIGH (SAS)	Ⓒ RAS ANALYSIS: TOTAL METALS	CYANIDE	DISSOLVED METALS	HIGH ONLY (SAS): SULFIDE	pH	CONDUCTIVITY	OXIDANTS	Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
MEAN 826	4	L	✓	✓	✓						Soil 1
MEAN 827	4	L	✓	✓							Soil 2
MEAN 828	4	L	✓	✓							Soil 3
MEAN 829	5	L	✓	✓							Soil 4
MEAN 830	5	L	✓	✓							Soil 5
MEAN 831	4	L	✓	✓							Soil 6
MEAN 832	4	L	✓	✓							Soil 7
MEAN 833	5	L	✓	✓							Soil 8
MEAN 834	4	L	✓	✓							Soil 9
MEAN 835	4	L	✓	✓							Soil 10

EPA Form 2075-6 (8-87)
WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB C

In Reference to Case No(s):

9307

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call: May 3 1988

Laboratory Name: [illegible]

Lab Contact: [illegible]

Region: V

Regional Contact: Ray Piccione

Call Initiated By: ____ Laboratory ✓ Region

In reference to data for the following sample number(s):

Summary of Questions/Issues Discussed:

① Tl, Run 494. TKM diln is below det lim given on VI3 (7).
② Form III. As CCV listed as 20 ppb, others at 30 ppb.
③ Hg. Spk sample less than sample result. Sure not swapped?
④ CN⁻. Agree w/ last column conc. Second last column in µg per 250 ml then would give some values > 10 µg/l. Some sample absorbances are higher than that for lowest non-zero std (5 µg in 250 ml).

Summary of Resolution:

① Det lim for Varian 975 is 2.3, PE Imer 2.7.
② Run 530 listed used 20 ppb, unsure why.
③ Analyst mentioned at time of run. Unknown cause.
④ Instructed by CCS for case 8753 (Reg III) that soils should be reported 10 U. *

~~Region:~~
* Unknown whether 10 U meant ~~was~~ 10 µg/l or 10 mg/kg.

~~Thank you~~ Sincerely

Ray Piccione
Signature

May 3 1988
Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) SMO Copy

QC EXCEPTION SUMMARY REPORT

CASE # 9307
DATA SET # SF 5022
LAB Q.C.# 78
DATE: 5.2.88

SITE Linden Rd.
LAB Northern Laboratories
REVIEWED BY R. Piccione

MATRIX: _____
CONC. : _____
MATRIX : soil
CONC. : low

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 Diln AQ	Ser Diln SOL	GFAA Dup	GFAA Spike	Blank	Dup RPD	Spike %R	Blind Blank	Blind Spike %R	Split Sample RPD	
ninum																								
mony											56						~~56~~							
nic																	62.5							
um																								
llium																								
mium																								
ium																								
omium																								
lt																								
er																								
nesium																								
ganese											SA>4x SR													
ury										52	0													
l																								
ium																								
um																								
n																								
um																								
ium																								
											SA>4x SR													
ie																								

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

5022

Date 4/25/88

COVER PAGE
INORGANIC ANALYSES DATA PACKAGE

Lab Name Northern Labs & Engineering Inc. Case No. 9307

SOW No. 785 Q.C. Report No. 78

Sample Numbers

EPA No.	Lab ID No.	EPA No.	Lab ID No.
MEW 826	Same	MEW 834	Same
MEW 827	Same	MEW 835	Same
MEW 828	Same		
MEW 829	Same		
MEW 830	Same		
MEW 831	Same		
MEW 832	Same		
MEW 833	Same		

MAY 27 1988
U.S. EPA CENTRAL REGIONAL LAB

Comments:

This report contains the monthly solid LCS results for the month of April.

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.

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.

MEW 826

Date: 26-Apr-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 9307

SDW NO. 785 Lab Receipt Date: 4-6-88

LAB SAMPLE ID. NO.: MEW 826 QC. REPORT NO. 78

Concentration: Low Matrix: Solid Units: mg/kg, dry, weight

1.	Aluminum	4020 P		13.	Magnesium 3070 P
2.	Antimony	21 P N J		14.	Manganese 1430 P
3.	Arsenic	4.5 S F N J		15.	Mercury 0.46 N * (J)
4.	Barium	127 P		16.	Nickel 32 P
5.	Beryllium	0.2 U P		17.	Potassium [270] P
6.	Cadmium	12 P		18.	Selenium 1.0 U F
7.	Calcium	11900 P		19.	Silver 8.2 P
8.	Chromium	74 P		20.	Sodium [207] P
9.	Cobalt	[3.4] P		21.	Thallium 2.1 U F
10.	Copper	166 P		22.	Vanadium [7.3] P
11.	Iron	29200 P		23.	Zinc 1320 P
12.	Lead	585 P			Percent Solids (%) 89.7
	Cyanide	5 ~~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: Brown, fine texture.

Lab Manager John D. Swanger

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.

MEW 827

Date: 26-Apr-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 2007

SDW NO. 785 Lab Receipt Date: 4-6-88

LAB SAMPLE ID. NO.: MEW 827 QC. REPORT NO. 78

Concentration: Low Matrix: Solid Units: mg/kg, dry weight

1.	Aluminum	8900 P		13.	Magnesium	[7700] P	
2.	Antimony	82 P	N J	14.	Manganese	3130 P	
3.	Arsenic	15 F	N J	15.	Mercury	1.6 N	* (J)
4.	Barium	736 P		16.	Nickel	72 P	
5.	Beryllium	0.2 U P		17.	Potassium	[330] P	
6.	Cadmium	51 P		18.	Selenium	1.2 U F	
7.	Calcium	26900 P		19.	Silver	2.8 P	
8.	Chromium	191 P		20.	Sodium	[318] P	
9.	Cobalt	13 P		21.	Thallium	2.4 U F	
10.	Copper	513 P		22.	Vanadium	24 P	
11.	Iron	98400 P		23.	Zinc	3810 P	
12.	Lead	1840 P			Percent Solids (%)	81.7	
	Cyanide	5.3.88 ~~10 U~~ ~~8.1~~ 9.9					

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.

Lab Manager John P. Ravenger

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.
MEW 828

Date: 26-Apr-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 0307

SOW NO. 783 Lab Receipt Date: 4-6-88

LAB SAMPLE ID. NO.: MEW 828 QC. REPORT NO. 70

Concentration: Low Matrix: Solid Units: mg/kg, dry weight

1.	Aluminum	4520 P	13.	Magnesium	2790 P
2.	Antimony	11 P N J	14.	Manganese	500 P
3.	Arsenic	5.3 F N J	15.	Mercury	0.18 N * J
4.	Barium	185 P	16.	Nickel	23 P
5.	Beryllium	0.2 U P	17.	Potassium	[301] P
6.	Cadmium	7.7 P	18.	Selenium	1.1 U F
7.	Calcium	13100 P	19.	Silver	0.6 U P
8.	Chromium	14 P	20.	Sodium	[407] P
9.	Cobalt	[6.6] P	21.	Thallium	2.2 U F
10.	Copper	66 P	22.	Vanadium	9.4 P
11.	Iron	18900 P	23.	Zinc	737 P
12.	Lead	479 P		Percent Solids (%)	87.6
	Cyanide	~~6.7 U~~ 3.4 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.

Lab Manager John P. Dwenger

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.
MEW 829

Date: 26-Apr-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 9307

SOW NO. 785 Lab Receipt Date: 4-6-88

LAB SAMPLE ID. NO.: MEW 829 QC. REPORT NO. 79

Concentration: Low Matrix: Solid Units. mg/kg, dry weight

1.	Aluminum	9510 P	13.	Magnesium	2090 P
2.	Antimony	5.3 U P N UJ	14.	Manganese	468 P
3.	Arsenic	4.6 F N J	15.	Mercury	0.16 N * J
4.	Barium	83 P	16.	Nickel	[9.1] P
5.	Beryllium	0.2 U P	17.	Potassium	[624] P
6.	Cadmium	3.7 P	18.	Selenium	1.4 U F
7.	Calcium	4840 P	19.	Silver	0.7 U P
8.	Chromium	13 P	20.	Sodium	[82] P
9.	Cobalt	[4.8] P	21.	Thallium	2.8 U F
10.	Copper	8.0 P	22.	Vanadium	21 P
11.	Iron	13400 P	23.	Zinc	56 P
12.	Lead	26 P		Percent Solids (%)	62.3
	Cyanide	~~8.9 U~~ 4.5 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: Brown, fine texture.

Lab Manager John P. Prenger

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.
MEW 830

Date: 26-Apr-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 9307

SDW NO. 785 Lab Receipt Date: 4-6-88

LAB SAMPLE ID. NO.: MEW 830 QC. REPORT NO. 78

Concentration: Low Matrix: Solid Units: mg/kg, dry weight

1.	Aluminum	5830 P	13.	Magnesium	10500 F
2.	Antimony	5.5 U P N UJ	14.	Manganese	550 P
3.	Arsenic	3.3 F N J	15.	Mercury	0.13 N * J
4.	Barium	87 P	16.	Nickel	12 P
5.	Beryllium	0.2 U P	17.	Potassium	[505] P
6.	Cadmium	4.0 P	18.	Selenium	1.2 U F
7.	Calcium	25200 P	19.	Silver	[1.0] P
8.	Chromium	12 P	20.	Sodium	[156] P
9.	Cobalt	[5.4] P	21.	Thallium	2.4 U F
10.	Copper	17 P	22.	Vanadium	13 P
11.	Iron	13900 P	23.	Zinc	197 P
12.	Lead	154 P		Percent Solids (%)	78.7
	Cyanide	~~7.1 U~~ 3.6 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: Brown, fine texture.

Lab Manager John P. Pavinger

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.
MEW 831

Date: 26-Apr-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 9007

SDW NO. 725 Lab Receipt Date: 4-8-88

LAB SAMPLE ID. NO.: MEW 831 QC. REPORT NO. 78

Concentration: Low Matrix: Solid Units: mg/kg, dry weight

1.	Aluminum	17300 P	13.	Magnesium	2900 P
2.	Antimony	5.7 U P N UJ	14.	Manganese	92 P
3.	Arsenic	2.2 U F N UJ	15.	Mercury	0.1 U N * R
4.	Barium	76 P	16.	Nickel	15 P
5.	Beryllium	0.3 U P	17.	Potassium	[552] P
6.	Cadmium	3.7 P	18.	Selenium	1.1 U F
7.	Calcium	2300 P	19.	Silver	0.8 U P
8.	Chromium	21 P	20.	Sodium	[99] P
9.	Cobalt	[5.6] P	21.	Thallium	2.2 U F
10.	Copper	12 P	22.	Vanadium	32 P
11.	Iron	15100 P	23.	Zinc	42 P
12.	Lead	18 P		Percent Solids (%)	74.4
	Cyanide	~~12 U~~ ~~6U~~ 6.2U			

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.

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.
MEW 832

Date: 26-Apr-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 1007

SDG NO. 705 Lab Receipt Date: 4-8-88

LAB SAMPLE ID. NO.: MEW 832 QC. REPORT NO. 78

Concentration: Low Matrix: Solid Units: mg/kg, dry weight

1.	Aluminum	4850 P	13.	Magnesium	[720] P
2.	Antimony	3.3 U P N UJ	14.	Manganese	329 P
3.	Arsenic	2.5 U F N UJ	15.	Mercury	0.1 U N * R
4.	Barium	[33] P	16.	Nickel	[3.7] P
5.	Beryllium	0.2 U P	17.	Potassium	[195] P
6.	Cadmium	2.2 P	18.	Selenium	1.3 U F
7.	Calcium	[1100] P	19.	Silver	0.7 U P
8.	Chromium	7.2 P	20.	Sodium	[88] P
9.	Cobalt	[3.7] P	21.	Thallium	2.6 U F
10.	Copper	6.8 P	22.	Vanadium	14 P
11.	Iron	10700 P	23.	Zinc	29 P
12.	Lead	26 P		Percent Solids (%)	72.5
	Cyanide	~~8.3 U~~ 4.5U			

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.

Lab Manager John D. Zwenger

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.
MEW 833

Date: 26-Apr-92

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 0007

SDW NO. 705 Lab Receipt Date: 4 6 92

LAB SAMPLE ID. NO.: MEW 833 QC. REPORT NO. 78

Concentration: Low Matrix: Solid Units: mg/kg, dry weight

1.	Aluminum	2120 P		13. Magnesium	25600 P
2.	Antimony	4.4 U P N UJ		14. Manganese	155 P
3.	Arsenic	10 F N J		15. Mercury	0.1 U N * R
4.	Barium	[27] P		16. Nickel	12 P
5.	Beryllium	0.2 U P		17. Potassium	[315] P
6.	Cadmium	2.9 P		18. Selenium	1.1 U F
7.	Calcium	49700 P		19. Silver	[0.6] P
8.	Chromium	8.6 P		20. Sodium	[246] P
9.	Cobalt	[2.6] P		21. Thallium	2.1 U F
10.	Copper	12 P		22. Vanadium	[4.8] P
11.	Iron	11500 P		23. Zinc	82 P
12.	Lead	25 P		Percent Solids (%)	84.1
	Cyanide	~~12 U~~ ~~tt~~ 5.8 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: Black, fine texture.

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.
MEW 834

Date: 26-Apr-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 3307

SOW NO. 785 Lab Receipt Date: 4-6-88

LAB SAMPLE ID. NO.: MEW 834 QC. REPORT NO. 78

Concentration. Low Matrix: Solid Units: mg/kg, dry weight

1. Aluminum	3670 P		13. Magnesium	11000 P	
2. Antimony	4.6 U P	N UJ	14. Manganese	637 P	
3. Arsenic	3.9 F	N J	15. Mercury	[0.1] N	*
4. Barium	47 P		16. Nickel	[8.2] P	
5. Beryllium	0.2 U P		17. Potassium	[392] P	
6. Cadmium	6.2 P		18. Selenium	1.0 U F	
7. Calcium	32500 P		19. Silver	0.6 U P	
8. Chromium	7.9 P		20. Sodium	[87] P	
9. Cobalt	[5.3] P		21. Thallium	1.9 U F	
10. Copper	27 P		22. Vanadium	[9.7] P	
11. Iron	12100 P		23. Zinc	62 P	
12. Lead	82 P		Percent Solids (%)	90.7	
Cyanide	~~8.1 U~~ 4.1 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: Black, fine texture.

Lab Manager John D. Ruenger

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.
MEW 835

Date: 26-Apr-88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: Northern Labs & Eng., Inc. CASE NO.: 0307

SDW NO. 785 Lab Receipt Date: 4-6-88

LAB SAMPLE ID. NO.: MEW 835 SO. REPORT NO. 79

Concentration: Low Matrix: Solid Units: mg/kg, dry weight

1.	Aluminum	3750 P	13.	Magnesium	[590] P
2.	Antimony	5.1 U P N UJ	14.	Manganese	308 P
3.	Arsenic	2.2 U F N UJ	15.	Mercury	[0.1] N *
4.	Barium	[38] P	16.	Nickel	[4.4] P
5.	Beryllium	0.2 U P	17.	Potassium	[203] P
6.	Cadmium	1.5 P	18.	Selenium	1.1 U F
7.	Calcium	1480 P	19.	Silver	[0.8] P
8.	Chromium	5.0 P	20.	Sodium	[78] P
9.	Cobalt	[2.3] P	21.	Thallium	2.2 U F
10.	Copper	0.7 U P	22.	Vanadium	[7.5] P
11.	Iron	4890 P	23.	Zinc	26 P
12.	Lead	18 P		Percent Solids (%)	79.9
	Cyanide	~~11 U~~ 5.6 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.

Lab Manager John D. Ruenger

Form III A

Q.C. Report No. 78

BLANKS

LAB NAME: Northern Labs & Eng., Inc. CASE NO. 9307

DATE: 13-Apr-88 UNITS ug/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank Matrix water 1	Matrix soil 2
Metals:							
1. Aluminum	22 U	22 U	22 U	22 U	22 U		4.4 U
2. Antimony	22 U	22 U	22 U	22 U	22 U		4.4 U
3. Arsenic							
4. Barium	2 U	2 U	2 U	2 U	2 U		0.4 U
5. Beryllium	1 U	1 U	1 U	1 U	1 U		0.2 U
6. Cadmium	3 U	3 U	3 U	3 U	3 U		0.6 U
7. Calcium	[10.6]	[19.2]	[28.3]	[32.4]	[40.6]		1.6 U
8. Chromium	7 U	7 U	7 U	7 U	7 U		[1.46]
9. Cobalt	4 U	4 U	4 U	4 U	4 U		0.8 U
10. Copper	3 U	[5.5]	3 U	3 U	3 U		0.6 U
11. Iron	13 U	13 U	[25.4]	13 U	13 U		2.6 U
12. Lead	20 U	20 U	20 U	20 U	20 U		4 U
13. Magnesium	21 U	21 U	21 U	21 U	[33.8]		4.2 U
14. Manganese	1 U	[2.0]	[1.8]	[1.5]	1 U		0.2 U
15. Mercury							
16. Nickel	5 U	5 U	5 U	5 U	5 U		1 U
17. Potassium	121 U	121 U	121 U	121 U	121 U		24.2 U
17. Selenium							
19. Silver	3 U	3 U	3 U	3 U	3 U		0.6 U
20. Sodium	[20.8]	16 U	16 U	[31.9]	[33.2]		3.2 U
21. Thallium							
22. Vanadium	3 U	3 U	3 U	3 U	3 U		0.6 U
23. Zinc	2 U	2 U	[7.7]	2 U	2 U		0.4 U
Other							
Cyanide							

1 Reporting Units: aqueous, ug/L; solid mg/kg

Form IIIB

Q. C. Report No. 78

BLANKS

LAB NAME Northern Labs

DATE 4/25/88

CASE NO. 9307

UNITS µg/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank Matrix: solid 1	Matrix: 2
Metals:							
1. Aluminum							
2. Antimony							
3. Arsenic	2.4 u	2.4 u				0.48 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	0.1 u	0.1 u	0.1 u	[0.11]	[0.17]	[0.08]	
16. Nickel							
17. Potassium							
18. Selenium	2.6 u	2.6 u	2.6 u	2.6 u	2.6 u	0.52 u	
19. Silver							
20. Sodium							
21. Thallium	2.3 u	2.3 u	2.3 u	2.3 u	2.3 u	0.46 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

Form III C

Q. C. Report No. 78

BLANKS

LAB NAME Northern Labs

DATE 4/25/88

CASE NO. 9307

UNITS µg/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank Matrix: solid 1	Matrix: 2
Metals:							
1. Aluminum							
2. Antimony							
3. Arsenic	2.4 u	2.4 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							
19. Silver							
20. Sodium							
21. Thallium		2.3 u					
22. Vanadium							
23. Zinc							
Other:							
Cyanide							

[1] Reporting Units: aqueous, ug/L; solid mg/kg

Form III D

Q. C. Report No. 78

BLANKS

LAB NAME Northern Labs

CASE NO. 9307

DATE 4/25/88

UNITS µg/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank Matrix: Solid 1	Matrix: 2
Metals:							
1. Aluminum							
2. Antimony							
3. Arsenic	2.4 u	2.4 u	2.4 u	2.4 u	2.4 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							
19. Silver							
20. Sodium							
21. Thallium	2.3 u	2.3 u	2.3 u	2.3 u	2.3 u		
22. Vanadium							
23. Zinc							
Other:							
Cyanide							

[1] Reporting Units: aqueous, ug/L; solid mg/kg

Form IIIE

Q. C. Report No. 78

BLANKS

LAB NAME Northern Labs

CASE NO. 9307

DATE 4/25/88

UNITS µg/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank Matrix: solid 1	Matrix: 2
Metals:							
1. Aluminum							
2. Antimony							
3. Arsenic	2.4 u	2.4 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							
19. Silver							
20. Sodium							
21. Thallium		2.3 u					
22. Vanadium							
23. Zinc							
Other:							
Cyanide							

[1] Reporting Units: aqueous, ug/L; solid mg/kg

Form VI

Q. C. Report No. 78

DUPLICATES

LAB NAME Northern Labs & Engineering, Inc.

DATE 4/25/88

CASE NO. 9307

EPA Sample No. MEW 826

Lab Sample ID No. Same

Units mg/kg, dry weight

Matrix solid

Compound	Control Limit[1]	Sample(S)	Duplicate(D)	RPD[2]
Metals:				
1. Aluminum		4017.23	4526.17	11.9
2. Antimony	12.55	20.79	20.80	0.0
3. Arsenic	2.09	4.50	3.66	20.8
4. Barium	41.82	126.75	136.91	7.7
5. Beryllium		0.21 u	0.22 u	NC
6. Cadmium		11.98	12.92	7.5
7. Calcium		11892.7	12384.6	4.1
8. Chromium		74.18	86.64	15.5
9. Cobalt		[3.37]	[3.67]	NC
10. Copper		166.29	180.40	8.1
11. Iron		29172.46	31259.88	6.9
12. Lead		585.33	632.58	7.8
13. Magnesium	1045.61	3067.81	32[illegible]1.0	7.0
14. Manganese		1476.19	1517.84	2.8
15. Mercury	0.09	0.46	0.27	52.4 *
16. Nickel	8.36	31.95	32.30	1.1
17. Potassium		[270.19]	[294.58]	NC
18. Selenium		1.05 u	0.94 u	NC
19. Silver	2.09	8.20	10.05	20.3
20. Sodium		[207.41]	[234.01]	NC
21. Thallium		2.09 u	1.87 u	NC
22. Vanadium		[7.30]	[8.34]	NC
23. Zinc		1322.07	1365.88	3.3
Other:				
Cyanide		5.0 ~~9.98~~ u	3.4 ~~6.38 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. 79

INSTRUMENT DETECTION LIMITS AND

LABORATORY CONTROL SAMPLE

LAB NAME: Northern Labs CASE NO. CONT DATE: 25-Apr-88

LCS NO. SP-0411-1 SM-0411-1 SW-0411-1 IM-0402

Analyte	Reported Detection Limit	Instrum. Detection Limit		LCS Control Sample		
Metals		(ug/L)	(ug/L)			
1. Aluminum	20	22		[illegible]	[illegible]	108.0%
2. Antimony	60	22		[illegible]	[illegible]	99.8%
3. Arsenic	10	48	3.9	15.0	16.26	111.7%
4. Barium	200	2		[illegible]	20034	102.7%
5. Beryllium	5	1		481	478.4	99.3%
6. Cadmium	5	2		489	484.3	99.0%
7. Calcium	5000	6		49800	51890	104.6%
8. Chromium	10	7		506	520.5	102.9%
9. Cobalt	50	4		474	506.8	106.9%
10. Copper	25	3		542	519.8	95.9%
11. Iron	100	13		1990	1999	100.5%
12. Lead	5	20		4510	4623	102.5%
13. Magnesium	5000	21		25000	25930	103.7%
14. Manganese	15	1		513	509	99.2%
15. Mercury	0.2		0.1	5.2	5.223	100.4%
16. Nickel	40	5		496	499	100.6%
17. Potassium	5000	121		50200	54470	108.5%
17. Selenium	5	88	2.6	52	56.8	109.2%
19. Silver	10	3		509	479.3	94.2%
20. Sodium	5000	16		50700	51330	101.2%
21. Thallium	10	260	2.3	48.65	50.99	104.8%
22. Vanadium	50	3		511	522.1	102.2%
23. Zinc	20	2		3100	2952	95.2%
Other						
Cyanide	10	NR	NR	500	450	90.0%

NR - Not required

Form VII B

Q.C. Report No. 78

INSTRUMENT DETECTION LIMITS AND

LABORATORY CONTROL SAMPLE

LAB NAME: Northern Labs CASE NO. 9307 DATE: 25-Apr-88

LOG NO. Three Kid Mine

Compound	Required Detection Limits (ug/L)	Instrument Detection Limits (ug/L) ICP ID# J/A 9000	Furnace AA-975 PE 5100	Lab Control Sample mg/kg True	Found	%R
Metals:						
1. Aluminum	200	22		15200	10514.1	69.2%
2. Antimony	60	22		20 U	4.3 U	NR
3. Arsenic	10	48	2.4	680	565.93	83.2%
4. Barium	200	2		431	437	101.6%
5. Beryllium	5	1		1 U	0.2 U	NR
6. Cadmium	5	3		1 U	2.3	NR
7. Calcium	5000	8	- . . .	10520	10393.4	98.8%
8. Chromium	10	7		16.7	6.1	36.5%
9. Cobalt	50	4		6.9	[6.3]	90.9%
10. Copper	25	3		265	256.3	96.7%
11. Iron	100	13		11200	7026.3	62.7%
12. Lead	5	20	2.5	5830	5949.4	102.0%
13. Magnesium	5000	21		14730	12465.4	84.6%
14. Manganese	15	1		91735	98637	107.5%
15. Mercury	0.2		0.1	18.8	19.39	103.1%
16. Nickel	40	5		22.4	23.7	105.8%
17. Potassium	5000	121		8150	7567.7	92.9%
17. Selenium	5	88	2.6	1 U	0.98 U	NR
19. Silver	10	3		2 U	0.6 U	NR
20. Sodium	5000	16		3725	3668.9	98.5%
21. Thallium	10	260	2.7	3.8	3.05	80.3%
22. Vanadium	50	3		18.5	[1.8]	9.8%
23. Zinc	20	2		425	362.8	85.4%
Other						
Cyanide						

NR - Not required

ecology and environment, inc.

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

CRL Receipt Date 4/25/88 FIT Receipt Date 5/16/88 Review Completed 5/23/88

TO: Steve Anderson
FROM: Zena Gold-Kaufman ZGK
SUBJECT: Linden Rd
PAN: IN0451 (1 hour charged for review) Case # 9307/3758E

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
#	Low Soil	#	Low Soil
	Low Water		Low Water
9	Drinking Water	~~9~~	Drinking Water
	Other		Other

Project Data Status _____ Completed!!

_____ Incomplete, awaiting organic and inorganic soils

FIT Data Review Findings:

Common lab artifacts as well as 1,1,1-trichloroethane and napthalene detected.

Check Data Sheets for Transcription Errors

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

Book No. 7 Page No. 294 Date Sampled 4/05/88

0759:2

recycled paper

Linden Rd
IN0451

. REPORTING UNITS

A. Organics

1. Water Samples - ug/L or ppb (parts per billion)
2. Soils or Sediments - ug/kg or ppb (parts per billion)

B. Metals

1. Water Samples - ug/L or ppb (parts per billion)
2. Soils or Sediments - mg/kg or ppm (parts per million)

I. DEFINITION OF FOOTNOTES TO ANALYTICAL DATA

A. Organics

FOOTNOTE	DEFINITION	INTERPRETATION
U	Indicates compound was analyzed for but not detected.	Compound was not detected.
J	Indicates an estimated value.	Compound value may be semi-quantitative.
UJ	Quantitation limit is estimated due to a Quality Control (QC) protocol.	Compound was not detected.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides >10 ng/ul in the final extract shall be confirmed by GC/MS.	Compound was confirmed by mass spectroscop
B	This flag is used when the analyte 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 semi-quantitative if it is <5x the blank concentration (<10x the blank concentrations for common lab 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 semi-quantitative.
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.
A	This flag indicates that a TIC is a suspected aldol-condensation product.	Alerts data user of a lab artifact.
R	Results are unusable due to a major violation of QC protocol.	Compound value is not usable.

B. Metals

FOOTNOTE		DEFINITION	INTERPRETATION
	NEW		
E	E	Estimated or not reported due to inteference. See laboratory narrative.	Compound or element was not detected or value may be semi-quantitative.
S	S	Analysis by Method of Standard Additions.	Value may be quantitative.
N	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 semi-quantitative.
+	+	Correlation coefficient for standard additions in 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.
		DL is estimated because of a QC protocol. DL is possibly above or below CRDL.	Compound or element was not detected.
		Value is above CRDL and is an estimated value because of a QC Protocol.	Value may be semi-quantitative.
	U	Compound was analyzed for but not detected.	Compound was not detected.
	M	Duplicate injection precision not met.	Value may be semi-quantitative.
	W	Post digestion spike for furnance AA analysis is out of control limits (35-115%), while sample absorbance is <50% of spike absorbance.	Value may be semi-quantitative.

C. Other Symbols Used

NA Value not available due to insufficient data.
NR Value not calculated since chemical is not a carcinogen.
) Estimated value.

DEN Rd
51

COMPOUND	SAMPLE	DETECTION LIMITS	EW 316	317	318	319	320	321	322	323	Blank 324
chloromethane											
bromomethane											
vinyl chloride											
chloroethane											
methylene chloride											
acetone					3 JB						
carbon disulfide											
1,1-dichloroethene											
1,1-dichloroethane											
trans-1,2,-dichloroethene											
chloroform											
1,2-dichloroethane											
2-butanone											
1,1,1-trichloroethane						10					
carbon tetrachloride											
vinyl acetate											
bromodichloromethane											
1,1,2,2-tetrachloroethane											
1,2-dichloropropane											
trans-1,3-dichloropropene											
trichloroethene											
dibromochloromethane											
1,1,2-trichloroethane											
benzene											
cis-1,3-dichloropropene											
2-chloroethylvinylether											
bromoform											
2-hexanone											
4-methyl-2-pentanone											
tetrachloroethene											
toluene			2	1	2	1	1			2	3
chlorobenzene											
ethylbenzene											
styrene											
total xylenes											
N-nitrosodimethylamine											
phenol											
aniline											
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											
isophrone											
2-nitrophenol											
2,4-dimethylphenol											
benzoic acid											
bis(2-chloroethoxy)methane											
2,4-dichlorophenol											
1,2,4-trichlorobenzene											
naphthalene				3	3						
4-chloroaniline											
hexachlorobutadiene											
4-chloro-3-methylphenol											
2-methylnapthalene											
hexachlorocyclopentadiene											
2,4,6-trichlorophenol											
2,4,5-trichlorophenol											
2-chloronaphthalene											
2-nitroaniline											
dimethyl phthalate											
acenaphylene											
3-nitroaniline											
acenaphthene											
2,4-dinitrophenol											
4-nitrophenol											
dibenzofuran											
2,4-dinitrotoluene											
2,6-dinitrotoluene											
diethylphthalate											
4-chlorophenyl-phenylether											
fluorene											
4-nitroaniline											
4,6-dinitro-2-methylphenol											
N-nitrosodiphenylamine											
4-bromophenyl-phenylether											
hexachlorobenzene											

STATE _____ SITE _____ TDD _____ PAGE 1 OF 2, SET # ____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

recd 5/16/88
63 pages

DATE: 5/10/88

SUBJECT: Review of Region V CLP Data Received for Review on 4-25-88

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

TO: Data User: Fit

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

SITE NAME: Linden Rd (IN) SMO Case No. 9307SAS3758E

EPA Data Set No. SF 5022 No. of Samples: 9 D.U./Activity Numbers 49051C72177

CRL No. 88FA16S31-S37, D31, R04

SMO Traffic No. EIN 316-324

CLP Laboratory: CAL Hrs. Required for Review: 9 hrs

Following are our findings:

This review covers 9 sample (All Waters) for Special Analytical Services organics (Volatile, Semi-volatile, and Pesticide/PCB).

Qualifiers and calibration outliers are noted on the following pages of the review narrative.

John Visinko 5-3-88
Roy F. Weston, ESAT

( ) 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: Enseco

Case 9307 SAS 3758E

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

① Sample Holding times.

All of the Volatile and Semi-Volatile Samples were Analyzed within the 7 day limit. Therefore, results for these sample fraction should be considered Acceptable for use. All of the pesticide/PCB samples were Analyzed within the 7 day limit with the exception of Samples (EW 323, 324). Therefore, the positive results for sample (EW323, 324) should be flagged (J) as estimated and the quantitation limits flagged (UJ).

② GC/MS Tuning And GC Instrument performance.

All (BFB) And (DFTPP) tuning criteria were met and were within Q.C. limits. Therefore, results based on these instrument tuning should be considered Acceptable. It should be noted at this point that the tuning for the volatile fraction Samples (EW 318, 323 and the Volatile Blank 3) and the tuning for Instrument F-4 was omitted from the case. Therefore no further data validation for the Above listed samples and blank can be performed until the necessary tuning reports are present.

③ Calibration

Volatile and Semi-volatile outliers for initial and continuing calibrations are noted on the calibration outlier forms which follows. No outliers for pesticide/PCB calibration parameters were noted.

Reviewed by: John Vasiko

Phone: (312) 353-2947

Date: 5-2-88

DATA QUALIFIERS

Contractor: EnSECO

Case 9307 SAS 3758E

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

(4) Blanks

A) Volatile

The Volatile blank (Blank 1) had detectable amounts of the compound Acetone. The samples associated with this Blank: (EW 316, 317, 319, 320, 321, 322) had no detectable amount of Acetone reported. Therefore, for the above listed samples No Action was taken. The Volatile sample (EW 324) had detectable amounts of Acetone at levels of less than that of Blank 1. Therefore, the results for Acetone in sample (EW 324) is flagged (U) as undetected. The Volatile blank (Blank 2) had detectable amounts of the compound Acetone. The samples associated with this blank: (EW 318 MS, 318 MSD) did not have any detectable amount of Acetone. Therefore, No Action was taken. It should be noted at this point that the results for Volatile blank (Blank 3) were omitted for the case. (Both raw data and Form I)

b) Semi-Volatile

The Semi-Volatile Blank (Blank 1) had detectable amounts of of the compound bis(2-Ethylhexyl) phthalate. The Semi-volatile samples associated with this blank: (EW 316 to EW 324) All had detectable amounts of bis(2-Ethylhexyl) phthalate at levels of less than 10X that of the blank. Therefore, the results for bis(2-Ethylhexyl) phthalate, in the above listed samples, should be flagged (U) as undetected.

c) Pesticide/PCB

The pesticide/PCB Blank (Blank 1) had no detectable level of contamination. Therefore, No Action was taken with respect to the pesticide/PCB samples associated with the Blank.

Reviewed by: John Vasinko

Phone: (312) 353-2947

Date: 5-2-89

DATA QUALIFIERS

Contractor: EnSECO

Case 9307 SAS 3758E

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

(5) Surrogate Recovery

All Volatile, Semi-volatile, And pesticide/PCB surrogate recoveries were within Q.C. limits, therefore, the results for the samples in the above listed fraction should be considered Acceptable for use.

(6) Matrix Spike/Matrix spike duplicate

All volatile and Semi-volatile MS And MSD results were within Q.C. limits with respect to percent recovery And percent RPD. therefore, No Action should be taken And the results of the unspiked samples should be considered acceptable

For the pesticide/PCB fraction the percent RPD were outside of the Q.C. limit for the following compounds; lindane; 29%, Heptachlor; 39%, Aldrin; 39%, Dieldrin; 40%, Endrin; 42%, 4,4-DDT; 38%. Also, sample (EW 318 MS) reports a high percent recovery for the spiked compound Endrin; 139%. The sample (EW 318 MSD) reports a high percent recovery for the spiked compounds; Dieldrin; 130%, Endrin; 214%, 4,4-DDT; 146%. Therefore, It is my professional judgement that the results for the Matrix spike And Matrix spike duplicate should be flagged (J) as estimated for positive results and the quantitation limits be flagged (UJ). Furthermore; No Action should be taken with the unspiked samples.

(7) Field duplicates

The volatile field duplicates; (EW 316, 317) report similar results for the compound Toluene; (EW 316; 2ug/l EW 317; 1ug/l). All other compounds report the same Non-detects between duplicate samples.

Reviewed by: John Vasinko

Phone: (312) 353-2947

Date: 5-2-88

DATA QUALIFIERS

Contractor: EnSeco

Case 9307 SAS 3758E

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

(7) Field Duplicates (cont.)

The Semi-volatile And pesticide field duplicates (EW316, 317) both report the same non-detected compounds. Therefore, In my professional judgement the results of this case for All sample fractions showed overall Acceptable lab and field precision.

(8) Internal standard performance

The Volatile And Semi-volatile Internal standards were within QC limits with respect to standard Area And retention times. Therefore, the quantitative results based on these internal standards should be considered Acceptable.

(9) TCL compound identification

The Volatile And Semi-Volatile TCL compounds have been identified correctly with respect to standard retention times And standard MASS Spectral comparison. Therefore, the results for the Volatile And Semi-volatile fraction should be considered Acceptable for use.

The pesticide/PCB TCL compounds reported as not detected Are correct And should be considered acceptable.

(10) Compound quantitation And reported detection limits

For the volatile and semi volatile detection limits have been reported correctly with respect to SAS CRQL limits. Also the quantitation of compounds is correctly calculated by the appropriate quantitation ion, internal standard, And relative responce factor.

The pesticide/PCB detection limits have been reported correctly with respect to the SAS CRQL limits.

Reviewed by: John Vasinko

Phone: (312) 353-2947

Date: 5-2-88

DATA QUALIFIERS

Contractor: EnSECO

Case 9307 SAS 3958E

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

(11) System Performance

The chromatographic performance is acceptable for all sample fractions with respect to baseline stability and therefore should not affect the usability of the data.

(12) Additional Case Specific Problems

The volatile samples (EW318 and EW323) do not have a (BFB) tuning associated with them. Also the tuning data for instrument F-4 has been omitted from this case.

The results (both raw data and Form I's) for the volatile blank (Blank 3) have been omitted from the case. Overall, the results for this case should be considered acceptable with the above listed qualifiers.

Reviewed by: John Vasinno

Phone: (312) 353-2947

Date: 5-2-88

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

CASE/SAS # 9307 SAS 3758E CONTRACTOR ENSECO

Instrument # F-9	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	4-8-88 16:50			4-11-88 7:52						4-13-88 16:39					
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane															
Bromomethane															
Vinyl Chloride															
Chloroethane															
Methylene Chloride															
Acetone															
Carbon Disulfide															
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone	.013	7.44	J	.017	24.9	J				.014		J			
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				.045	63.7	J				.047		J			
Bromoform															
4-Methyl-2-Pentanone															
2-Hexanone															
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

		BLANK		BLANK		
		EW 316		EW 318MSD		
		EW 317		EW 318MSD		
		EW 319				
		to				
		EW 322				
		EW 324				
		EW 318 MS				
		EW 318MSD				

Reviewer's Initials/Date: J.V./5-2-88

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

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

CASE/SAS # 9307 SAS 3758E CONTRACTOR ENSECO

Instrument # F-10	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	4-8-88 747			4-11-88 816			4-12-88 747								
	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															
Dimethyl Phthalate															
Acenaphthylene															
3-Nitroaniline															
Acenaphthene															
2,4-Dinitrophenol															
4-Nitrophenol															
Dibenzofuran															

AFFECTED SAMPLES:

	BLANK	EW 319	
	EW 316	EW 320	
	EW 317	EW 321	
	EW 318	EW 322	
	EW-318-MS	EW 323	
	EW-318 MSD	EW 324	

Reviewer Initials/Date: J.V. 5-3-88

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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
Page 2

CASE/SAS # 9307 SAS 3758E CONTRACTOR ENSECO

Instrument #	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	4-8-88 747			4-11-88 816			4-12-88 747								
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
2,4-Dinitrotoluene															
2,6-Dinitrotoluene															
Diethylphthalate															
4-Chlorophenyl-phenylether															
Fluorene															
4-Nitroaniline															
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: J.V. / 5-2-88

Case: 9307 SAS 3758E

Contractor: ENSECO

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.

John Vashko 5-3-88

SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS 557-2490

CASE NO: 1307

SAS NO: [illegible] (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: II
SAMPLING COMPANY ②: FTT
SAMPLER: (NAME) Tim Mayers

SHIP TO: ③ Fairfield Analytical Lab 2544 Industrial Blvd. W. Sacramento, CA 95691
ATTN: Kathy Yee

SAMPLING DATE: ④
BEGIN: 4/5/88 END: 4/5/88
DATE SHIPPED: 4/4/88 CARRIER: F ⑤
AIRBILL NO: 5857267371

DATE REC'D: 4-06-88/0915
SDG NO: EW316 ⑥
REC'D BY: [illegible]
LABORATORY CONTRACT NO.: 68-D18-0069
UNIT PRICE: 888

TRANSFER TO:
DATE REC'D: ⑦
REC'D BY:
CONTRACT NO./PRICE:

Shipment (14) is not 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
FW 316	2	L	✓	✓	✓			FW1	Samples were received in good condition; packed w/vermiculite & ice. OTR, COC, and EPA Tags were received. All documents agree. NOTE: Epa tag numbers were not recorded on COC. Custody seals intact on ice chest.			
FW 317	2	L	✓	✓	✓			DUPLICATE				
FW 318	2	L	✓	✓	✓		MSD	FW2				
FW 319	2	L	✓	✓	✓			FW3				
FW 320	2	L	✓	✓	✓			FW4				
FW 321	2	L	✓	✓	✓			FW5				
FW 322	2	L	✓	✓	✓			FW6				
FW 323	2	L	✓	✓	✓			FW7				
FW 324	~~2~~ 3	L	✓	✓	✓		E/ANK	E/ANK				

Final sample FW 324

EPA Form 2075-7 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

Enseco

April 21, 1988

APR 25 1988
U.S. EPA CENTRAL
REGIONAL LAB

Joan Fisk
U.S. EPA
Hazardous Waste Investigation
401 M Street, SW
Washington, DC 20460

Dear Joan Fisk:

Enclosed are data summary sheets and documentation for samples and QA/QC comprising case 9307/3758E (SDG EW316) of Contract 68-W8-0069. These samples were received 04/06/88 and logged in under the following ENSECO CAL Lab numbers:

ENSECO CAL LAB Number	Sample I.D.
40944-1	EW316
-2	EW317
-3	EW318
-4	EW319
-5	EW320
-6	EW321
-7	EW322
-8	EW323
-9	EW324

The samples were analyzed as low concentration water samples for low detection limits on a twenty one day turnaround. No problems were encountered.

This report was checked for contractual compliance, assembled, paginated then printed and assembled by a Kodak copier/assembler. Each copy has been checked for completeness. This check may miss some individual pages. Please request by page number if any page is missing. If you have any questions, please give us a call.

Sincerely,

Michael Orbanosky
Director of GC/MS Services

Karin S. Yee
Data Control Coordinator

Enseco Incorporated
2544 Industrial Boulevard
West Sacramento, California 95691
916/372-1393 Fax: 916/372-1059

WATER SURROGATE PERCENT RECOVERY SUMMARY

CASE NO.: 9307/3758E CONTRACT LABORATORY: CALIFORNIA ANALYTICAL LABS CONTRACT NO.: 68-W8-0069 DATA PREP/RELEASE BY: [illegible]

SMO TRAFFIC NO.	VOLATILE: TOLUENE D8 (88-110)	VOLATILE: BFB (86-115)	VOLATILE: 1,2 DICHLORO ETHANE D4 (76-114)	SEMI-VOLATILE: NITRO-BENZENE D5 (35-114)	SEMI-VOLATILE: 2-FLUORO BIPHENYL (43-116)	SEMI-VOLATILE: TERPHENYL D14 (33-141)	SEMI-VOLATILE: PHENOL-D5 (10-94)	SEMI-VOLATILE: 2-FLUORO-PHENOL (21-100)	SEMI-VOLATILE: 2,4,6 TRIBROMO-PHENOL (10-123)	PESTICIDE: DIBUTYL-CHLORENDATE (24-154)**
EW 316	104	95	96	49	73	77	27	43	59	90
EW 317	100	98	102	44	68	65	31	50	65	87
EW 318	99	104	83	42	79	72	32	45	63	95
EW 319	100	103	99	52	63	70	34	46	49	88
EW 320	100	96	105	51	71	81	33	54	60	93
EW 321	103	105	113	43	65	64	30	51	61	84
EW 322	98	112	94	47	67	70	34	51	66	90
EW 323	100	99	92	52	71	72	33	50	63	92
EW 324	101	101	114	52	71	79	35	50	72	101
EW 318 MS	102	103	101	47	74	75	38	56	71	81
EW 318 MSD	100	100	97	42	72	68	31	46	55	120
VBK9880411	110	92	83	NR	NR	NR	NR	NR	NR	NR
VBK4880411A	102	99	92	NR	NR	NR	NR	NR	NR	NR
40944MB	NR	NR	NR	48	73	71	29	46	65	93
VBK9880413	100	102	97	NR	NR	NR	NR	NR	NR	NR

* VALUES ARE OUTSIDE OF CONTRACT REQUIRED QC LIMITS

** ADVISORY LIMITS ONLY

VOLATILES: 0 OUT OF 39 : OUTSIDE OF QC LIMITS
SEMI-VOLATILES: 0 OUT OF 72 : OUTSIDE OF QC LIMITS
PESTICIDES: 0 OUT OF 12 : OUTSIDE OF QC LIMITS

COMMENTS:

WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

CASE NO.: 9307/3758E CONTRACTOR: Enseco - Cal Lab CONTRACT NO.68-W8-0069

FRACTION	COMPOUND	CONC.SPIKE ADDED(ug/L) SPIKE	DUPLICATE	SAMPLE RESULT	CONC. MS	% REC	CONC. MSD	% REC	%RPD	QC LIMITS* RPD	RECOVERY
VOA	1,1-Dichloroethene	10	10	0	10	100	10	100	0	14	61-145
SMO	Trichloroethene	10	10	0	9.4	94	9.2	92	2	14	71-120
SAMPLE NO.	Chlorobenzene	10	10	0	9.4	94	9.3	93	1	13	75-130
	Toluene	10	10	2.4	10.5	81	10.5	81	0	13	76-125
EW318	Benzene	10	10	0	9.3	93	9	90	3	11	76-127
B/N	1,2,4-Trichlorobenzene	20	20	0	13.7	69	14	70	1	28	39-98
SMO	Acenaphthene	20	20	0	15	75	15.9	80	6	31	46-118
SAMPLE NO.	2,4-Dinitrotoluene	20	20	0	7	35	7	35	0	38	24-96
	Pyrene	20	20	0	13.1	66	14	70	6	31	26-127
	N-Nitrosodi-n-Propylamine	20	20	0	10.3	52	11.3	57	9	38	41-116
EW 318	1,4-Dichlorobenzene	20	20	0	13.8	69	14.6	73	6	28	36-97
ACID	Pentachlorophenol	40	40	0	21	52	19.8	50	4	50	9-103
SMO	Phenol	40	40	0	17.5	44	16.6	42	5	42	12-89
SAMPLE NO.	2-Chlorophenol	40	40	0	36.5	91	35.1	88	3	40	27-123
	4-Chloro-3-Methylphenol	40	40	0	32.5	81	28	70	15	42	23-97
EW 318	4-Nitrophenol	40	40	0	6.4	16	5.4	14	13	50	10-80
PEST	Lindane	0.0233	0.0233	0	0.015	64	0.02	86	29 *	15	56-123
SMO	Heptachlor	0.0233	0.0233	0	0.012	52	0.018	77	39 *	20	40-131
SAMPLE NO.	Aldrin	0.0233	0.0233	0	0.012	52	0.018	77	39 *	22	40-120
	Dieldrin	0.0584	0.0584	0	0.051	87	0.076	130 *	40 *	18	52-126
	Endrin	0.0584	0.0584	0	0.081	139 *	0.125	214 *	42 *	21	56-121
EW 318	4,4-DDT	0.0584	0.0584	0	0.058	99	0.085	146 *	38 *	27	38-127

* ASTERISKED VALUES ARE OUTSIDE QC LIMITS

RPD: VOAs 0 out of 5 ; outside QC limits
B/Ns 0 out of 6 ; outside QC limits
ACID 0 out of 5 ; outside QC limits
PEST 6 out of 6 ; outside QC limits

RECOVERY: VOAs 0 out of 10 ; outside QC limits
B/Ns 0 out of 12 ; outside QC limits
ACID 0 out of 10 ; outside QC limits
PEST 4 out of 12 ; outside QC limits

Comments:

FORM III

7/85

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Form V

Q. C. Report No. 78

SPIKE SAMPLE RECOVERY

LAB NAME Northern Labs

DATE 4/25/88

CASE NO. 9307

EPA Sample No. MEW 826

Lab Sample ID No. same

Units mg/kg, dry weight

Matrix Solid

Compound	Control Limit %R	Spiked Sample Result (SSR)	Sample Result (SR)	Spiked Added (SA)	%R[1]	
Metals:						
1. Aluminum	75-125	4821.85	4017.23	NR	NR	
2. Antimony	"	71.73	20.79	90.64	56.2	N
3. Arsenic	"	9.37	4.50	7.74	62.8	N
4. Barium	"	524.42	126.75	362.55	109.7	
5. Beryllium	"	9.10	0.21 u	9.06	100.4	
6. Cadmium	"	21.92	11.98	9.06	109.6	
7. Calcium	"	12500.57	11892.7	NR	NR	
8. Chromium	"	115.05	74.18	36.25	112.8	
9. Cobalt	"	103.00	[3.37]	90.64	109.9	
10. Copper	"	221.70	166.29	45.32	122.3	
11. Iron	"	30290.67	29172.46	NR	NR	
12. Lead	"	654.94	585.33	90.64	76.8	
13. Magnesium	"	3670.77	3067.81	NR	NR	
14. Manganese	"	1790.61	1476.19	90.64	346.9	
15. Mercury	"	0.02 u	0.46	0.52	0.0	N
16. Nickel	"	134.78	31.95	90.64	113.4	
17. Potassium	"	[336.08]	[270.19]	NR	NR	
18. Selenium	"	1.84	1.05 u	1.93	95.0	
19. Silver	"	15.90	8.20	9.06	85.0	
20. Sodium	"	[255.78]	[207.41]	NR	NR	
21. Thallium	"	7.40	2.09 u	9.67	76.5	
22. Vanadium	"	104.99	[7.30]	90.64	107.8	
23. Zinc	"	1314.95	1322.07	90.64	-7.8	
Other:						
Cyanide	"	41.09	54 ~~9.98 u~~	34.07	120.6	

[1] %R = [(SSR - SR)/SA] x 100

"N" - out of control

"NR" - Not required

Comments:

APR 14 REC'D

CENTRAL REGIONAL LABORATORY SAMPLE DATA REPORT
ORGANICS/INORGANICS

LOG IN DATE: 4/20/88
DUE DATE: 6/14/88

SUPERFUND 5022

THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY

CASE NUMBER/SAS No. 9307/37586 SITE NAME Linden Rd LABORATORY CRL DATE SHIPPED 4/15/88

SUPERFUND DU NUMBER 4905 EPA RPM or OSC (S.M.S.)/(CES) CERCLIS NUMBER END980904221 PAGE 2 OF 2

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				
88FA16531	EW316	—	✓	✓	✓	✓	✓	✓	✓																	
88FA16D31	EW317	—	✓	✓	✓	✓	✓	✓	✓																	
88FA16532	EW318	—	✓	✓	✓	✓	✓	✓	✓																	
88FA16533	EW319	—	✓	✓	✓	✓	✓	✓	✓																	
88FA16534	EW320	—	✓	✓	✓	✓	✓	✓	✓																	
88FA16535	EW321	—	✓	✓	✓	✓	✓	✓	✓																	
88FA16536	EW322	—	✓	✓	✓	✓	✓	✓	✓																	
88FA16537	EW323	—	✓	✓	✓	✓	✓	✓	✓																	
88FA16R04	EW324	—	✓	✓	✓	✓	✓	✓	✓																	

METHOD BLANK SUMMARY

CASE NO. 9307/3758E REGION: 5 CONTRACTOR: Ensecco - Cal Lab CONTRACT NO. 68-W8-0069

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	CONC. LEVEL	INST. ID	CAS NUMBER	COMPOUND (HSL.TIC OR UNKNOWN)	CONC.	UNITS	CRDL
VBK9880411	4/11/88	VOA	WATER	LOW	F9	67-64-1	ACETONE	2	UG/L	10
VBK4880411A	4/11/88	VOA	WATER	LOW	F4	67-64-1	ACETONE	2	UG/L	10
40944MB	4/11/88	ABN	WATER	LOW	F10	117-81-7	BIS(2ETHYLHEXYL)PHTHALATE	5	UG/L	1
40944MB	4/12/88	PEST	WATER	LOW	GC10	-	NO PESTICIDES FOUND	-	-	-
VBK9880413	4/13/88	VOA	WATER	LOW	F9	-	NO VOLATILES FOUND	-	-	-

COMMENTS:

SPECIAL COMPOUNDS

Method 624/CLP

Case:	9307/3758E				
EPA ID:	EW 316				
Lab ID:	40944-1	Enseco ID:	NA		
Matrix:	Water	Sampled:	05-Apr-88	Received:	06-Apr-88
Authorized:	06-Apr-88	Prepared:	NA	Analyzed:	11-Apr-88

Parameter	Result	Units	Reporting Limit
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	50

ND=Not Detected
NA=Not Applicable

Reported by: SDB

Approved by: BSM

The cover letter is an integral part of this report.
Rev 041588

SPECIAL COMPOUNDS

Method 624/CLP

Case:	9307/3758E				
EPA ID:	EW 317				
Lab ID:	40944-2	Enseco ID:	NA		
Matrix:	Water	Sampled:	05-Apr-88	Received:	06-Apr-88
Authorized:	06-Apr-88	Prepared:	NA	Analyzed:	11-Apr-88

Parameter	Result	Units	Reporting Limit
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	50

ND=Not Detected
NA=Not Applicable

Reported by: SDB

Approved by: BSM

The cover letter is an integral part of this report.
Rev 041588

SPECIAL COMPOUNDS

Method 624/CLP

Case: 9307/3758E
EPA ID: EW 318
Lab ID: 40944-3 Enseco ID: NA
Matrix: Water Sampled: 05-Apr-88 Received: 06-Apr-88
Authorized: 06-Apr-88 Prepared: NA Analyzed: 12-Apr-88

Parameter	Result	Units	Reporting Limit
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	50

ND=Not Detected
NA=Not Applicable

Reported by: SDB Approved by: BSM

The cover letter is an integral part of this report.
Rev 041588

SPECIAL COMPOUNDS

Method 624/CLP

Case:	9307/3758E				
EPA ID:	EW 319				
Lab ID:	40944-4	Enseco ID:	NA		
Matrix:	Water	Sampled:	05-Apr-88	Received:	06-Apr-88
Authorized:	06-Apr-88	Prepared:	NA	Analyzed:	11-Apr-88

Parameter	Result	Units	Reporting Limit
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	50

ND=Not Detected
NA=Not Applicable

Reported by: SDB

Approved by: BSM

The cover letter is an integral part of this report.
Rev 041588

SPECIAL COMPOUNDS

Method 624/CLP

Case:	9307/3758E				
EPA ID:	EW 320				
Lab ID:	40944-5	Enseco ID:	NA		
Matrix:	Water	Sampled:	05-Apr-88	Received:	06-Apr-88
Authorized:	06-Apr-88	Prepared:	NA	Analyzed:	11-Apr-88

Parameter	Result	Units	Reporting Limit
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	50

ND=Not Detected
NA=Not Applicable

Reported by: SDB

Approved by: BSM

The cover letter is an integral part of this report.
Rev 041588

SPECIAL COMPOUNDS

Method 624/CLP

Case: 9307/3758E
EPA ID: EW 321
Lab ID: 40944-6
Matrix: Water
Authorized: 06-Apr-88

Enseco ID: NA
Sampled: 05-Apr-88
Prepared: NA

Received: 06-Apr-88
Analyzed: 11-Apr-88

Parameter	Result	Units	Reporting Limit
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	50

ND=Not Detected
NA=Not Applicable

Reported by: SDB

Approved by: BSM

The cover letter is an integral part of this report.
Rev 041588

SPECIAL COMPOUNDS

Method 624/CLP

Case:	9307/3758E				
EPA ID:	EW 322				
Lab ID:	40944-7	Enseco ID:	NA		
Matrix:	Water	Sampled:	05-Apr-88	Received:	06-Apr-88
Authorized:	06-Apr-88	Prepared:	NA	Analyzed:	11-Apr-88

Parameter	Result	Units	Reporting Limit
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	50

ND=Not Detected
NA=Not Applicable

Reported by: SDB

Approved by: BSM

The cover letter is an integral part of this report.
Rev 041588

SPECIAL COMPOUNDS

Method 624/CLP

Case: 9307/3758E
EPA ID: EW 324
Lab ID: 40944-9 Enseco ID: NA
Matrix: Water Sampled: 05-Apr-88 Received: 06-Apr-88
Authorized: 06-Apr-88 Prepared: NA Analyzed: 11-Apr-88

Parameter	Result	Units	Reporting Limit
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	50

ND=Not Detected
NA=Not Applicable

Reported by: SDB Approved by: BSM

The cover letter is an integral part of this report.
Rev 041588

SPECIAL COMPOUNDS

Method 624/CLP

Case:	9307/3758E				
EPA ID:	EW 318 MS				
Lab ID:	40944-3MS	Enseco ID:	NA		
Matrix:	Water	Sampled:	05-Apr-88	Received:	06-Apr-88
Authorized:	06-Apr-88	Prepared:	NA	Analyzed:	13-Apr-88

Parameter	Result	Units	Reporting Limit
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	50

ND=Not Detected
NA=Not Applicable

Reported by: SDB

Approved by: BSM

The cover letter is an integral part of this report.
Rev 041588

SPECIAL COMPOUNDS

Method 624/CLP

Case:	9307/3758E				
EPA ID:	EW 318 MSD				
Lab ID:	40944-3MSD	Enseco ID:	NA		
Matrix:	Water	Sampled:	05-Apr-88	Received:	06-Apr-88
Authorized:	06-Apr-88	Prepared:	NA	Analyzed:	13-Apr-88

Parameter	Result	Units	Reporting Limit
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	50

ND=Not Detected
NA=Not Applicable

Reported by: SDB

Approved by: BSM

The cover letter is an integral part of this report.
Rev 041588

SPECIAL COMPOUNDS

Method 624/CLP

Case:	9307/3758E				
EPA ID:	VOA BLANK				
Lab ID:	VBK9880411	Enseco ID:	NA		
Matrix:	Water	Sampled:	NA	Received:	NA
Authorized:	NA	Prepared:	NA	Analyzed:	11-Apr-88

Parameter	Result	Units	Reporting Limit
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	50

ND=Not Detected
NA=Not Applicable

Reported by: SDB

Approved by: BSM

The cover letter is an integral part of this report.
Rev 041588

SPECIAL COMPOUNDS

Method 624/CLP

Case:	9307/3758E				
EPA ID:	VOA BLANK				
Lab ID:	VBK488011A	Enseco ID:	NA		
Matrix:	Water	Sampled:	NA	Received:	NA
Authorized:	NA	Prepared:	NA	Analyzed:	12-Apr-88

Parameter	Result	Units	Reporting Limit
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	50

ND=Not Detected
NA=Not Applicable

Reported by: SDB

Approved by: BSM

The cover letter is an integral part of this report.
Rev 041588

SPECIAL COMPOUNDS

Method 624/CLP

Case:	9307/3758E				
EPA ID:	VOA BLANK				
Lab ID:	VBK9880413	Enseco ID:	NA		
Matrix:	Water	Sampled:	NA	Received:	NA
Authorized:	NA	Prepared:	NA	Analyzed:	13-Apr-88

Parameter	Result	Units	Reporting Limit
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	50

ND=Not Detected
NA=Not Applicable

Reported by: SDB

Approved by: BSM

The cover letter is an integral part of this report.
Rev 041588

Sample Number
EW316

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: ENSECO CAL LAB

Case No: 9307/3758E

Lab Sample ID No: 40944-1

QC Report No: 3758E

Sample Matrix: WATER

Contract No: 68-W8-0069

Data Release Authorized By:

Date Sample Received: 4/6/88

Volatile Compounds

Concentration: Low

Date Extracted/Prepared: 4/11/88

Date Analyzed: 4/11/88

Conc/Dil Factor: 1 pH: NR

Percent Moisture: NR

Percent Moisture (Decanted): NR

CAS Number		ug/L
74-87-3	Chloromethane	5 U
74-83-9	Bromomethane	5 U
75-01-4	Vinyl Chloride	5 U
75-00-3	Chloroethane	1 U
75-09-2	Methylene Chloride	5 U
67-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	1 U
75-35-4	1,1-Dichloroethene	1 U
75-34-3	1,1-Dichloroethane	1 U
156-60-5	Trans-1,2-Dichloroethene	1 U
67-66-3	Chloroform	1 U
107-06-2	1,2-Dichloroethane	1 U
78-93-3	2-Butanone	10 U
71-55-6	1,1,1-Trichloroethane	1 U
56-23-5	Carbon Tetrachloride	1 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	1 U

CAS Number		ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1 U
78-87-5	1,2-Dichloropropane	1 U
10061-02-6	Trans-1,3-Dichloropropene	1 U
79-01-6	Trichloroethene	1 U
124-48-1	Dibromochloromethane	1 U
79-00-5	1,1,2-Trichloroethane	1 U
71-43-2	Benzene	1 U
10061-01-5	cis-1,3-Dichloropropene	1 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	1 U
591-78-6	2-Hexanone	10 U
108-10-1	4-Methyl-2-Pentanone	10 U
127-18-4	Tetrachloroethene	1 U
108-88-3	Toluene	2
108-90-7	Chlorobenzene	1 U
100-41-4	Ethylbenzene	1 U
100-42-5	Styrene	1 U
	Total Xylenes	1 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U - Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J). If limit of detection is 10ug/l and a concentration of 3ug/l is calculated, report as 3J

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10ng/ul in the final extract should be confirmed by GC/MS

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

NA Not Analyzed.
See cover letter.
NR Not Required.
S Spiked Compound

Sample Number
EW317

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: ENSECO CAL LAB

Case No: 9307/3758E

Lab Sample ID No: 40944-2

QC Report No: 3758E

Sample Matrix: WATER

Contract No: 68-W8-0069

Data Release Authorized By:

Date Sample Received: 4/6/88

Volatile Compounds

Concentration: Low

Date Extracted/Prepared: 4/11/88

Date Analyzed: 4/11/88

Conc/Dil Factor: 1 pH: NR

Percent Moisture: NR

Percent Moisture (Decanted): NR

CAS Number		ug/L
74-87-3	Chloromethane	5 U
74-83-9	Bromomethane	5 U
75-01-4	Vinyl Chloride	5 U
75-00-3	Chloroethane	1 U
75-09-2	Methylene Chloride	5 U
67-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	1 U
75-35-4	1,1-Dichloroethene	1 U
75-34-3	1,1-Dichloroethane	1 U
156-60-5	Trans-1,2-Dichloroethene	1 U
67-66-3	Chloroform	1 U
107-06-2	1,2-Dichloroethane	1 U
78-93-3	2-Butanone	10 U
71-55-6	1,1,1-Trichloroethane	1 U
56-23-5	Carbon Tetrachloride	1 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	1 U

CAS Number		ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1 U
78-87-5	1,2-Dichloropropane	1 U
10061-02-6	Trans-1,3-Dichloropropene	1 U
79-01-6	Trichloroethene	1 U
124-48-1	Dibromochloromethane	1 U
79-00-5	1,1,2-Trichloroethane	1 U
71-43-2	Benzene	1 U
10061-01-5	cis-1,3-Dichloropropene	1 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	1 U
591-78-6	2-Hexanone	10 U
108-10-1	4-Methyl-2-Pentanone	10 U
127-18-4	Tetrachloroethene	1 U
108-88-3	Toluene	1
108-90-7	Chlorobenzene	1 U
100-41-4	Ethylbenzene	1 U
100-42-5	Styrene	1 U
	Total Xylenes	1 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/ dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U - Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J). If limit of detection is 10ug/l and a concentration of 3ug/l is calculated, report as 3J

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10ng/ul in the final extract should be confirmed by GC/MS

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

NA Not Analyzed.
See cover letter.
NR Not Required.
S Spiked Compound.

Sample Number
EW318

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: ENSECO CAL LAB
Case No: 2307/3758E
Lab Sample ID No: 40944-3
QC Report No: 3758E
Sample Matrix: WATER
Contract No: 88-W8-0069
Data Release Authorized By:
Date Sample Received: 4/6/88

Volatile Compounds

Concentration: Low
Date Extracted/Prepared: 4/11/88
Date Analyzed: 4/11/88
Conc/Dil Factor: 1 pH: NR
Percent Moisture: NR
Percent Moisture (Decanted): NR

CAS Number		ug/L
74-87-3	Chloromethane	5 U
74-83-9	Bromomethane	5 U
75-01-4	Vinyl Chloride	5 U
75-00-3	Chloroethane	1 U
75-09-2	Methylene Chloride	5 U
67-64-1	Acetone	3 JB
75-15-0	Carbon Disulfide	1 U
75-35-4	1,1-Dichloroethene	1 U
75-34-3	1,1-Dichloroethane	1 U
156-60-5	Trans-1,2-Dichloroethene	1 U
67-66-3	Chloroform	1 U
107-06-2	1,2-Dichloroethane	1 U
78-93-3	2-Butanone	10 U
71-55-6	1,1,1-Trichloroethane	1 U
56-23-5	Carbon Tetrachloride	1 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	1 U

CAS Number		ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1 U
78-87-5	1,2-Dichloropropane	1 U
10061-02-6	Trans-1,3-Dichloropropene	1 U
79-01-6	Trichloroethene	1 U
124-48-1	Dibromochloromethane	1 U
79-00-5	1,1,2-Trichloroethane	1 U
71-43-2	Benzene	1 U
10061-01-5	cis-1,3-Dichloropropene	1 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	1 U
591-78-6	2-Hexanone	10 U
108-10-1	4-Methyl-2-Pentanone	10 U
127-18-4	Tetrachloroethene	1 U
108-88-3	Toluene	2
108-90-7	Chlorobenzene	1 U
100-41-4	Ethylbenzene	1 U
100-42-5	Styrene	1 U
	Total Xylenes	1 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U - Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J). If limit of detection is 10ug/l and a concentration of 3ug/l is calculated, report as 3J

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10ng/ul in the final extract should be confirmed by GC/MS

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

NA Not Analyzed
S See cover letter.
NR Not Required
S Spiked Compound

Sample Number
EW319

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: ENSECO CAL LAB
Case No: 9307/3758E
Lab Sample ID No: 40944-4
QC Report No: 3758E
Sample Matrix: WATER
Contract No: 68-W8-0069
Data Release Authorized By:
Date Sample Received: 4/6/88

Volatile Compounds

Concentration: Low
Date Extracted/Prepared: 4/11/88
Date Analyzed: 4/11/88
Conc/Dil Factor: 1 pH: NR
Percent Moisture: NR
Percent Moisture (Decanted): NR

CAS Number		ug/L
74-87-3	Chloromethane	5 U
74-83-9	Bromomethane	5 U
75-01-4	Vinyl Chloride	5 U
75-00-3	Chloroethane	1 U
75-09-2	Methylene Chloride	5 U
67-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	1 U
75-35-4	1,1-Dichloroethene	1 U
75-34-3	1,1-Dichloroethane	1 U
156-60-5	Trans-1,2-Dichloroethene	1 U
67-66-3	Chloroform	1 U
107-06-2	1,2-Dichloroethane	1 U
78-93-3	2-Butanone	10 U
71-55-6	1,1,1-Trichloroethane	10
56-23-5	Carbon Tetrachloride	1 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	1 U

CAS Number		ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1 U
78-87-5	1,2-Dichloropropane	1 U
10061-02-6	Trans-1,3-Dichloropropene	1 U
79-01-6	Trichloroethene	1 U
124-48-1	Dibromochloromethane	1 U
79-00-5	1,1,2-Trichloroethane	1 U
71-43-2	Benzene	1 U
10061-01-5	cis-1,3-Dichloropropene	1 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	1 U
591-78-6	2-Hexanone	10 U
108-10-1	4-Methyl-2-Pentanone	10 U
127-18-4	Tetrachloroethene	1 U
108-88-3	Toluene	1
108-90-7	Chlorobenzene	1 U
100-41-4	Ethylbenzene	1 U
100-42-5	Styrene	1 U
	Total Xylenes	1 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/ dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U - Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J). If limit of detection is 10ug/l and a concentration of 3ug/l is calculated, report as 3J

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10ng/ul in the final extract should be confirmed by GC/MS

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

NA Not Analyzed.
See cover letter.
NR Not Required
S Spiked Compound

Sample Number
EW320

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: ENSECO CAL LAB
Case No: 9307/3758E
Lab Sample ID No: 40944-5
QC Report No: 3758E
Sample Matrix: WATER
Contract No: 68-W8-0069
Data Release Authorized By:
Date Sample Received: 4/6/88

Volatile Compounds

Concentration: Low
Date Extracted/Prepared: 4/11/88
Date Analyzed: 4/11/88
Conc/Dil Factor: 1 pH: NR
Percent Moisture: NR
Percent Moisture (Decanted): NR

CAS Number		ug/L
74-87-3	Chloromethane	5 U
74-83-9	Bromomethane	5 U
75-01-4	Vinyl Chloride	5 U
75-00-3	Chloroethane	1 U
75-09-2	Methylene Chloride	5 U
67-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	1 U
75-35-4	1,1-Dichloroethene	1 U
75-34-3	1,1-Dichloroethane	1 U
156-60-5	Trans-1,2-Dichloroethene	1 U
67-66-3	Chloroform	1 U
107-06-2	1,2-Dichloroethane	1 U
78-93-3	2-Butanone	10 U
71-55-6	1,1,1-Trichloroethane	1 U
56-23-5	Carbon Tetrachloride	1 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	1 U

CAS Number		ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1 U
78-87-5	1,2-Dichloropropane	1 U
10061-02-6	Trans-1,3-Dichloropropene	1 U
79-01-6	Trichloroethene	1 U
124-48-1	Dibromochloromethane	1 U
79-00-5	1,1,2-Trichloroethane	1 U
71-43-2	Benzene	1 U
10061-01-5	cis-1,3-Dichloropropene	1 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	1 U
591-78-6	2-Hexanone	10 U
108-10-1	4-Methyl-2-Pentanone	10 U
127-18-4	Tetrachloroethene	1 U
108-88-3	Toluene	1
108-90-7	Chlorobenzene	1 U
100-41-4	Ethylbenzene	1 U
100-42-5	Styrene	1 U
	Total Xylenes	1 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U - Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J). If limit of detection is 10ug/l and a concentration of 3ug/l is calculated, report as 3J

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10ng/ul in the final extract should be confirmed by GC/MS

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

NA Not Analyzed
See cover letter.
NR Not Required
S Spiked Compound.

ORGANICS ANALYSIS DATA SHEET
PAGE 4
TENTATIVELY IDENTIFIED COMPOUNDS

EW320

LAB NAME: CAL 3758E CASE NO. 9307/3758E SAMPLE NO. ~~9307~~/3

REPORT NO. LAB SAMPLE NO. 4094405V

PROBABILITY THAT IDENTIFICATION IS CORRECT:
A= HIGH B= MODERATE C= LOW D= SEE ABN

CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	ESTIMATED CONC. J VALUE
75-43-4	METHANE, DICHLOROFLUORO-	VOA	71	951	2.2 UG/L

COMPOUND NAME	PROBABILITY	COMMENTS
METHANE, DICHLOROFLUORO-	1. A 1.	

FORM 1, PART B

Sample Number
EW321

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: ENSECO CAL LAB

Case No: 9307/3758E

Lab Sample ID No: 40944-6

QC Report No: 3758E

Sample Matrix: WATER

Contract No: 68-W8-0069

Data Release Authorized By:

Date Sample Received: 4/5/88

Volatile Compounds

Concentration: Low

Date Extracted/Prepared: 4/11/88

Date Analyzed: 4/11/88

Conc/Dil Factor: 1 pH: NR

Percent Moisture: NR

Percent Moisture (Decanted): NR

CAS Number		ug/L
74-87-3	Chloromethane	5 U
74-83-9	Bromomethane	5 U
75-01-4	Vinyl Chloride	5 U
75-00-3	Chloroethane	1 U
75-09-2	Methylene Chloride	5 U
67-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	1 U
75-35-4	1,1-Dichloroethene	1 U
75-34-3	1,1-Dichloroethane	1 U
156-60-5	Trans-1,2-Dichloroethene	1 U
67-66-3	Chloroform	1 U
107-06-2	1,2-Dichloroethane	1 U
78-93-3	2-Butanone	10 U
71-55-6	1,1,1-Trichloroethane	1 U
56-23-5	Carbon Tetrachloride	1 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	1 U

CAS Number		ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1 U
78-87-5	1,2-Dichloropropane	1 U
10061-02-6	Trans-1,3-Dichloropropene	1 U
79-01-6	Trichloroethene	1 U
124-48-1	Dibromochloromethane	1 U
79-00-5	1,1,2-Trichloroethane	1 U
71-43-2	Benzene	1 U
10061-01-5	cis-1,3-Dichloropropene	1 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	1 U
591-78-6	2-Hexanone	10 U
108-10-1	4-Methyl-2-Pentanone	10 U
127-18-4	Tetrachloroethene	1 U
108-88-3	Toluene	1 U
108-90-7	Chlorobenzene	1 U
100-41-4	Ethylbenzene	1 U
100-42-5	Styrene	1 U
	Total Xylenes	1 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/ dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U - Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J). If limit of detection is 10ug/l and a concentration of 3ug/l is calculated, report as 3J

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10ng/ul in the final extract should be confirmed by GC/MS

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

NA Not Analyzed.
See cover letter.
NR Not Required.
S Spiked Compound.

Sample Number
EW322

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: ENSECO CAL LAB

Case No: 2307/3758E

Lab Sample ID No: 40944-7

QC Report No: 3758E

Sample Matrix: WATER

Contract No: 68-W8-0069

Data Release Authorized By:

Date Sample Received: 4/6/88

Volatile Compounds

Concentration: Low

Date Extracted/Prepared: 4/11/88

Date Analyzed: 4/11/88

Conc/Dil Factor: 1 pH: NR

Percent Moisture: NR

Percent Moisture (Decanted): NR

CAS Number		ug/L
74-87-3	Chloromethane	5 U
74-83-9	Bromomethane	5 U
75-01-4	Vinyl Chloride	5 U
75-00-3	Chloroethane	1 U
75-09-2	Methylene Chloride	5 U
67-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	1 U
75-35-4	1,1-Dichloroethene	1 U
75-34-3	1,1-Dichloroethane	1 U
156-60-5	Trans-1,2-Dichloroethene	1 U
67-66-3	Chloroform	1 U
107-06-2	1,2-Dichloroethane	1 U
78-93-3	2-Butanone	10 U
71-55-6	1,1,1-Trichloroethane	1 U
56-23-5	Carbon Tetrachloride	1 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	1 U

CAS Number		ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1 U
78-87-5	1,2-Dichloropropane	1 U
10061-02-6	Trans-1,3-Dichloropropene	1 U
79-01-6	Trichloroethene	1 U
124-48-1	Dibromochloromethane	1 U
79-00-5	1,1,2-Trichloroethane	1 U
71-43-2	Benzene	1 U
10061-01-5	cis-1,3-Dichloropropene	1 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	1 U
591-78-6	2-Hexanone	10 U
108-10-1	4-Methyl-2-Pentanone	10 U
127-18-4	Tetrachloroethene	1 U
108-88-3	Toluene	1 U
108-90-7	Chlorobenzene	1 U
100-41-4	Ethylbenzene	1 U
100-42-5	Styrene	1 U
	Total Xylenes	1 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/ dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U - Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J). If limit of detection is 10ug/l and a concentration of 3ug/l is calculated, report as 3J

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10ng/ul in the final extract should be confirmed by GC/MS

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

NA Not Analyzed.
See cover letter.
NR Not Required.
S Spiked Compound.

Sample Number
EW323

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: ENSECO CAL LAB

Case No: 9307/3758E

Lab Sample ID No: 40944-8

QC Report No: 3758E

Sample Matrix: WATER

Contract No: 68-W8-0069

Data Release Authorized By: [signature]

Date Sample Received: 4/6/88

Volatile Compounds

Concentration: Low

Date Extracted/Prepared: 4/11/88

Date Analyzed: 4/11/88

Conc/Dil Factor: 1 pH: NR

Percent Moisture: NR

Percent Moisture (Decanted): NR

CAS Number		ug/L
74-87-3	Chloromethane	5 U
74-83-9	Bromomethane	5 U
75-01-4	Vinyl Chloride	5 U
75-00-3	Chloroethane	1 U
75-09-2	Methylene Chloride	5 U
67-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	1 U
75-35-4	1,1-Dichloroethene	1 U
75-34-3	1,1-Dichloroethane	1 U
156-60-5	Trans-1,2-Dichloroethene	1 U
67-66-3	Chloroform	1 U
107-06-2	1,2-Dichloroethane	1 U
78-93-3	2-Butanone	10 U
71-55-6	1,1,1-Trichloroethane	1 U
56-23-5	Carbon Tetrachloride	1 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	1 U

CAS Number		ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1 U
78-87-5	1,2-Dichloropropane	1 U
10061-02-6	Trans-1,3-Dichloropropene	1 U
79-01-6	Trichloroethene	1 U
124-48-1	Dibromochloromethane	1 U
79-00-5	1,1,2-Trichloroethane	1 U
71-43-2	Benzene	1 U
10061-01-5	cis-1,3-Dichloropropene	1 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	1 U
591-78-6	2-Hexanone	10 U
108-10-1	4-Methyl-2-Pentanone	10 U
127-18-4	Tetrachloroethene	1 U
108-88-3	Toluene	2
108-90-7	Chlorobenzene	1 U
100-41-4	Ethylbenzene	1 U
100-42-5	Styrene	1 U
	Total Xylenes	1 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U - Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J). If limit of detection is 10ug/l and a concentration of 3ug/l is calculated, report as 3J

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10ng/ul in the final extract should be confirmed by GC/MS

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

NA Not Analyzed.
See cover letter.
NR Not Required.
S Spiked Compound.

Sample Number
EW324

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: ENSECO CAL LAB

Case No: 9307/3758E

Lab Sample ID No: 40944-9

QC Report No: 3758E

Sample Matrix: WATER

Contract No: 68-W8-0069

Data Release Authorized By:

Date Sample Received: 4/6/88

Volatile Compounds

Concentration: Low

Date Extracted/Prepared: 4/11/88

Date Analyzed: 4/11/88

Conc/Dil Factor: 1 pH: NR

Percent Moisture: NR

Percent Moisture (Decanted): NR

CAS Number		ug/L
74-87-3	Chloromethane	5 U
74-83-9	Bromomethane	5 U
75-01-4	Vinyl Chloride	5 U
75-00-3	Chloroethane	1 U
75-09-2	Methylene Chloride	5 U
67-64-1	Acetone	9 ~~10~~ U J.V. 5-3-88
75-15-0	Carbon Disulfide	1 U
75-35-4	1,1-Dichloroethene	1 U
75-34-3	1,1-Dichloroethane	1 U
156-60-5	Trans-1,2-Dichloroethene	1 U
67-66-3	Chloroform	1 U
107-06-2	1,2-Dichloroethane	1 U
78-93-3	2-Butanone	10 U
71-55-6	1,1,1-Trichloroethane	1 U
56-23-5	Carbon Tetrachloride	1 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	1 U

CAS Number		ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1 U
78-87-5	1,2-Dichloropropane	1 U
10061-02-6	Trans-1,3-Dichloropropene	1 U
79-01-6	Trichloroethene	1 U
124-48-1	Dibromochloromethane	1 U
79-00-5	1,1,2-Trichloroethane	1 U
71-43-2	Benzene	1 U
10061-01-5	cis-1,3-Dichloropropene	1 U
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	1 U
591-78-6	2-Hexanone	10 U
108-10-1	4-Methyl-2-Pentanone	10 U
127-18-4	Tetrachloroethene	1 U
108-88-3	Toluene	3
108-90-7	Chlorobenzene	1 U
100-41-4	Ethylbenzene	1 U
100-42-5	Styrene	1 U
	Total Xylenes	1 U

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

Value If the result is a value greater than or equal to the detection limit, report the value.

U Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U - Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. (e.g. 10J). If limit of detection is 10ug/l and a concentration of 3ug/l is calculated, report as 3J

C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10ng/ul in the final extract should be confirmed by GC/MS

B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

NA Not Analyzed.
See cover letter.
NR Not Required.
S Spiked Compound.

CLF: 11/14/85 Form I Prepared by: 10/85

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ORGANICS ANALYSIS DATA SHEET
PAGE 4
TENTATIVELY IDENTIFIED COMPOUNDS

LAB NAME: CAL CASE NO. 9307/3758E SAMPLE NO. EW324
C REPORT NO. 3758E LAB SAMPLE NO. 4094409V

PROBABILITY THAT IDENTIFICATION IS CORRECT:
A= HIGH B= MODERATE C= LOW D= SEE ABN

	CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	ESTIMATED CONC. J VALUE
1.	75-28-5	PROPANE, 2-METHYL-	VOA	72	926	3.3 UG/L

COMPOUND NAME	PROBABILITY	COMMENTS
1. PROPANE, 2-METHYL-	1. A	1.

FORM 1, PART B

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 316

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low

Date Extracted/Prepared: 4/7/88

Date Analyzed: 4/11/88

Conc/Dil. Factor: 1

GPC Cleanup: NO

Separatory Funnel Extraction: YES

Continuous Liquid - Liquid Extraction: NO

CAS Number		ug/L
108-95-2	Phenol	1.0 U
111-44-4	bis(-2-Chloroethyl)Ether	1.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	1.0 U
39638-32-9	bis(2-chloroisopropyl)Ether	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-n-Propylamine	1.0 U
67-72-1	Hexachloroethane	1.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	1.0 U
105-67-9	2,4-Dimethylphenol	1.0 U
65-85-0	Benzoic Acid	20 U
111-91-1	bis(-2-Chloroethoxy)Methane	1.0 U
120-83-2	2,4-Dichlorophenol	1.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	1.0 U
87-68-3	Hexachlorobutadiene	1.0 U
59-50-7	4-Chloro-3-Methylphenol	1.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	1.0 U
88-06-2	2,4,6-Trichlorophenol	1.0 U
95-95-4	2,4,5-Trichlorophenol	1.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethyl Phthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	5.0 U

CAS Number		ug/L
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	15 U
100-02-7	4-Nitrophenol	15 U
132-64-9	Dibenzofuran	1.0 U
121-14-2	2,4-Dinitrotoluene	1.0 U
606-20-2	2,6-Dinitrotoluene	1.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	15 U
86-30-6	N-Nitrosodiphenylamine(1)	1.5 U
101-55-3	4-Bromophenyl-phenylether	1.5 U
118-74-1	Hexachlorobenzene	1.5 U
87-86-5	Pentachlorophenol	2.0 U
85-01-8	Phenanthrene	1.0 U
120-12-7	Anthracene	2.5 U
84-74-2	Di-n-Butylphthalate	2.0 U
206-44-0	Fluoranthene	1.5 U
129-00-0	Pyrene	1.5 U
85-68-7	Butylbenzylphthalate	3.5 U
91-94-1	3,3'-Dichlorobenzidine	20 U
56-55-3	Benzo(a)Anthracene	1.5 U
117-81-7	bis(2-Ethylhexyl)Phthalate	6.8 U
218-01-9	Chrysene	1.5 U
117-84-0	Di-n-Octyl Phthalate	1.5 U
205-99-2	Benzo(b)Fluoranthene	1.5 U
207-08-9	Benzo(k)Fluoranthene	1.5 U
50-32-8	Benzo(a)Pyrene	2.0 U
193-39-5	Indeno(1,2,3-cd)Pyrene	3.5 U
53-70-3	Dibenz(a,h)Anthracene	2.5 U
191-24-2	Benzo(g,h,i)Perylene	4.0 U

J.V. 5-3-8

(1) - Cannot be separated from diphenylamine

ORGANICS ANALYSIS DATA SHEET
Page 4
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CAL Case No. 9307/3758E Sample No. EW-316

Report No 3758E Lab Sample No. 4094401AB

Probability that Identification is Correct:
A= HIGH B= MODERATE C= UNKNOWN D= SOLVENT IMPURITY, see VOA

CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	Estimated CONC. J VALUE
	No A/BN				

No volatile compounds

FORM 1, PART B

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 317

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low

Date Extracted/Prepared: 4/7/88

Date Analyzed: 4/11/88

Conc/DiL Factor: 1

GPC Cleanup: NO

Separatory Funnel Extraction: YES

Continuous Liquid - Liquid Extraction: NO

CAS Number		ug/L
108-95-2	Phenol	1.0 U
111-44-4	bis(-2-Chloroethyl)Ether	1.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	1.0 U
39638-32-9	bis(2-chloroisopropyl)Ether	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-n-Propylamine	1.0 U
67-72-1	Hexachloroethane	1.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	1.0 U
105-67-9	2,4-Dimethylphenol	1.0 U
65-85-0	Benzoic Acid	20 U
111-91-1	bis(-2-Chloroethoxy)Methane	1.0 U
120-83-2	2,4-Dichlorophenol	1.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	1.0 U
87-68-3	Hexachlorobutadiene	1.0 U
59-50-7	4-Chloro-3-Methylphenol	1.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	1.0 U
88-06-2	2,4,6-Trichlorophenol	1.0 U
95-95-4	2,4,5-Trichlorophenol	1.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethyl Phthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	5.0 U

CAS Number		ug/L
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	15 U
100-02-7	4-Nitrophenol	15 U
132-64-9	Dibenzofuran	1.0 U
121-14-2	2,4-Dinitrotoluene	1.0 U
606-20-2	2,6-Dinitrotoluene	1.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	15 U
86-30-6	N-Nitrosodiphenylamine(1)	1.5 U
101-55-3	4-Bromophenyl-phenylether	1.5 U
118-74-1	Hexachlorobenzene	1.5 U
87-86-5	Pentachlorophenol	2.0 U
85-01-8	Phenanthrene	1.0 U
120-12-7	Anthracene	2.5 U
84-74-2	Di-n-Butylphthalate	2.0 U
206-44-0	Fluoranthene	1.5 U
129-00-0	Pyrene	1.5 U
85-68-7	Butylbenzylphthalate	3.5 U
91-94-1	3,3'-Dichlorobenzidine	20 U
56-55-3	Benzo(a)Anthracene	1.5 U
117-81-7	bis(2-Ethylhexyl)Phthalate	11.5 U
218-01-9	Chrysene	1.5 U
117-84-0	Di-n-Octyl Phthalate	1.5 U
205-99-2	Benzo(b)Fluoranthene	1.5 U
207-08-9	Benzo(k)Fluoranthene	1.5 U
50-32-8	Benzo(a)Pyrene	2.0 U
193-39-5	Indeno(1,2,3-cd)Pyrene	3.5 U
53-70-3	Dibenz(a,h)Anthracene	2.5 U
191-24-2	Benzo(g,h,i)Perylene	4.0 U

J.V. 5-3-2

(1) - Cannot be separated from diphenylamine

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CLF: 10/11/85 Form I Prepared by: 7/85

ORGANICS ANALYSIS DATA SHEET
Page 4
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name CAL Case No. 9307/3758E Sample No. EW-317

3 Report No. 3758E Lab Sample No. 4094402A6

Probability that Identification is Correct:
A= HIGH B= MODERATE C= UNKNOWN D= SOLVENT IMPURITY, see VOA

CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	Estimated CONC. J VALUE
	No A/BN				

No Volatile Compounds

FORM 1, PART B

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 318

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low
Date Extracted/Prepared: 4/7/88
Date Analyzed: 4/11/88
Conc/DIL Factor: 1

GPC Cleanup: NO
Separatory Funnel Extraction: YES
Continuous Liquid - Liquid Extraction: NO

CAS Number		ug/L
108-95-2	Phenol	1.0 U
111-44-4	bis(-2-Chloroethyl)Ether	1.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	1.0 U
39638-32-9	bis(2-chloroisopropyl)Ether	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-n-Propylamine	1.0 U
67-72-1	Hexachloroethane	1.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	1.0 U
105-67-9	2,4-Dimethylphenol	1.0 U
65-85-0	Benzoic Acid	20 U
111-91-1	bis(-2-Chloroethoxy)Methane	1.0 U
120-83-2	2,4-Dichlorophenol	1.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	3
106-47-8	4-Chloroaniline	1.0 U
87-68-3	Hexachlorobutadiene	1.0 U
59-50-7	4-Chloro-3-Methylphenol	1.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	1.0 U
88-06-2	2,4,6-Trichlorophenol	1.0 U
95-95-4	2,4,5-Trichlorophenol	1.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethyl Phthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	5.0 U

CAS Number		ug/L
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	15 U
100-02-7	4-Nitrophenol	15 U
132-64-9	Dibenzofuran	1.0 U
121-14-2	2,4-Dinitrotoluene	1.0 U
606-20-2	2,6-Dinitrotoluene	1.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	15 U
86-30-6	N-Nitrosodiphenylamine(1)	1.5 U
101-55-3	4-Bromophenyl-phenylether	1.5 U
118-74-1	Hexachlorobenzene	1.5 U
87-86-5	Pentachlorophenol	2.0 U
85-01-8	Phenanthrene	1.0 U
120-12-7	Anthracene	2.5 U
84-74-2	Di-n-Butylphthalate	2.0 U
206-44-0	Fluoranthene	1.5 U
129-00-0	Pyrene	1.5 U
85-68-7	Butylbenzylphthalate	3.5 U
91-94-1	3,3'-Dichlorobenzidine	20 U
56-55-3	Benzo(a)Anthracene	1.5 U
117-81-7	bis(2-Ethylhexyl)Phthalate	5.5 u
218-01-9	Chrysene	1.5 U
117-84-0	Di-n-Octyl Phthalate	1.5 U
205-99-2	Benzo(b)Fluoranthene	1.5 U
207-08-9	Benzo(k)Fluoranthene	1.5 U
50-32-8	Benzo(a)Pyrene	2.0 U
193-39-5	Indeno(1,2,3-cd)Pyrene	3.5 U
53-70-3	Dibenz(a,h)Anthracene	2.5 U
191-24-2	Benzo(g,h,i)Perylene	4.0 U

J.V, 5-3-2

(1) - Cannot be separated from Diphenylamine

CLF: 10/11/85 Form I Prepared by: _____ 7/85

ORGANICS ANALYSIS DATA SHEET
Page 4
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CAL Case No. 9307/3758E Sample No. EW-318

GC Report No. 3758E Lab Sample No. 4094403AB

Probability that Identification is Correct:
A= HIGH B= MODERATE C= UNKNOWN D= SOLVENT IMPURITY, see VOA

	CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	Estimated CONC. J VALUE
1.	625-06-9	2-PENTANOL, 2,4-DIMETHYL-	A/BN	270	820	16.4 UG/L

COMPOUND NAME	PROBABILITY	COMMENTS
2-PENTANOL, 2,4-DIMETHYL-	1. C	1.

Raymond L. James Chemist

FORM 1, PART B

No volatile compounds

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 319

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low

Date Extracted/Prepared: 4/7/88

Date Analyzed: 4/12/88

Conc/DiL Factor: 1

GPC Cleanup: NO

Separatory Funnel Extraction: YES

Continuous Liquid - Liquid Extraction: NO

CAS Number		ug/L
108-95-2	Phenol	1.0 U
111-44-4	bis(-2-Chloroethyl)Ether	1.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	1.0 U
39638-32-9	bis(2-chloroisopropyl)Ether	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-n-Propylamine	1.0 U
67-72-1	Hexachloroethane	1.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	1.0 U
105-67-9	2,4-Dimethylphenol	1.0 U
65-85-0	Benzoic Acid	20 U
111-91-1	bis(-2-Chloroethoxy)Methane	1.0 U
120-83-2	2,4-Dichlorophenol	1.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	1.0 U
87-68-3	Hexachlorobutadiene	1.0 U
59-50-7	4-Chloro-3-Methylphenol	1.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	1.0 U
88-06-2	2,4,6-Trichlorophenol	1.0 U
95-95-4	2,4,5-Trichlorophenol	1.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethyl Phthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	5.0 U

CAS Number		ug/L
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	15 U
100-02-7	4-Nitrophenol	15 U
132-64-9	Dibenzofuran	1.0 U
121-14-2	2,4-Dinitrotoluene	1.0 U
606-20-2	2,6-Dinitrotoluene	1.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	15 U
86-30-6	N-Nitrosodiphenylamine(1)	1.5 U
101-55-3	4-Bromophenyl-phenylether	1.5 U
118-74-1	Hexachlorobenzene	1.5 U
87-86-5	Pentachlorophenol	2.0 U
85-01-8	Phenanthrene	1.0 U
120-12-7	Anthracene	2.5 U
84-74-2	Di-n-Butylphthalate	2.0 U
206-44-0	Fluoranthene	1.5 U
129-00-0	Pyrene	1.5 U
85-68-7	Butylbenzylphthalate	3.5 U
91-94-1	3,3'-Dichlorobenzidine	20 U
56-55-3	Benzo(a)Anthracene	1.5 U
117-81-7	bis(2-Ethylhexyl)Phthalate	5 ~~J~~ U
218-01-9	Chrysene	1.5 U
117-84-0	Di-n-Octyl Phthalate	1.5 U
205-99-2	Benzo(b)Fluoranthene	1.5 U
207-08-9	Benzo(k)Fluoranthene	1.5 U
50-32-8	Benzo(a)Pyrene	2.0 U
193-39-5	Indeno(1,2,3-cd)Pyrene	3.5 U
53-70-3	Dibenz(a,h)Anthracene	2.5 U
191-24-2	Benzo(g,h,i)Perylene	4.0 U

I.V. 5-3-88

(1) - Cannot be separated from diphenylamine

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ORGANICS ANALYSIS DATA SHEET
Page 4
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name CAL Case No. 9307/3758E Sample No. EW 319

Report No 3758E Lab Sample No. 4094404AB

Probability that Identification is Correct:
A= HIGH B= MODERATE C= UNKNOWN D= SOLVENT IMPURITY, see VOA

CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	Estimated CONC. J VALUE
	No A/BN				

No volatile Compounds

FORM 1, PART B

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 320

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low

Date Extracted/Prepared: 4/7/88

Date Analyzed: 4/12/88

Conc/DiL Factor: 1

GPC Cleanup: NO

Separatory Funnel Extraction: YES

Continuous Liquid - Liquid Extraction: NO

CAS Number		ug/L
108-95-2	Phenol	1.0 U
111-44-4	bis(-2-Chloroethyl)Ether	1.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	1.0 U
39638-32-9	bis(2-chloroisopropyl)Ether	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-n-Propylamine	1.0 U
67-72-1	Hexachloroethane	1.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	1.0 U
105-67-9	2,4-Dimethylphenol	1.0 U
65-85-0	Benzoic Acid	20 U
111-91-1	bis(-2-Chloroethoxy)Methane	1.0 U
120-83-2	2,4-Dichlorophenol	1.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	1.0 U
87-68-3	Hexachlorobutadiene	1.0 U
59-50-7	4-Chloro-3-Methylphenol	1.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	1.0 U
88-06-2	2,4,6-Trichlorophenol	1.0 U
95-95-4	2,4,5-Trichlorophenol	1.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethyl Phthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	5.0 U

CAS Number		ug/L
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	15 U
100-02-7	4-Nitrophenol	15 U
132-64-9	Dibenzofuran	1.0 U
121-14-2	2,4-Dinitrotoluene	1.0 U
606-20-2	2,6-Dinitrotoluene	1.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	15 U
86-30-6	N-Nitrosodiphenylamine(1)	1.5 U
101-55-3	4-Bromophenyl-phenylether	1.5 U
118-74-1	Hexachlorobenzene	1.5 U
87-86-5	Pentachlorophenol	2.0 U
85-01-8	Phenanthrene	1.0 U
120-12-7	Anthracene	2.5 U
84-74-2	Di-n-Butylphthalate	2.0 U
206-44-0	Fluoranthene	1.5 U
129-00-0	Pyrene	1.5 U
85-68-7	Butylbenzylphthalate	3.5 U
91-94-1	3,3'-Dichlorobenzidine	20 U
56-55-3	Benzo(a)Anthracene	1.5 U
117-81-7	bis(2-Ethylhexyl)Phthalate	15 ~~U~~ u
218-01-9	Chrysene	1.5 U
117-84-0	Di-n-Octyl Phthalate	1.5 U
205-99-2	Benzo(b)Fluoranthene	1.5 U
207-08-9	Benzo(k)Fluoranthene	1.5 U
50-32-8	Benzo(a)Pyrene	2.0 U
193-39-5	Indeno(1,2,3-cd)Pyrene	3.5 U
53-70-3	Dibenz(a,h)Anthracene	2.5 U
191-24-2	Benzo(g,h,i)Perylene	4.0 U

I.V, 5-3-88

(1) - Cannot be separated from diphenylamine

ORGANICS ANALYSIS DATA SHEET
Page 4
TENTATIVELY IDENTIFIED COMPOUNDS

ab Name: CAL Case No. 9307/3758E Sample No. EW 320

C Report No. 3758E Lab Sample No. 4094405AB

robability that Identification is Correct:
A= HIGH B= MODERATE C= UNKNOWN D= SOLVENT IMPURITY, see VOA

	CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	Estimated CONC. J VALUE
1	625-06-9	2-PENTANOL, 2,4-DIMETHYL-	A/BN	270	640	10.6 UG/L
2	4337-65-9	HEXANEDIOIC ACID, MONO(2-ETHYL	A/BN	1510	803	4.0 UG/L

	COMPOUND NAME	PROBABILITY	COMMENTS
1.	2-PENTANOL, 2,4-DIMETHYL-	1. B	1. isomer
2.	HEXANEDIOIC ACID, MONO(2-ETHYL	2. A	2.

FORM 1, PART B

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 321

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low

Date Extracted/Prepared: 4/7/88

Date Analyzed: 4/12/88

Conc/Dil. Factor: 1

GPC Cleanup: NO

Separatory Funnel Extraction: YES

Continuous Liquid - Liquid Extraction: NO

CAS Number		ug/L
108-95-2	Phenol	1.0 U
111-44-4	bis(-2-Chloroethyl)Ether	1.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	1.0 U
39638-32-9	bis(2-chloroisopropyl)Ether	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-n-Propylamine	1.0 U
67-72-1	Hexachloroethane	1.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	1.0 U
105-67-9	2,4-Dimethylphenol	1.0 U
65-85-0	Benzoic Acid	20 U
111-91-1	bis(-2-Chloroethoxy)Methane	1.0 U
120-83-2	2,4-Dichlorophenol	1.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	1.0 U
87-68-3	Hexachlorobutadiene	1.0 U
59-50-7	4-Chloro-3-Methylphenol	1.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	1.0 U
88-06-2	2,4,6-Trichlorophenol	1.0 U
95-95-4	2,4,5-Trichlorophenol	1.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethyl Phthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	5.0 U

CAS Number		ug/L
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	15 U
100-02-7	4-Nitrophenol	15 U
132-64-9	Dibenzofuran	1.0 U
121-14-2	2,4-Dinitrotoluene	1.0 U
606-20-2	2,6-Dinitrotoluene	1.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	15 U
86-30-6	N-Nitrosodiphenylamine(1)	1.5 U
101-55-3	4-Bromophenyl-phenylether	1.5 U
118-74-1	Hexachlorobenzene	1.5 U
87-86-5	Pentachlorophenol	2.0 U
85-01-8	Phenanthrene	1.0 U
120-12-7	Anthracene	2.5 U
84-74-2	Di-n-Butylphthalate	2.0 U
206-44-0	Fluoranthene	1.5 U
129-00-0	Pyrene	1.5 U
85-68-7	Butylbenzylphthalate	2.5 U
91-94-1	3,3'-Dichlorobenzidine	20 U
56-55-3	Benzo(a)Anthracene	1.5 U
117-81-7	bis(2-Ethylhexyl)Phthalate	24 BU
218-01-9	Chrysene	1.5 U
117-84-0	Di-n-Octyl Phthalate	1.5 U
205-99-2	Benzo(b)Fluoranthene	1.5 U
207-08-9	Benzo(k)Fluoranthene	1.5 U
50-32-8	Benzo(a)Pyrene	2.0 U
193-39-5	Indeno(1,2,3-cd)Pyrene	2.5 U
53-70-3	Dibenz(a,h)Anthracene	2.5 U
191-24-2	Benzo(g,h,i)Perylene	4.0 U

I.V. 5-3-89

(1) - Cannot be separated from diphenylamine

ORGANICS ANALYSIS DATA SHEET
Page 4
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CAL Case No. 9307/3758E Sample No. EW 321

SDG Report No. 3758E Lab Sample No. 4094406AB

Probability that Identification is Correct:
A= HIGH B= MODERATE C= UNKNOWN D= SOLVENT IMPURITY, see VOA

	CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	Estimated CONC. J VALUE
1.	625-06-9	2-PENTANOL, 2,4-DIMETHYL-	A/BN	270	729	5.4 UG/L
1.	4337-65-9	HEXANEDIOIC ACID, MOND(2-ETHYL	A/BN	1510	862	6.8 UG/L

COMPOUND NAME	PROBABILITY	COMMENTS
2-PENTANOL, 2,4-DIMETHYL-	1. B	1. none
2. HEXANEDIOIC ACID, MOND(2-ETHYL	2. A	2.

No volatile compounds

FORM 1, PART B

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 322

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low

Date Extracted/Prepared: 4/7/88

Date Analyzed: 4/12/88

Conc/DiL Factor: 1

GPC Cleanup: NO

Separatory Funnel Extraction: YES

Continuous Liquid - Liquid Extraction: NO

CAS Number		ug/L
108-95-2	Phenol	1.0 U
111-44-4	bis(-2-Chloroethyl)Ether	1.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	1.0 U
39638-32-9	bis(2-chloroisopropyl)Ether	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-n-Propylamine	1.0 U
67-72-1	Hexachloroethane	1.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	1.0 U
105-67-9	2,4-Dimethylphenol	1.0 U
65-85-0	Benzoic Acid	20 U
111-91-1	bis(-2-Chloroethoxy)Methane	1.0 U
120-83-2	2,4-Dichlorophenol	1.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	1.0 U
87-68-3	Hexachlorobutadiene	1.0 U
59-50-7	4-Chloro-3-Methylphenol	1.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	1.0 U
88-06-2	2,4,6-Trichlorophenol	1.0 U
95-95-4	2,4,5-Trichlorophenol	1.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethyl Phthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	5.0 U

CAS Number		ug/L
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	15 U
100-02-7	4-Nitrophenol	15 U
132-64-9	Dibenzofuran	1.0 U
121-14-2	2,4-Dinitrotoluene	1.0 U
606-20-2	2,6-Dinitrotoluene	1.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	15 U
86-30-6	N-Nitrosodiphenylamine(1)	1.5 U
101-55-3	4-Bromophenyl-phenylether	1.5 U
118-74-1	Hexachlorobenzene	1.5 U
87-86-5	Pentachlorophenol	2.0 U
85-01-8	Phenanthrene	1.0 U
120-12-7	Anthracene	2.5 U
84-74-2	Di-n-Butylphthalate	2.0 U
206-44-0	Fluoranthene	1.5 U
129-00-0	Pyrene	1.5 U
85-68-7	Butylbenzylphthalate	3.5 U
91-94-1	3,3'-Dichlorobenzidine	20 U
56-55-3	Benzo(a)Anthracene	1.5 U
117-81-7	bis(2-Ethylhexyl)Phthalate	16 ~~U~~ u
218-01-9	Chrysene	1.5 U
117-84-0	Di-n-Octyl Phthalate	1.5 U
205-99-2	Benzo(b)Fluoranthene	1.5 U
207-08-9	Benzo(k)Fluoranthene	1.5 U
50-32-8	Benzo(a)Pyrene	2.0 U
193-39-5	Indeno(1,2,3-cd)Pyrene	3.5 U
53-70-3	Dibenz(a,h)Anthracene	2.5 U
191-24-2	Benzo(g,h,i)Perylene	4.0 U

J.V. 5-3-88

(1) - Cannot be separated from Diphenylamine

ORGANICS ANALYSIS DATA SHEET
Page 4
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CAL Case No. 9307/375BE Sample No. EW 322

QC Report No. 3758E Lab Sample No. 4094407AB

Probability that Identification is Correct:
A= HIGH B= MODERATE C= UNKNOWN D= SOLVENT IMPURITY, see VOA

	CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	Estimated CONC. J VALUE
1.	625-06-9	2-PENTANOL, 2,4-DIMETHYL-	A/BN	270	727	5.9 UG/L
2.	4337-65-9	HEXANEDIOIC ACID, MONO(2-ETHYL	A/BN	1511	876	4.2 UG/L

	COMPOUND NAME	PROBABILITY	COMMENTS
1.	2-PENTANOL, 2,4-DIMETHYL-	1. B	1. ester
2.	HEXANEDIOIC ACID, MONO(2-ETHYL	2. A	2.

No volatile compounds

FORM 1, PART B

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 323

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low

Date Extracted/Prepared: 4/7/88

Date Analyzed: 4/12/88

Conc/DiL Factor: 1

GPC Cleanup: NO

Separatory Funnel Extraction: YES

Continuous Liquid - Liquid Extraction: NO

CAS Number		ug/L
108-95-2	Phenol	1.0 U
111-44-4	bis(-2-Chloroethyl)Ether	1.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	1.0 U
39638-32-9	bis(2-chloroisopropyl)Ether	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-n-Propylamine	1.0 U
67-72-1	Hexachloroethane	1.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	1.0 U
105-67-9	2,4-Dimethylphenol	1.0 U
65-85-0	Benzoic Acid	20 U
111-91-1	bis(-2-Chloroethoxy)Methane	1.0 U
120-83-2	2,4-Dichlorophenol	1.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	1.0 U
87-68-3	Hexachlorobutadiene	1.0 U
59-50-7	4-Chloro-3-Methylphenol	1.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	1.0 U
88-06-2	2,4,6-Trichlorophenol	1.0 U
95-95-4	2,4,5-Trichlorophenol	1.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethyl Phthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	5.0 U

CAS Number		ug/L
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	15 U
100-02-7	4-Nitrophenol	15 U
132-64-9	Dibenzofuran	1.0 U
121-14-2	2,4-Dinitrotoluene	1.0 U
606-20-2	2,6-Dinitrotoluene	1.0 U
84-866-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	15 U
86-30-6	N-Nitrosodiphenylamine(1)	1.5 U
101-55-3	4-Bromophenyl-phenylether	1.5 U
118-74-1	Hexachlorobenzene	1.5 U
87-86-5	Pentachlorophenol	2.0 U
85-01-8	Phenanthrene	1.0 U
120-12-7	Anthracene	2.5 U
84-74-2	Di-n-Butylphthalate	2.0 U
206-44-0	Fluoranthene	1.5 U
129-00-0	Pyrene	1.5 U
85-68-7	Butylbenzylphthalate	3.5 U
91-94-1	3,3'-Dichlorobenzidine	20 U
56-55-3	Benzo(a)Anthracene	1.5 U
117-81-7	bis(2-Ethylhexyl)Phthalate	20 ~~5~~ U J.V. 5-3-82
218-01-9	Chrysene	1.5 U
117-84-0	Di-n-Octyl Phthalate	1.5 U
205-99-2	Benzo(b)Fluoranthene	1.5 U
207-08-9	Benzo(k)Fluoranthene	1.5 U
50-32-8	Benzo(a)Pyrene	2.0 U
193-39-5	Indeno(1,2,3-cd)Pyrene	3.5 U
53-70-3	Dibenz(a,h)Anthracene	2.5 U
191-24-2	Benzo(g,h,i)Perylene	4.0 U

(1) - Cannot be separated from diphenylamine

ORGANICS ANALYSIS DATA SHEET
Page 4
TENTATIVELY IDENTIFIED COMPOUNDS

ab Name. CAL Case No. 5307/3758E Sample No. EW 323
C Report No 3158E Lab Sample No. 4094408AB

robability that Identification is Correct:
A= HIGH B= MODERATE C= UNKNOWN D= SOLVENT IMPURITY, see VOA

	CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	Estimated CONC. J VALUE
1	625-06-9	2-PENTANOL, 2,4-DIMETHYL-	A/BN	271	667	8.9 UG/L

	COMPOUND NAME	PROBABILITY	COMMENTS
1	2-PENTANOL, 2,4-DIMETHYL-	1. B	1. none

No volatile compounds

FORM 1, PART B

ORGANICS ANALYSIS DATA SHEET
Page 4
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CAL Case No. 9307/3758 E Sample No. EW 324

Report No. 3758E Lab Sample No. 4094409AB

Probability that Identification is Correct:
A= HIGH B= MODERATE C= UNKNOWN D= SOLVENT IMPURITY, see VOA

CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	Estimated CONC. J VALUE
625-06-9	2-PENTANOL, 2,4-DIMETHYL-	A/BN	270	748	5.7 UG/L
128-37-0	PHENOL, 2,6-BIS(1,1-DIMETHYLET	A/BN	976	824	4.0 UG/L

COMPOUND NAME	PROBABILITY	COMMENTS
1. 2-PENTANOL, 2,4-DIMETHYL-	1. B	1. isomer
2. PHENOL, 2,6-BIS(1,1-DIMETHYLET	2. B	2.

FORM 1, PART B

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 324

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low

Date Extracted/Prepared: 4/7/88

Date Analyzed: 4/12/88

Conc/Dil. Factor: 1

GPC Cleanup: NO

Separatory Funnel Extraction: YES

Continuous Liquid - Liquid Extraction: NO

CAS Number		ug/L
108-95-2	Phenol	1.0 U
111-44-4	bis(-2-Chloroethyl)Ether	1.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	1.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	1.0 U
39638-32-9	bis(2-chloroisopropyl)Ether	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-n-Propylamine	1.0 U
67-72-1	Hexachloroethane	1.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	1.0 U
105-67-9	2,4-Dimethylphenol	1.0 U
65-85-0	Benzoic Acid	20 U
111-91-1	bis(-2-Chloroethoxy)Methane	1.0 U
120-83-2	2,4-Dichlorophenol	1.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	1.0 U
87-68-3	Hexachlorobutadiene	1.0 U
59-50-7	4-Chloro-3-Methylphenol	1.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	1.0 U
88-06-2	2,4,6-Trichlorophenol	1.0 U
95-95-4	2,4,5-Trichlorophenol	1.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethyl Phthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	5.0 U

CAS Number		ug/L
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	15 U
100-02-7	4-Nitrophenol	15 U
132-64-9	Dibenzofuran	1.0 U
121-14-2	2,4-Dinitrotoluene	1.0 U
606-20-2	2,6-Dinitrotoluene	1.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	15 U
86-30-6	N-Nitrosodiphenylamine(1)	1.5 U
101-55-3	4-Bromophenyl-phenylether	1.5 U
118-74-1	Hexachlorobenzene	1.5 U
87-86-5	Pentachlorophenol	2.0 U
85-01-8	Phenanthrene	1.0 U
120-12-7	Anthracene	2.5 U
84-74-2	Di-n-Butylphthalate	2.0 U
206-44-0	Fluoranthene	1.5 U
129-00-0	Pyrene	1.5 U
85-68-7	Butylbenzylphthalate	3.5 U
91-94-1	3,3'-Dichlorobenzidine	20 U
56-55-3	Benzo(a)Anthracene	1.5 U
117-81-7	bis(2-Ethylhexyl)Phthalate	8.8 U
218-01-9	Chrysene	1.5 U
117-84-0	Di-n-Octyl Phthalate	1.5 U
205-99-2	Benzo(b)Fluoranthene	1.5 U
207-08-9	Benzo(k)Fluoranthene	1.5 U
50-32-8	Benzo(a)Pyrene	2.0 U
193-39-5	Indeno(1,2,3-cd)Pyrene	2.5 U
53-70-3	Dibenz(a,h)Anthracene	2.5 U
191-24-2	Benzo(g,h,i)Perylene	4.0 U

J.V. 5-3-89

(1) - Cannot be separated from Diphenylamine

CLF: 10/11/85

Form I

Prepared by: _____

7/85

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 318

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: LOW
GPC Cleanup: NO
Date Extracted/Prepared: 4/7/88
Separatory Funnel Extraction: YES
Date Analyzed: 4/12/88
Continuous Liquid - Liquid Extraction: NO
Conc/Dil Factor: 1

CAS Number		ug/L
319-84-6	Alpha-BHC	0.010 U
319-85-7	Beta-BHC	0.0050 U
319-86-8	Delta-BHC	0.0050 U
58-89-9	Gamma-BHC (Lindane)	0.0050 U
76-44-8	Heptachlor	0.030 U
309-00-2	Aldrin	0.0050 U
1024-57-3	Heptachlor Epoxide	0.0050 U
959-98-8	Endosulfan I	0.010 U
60-57-1	Dieldrin	0.010 U
72-55-9	4,4'-DDE	0.0050 U
72-20-8	Endrin	0.010 U
33213-65-9	Endosulfan II	0.010 U
72-54-8	4,4'-DDD	0.020 U
1031-07-8	Endosulfan Sulfate	0.10 U
50-29-3	4,4'-DDT	0.020 U
72-43-5	Methoxychlor	0.020 U
53494-70-5	Endrin Ketone	0.030 U
57-74-9	Chlordane	0.020 U
8001-35-2	Toxaphene	0.25 U
12674-11-2	Aroclor-1016	0.10 U
11104-28-2	Aroclor-1221	0.10 U
11141-16-5	Aroclor-1232	0.10 U
53469-21-9	Aroclor-1242	0.10 U
12672-29-6	Aroclor-1248	0.10 U
11097-69-1	Aroclor-1254	0.10 U
11096-82-5	Aroclor-1260	0.10 U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s =890 or W_s =NR V_t = 5000 V_i = 5

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 319

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: LOW
GPC Cleanup: NO
Date Extracted/Prepared: 4/7/88
Separatory Funnel Extraction: YES
Date Analyzed: 4/12/88
Continuous Liquid - Liquid Extraction: NO
Conc/Dil Factor: 1

CAS Number		ug/L
319-84-6	Alpha-BHC	0.010 U
319-85-7	Beta-BHC	0.0050 U
319-86-8	Delta-BHC	0.0050 U
58-89-9	Gamma-BHC (Lindane)	0.0050 U
76-44-8	Heptachlor	0.030 U
309-00-2	Aldrin	0.0050 U
1024-57-3	Heptachlor Epoxide	0.0050 U
959-98-8	Endosulfan I	0.010 U
60-57-1	Dieldrin	0.010 U
72-55-9	4,4'-DDE	0.0050 U
72-20-8	Endrin	0.010 U
33213-65-9	Endosulfan II	0.010 U
72-54-8	4,4'-DDD	0.020 U
1031-07-8	Endosulfan Sulfate	0.10 U
50-29-3	4,4'-DDT	0.020 U
72-43-5	Methoxychlor	0.020 U
53494-70-5	Endrin Ketone	0.030 U
57-74-9	Chlordane	0.020 U
8001-35-2	Toxaphene	0.25 U
12674-11-2	Aroclor-1016	0.10 U
11104-28-2	Aroclor-1221	0.10 U
11141-16-5	Aroclor-1232	0.10 U
53469-21-9	Aroclor-1242	0.10 U
12672-29-6	Aroclor-1248	0.10 U
11097-69-1	Aroclor-1254	0.10 U
11096-82-5	Aroclor-1260	0.10 U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s =870 or W_s =NR V_t = 5000 V_i = 5

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 320

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: LOW

Date Extracted/Prepared: 4/7/88

Date Analyzed: 4/12/88

Conc/Dil Factor: 1

GPC Cleanup: NO

Separatory Funnel Extraction: YES

Continuous Liquid - Liquid Extraction: NO

CAS Number		ug/L
319-84-6	Alpha-BHC	0.010 U
319-85-7	Beta-BHC	0.0050 U
319-86-8	Delta-BHC	0.0050 U
58-89-9	Gamma-BHC (Lindane)	0.0050 U
76-44-8	Heptachlor	0.030 U
309-00-2	Aldrin	0.0050 U
1024-57-3	Heptachlor Epoxide	0.0050 U
959-98-8	Endosulfan I	0.010 U
60-57-1	Dieldrin	0.010 U
72-55-9	4,4'-DDE	0.0050 U
72-20-8	Endrin	0.010 U
33213-65-9	Endosulfan II	0.010 U
72-54-8	4,4'-DDD	0.020 U
1031-07-8	Endosulfan Sulfate	0.10 U
50-29-3	4,4'-DDT	0.020 U
72-43-5	Methoxychlor	0.020 U
53494-70-5	Endrin Ketone	0.030 U
57-74-9	Chlordane	0.020 U
8001-35-2	Toxaphene	0.25 U
12674-11-2	Aroclor-1016	0.10 U
11104-28-2	Aroclor-1221	0.10 U
11141-16-5	Aroclor-1232	0.10 U
53469-21-9	Aroclor-1242	0.10 U
12672-29-6	Aroclor-1248	0.10 U
11097-69-1	Aroclor-1254	0.10 U
11096-82-5	Aroclor-1260	0.10 U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s =860 or W_s =NR V_t = 5000 V_i = 5

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 321

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: LOW

GPC Cleanup: NO

Date Extracted/Prepared: 4/7/88

Separatory Funnel Extraction: YES

Date Analyzed: 4/12/88

Continuous Liquid - Liquid Extraction: NO

Conc/Dil Factor: 1

CAS Number		ug/L
319-84-6	Alpha-BHC	0.010 U
319-85-7	Beta-BHC	0.0050 U
319-86-8	Delta-BHC	0.0050 U
58-89-9	Gamma-BHC (Lindane)	0.0050 U
76-44-8	Heptachlor	0.030 U
309-00-2	Aldrin	0.0050 U
1024-57-3	Heptachlor Epoxide	0.0050 U
959-98-8	Endosulfan I	0.010 U
60-57-1	Dieldrin	0.010 U
72-55-9	4,4'-DDE	0.0050 U
72-20-8	Endrin	0.010 U
33213-65-9	Endosulfan II	0.010 U
72-54-8	4,4'-DDD	0.020 U
1031-07-8	Endosulfan Sulfate	0.10 U
50-29-3	4,4'-DDT	0.020 U
72-43-5	Methoxychlor	0.020 U
53494-70-5	Endrin Ketone	0.030 U
57-74-9	Chlordane	0.020 U
8001-35-2	Toxaphene	0.25 U
12674-11-2	Aroclor-1016	0.10 U
11104-28-2	Aroclor-1221	0.10 U
11141-16-5	Aroclor-1232	0.10 U
53469-21-9	Aroclor-1242	0.10 U
12672-29-6	Aroclor-1248	0.10 U
11097-69-1	Aroclor-1254	0.10 U
11096-82-5	Aroclor-1260	0.10 U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s = 880 or W_s = NR V_t = 5000 V_i = 5

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 322

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: LOW

GPC Cleanup: NO

Date Extracted/Prepared: 4/7/88

Separatory Funnel Extraction: YES

Date Analyzed: 4/12/88

Continuous Liquid - Liquid Extraction: NO

Conc/Dil Factor: 1

CAS Number		ug/L
319-84-6	Alpha-BHC	0.010 U
319-85-7	Beta-BHC	0.0050 U
319-86-8	Delta-BHC	0.0050 U
58-89-9	Gamma-BHC (Lindane)	0.0050 U
76-44-8	Heptachlor	0.030 U
309-00-2	Aldrin	0.0050 U
1024-57-3	Heptachlor Epoxide	0.0050 U
959-98-8	Endosulfan I	0.010 U
60-57-1	Dieldrin	0.010 U
72-55-9	4,4'-DDE	0.0050 U
72-20-8	Endrin	0.010 U
33213-65-9	Endosulfan II	0.010 U
72-54-8	4,4'-DDD	0.020 U
1031-07-8	Endosulfan Sulfate	0.10 U
50-29-3	4,4'-DDT	0.020 U
72-43-5	Methoxychlor	0.020 U
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57-74-9	Chlordane	0.020 U
8001-35-2	Toxaphene	0.25 U
12674-11-2	Aroclor-1016	0.10 U
11104-28-2	Aroclor-1221	0.10 U
11141-16-5	Aroclor-1232	0.10 U
53469-21-9	Aroclor-1242	0.10 U
12672-29-6	Aroclor-1248	0.10 U
11097-69-1	Aroclor-1254	0.10 U
11096-82-5	Aroclor-1260	0.10 U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s =910 or W_s =NR V_t = 5000 V_i = 5

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 323

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: LOW

Date Extracted/Prepared: 4/7/88

Date Analyzed: 4/13/88

Conc/Dil Factor: 1

GPC Cleanup: NO

Separatory Funnel Extraction: YES

Continuous Liquid - Liquid Extraction: NO

CAS Number		ug/L
319-84-6	Alpha-BHC	0.010 U
319-85-7	Beta-BHC	0.0050 U
319-86-8	Delta-BHC	0.0050 U
58-89-9	Gamma-BHC (Lindane)	0.0050 U
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309-00-2	Aldrin	0.0050 U
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60-57-1	Dieldrin	0.010 U
72-55-9	4,4'-DDE	0.0050 U
72-20-8	Endrin	0.010 U
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50-29-3	4,4'-DDT	0.020 U
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8001-35-2	Toxaphene	0.25 U
12674-11-2	Aroclor-1016	0.10 U
11104-28-2	Aroclor-1221	0.10 U
11141-16-5	Aroclor-1232	0.10 U
53469-21-9	Aroclor-1242	0.10 U
12672-29-6	Aroclor-1248	0.10 U
11097-69-1	Aroclor-1254	0.10 U
11096-82-5	Aroclor-1260	0.10 U

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s =910 or W_s =NR V_t = 5000 V_i = 5

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:9307/3758E

Sample Number
EW 324

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: LOW
GPC Cleanup: NO
Date Extracted/Prepared: 4/7/88
Separatory Funnel Extraction: YES
Date Analyzed: 4/13/88
Continuous Liquid - Liquid Extraction: NO
Conc/Dil Factor: 1

CAS Number		ug/L
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309-00-2	Aldrin	0.0050 U
1024-57-3	Heptachlor Epoxide	0.0050 U
959-98-8	Endosulfan I	0.010 U
60-57-1	Dieldrin	0.010 U
72-55-9	4,4'-DDE	0.0050 U
72-20-8	Endrin	0.010 U
33213-65-9	Endosulfan II	0.010 U
72-54-8	4,4'-DDD	0.020 U
1031-07-8	Endosulfan Sulfate	0.10 U
50-29-3	4,4'-DDT	0.020 U
72-43-5	Methoxychlor	0.020 U
53494-70-5	Endrin Ketone	0.030 U
57-74-9	Chlordane	0.020 U
8001-35-2	Toxaphene	0.25 U
12674-11-2	Aroclor-1016	0.10 U
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V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

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V_t = Volume of total extract (ul)

V_s =890 or W_s =NR V_t = 5000 V_i = 5

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

CRL Receipt Date 5/16 FIT Receipt Date 6/9 Review Completed 6/14/88

TO: S. Anderson
FROM: Zena Gold-Kaufman ZGK
SUBJECT: Linden Road
PAN: IN0451 (1 hour charged for review) Case # 9307

Sample Description

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

Project Data Status _____ Completed!!

_____ Incomplete, awaiting _____

FIT Data Review Findings:
missing VOA EY307 - EPA contacted for cop487 results.
Compounds detected in high concentrations
Compounds fall into following categories: common lab artifacts, PAHs, sulfated hydrocarbons, aromatics, chlorinated aromatics, chlorinated hydrocarbons and PCBs
Check Data Sheets for Transcription Errors

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

Book No. 7 Page No. 294 Date Sampled 4/6/88

0759:2

. . . . AS PROVIDED IN THE ATTACHED DATA SHEETS.

REPORTING UNITS

A. Organics

1. Water Samples - ug/L or ppb (parts per billion)
2. Soils or Sediments - ug/kg or ppb (parts per billion)

B. Metals

1. Water Samples - ug/L or ppb (parts per billion)
2. Soils or Sediments - mg/kg or ppm (parts per million)

I. DEFINITION OF FOOTNOTES TO ANALYTICAL DATA

A. Organics

FOOTNOTE	DEFINITION	INTERPRETATION
U	Indicates compound was analyzed for but not detected.	Compound was not detected.
J	Indicates an estimated value.	Compound value may be semi-quantitative.
UJ	Quantitation limit is estimated due to a Quality Control (QC) protocol.	Compound was not detected.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract shall be confirmed by GC/MS.	Compound was confirmed by mass spectroscop
B	This flag is used when the analyte 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 semi-quantitative if it is <5x the blank concentration (<10x the blank concentrations for common lab 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 <u>not</u> apply to pesticides/PCBs analyzed by GC/EC methods.	Compound value may be semi-quantitative.
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.
A	This flag indicates that a TIC is a suspected aldol-condensation product.	Alerts data user of a lab artifact.
R	Results are unusable due to a major violation of QC protocol.	Compound value is not usable.

B. Metals

FOOTNOTE	NEW	DEFINITION	INTERPRETATION
E	E	Estimated or not reported due to inteference. See laboratory narrative.	Compound or element was not detected or value may be semi-quantitative.
	S	Analysis by Method of Standard Additions.	Value may be 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 semi-quantitative.
	+	Correlation coefficient for standard additions is less than 0.995. See review and laboratory narrative.	Data value may be biased.
J	B	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.
		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 semi-quantitative.
	U	Compound was analyzed for but not detected.	Compound was not detected.
	M	Duplicate injection precision not met.	Value may be semi-quantitative.
	W	Post digestion spike for furnance AA analysis is out of control limits (35-115%), while sample absorbance is <50% of spike absorbance.	Value may be semi-quantitative.

C. Other Symbols Used

NA Value not available due to insufficient data.
NR Value not calculated since chemical is not a carcinogen.
( ) Estimated value.

6/9/88

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 6/6/88

SUBJECT: Review of Region V CLP Data Received for Review on 5-16-88

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

TO: Data User: FIT

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

SITE NAME: LINDEN ROAD (IN) SMO Case No. 9307

EPA Data Set No. SF 5022 No. of Samples: 10 D.U./Activity Numbers 4905/C72IZZ

CRL No. 88FA17S14 - S23

SMO Traffic No. ~~MEW826 - 835~~ EW 306 - 315

CLP Laboratory: EMS (IN) Hrs. Required for Review: 11 HRS.

Following are our findings:

THE FOLLOWING CASE CONSIST OF 10 LOW LEVEL SOIL SAMPLES THAT WERE ANALYZED FOR VOA'S, SEMI-VOA'S, & PESTICIDES. THE VOA FRACTION WAS LACKING SAMPLE EW 307 AND THERE WERE SEVERAL AREAS NEEDING ATTENTION. CONSIDERING THE POINTS MENTIONED IN THE FOLLOWING PAGES DATA IS OTHERWISE ACCEPTABLE.

Philip Somerville
ESAT - WESTON
5-25-88

( ) 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: EMSIN

Case 9307

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

① HOLDING TIME

IN THE VOLATILE FRACTION SAMPLES EW 306, EW 308, EW 310, AND EW 311 WERE BEYOND THE Q.C LIMITS FOR HOLDING TIME BY 3 DAYS. SAMPLES EW 309, EW 312 THRU EW 315 WERE BEYOND Q.C. LIMITS BY 4 DAYS. ALL AROMATIC COMPOUNDS WITH POSITIVE RESULTS SHOULD BE FLAGGED "J" AS ESTIMATED AND SAMPLE QUANTITATION LIMITS "UJ" AS ESTIMATED.

THE SEMI-VOLATILE AND PESTICIDE FRACTIONS WERE ALL WITHIN THE Q.C. LIMITS FOR HOLDING TIME REQUIREMENTS.

② GC/MS TUNING & INSTRUMENT PERFORMANCE

GC/MS TUNING CRITERIA WAS ACHIEVED AND WITHIN Q.C. LIMITS FOR THE VOLATILE & SEMI-VOLATILE FRACTIONS.

IN THE PESTICIDE FRACTION DDT / ENDRIN BREAKDOWN EXCEEDED 20% IN THE EVALUATION MIXTURE B (5/2/88 TO 5/4/88). THEREFORE ALL QUANTITATIVE RESULTS FOR DDT AND ENDRIN SHOULD BE CONSIDERED ESTIMATED & FLAGGED "J". QUALITATIVE & QUANTITATIVE RESULTS FOR DDD, DDE, & ENDRIN KETONE SHOULD BE CONSIDERED TENTATIVE AND FLAGGED "NJ".

③ CALIBRATION

VOLATILE & SEMI-VOLATILE CALIBRATION OUTLIERS HAVE BEEN LISTED ON THE CALIBRATION OUTLIER FORM AND WERE GIVEN THE PROPER FLAGS

IN THE PESTICIDE FRACTION THE CRITERIA FOR LINEARITY WAS BEYOND Q.C. LIMITS FOR THE FOLLOWING COMPOUNDS ON THE DATES AS LISTED;

Reviewed by: Philip Somerville

Phone: (312) 353-2947

Date: 5-25-88

DATA QUALIFIERS

Contractor: EMSIN

Case 9307

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

③ (CONT)
ALDRIN & 4,4'-DDT EXCEEDED Q.C. LIMITS ON DATES 4-30-88 TO 5-1-88. ALDRIN, ENDRIN, & 4,4'-DDT WERE BEYOND LIMITS FOR LINEARITY ON 5-2-88 TO 5-4-88. SINCE THE LINEARITY CRITERIA WAS NOT MET ALL ASSOCIATED QUANTITATIVE RESULTS SHOULD BE CONSIDERED ESTIMATED AND FLAGGED "J". THIS LINEARITY CRITERIA PERTAINS TO THE INITIAL CALIBRATION. FOR THE CONTINUING CALIBRATION THERE WERE ALSO SOME OUTLIERS. THE PERCENT DIFFERENCE (%D) BETWEEN CALIBRATION FACTORS WAS BEYOND Q.C. LIMITS FOR THE FOLLOWING; 4,4'-DDT (IND. A[3:09] 5-4-88), ENDRIN (IND B[4:12] 5-4-88), GAMMA-BHC, 4,4'-DDT, METHOXYCHLOR (IND. A[7:04] 5-4-88), AND DELTA-BHC, ENDRIN (IND. B[7:38] 5-4-88). FOR THE ABOVE MENTIONED COMPOUNDS ALL ASSOCIATED POSITIVE QUANTITATIVE RESULTS SHOULD BE CONSIDERED ESTIMATED AND FLAGGED "J."

④ BLANKS
IN THE VOLATILE BLANK (VBLK 1680 B) THERE WERE DETECTABLE LEVELS OF ACETONE WHICH WAS ALSO DETECTED IN ALL SAMPLES (EW 306 THRU EW 315 [EW 307 WAS NOT IN CASE]) ALL SAMPLE LEVELS WERE < 10 x THE BLANK AND POSITIVE RESULTS SHOULD BE FLAGGED "J" AS ESTIMATES WHILE SAMPLE QUANTITATION LIMITS ARE FLAGGED "UJ" AS ESTIMATES.
IN THE SEMI-VOLATILE BLANK DETECTABLE LEVELS OF BIS(2-ETHYLHEXYL) PHTHALATE WERE **NOTICED** (S BLK 9721B). ALL SAMPLES (EW 306 TO EW 315) CONTAINED DETECTABLE LEVELS OF BIS(2-ETHYLHEXYL) PHTHALATE THAT WERE < 10 x THE BLANK

Reviewed by: Philip Somerville
Phone: (312) 353-2947
Date: 5-25-88

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DATA QUALIFIERS

Contractor: EMSIN

Case 9307

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

(4) (CONT)

AND POSITIVE RESULTS SHOULD BE CONSIDERED ESTIMATED AND FLAGGED "J" WHILE SAMPLE QUANTITATION LIMITS ARE FLAGGED "UJ" AS ESTIMATED.

IN THE PESTICIDE BLANK (PBLK) THERE WERE NO DETECTABLE LEVELS OF ANY TCL COMPOUND

(5) SURROGATE RECOVERIES

IN THE VOLATILE FRACTION ALL SURROGATE RECOVERIES WERE WITHIN THE Q.C. LIMITS.

LOOKING AT THE SEMI-VOLATILE FRACTION SAMPLE #EW 308 EXCEEDED Q.C. LIMITS FOR THE RECOVERY OF 2-FLUOROPHENOL (SS) AND SAMPLE EW 312 EXCEEDED THE LIMITS FOR THE RECOVERY OF 2,4,6-TRIBROMOPHENOL. POSITIVE RESULTS FOR THIS FRACTION SHOULD BE FLAGGED "J" AS ESTIMATED WHILE THE SAMPLE QUANTITATION LIMIT IS FLAGGED "UJ" AS ESTIMATED.

IN THE PESTICIDE FRACTION THERE WERE SEVERAL OUTLIERS FOR DIBUTYL(DBC) CHLORENDATE RECOVERY. THE SURROGATES FOR THIS FRACTION WERE RUN TWICE WITH THE FOLLOWING RESULTS. ON THE FIRST RUN PBLK, EW 312, EW 316, & EW 310 ALL WERE BELOW Q.C. LIMITS FOR THE RECOVERY OF DBC. EW 306 THRU EW 308 HAD A ZERO RECOVERY FOR DBC. IN THE SECOND SURROGATE RUN ONLY SAMPLES EW 306-308 WERE OUTSIDE THE Q.C. LIMITS, STILL HAVING A ZERO RECOVERY. DUE TO THIS ZERO RECOVERY FOR A SECOND RUN SAMPLES EW 306 TO EW 308 SHOULD BE FLAGGED "R" AS UNUSABLE. THE REMAINING SAMPLES (PBLK EW 312, EW 313 & EW 310) HAD RECOVERIES WITHIN THE Q.C. LIMITS ON THE SECOND RUN.

Reviewed by: [signature]

Phone: (312) 353-2147

Date: 5-25-90

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DATA QUALIFIERS

Contractor: EMSIN

Case 9307

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

(6) MATRIX SPIKE / MATRIX SPIKE DUPLICATE (MS/MSD)

IN THE VOLATILE FRACTION ALL MS/MSD RECOVERIES WERE WITHIN Q.C. LIMITS.

IN THE SEMI-VOLATILE FRACTION THE MS/MSD % RPD LIMITS ARE EXCEEDED BY 4-CHLORO-3-METHYLPHENOL AND PYRENE. IN THE UNSPIKED SAMPLE (EM 315) POSITIVE RESULTS ASSOCIATED WITH THESE COMPOUNDS SHOULD BE CONSIDERED ESTIMATED AND FLAGGED 'J', WHILE FLAGGING SAMPLE QUANTITATION LIMITS "UJ" AS ESTIMATED.

IN THE PESTICIDE FRACTION ALDRIN & ENDRIN EXCEEDED Q.C. LIMITS FOR MS % REC AND FOR MSD % REC. THE UNSPIKED SAMPLE (EM 315) SHOULD HAVE POSITIVE RESULTS ASSOCIATED WITH THESE COMPOUNDS FLAGGED "J" WHILE SAMPLE QUANTITATION LIMITS ARE FLAGGED "UJ" AS ESTIMATES.

(7) FIELD DUPLICATES

THERE WERE NO FIELD DUPLICATES IN THIS CASE & NO FIELD BLANKS.

(8) INTERNAL STANDARDS PERFORMANCE

THE INTERNAL STANDARDS CRITERIA WAS WITHIN Q.C. LIMITS FOR THE VOLATILE & SEMI-VOLATILE FRACTIONS.

(9) COMPOUND IDENTIFICATION

COMPOUND IDENTIFICATION WAS CARRIED OUT PROPERLY. GC/MS RESULTS SUBSTANTIATE THIS.

Reviewed by: Philip Somerville

Phone: (312) 353-2047

Date: 6-26-86

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DATA QUALIFIERS

Contractor: EMSIN

Case 9307

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

(10) COMPOUND QUANTITATION AND DETECTION LIMITS
COMPOUND QUANTITATION WAS CARRIED OUT PROPERLY AND WAS WITHIN ALL REQUIRED Q.C. LIMITS

(11) SYSTEM PERFORMANCE
SYSTEM PERFORMANCE WAS ADEQUATE & CONSISTENT THROUGHOUT. THIS WAS SUBSTANTIATED BY PREVIOUS INSTRUMENT CHECKS

(12) ADDITIONAL CASE SPECIFIC PROBLEMS
A) FOR THE VOLATILE FRACTION SAMPLE EW 307 WAS NOT INCLUDED IN THE CASE.
B) SEVERAL HOLDING TIME VIOLATIONS WERE EVIDENT IN THE ENTIRE VOLATILE FRACTION
C) GC/MS TUNING FOR THE PESTICIDE FRACTION WAS OUTSIDE Q.C. LIMITS
D) CALIBRATION CRITERIA FOR BOTH INITIAL & CONTINUING IN THE PESTICIDE FRACTION WAS OUTSIDE Q.C. LIMITS ON SEVERAL OCCASIONS
E) SEVERAL PESTICIDE SURROGATE RECOVERIES WERE OUT, SOME EVEN HAD ZERO RECOVERIES.
BEING MINDFUL OF THE ABOVE DATA IS OTHERWISE ACCEPTABLE

Reviewed by: Philip Somerville

Phone: (312) 353-2947

Date: 5-25-88

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

CASE/SAS # 9307 CONTRACTOR EMSIN

Instrument # 70022	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	3-21-88			4-14-88 1107			4-15-88 1139								
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane															
Bromomethane	1.72			1.46			1.23	28.5	J						
Vinyl Chloride															
Chloroethane															
Methylene Chloride	1.57			1.12	29.0	J	0.94	39.8	J						
Acetone	2.09			0.72	65.3	J	0.70	66.9	J						
Carbon Disulfide	4.36			1.98	54.6	J	1.61	63.0	J						
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone	0.50			0.29	42.3	J	0.28	43.9	J						
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate	0.28			0.42	49.1	J									
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene	0.40			0.32			0.28	29.4	J						
Dibromochloromethane	0.64			0.52			0.44	30.8	J						
1,1,2-Trichloroethane	0.40			0.31			0.26	33.8	J						
Benzene	0.98			0.84			0.71	27.9	J						
cis-1,3-Dichloropropene	0.21	38.4	J	0.16	25.9	J	0.08	61.3	J						
2-Chloroethylvinylether															
Bromoform															
4-Methyl-2-Pentanone	1.35			0.97			0.83	38.6	J						
2-Hexanone	0.98			0.69			0.62	37.0	J						
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene	1.29			0.78	39.2	J	0.69	47.1	J						
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

V BLK
EW 306
TO
EW 308
EW 310
EW 311
EW 306 MS
EW 306 MSD

V BLK
EW 312
TO
EW 315
EW 309

Reviewer's Initials/Date: PS 5/24/88

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

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

CASE/SAS # 9307 CONTRACTOR EMSIN

Instrument # 8702 #2	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	3-28-88			4-16-88 1354			4-19-88 1034			4-19-88 1118					
	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	0.77			1.56	101.2	J	1.62	109.5	J	1.63	109.3	J			
4-Methylphenol															
N-Nitroso-Di-n-Propylamine	0.91			1.17	28.4	J	1.05			1.19	30.6	J			
Hexachloroethane															
Nitrobenzene															
Isophorone															
2-Nitrophenol															
2,4-Dimethylphenol															
Benzoic Acid	0.25			0.15	40.5	J	0.18	25.8	J	0.18	25.1	J			
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	0.36			0.49	35.4	J	0.48	31.1	J	0.51	40.1	J			
2-Chloronaphthalene															
2-Nitroaniline	0.38			0.61	62.1	J	0.61	62.5	J	0.65	72.1	J			
Dimethyl Phthalate	1.39			1.77	27.3	J									
Acenaphthylene															
3-Nitroaniline	0.40	34.0	J	0.54	34.1	J	0.34			0.53	31.2	J			
Acenaprthene															
2,4-Dinitrophenol															
4-Nitrophenol	0.11			0.15	35.4	J	0.14	29.5	J	0.21	90.0	J			
Dibenzofuran															

AFFECTED SAMPLES:

EW 306	EW 314	S BLK
EW 307	EW 315	EW 308
EW 310	EW 315MS	EW 309
EW 311		EW 312
EW 313		EW 315MSD

Reviewer Initials/Date: FS 5/24/88

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

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
SEMIVOLATILE HSL COMPOUNDS
Page 2

CASE/SAS # 9307 CONTRACTOR EMSIN

Instrument # 8702 #2	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	3-28-88			4-16-88 1354			4-17-88 1034			4-19-88 1118					
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
2,4-Dinitrotoluene	0.46			0.39			0.30	34.7	J						
2,6-Dinitrotoluene															
Diethylphthalate	1.23			2.33	89.8	J	2.76	123.4	J	1.55	25.5	J			
4-Chlorophenyl-phenylether	0.60			0.75	25.5	J	0.70			0.78	30.4	J			
Fluorene															
4-Nitroaniline	0.43			0.36			0.21	50.3	J						
4,6-Dinitro-2-Methylphenol															
N-Nitrosodiphenylamine															
4-Bromophenyl-phenylether	0.27			0.32			0.34			0.38	39.0	J			
Hexachlorobenzene															
Pentachlorophenol															
Phenanthrene															
Anthracene															
Di-n-Butylphthalate															
Fluoranthene															
Pyrene	1.54			2.07	34.3	J				2.08	35.0	J			
Butylbenzylphthalate	0.97			1.18			1.09			1.30	33.4	J			
Benzo(a)Anthracene															
bis(2-Ethylhexyl)Phthalate	1.39			1.88	35.4	J	1.76	26.7	J						
Chrysene															
Di-n-Octyl Phthalate															
Benzo(b)Fluoranthene															
Benzo(k)Fluoranthene															
Benzo(a)Pyrene															
Indeno(1,2,3-cd)Pyrene	0.54			0.71	31.5	J									
Dibenz(a,h)Anthracene	0.50			0.72	44.7	J	0.63	25.6	J	0.65	29.7	J			
Benzo(g,h,i) Perylene	0.50			0.68	35.9	J	0.62			0.64	28.7	J			

SEE PAGE 1 FOR AFFECTED SAMPLES.

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

Reviewer's Initials/Date: PS 5/24/88

8/87

Case: 9307

Contractor: EMSIN

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.

PS 5/24/88

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U.S. EPA CENTRAL REGIONAL LAB

CASE NARRATIVE-EMSIN

EMS LABORATORIES, INDIANAPOLIS, INDIANA

CASE NUMBER 9307
SDG NUMBER EW306

The following samples were analyzed for semi-volatiles and pesticides/PCBs under contract 68-W8-0044; volatiles were analyzed under contract 68-W8-0043.

EPA #s (EMSIN #s):

EW306 (100105), EW307 (100106), EW308 (100107), EW309 (100108), EW310 (100109), EW311 (100110), EW312 (100111), EW313 (100112), EW314 (100113), EW315 (100114).

Volatile analysis- The heated purge and trap at EMSIN blew two circuit boards the week these samples were to have been analyzed, the second on the 7th day. Since there was no way these samples could have been analyzed in the 10 days, the VOA containers were sent, iced and with chain-of-custody, to EMSKC (presently working under contract 68-W8-0043). The diskette deliverables for these samples was made using Revision 9.3 of the public domain software.

Semi-volatile analysis- Samples EW307 and EW308 required dilution. The matrix caused problems with internal standard areas and/or surrogate recoveries and resulted in the samples being run on several days in order to meet the criteria.

Pesticide/PCB analysis-The high baseline seen in the semi-volatile analysis caused problems in the pest/PCB analysis also. The effect was such that the analysis of EW306, EW307 and EW308 was impossible even at 1:10 dilutions. The samples were diluted and cleaned by passing the extract through a florisil/silica gel column so that analysis of PCBs was possible. This procedure removes the pesticides and dibutyl chlorendate, but there was no way to identify these compounds at 1:10 of the original solution, so the clean-up was made. (All chromatograms are included in the data package). There is reason to believe that the solutions used to make the EVAL standards had deteriorated (resulting in the poor linearity). The response factor for dibutyl chlorendate in the first EVALC was used to calculate the entire analysis sequence. PCB 1262 (rather than PCB 1260) was identified in EW306, EW307 and EW308 during the capillary column run. The chromatogram of this standard is included with the standard chromatograms. Only peaks which were confirmed were reported in the raw data files.

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.

Susan Brotherton

Susan Brotherton
Organic Section Leader/CLP Project Officer
May 13, 1988

CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

Client: EMS-INDY

Project Name: EPA CLP SAMPLES

Samplers (Signature):

Date Delivered: 4/13/88 O/N UPS

Analyses Requested: VOA

Bond Report to:

Phone:

EMS Sample #	Date Sampled	Time Sampled	Sample Description	No. of Containers	VOA						OTR #	Remarks: % Solids	
100105	4/5/88	0850	SOIL 1	2	X						EW 306	86	14
100106	4/5/88	0940	SOIL 2	2	X						EW 307	83	17
100107	4/5/88	1005	SOIL 3	2	X						EW 308	86	14
100108	4/5/88	1140	SOIL 4	2	X						EW 309	57	43
100109	4/5/88	1205	SOIL 5	2	X						EW 310	78	22
100110	4/5/88	1300	SOIL 6	2	X						EW 311	76	24
100111	4/5/88	1340	SOIL 7	2	X						EW 312	74	26
100112	4/5/88	1510	SOIL 8	2	X						EW 313	85	15
100113	4/5/88	1545	SOIL 9	2	X						EW 314	93	7
100114	4/5/88	1630	SOIL 10	2	X						EW 315	80	20

Relinquished by: (Signature)	Date Time	Received by: (Signature)	Relinquished by (Signature)	Date Time	Received by: (Signature)
Dana J. Neal	4/13/88 UPS				
Relinquished by: (Signature)	Date Time	Received by: (Signature)	Relinquished by: (Signature)	Date Time	Received by: (Signature)
Relinquished by: (Signature)	Date Time	Received for Laboratory by (Signature)	Indicate Special Hazards Here: SHIPPED OVERNIGHT UPS: SHIPPER # Y-37-415 SEALS INTACT: YES.		

Figure 2

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

APR 14 REC'D

SAMPLE DATE: 4/5/88
LOG IN DATE: 4/20/88
DUE DATE: 6/14/88

SUPERFUND 5022

CASE NUMBER/SAS No. 9307 SITE NAME Linden Rd. LABORATORY EMSIN/NLE DATE SHIPPED 4/5/88

SUPERFUND DU NUMBER 4905 EPA RPM or OSC (S.M.S.)/(CES) CERCLIS NUMBER IND980404221 PAGE 1 OF 1

ACTIVITY NUMBER C72102

CRL LOG NUMBER	ORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No.	INORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No.	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 PES17144	WATER CHLORINATED PESTICIDES UG/L PES17134	TOTAL METALS IN WATER UG/L MET7111	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 MIN4930	EP TOXICITY METALS MG/KG	AMMONIA MG/KG MIN42925				
88FA17514	EW306	MEW826	✓	✓											✓	✓	✓	✓	✓	✓					
88FA17515	EW307	MEW827	✓	✓											✓	✓	✓	✓	✓	✓					
88FA17516	EW308	MEW828	✓	✓											✓	✓	✓	✓	✓	✓					
88FA17517	EW309	MEW829	✓	✓											✓	✓	✓	✓	✓	✓					
88FA17518	EW310	MEW830	✓	✓											✓	✓	✓	✓	✓	✓					
88FA17519	EW311	MEW831	✓	✓											✓	✓	✓	✓	✓	✓					
88FA17520	EW312	MEW832	✓	✓											✓	✓	✓	✓	✓	✓					
88FA17521	EW313	MEW833	✓	✓											✓	✓	✓	✓	✓	✓					
88FA17522	EW314	MEW834	✓	✓											✓	✓	✓	✓	✓	✓					
88FA17523	EW315	MEW835	✓	✓											✓	✓	✓	✓	✓	✓					
	Date																								

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USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 4F07

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
NPL 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: 7
SAMPLING COMPANY ②: F
SAMPLER: (NAME) W Ayles

SHIP TO: ③
FWL Monitoring Systems
FAO W Morris St.
Fayetteville, TN 37334
ATTN: [illegible]

SAMPLING DATE: ④
BEGIN: 4/4/88 END: 4/4/88

DATE SHIPPED: 4/4/88 CARRIER: F ⑤
AIRBILL NO: 58576735 6

DATE REC'D: 4/6/88 SDG NO: ⑥
REC'D BY: Dana J. O'Neal EV306

LABORATORY CONTRACT NO. UNIT PRICE
[illegible] 100.00

TRANSFER TO: EMS-Kansas DATE REC'D: ⑦
REC'D BY: CONTRACT NO./PRICE:

CLP SAMPLE NUMBER (FROM LABELS)	SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	CONCENTRATION L = LOW/MED H = HIGH (SAS)	TAS 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
FW 306	4	L	✓	✓	✓			Soil 1	INTACT			
FW 307	4	L	✓	✓	✓			Soil 2	INTACT			
FW 308	4	L	✓	✓	✓			Soil 3	INTACT			
FW 309	4	L	✓	✓	✓			Soil 4	INTACT			
FW 310	4	L	✓	✓	✓			Soil 5	INTACT			
FW 311	4	L	✓	✓	✓			Soil 6	INTACT			
FW 312	4	L	✓	✓	✓			Soil 7	INTACT			
FW 313	4	L	✓	✓	✓			Soil 8	INTACT			
FW 314	4	L	✓	✓	✓			Soil 9	INTACT			
FW 315	4	L	✓	✓	✓			Soil 10	INTACT			

EPA Form 2075-7 (8-87)
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WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

2B
SOIL VOLATILE SURROGATE RECOVERY

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
1	VBLK	97	100	103		0
2	EW306	91	104	89		0
3	EW307	85	104	80		0
4	EW308	82	96	80		0
5	EW310	84	95	90		0
6	EW311	80	90	88		0
7	EW306MS	88	105	90		0
8	EW306MSD	80	94	82		0
9	VBLK	99	101	100		0
10	EW312	96	104	98		0
11	EW313	89	102	90		0
12	EW314	95	105	97		0
13	EW309	89	102	94		0
14	EW315	98	116	89		0
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
S1 (TOL) = 1,2-Dichloroethane-d4	(70-121)
S2 (BFB) = Toluene-d8	(81-117)
S3 (DCE) = Bromofluorobenzene	(74-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

001

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FORM II VOA-2

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2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
1	EW306	83	82	94	100	104	95		0
2	EW307	66	76	55	62	81	58		0
3	EW310	85	77	127	97	106	85		0
4	EW311	74	73	83	79	72	58		0
5	EW313	96	87	123	102	113	98		0
6	EW314	76	74	60	78	87	78		0
7	EW315	80	83	73	101	100	63		0
8	EW315MS	87	87	78	97	103	83		0
9	SBLK	84	74	71	99	104	101		0
10	EW308	94	79	86	104	127 *	112		1
11	EW309	80	78	50	95	103	114		0
12	EW312	88	83	53	106	120	127 *		1
13	EW315MSD	90	80	53	106	115	107		0
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(23-120)
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)
S3 (TPH)	= Terphenyl-d14	(18-137)
S4 (PHL)	= Phenol-d6	(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

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2F
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
1	PBLK	329 *	
2	EW306	0 *	
3	EW307	0 *	
4	EW308	0 *	
5	EW312	345 *	
6	EW313	411 *	
7	EW310	379 *	
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
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22			
23			
24			
25			
26			
27			
28			
29			
30			

S1 (DBC) = Dibutyl chlorendate ADVISORY QC LIMITS (20-150)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

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2F
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: EMSIN Contract: 68-W8-0044

ab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (DBC) #	OTHER
1	PBLK	106	
2	EW306	0 *	
3	EW307	0 *	
4	EW308	0 *	
5	EW309	133	
6	EW310	121	
7	EW311	124	
8	EW312	136	
9	EW313	132	
10	EW314	125	
11	EW315	107	
12	EW315MS	120	
13	EW315MSD	137	
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S1 (DBC) = Dibutyl chlorendate ADVISORY QC LIMITS (20-150)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

recycled paper
ecology and environment

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

Matrix Spike - EPA Sample No.: EW306 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	54.	0.	53.	98.	59-172
Trichloroethene	54.	0.	48.	88.	62-137
Benzene	54.	0.	49.	90.	66-142
Toluene	54.	3.	49.	85.	59-139
Chlorobenzene	54.	0.	48.	88.	60-133

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	58.	58.	101.	3.	22	59-172
Trichloroethene	58.	51.	88.	0.	24	62-137
Benzene	58.	52.	89.	0.	21	66-142
Toluene	58.	52.	84.	1.	21	59-139
Chlorobenzene	58.	50.	88.	0.	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: 0 out of 10 outside limits

COMMENTS:

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ecology and environment

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

Matrix Spike - EPA Sample No.: EW315 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (UG/KG)	SAMPLE CONCENTRATION (UG/KG)	MS CONCENTRATION (UG/KG)	MS % REC #	QC LIMITS REC.
Phenol	8213.	0.	5839.	71.	26- 90
2-Chlorophenol	8213.	0.	5362.	65.	25-102
1,4-Dichlorobenzene	4106.	0.	3557.	87.	28-104
N-Nitroso-di-n-prop.(1)	4106.	0.	3174.	77.	41-126
1,2,4-Trichlorobenzene	4106.	0.	3206.	78.	38-107
4-Chloro-3-methylphenol	8213.	0.	4670.	57.	26-103
Acenaphthene	4106.	0.	2947.	72.	31-137
4-Nitrophenol	8213.	0.	4644.	57.	11-114
2,4-Dinitrotoluene	4106.	0.	3367.	82.	28- 89
Pentachlorophenol	8213.	0.	4444.	54.	17-109
Pyrene	4106.	0.	3692.	90.	35-142

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	8224.	6761.	82.	15.	35	26- 90
2-Chlorophenol	8224.	5924.	72.	10.	50	25-102
1,4-Dichlorobenzene	4112.	3293.	80.	8.	27	28-104
N-Nitroso-di-n-prop.(1)	4112.	2883.	70.	10.	38	41-126
1,2,4-Trichlorobenzene	4112.	3035.	74.	6.	23	38-107
4-Chloro-3-methylphenol	8224.	6634.	81.	35. *	33	26-103
Acenaphthene	4112.	2913.	71.	1.	19	31-137
4-Nitrophenol	8224.	6058.	74.	26.	50	11-114
2,4-Dinitrotoluene	4112.	3463.	84.	3.	47	28- 89
Pentachlorophenol	8224.	4459.	54.	0.	47	17-109
Pyrene	4112.	1905.	46.	64. *	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: 2 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

COMMENTS:

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3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

Matrix Spike - EPA Sample No.: EW315 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)	32.85	.00	34.14	104.	46-127
Heptachlor	32.85	.00	37.96	116.	35-130
Aldrin	32.85	.00	53.12	162. *	34-132
Dieldrin	82.13	.00	81.55	99.	31-134
Endrin	82.13	.00	131.63	160. *	42-139
4,4'-DDT	82.13	.00	86.01	105.	23-134

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	32.89	36.08	110.	5.	50	46-127
Heptachlor	32.89	42.24	128.	11.	31	35-130
Aldrin	32.89	69.76	212. *	27.	43	34-132
Dieldrin	82.24	90.71	110.	11.	38	31-134
Endrin	82.24	125.13	152. *	5.	45	42-139
4,4'-DDT	82.24	90.07	110.	4.	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: 4 out of 12 outside limits

COMMENTS:

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4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

Lab File ID: 16808 Lab Sample ID:_____

Date Analyzed: 4/14/88 Time Analyzed: 12:13

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: 70022

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	EW306		16818	13:13
2	EW307		16828	14:10
3	EW308		16838	15:02
4	EW310		16858	16:54
5	EW311		16868	17:46
6	EW306MS		16878	18:41
7	EW306MSD		16888	19:39
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COMMENTS:

003

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FORM IV VOA
ecology and environment

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

Lab File ID: 16908 Lab Sample ID:_____

Date Analyzed: 4/15/88 Time Analyzed: 12:51

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: 7002Z

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	EW312		16918	13:53
2	EW313		16928	14:43
3	EW314		16938	15:53
4	EW309		16958	17:35
5	EW315		16978	19:24
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COMMENTS:

004

recycled paper

ecology and environment

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16808

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 4/14/88

Column: (pack/cap) PACK Dilution Factor: 1.0000

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	5.	U
67-64-1	Acetone	9.	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	5.	U
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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
591-78-6	2-Hexanone	10.	U
108-10-1	4-Methyl-2-Pentanone	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	Xylene (total)	5.	U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16808

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 4/14/88

Column: (pack/cap) PACK Dilution Factor: 1.0000

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16908

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 4/15/88

Column: (pack/cap) PACK Dilution Factor: 1.0000

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	5.	U
67-64-1	Acetone	10.	
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	5.	U
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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
591-78-6	2-Hexanone	10.	U
108-10-1	4-Methyl-2-Pentanone	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	Xylene (total)	5.	U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16908

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. Date Analyzed: 4/15/88

Column: (pack/cap) PACK Dilution Factor: 1.0000

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

Lab File ID: 9721B Lab Sample ID:

Date Extracted: 4/ 8/88 Extraction:(SepF/Cont/Sonc)

Date Analyzed: 4/19/88 Time Analyzed: 12:13

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: 8702#2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
1	EW306		9689B	4/16/88
2	EW307		9690B	4/16/88
3	EW310		9693B	4/16/88
4	EW311		9694B	4/16/88
5	EW313		9696B	4/16/88
6	EW314		9699B	4/17/88
7	EW315		9700B	4/17/88
8	EW315MS		9701B	4/17/88
9	EW308		9722B	4/19/88
10	EW309		9723B	4/19/88
11	EW312		9724B	4/19/88
12	EW315MSD		9725B	4/19/88
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COMMENTS:

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9721B

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/19/88

GPC Cleanup: (Y/N) N pH: .0 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
108-60-1	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	1700.	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	1700.	U
91-58-7	2-Chloronaphthalene	330.	U
88-74-4	2-Nitroaniline	1700.	U
131-11-3	Dimethylphthalate	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.

SBLK

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9721B

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/19/88

GPC Cleanup: (Y/N) N pH: .0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1700.	U
83-32-9	Acenaphthene	330.	U
51-28-5	2,4-Dinitrophenol	1700.	U
100-02-7	4-Nitrophenol	1700.	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
100-01-6	4-Nitroaniline	1700.	U
534-52-1	4,6-Dinitro-2-methylphenol	1700.	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	1700.	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	670.	U
56-55-3	Benzo(a)anthracene	330.	U
218-01-9	Chrysene	330.	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100.	
117-84-0	Di-n-octylphthalate	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

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9721B

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/19/88

GPC Cleanup: (Y/N) N pH: .0 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 COMPOUND	6.43	200.	J
2.	- -	UNKNOWN COMPOUND	8.22	600.	J
3.	35365-59-4	9-Octadecyne (9CI)	26.57	2000.	J
4.	- -	UNKNOWN COMPOUND	27.43	200.	J
5.	123-79-5	Hexanedioic acid, dioctyl es	30.25	1000.	J
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4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

Lab Sample ID: Lab File ID: A114

Matrix: (soil/water) SOIL Level:(low/med) LOW

Date Extracted: 4/ 8/88 Extraction: (SepF/Cont/Sonc)

Date Analyzed (1): 4/30/88 Date Analyzed (2): 5/ 3/88

Time Analyzed (1): 23:19 Time Analyzed (2): 1:04

Instrument ID (1): 8702#5 Instrument ID (2): 8702#3

GC Column ID (1): PACKED GC Column ID (2): CAP

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
1	EW306		5/ 1/88	5/ 3/88
2	EW307		5/ 1/88	5/ 3/88
3	EW308		5/ 1/88	5/ 3/88
4	EW309		5/ 1/88	
5	EW310		5/ 1/88	5/ 4/88
6	EW311		5/ 1/88	
7	EW312		5/ 1/88	5/ 3/88
8	EW313		5/ 1/88	5/ 3/88
9	EW314		5/ 1/88	
10	EW315		5/ 1/88	
11	EW315MS		5/ 1/88	
12	EW315MSD		5/ 1/88	
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Comments:

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: A114

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/30/88

GPC Cleanup: (Y/N) N pH: .0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	6.7	U
319-85-7	beta-BHC	6.7	U
319-86-8	delta-BHC	6.7	U
58-89-9	gamma-BHC (Lindane)	6.7	U
76-44-8	Heptachlor	6.7	U
309-00-2	Aldrin	6.7	U
1024-57-3	Heptachlor epoxide	6.7	U
959-98-8	Endosulfan I	6.7	U
60-57-1	Dieldrin	13.	U
72-55-9	4,4'-DDE	13.	U
72-20-8	Endrin	13.	U
33213-65-9	Endosulfan II	13.	U
72-54-8	4,4'-DDD	13.	U
1031-07-8	Endosulfan sulfate	13.	U
50-29-3	4,4'-DDT	13.	U
72-43-5	Methoxychlor	67.	U
53494-70-5	Endrin ketone	13.	U
5103-71-9	alpha-Chlordane	67.	U
5103-74-2	gamma-Chlordane	67.	U
8001-35-2	Toxaphene	130.	U
12674-11-2	Arochlor-1016	67.	U
11104-28-2	Arochlor-1221	67.	U
11141-16-5	Arochlor-1232	67.	U
53469-21-9	Arochlor-1242	67.	U
12672-29-6	Arochlor-1248	67.	U
11097-69-1	Arochlor-1254	130.	U
11096-82-5	Arochlor-1260	130.	U

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW306

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16818

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 14. Date Analyzed: 4/14/88

Column: (pack/cap) PACK Dilution Factor: 1.0760

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	5.	J
67-64-1	Acetone	13.	B C
75-15-0	Carbon Disulfide	17.	
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	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	11.	U
71-55-6	1,1,1-Trichloroethane	1.	J
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	11.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
591-78-6	2-Hexanone	11.	U
108-10-1	4-Methyl-2-Pentanone	11.	U
127-18-4	Tetrachloroethene	5.	
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	3.	J
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

PS 5/25/88

009

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EW306

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 1681B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 14. Date Analyzed: 4/14/88

Column: (pack/cap) PACK Dilution Factor: 1.0760

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. - -	UNKNOWN ALKANE	16.22	5.	J
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EPA SAMPLE NO.

EW308

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16838

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 14. Date Analyzed: 4/14/88

Column: (pack/cap) PACK Dilution Factor: 1.0580

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	3.	J
67-64-1	Acetone	26.	U
75-15-0	Carbon Disulfide	3.	J
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	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	11.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	11.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
591-78-6	2-Hexanone	11.	U
108-10-1	4-Methyl-2-Pentanone	11.	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	Xylene (total)	8.	

MS 5/25/88

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW306

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16838

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 14. Date Analyzed: 4/14/88

Column: (pack/cap) PACK Dilution Factor: 1.0580

Number TICs found: 8 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110-82-7	Cyclohexane(DOT (8CI9CI)	15.48	10.	J
2.	- -	UNKNOWN ALKANE	16.27	10.	J
3.	- -	UNKNOWN HYDROCARBON	18.33	10.	J
4.	- -	UNKNOWN HYDROCARBON	20.27	9.	J
5.	- -	UNKNOWN	20.96	10.	J
6.	591-76-4	Hexane, 2-methyl- (8CI9CI)	23.86	8.	J
7.	- -	UNKNOWN HYDROCARBON	24.50	50.	J
8.	- -	UNKNOWN	27.82	10.	J
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EPA SAMPLE NO.

EW309

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16958

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 43. Date Analyzed: 4/15/88

Column: (pack/cap) PACK Dilution Factor: 1.0500

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	8.	U
67-64-1	Acetone	17.	~~UB~~ U + PS 5/25/88
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)	8.	U
67-66-3	Chloroform	8.	U
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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	8.	U
75-25-2	Bromoform	8.	U
591-78-6	2-Hexanone	17.	U
108-10-1	4-Methyl-2-Pentanone	17.	U
127-18-4	Tetrachloroethene	8.	U
79-34-5	1,1,2,2-Tetrachloroethane	8.	U
108-88-3	Toluene	8.	U
108-90-7	Chlorobenzene	8.	U
100-41-4	Ethylbenzene	8.	U
100-42-5	Styrene	8.	U
1330-20-7	Xylene (total)	8.	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW309

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16958

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 43. Date Analyzed: 4/15/88

Column: (pack/cap) PACK Dilution Factor: 1.0500

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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EPA SAMPLE NO.

EW310

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16858

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 22. Date Analyzed: 4/14/88

Column: (pack/cap) PACK Dilution Factor: 1.0360

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	6.	U
67-64-1	Acetone	26.	~~B~~U + RS 5/25/88
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	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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
591-78-6	2-Hexanone	12.	U
108-10-1	4-Methyl-2-Pentanone	12.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	U
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW310

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16858

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 22. Date Analyzed: 4/14/88

Column: (pack/cap) PACK Dilution Factor: 1.0360

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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EPA SAMPLE NO.

EW311

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16868

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 24. Date Analyzed: 4/14/88

Column: (pack/cap) PACK Dilution Factor: 1.0900

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	6.	U
67-64-1	Acetone	12 ~~8.~~	~~UBJ~~ U + PS 5/25/88
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	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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
591-78-6	2-Hexanone	12.	U
108-10-1	4-Methyl-2-Pentanone	12.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	U
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW311

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16868

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 24. Date Analyzed: 4/14/88

Column: (pack/cap) PACK Dilution Factor: 1.0900

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW312

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 1691B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 26. Date Analyzed: 4/15/88

Column: (pack/cap) PACK Dilution Factor: 1.0760

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13.	U
74-83-9	Bromomethane	13.	U
75-01-4	Vinyl Chloride	13.	U
75-00-3	Chloroethane	13.	U
75-09-2	Methylene Chloride	2.	J
67-64-1	Acetone	41.	~~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	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	13.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	13.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
591-78-6	2-Hexanone	13.	U
108-10-1	4-Methyl-2-Pentanone	13.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	U
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

PS 5/25/88

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW312

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16918

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 26. Date Analyzed: 4/15/88

Column: (pack/cap) PACK Dilution Factor: 1.0760

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW313

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16928

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 15. Date Analyzed: 4/15/88

Column: (pack/cap) PACK Dilution Factor: 1.0680

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	3.	J
67-64-1	Acetone	49.	B + 5/25/88 PS
75-15-0	Carbon Disulfide	1.	J
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	6.	U
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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
591-78-6	2-Hexanone	11.	U
108-10-1	4-Methyl-2-Pentanone	11.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	U
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW313

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 1692B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 15. Date Analyzed: 4/15/88

Column: (pack/cap) PACK Dilution Factor: 1.0680

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW314

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16938

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 7. Date Analyzed: 4/15/88

Column: (pack/cap) PACK Dilution Factor: 1.0000

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	2.	J
67-64-1	Acetone	31.	~~B~~ U + 5/25/88 PS
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	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	11.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	11.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
591-78-6	2-Hexanone	11.	U
108-10-1	4-Methyl-2-Pentanone	11.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	4.	J
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW314

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16938

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 7. Date Analyzed: 4/15/88

Column: (pack/cap) PACK Dilution Factor: 1.0000

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW315

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16978

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 20. Date Analyzed: 4/15/88

Column: (pack/cap) PACK Dilution Factor: 1.0320

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	3.	J
67-64-1	Acetone	15.	~~B~~ U — PS 5/25/88
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	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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
591-78-6	2-Hexanone	12.	U
108-10-1	4-Methyl-2-Pentanone	12.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	2.	J

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW315

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 16978

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 20. Date Analyzed: 4/15/88

Column: (pack/cap) PACK Dilution Factor: 1.0320

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW306

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9689B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 14. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/16/88

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	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	320.	J
95-48-7	2-Methylphenol	390.	U
108-60-1	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	31.	J
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	36.	J
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	Dimethylphthalate	390.	U
208-96-8	Acenaphthylene	390.	U
606-20-2	2,6-Dinitrotoluene	390.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW306

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9689B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 14. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/16/88

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	1900.	U
83-32-9	Acenaphthene	24.	J
51-28-5	2,4-Dinitrophenol	1900.	U
100-02-7	4-Nitrophenol	1900.	U
132-64-9	Dibenzofuran	16.	J
121-14-2	2,4-Dinitrotoluene	390.	U
84-66-2	Diethylphthalate	17.	J
7005-72-3	4-Chlorophenyl-phenylether	390.	U
86-73-7	Fluorene	25.	J
100-01-6	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	520.	
120-12-7	Anthracene	160.	J
84-74-2	Di-n-butylphthalate	97.	J
206-44-0	Fluoranthene	1200.	
129-00-0	Pyrene	1500.	
85-68-7	Butylbenzylphthalate	250.	J
91-94-1	3,3'-Dichlorobenzidine	770.	U
56-55-3	Benzo(a)anthracene	810.	
218-01-9	Chrysene	570.	
117-81-7	bis(2-Ethylhexyl)phthalate	1100.	~~B~~ U — PS 5/25/88
117-84-0	Di-n-octylphthalate	390.	U
205-99-2	Benzo(b)fluoranthene	1600.	
207-08-9	Benzo(k)fluoranthene	500.	
50-32-8	Benzo(a)pyrene	800.	
193-39-5	Indeno(1,2,3-cd)pyrene	1100.	
53-70-3	Dibenz(a,h)anthracene	390.	U
191-24-2	Benzo(g,h,i)perylene	1200.	

(1) - Cannot be separated from diphenylamine

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1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW306

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9689B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 14. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/16/88

GPC Cleanup: (Y/N) N pH: 7.1 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 COMPOUND	6.53	200.	J
2.	- -	UNKNOWN COMPOUND	8.31	600.	J
3.	- -	UNKNOWN HYDROCARBON	23.45	300.	J
4.	- -	UNKNOWN COMPOUND	25.47	600.	J
5.	21964-49-8	1,13-Tetradecadiene (8CI9CI)	26.82	8000.	J
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW307

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9690B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 17. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/16/88

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	4000.	U
111-44-4	bis(2-chloroethyl)ether	4000.	U
95-57-8	2-Chlorophenol	4000.	U
541-73-1	1,3-Dichlorobenzene	4000.	U
106-46-7	1,4-Dichlorobenzene	4000.	U
100-51-6	Benzyl alcohol	4000.	U
95-50-1	1,2-Dichlorobenzene	4000.	U
95-48-7	2-Methylphenol	4000.	U
108-60-1	bis(2-chloroisopropyl)ether	4000.	U
106-44-5	4-Methylphenol	4000.	U
621-64-7	N-Nitroso-di-n-propylamine	4000.	U
67-72-1	Hexachloroethane	4000.	U
98-95-3	Nitrobenzene	4000.	U
78-59-1	Isophorone	4000.	U
88-75-5	2-Nitrophenol	4000.	U
105-67-9	2,4-Dimethylphenol	4000.	U
65-85-0	Benzoic acid	20000.	U
111-91-1	bis(2-Chloroethoxy)methane	4000.	U
120-83-2	2,4-Dichlorophenol	4000.	U
120-82-1	1,2,4-Trichlorobenzene	4000.	U
91-20-3	Naphthalene	610.	J
106-47-8	4-Chloroaniline	4000.	U
87-68-3	Hexachlorobutadiene	4000.	U
59-50-7	4-Chloro-3-methylphenol	4000.	U
91-57-6	2-Methylnaphthalene	4000.	U
77-47-4	Hexachlorocyclopentadiene	4000.	U
88-06-2	2,4,6-Trichlorophenol	4000.	U
95-95-4	2,4,5-Trichlorophenol	20000.	U
91-58-7	2-Chloronaphthalene	4000.	U
88-74-4	2-Nitroaniline	20000.	U
131-11-3	Dimethylphthalate	4000.	U
208-96-8	Acenaphthylene	4000.	U
606-20-2	2,6-Dinitrotoluene	4000.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW307

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9690B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 17. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/16/88

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	20000.	U
83-32-9	Acenaphthene	1800.	J
51-28-5	2,4-Dinitrophenol	20000.	U
100-02-7	4-Nitrophenol	20000.	U
132-64-9	Dibenzofuran	930.	J
121-14-2	2,4-Dinitrotoluene	4000.	U
84-66-2	Diethylphthalate	4000.	U
7005-72-3	4-Chlorophenyl-phenylether	4000.	U
86-73-7	Fluorene	2400.	J
100-01-6	4-Nitroaniline	20000.	U
534-52-1	4,6-Dinitro-2-methylphenol	20000.	U
86-30-6	N-Nitrosodiphenylamine (1)	4000.	U
101-55-3	4-Bromophenyl-phenylether	4000.	U
118-74-1	Hexachlorobenzene	4000.	U
87-86-5	Pentachlorophenol	20000.	U
85-01-8	Phenanthrene	32000.	
120-12-7	Anthracene	9500.	
84-74-2	Di-n-butylphthalate	4000.	U
206-44-0	Fluoranthene	57000.	
129-00-0	Pyrene	35000.	
85-68-7	Butylbenzylphthalate	4000.	U
91-94-1	3,3'-Dichlorobenzidine	8000.	U
56-55-3	Benzo(a)anthracene	22000.	
218-01-9	Chrysene	23000.	
117-81-7	bis(2-Ethylhexyl)phthalate	3300.	~~BJ~~ U — PS 5/25/88
117-84-0	Di-n-octylphthalate	4000.	U
205-99-2	Benzo(b)fluoranthene	43000.	
207-08-9	Benzo(k)fluoranthene	4000.	U
50-32-8	Benzo(a)pyrene	20000.	
193-39-5	Indeno(1,2,3-cd)pyrene	13000.	
53-70-3	Dibenz(a,h)anthracene	2100.	J
191-24-2	Benzo(g,h,i)perylene	14000.	

(1) - Cannot be separated from diphenylamine

FORM I SV-2 1/87 Rev.

recycled paper ecology and environment

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW307

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9690B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 17. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/16/88

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 10.00

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	86-74-8	9H-Carbazole (9CI)	23.68	2000.	J
2.	832-64-4	Phenanthrene, 4-methyl- (8CI	24.42	6000.	J
3.	203-64-5	4H-Cyclopenta[def]phenanthre	24.68	3000.	J
4.	- -	UNKNOWN COMPOUND	26.87	3000.	J
5.	243-42-5	Benzo[b]naphtho[2,3-d]furan	27.18	4000.	J
6.	243-42-5	Benzo[b]naphtho[2,3-d]furan	27.58	4000.	J
7.	243-17-4	11H-Benzo[b]fluorene (8CI9CI	28.22	7000.	J
8.	238-84-6	11H-Benzo[a]fluorene (8CI9CI	28.43	3000.	J
9.	2381-21-7	Pyrene, 1-methyl- (8CI9CI)	28.50	2000.	J
10.	613-59-2	Naphthalene, 2-(phenylmethyl	28.60	3000.	J
11.	3442-78-2	Pyrene, 2-methyl- (8CI9CI)	28.76	2000.	J
12.	- -	UNKNOWN COMPOUND	29.60	2000.	J
13.	205-43-6	Benzo[b]naphtho[1,2-d]thioph	30.05	3000.	J
14.	- -	UNKNOWN AROMATIC	30.18	5000.	J
15.	- -	UNKNOWN COMPOUND	30.29	2000.	J
16.	3029-19-4	1-Pyrene-carboxaldehyde	30.39	4000.	J
17.	195-19-7	Benzo[c]phenanthrene (8CI9CI	31.10	4000.	J
18.	1705-84-6	Triphenylene, 2-methyl- (8CI	32.09	2000.	J
19.	13323-66-5	2-Propen-1-one, 1-(2-hydroxy	32.29	2000.	J
20.	192-97-2	Benzo[e]pyrene (8CI9CI)	34.55	30000.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW308

Lab Name: EMSIN Contract: 68-W8-0044

ab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

ample wt/vol: 30. (g/mL) G Lab File ID: 9722B

evel: (low/med) LOW Date Received: 4/ 6/88

Moisture: not dec. 14. dec. 0. Date Extracted: 4/ 8/88

xtraction: (SepF/Cont/Sonc) Date Analyzed: 4/19/88

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 2.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	770.	U
111-44-4	bis(2-chloroethyl)ether	770.	U
95-57-8	2-Chlorophenol	770.	U
541-73-1	1,3-Dichlorobenzene	770.	U
106-46-7	1,4-Dichlorobenzene	770.	U
100-51-6	Benzyl alcohol	770.	U
95-50-1	1,2-Dichlorobenzene	770.	U
95-48-7	2-Methylphenol	770.	U
108-60-1	bis(2-chloroisopropyl)ether	770.	U
106-44-5	4-Methylphenol	770.	U
621-64-7	N-Nitroso-di-n-propylamine	770.	U
67-72-1	Hexachloroethane	770.	U
98-95-3	Nitrobenzene	770.	U
78-59-1	Isophorone	770.	U
88-75-5	2-Nitrophenol	770.	U
105-67-9	2,4-Dimethylphenol	770.	U
65-85-0	Benzoic acid	3900.	U
111-91-1	bis(2-Chloroethoxy)methane	770.	U
120-83-2	2,4-Dichlorophenol	770.	U
120-82-1	1,2,4-Trichlorobenzene	770.	U
91-20-3	Naphthalene	200.	J
106-47-8	4-Chloroaniline	770.	U
87-68-3	Hexachlorobutadiene	770.	U
59-50-7	4-Chloro-3-methylphenol	770.	U
91-57-6	2-Methylnaphthalene	1300.	
77-47-4	Hexachlorocyclopentadiene	770.	U
88-06-2	2,4,6-Trichlorophenol	770.	U
95-95-4	2,4,5-Trichlorophenol	3900.	U
91-58-7	2-Chloronaphthalene	770.	U
88-74-4	2-Nitroaniline	3900.	U
131-11-3	Dimethylphthalate	770.	U
208-96-8	Acenaphthylene	51.	J
606-20-2	2,6-Dinitrotoluene	770.	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW308

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9722B

Level: (low/med) LOW Date Received: 4/ 6/88

Moisture: not dec. 14. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/19/88

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 2.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3900.	U
83-32-9	Acenaphthene	140.	J
51-28-5	2,4-Dinitrophenol	3900.	U
100-02-7	4-Nitrophenol	3900.	U
132-64-9	Dibenzofuran	53.	J
121-14-2	2,4-Dinitrotoluene	770.	U
84-66-2	Diethylphthalate	770.	U
7005-72-3	4-Chlorophenyl-phenylether	770.	U
86-73-7	Fluorene	350.	J
100-01-6	4-Nitroaniline	3900.	U
534-52-1	4,6-Dinitro-2-methylphenol	3900.	U
86-30-6	N-Nitrosodiphenylamine (1)	770.	U
101-55-3	4-Bromophenyl-phenylether	770.	U
118-74-1	Hexachlorobenzene	770.	U
87-86-5	Pentachlorophenol	3900.	U
85-01-8	Phenanthrene	1500.	
120-12-7	Anthracene	220.	J
84-74-2	Di-n-butylphthalate	300.	J
206-44-0	Fluoranthene	91.	J
129-00-0	Pyrene	1800.	
85-68-7	Butylbenzylphthalate	2400.	
91-94-1	3,3'-Dichlorobenzidine	1500.	U
56-55-3	Benzo(a)anthracene	480.	J
218-01-9	Chrysene	470.	J
117-81-7	bis(2-Ethylhexyl)phthalate	1400.	~~B~~ U — PS 5/25/88
117-84-0	Di-n-octylphthalate	3200.	
205-99-2	Benzo(b)fluoranthene	870.	
207-08-9	Benzo(k)fluoranthene	770.	U
50-32-8	Benzo(a)pyrene	770.	U
193-39-5	Indeno(1,2,3-cd)pyrene	770.	U
53-70-3	Dibenz(a,h)anthracene	770.	U
191-24-2	Benzo(g,h,i)perylene	770.	U

(1) - Cannot be separated from diphenylamine

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW308

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9722B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 14. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/19/88

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 2.00

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN COMPOUND	15.01	2000.	J
2.	4453-90-1	1,4-Methanonaphthalene,1,4-d	15.50	3000.	J
3.	575-37-1	1,7-Dimethylnaphthalene	17.18	3000.	J
4.	571-58-4	1,4-Dimethylnaphthalene	17.43	4000.	J
5.	573-98-8	1,2-Dimethylnaphthalene	17.74	1000.	J
6.	- -	UNKNOWN COMPOUND	18.27	1000.	J
7.	2131-41-1	1,4,5-Trimethylnaphthalene	18.82	1000.	J
8.	1430-97-3	2-methyl-9H-Fluorene	21.71	2000.	J
9.	26730-20-1	4-methyl-Hexadecane	21.86	1000.	J
10.	55045-07-3	2-methyl-8-propyl-Dodecane	21.94	3000.	J
11.	638-36-8	2,6,10,14-tetramethyl-Hexade	23.38	4000.	J
12.	610-48-0	1-methyl-Anthracene	24.38	2000.	J
13.	25117-35-5	5-methyl-Octadecane	24.58	2000.	J
14.	- -	UNKNOWN COMPOUND	25.39	2000.	J
15.	112-95-8	Eicosane	25.86	3000.	J
16.	- -	UNKNOWN COMPOUND	26.72	3000.	J
17.	- -	UNKNOWN COMPOUND	27.24	1000.	J
18.	- -	UNKNOWN HYDROCARBON	27.44	2000.	J
19.	- -	UNKNOWN HYDROCARBON	28.60	3000.	J
20.	- -	UNKNOWN PHTHALATE	35.35	2000.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW309

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9723B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 43. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/19/88

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	580.	U
111-44-4	bis(2-chloroethyl)ether	580.	U
95-57-8	2-Chlorophenol	580.	U
541-73-1	1,3-Dichlorobenzene	580.	U
106-46-7	1,4-Dichlorobenzene	580.	U
100-51-6	Benzyl alcohol	580.	U
95-50-1	1,2-Dichlorobenzene	580.	U
95-48-7	2-Methylphenol	580.	U
108-60-1	bis(2-chloroisopropyl)ether	580.	U
106-44-5	4-Methylphenol	580.	U
621-64-7	N-Nitroso-di-n-propylamine	580.	U
67-72-1	Hexachloroethane	580.	U
98-95-3	Nitrobenzene	580.	U
78-59-1	Isophorone	580.	U
88-75-5	2-Nitrophenol	580.	U
105-67-9	2,4-Dimethylphenol	580.	U
65-85-0	Benzoic acid	2900.	U
111-91-1	bis(2-Chloroethoxy)methane	580.	U
120-83-2	2,4-Dichlorophenol	580.	U
120-82-1	1,2,4-Trichlorobenzene	580.	U
91-20-3	Naphthalene	580.	U
106-47-8	4-Chloroaniline	580.	U
87-68-3	Hexachlorobutadiene	580.	U
59-50-7	4-Chloro-3-methylphenol	580.	U
91-57-6	2-Methylnaphthalene	580.	U
77-47-4	Hexachlorocyclopentadiene	580.	U
88-06-2	2,4,6-Trichlorophenol	580.	U
95-95-4	2,4,5-Trichlorophenol	2900.	U
91-58-7	2-Chloronaphthalene	580.	U
88-74-4	2-Nitroaniline	2900.	U
131-11-3	Dimethylphthalate	580.	U
208-96-8	Acenaphthylene	580.	U
606-20-2	2,6-Dinitrotoluene	580.	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW309

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9723B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 43. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/19/88

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2900.	U
83-32-9	Acenaphthene	580.	U
51-28-5	2,4-Dinitrophenol	2900.	U
100-02-7	4-Nitrophenol	2900.	U
132-64-9	Dibenzofuran	580.	U
121-14-2	2,4-Dinitrotoluene	580.	U
84-66-2	Diethylphthalate	580.	U
7005-72-3	4-Chlorophenyl-phenylether	580.	U
86-73-7	Fluorene	580.	U
100-01-6	4-Nitroaniline	2900.	U
534-52-1	4,6-Dinitro-2-methylphenol	2900.	U
86-30-6	N-Nitrosodiphenylamine (1)	580.	U
101-55-3	4-Bromophenyl-phenylether	580.	U
118-74-1	Hexachlorobenzene	580.	U
87-86-5	Pentachlorophenol	2900.	U
85-01-8	Phenanthrene	580.	U
120-12-7	Anthracene	580.	U
84-74-2	Di-n-butylphthalate	580.	U
206-44-0	Fluoranthene	580.	U
129-00-0	Pyrene	580.	U
85-68-7	Butylbenzylphthalate	580.	U
91-94-1	3,3'-Dichlorobenzidine	1200.	U
56-55-3	Benzo(a)anthracene	580.	U
218-01-9	Chrysene	580.	U
117-81-7	bis(2-Ethylhexyl)phthalate	900.	~~B~~U — PS 5/25/88
117-84-0	Di-n-octylphthalate	580.	U
205-99-2	Benzo(b)fluoranthene	580.	U
207-08-9	Benzo(k)fluoranthene	580.	U
50-32-8	Benzo(a)pyrene	580.	U
193-39-5	Indeno(1,2,3-cd)pyrene	580.	U
53-70-3	Dibenz(a,h)anthracene	580.	U
191-24-2	Benzo(g,h,i)perylene	580.	U

(1) - Cannot be separated from diphenylamine

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW309

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9723B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 43. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/19/88

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

Number TICs found: 10

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. - -	UNKNOWN COMPOUND	6.42	400.	J
2. - -	UNKNOWN COMPOUND	8.21	900.	J
3. - -	UNKNOWN COMPOUND	26.57	1000.	J
4. - -	UNKNOWN COMPOUND	30.25	600.	J
5. - -	UNKNOWN HYDROCARBON	33.35	1000.	J
6. - -	UNKNOWN COMPOUND	34.13	400.	J
7. - -	UNKNOWN COMPOUND	34.39	500.	J
8. - -	UNKNOWN HYDROCARBON	35.02	900.	J
9. - -	UNKNOWN COMPOUND	35.18	900.	J
10. - -	UNKNOWN HYDROCARBON	36.83	900.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW310

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9693B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 22. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/16/88

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	430.	U
111-44-4	bis(2-chloroethyl)ether	430.	U
95-57-8	2-Chlorophenol	430.	U
541-73-1	1,3-Dichlorobenzene	430.	U
106-46-7	1,4-Dichlorobenzene	430.	U
100-51-6	Benzyl alcohol	430.	U
95-50-1	1,2-Dichlorobenzene	430.	U
95-48-7	2-Methylphenol	430.	U
108-60-1	bis(2-chloroisopropyl)ether	430.	U
106-44-5	4-Methylphenol	430.	U
621-64-7	N-Nitroso-di-n-propylamine	430.	U
67-72-1	Hexachloroethane	430.	U
98-95-3	Nitrobenzene	430.	U
78-59-1	Isophorone	430.	U
88-75-5	2-Nitrophenol	430.	U
105-67-9	2,4-Dimethylphenol	430.	U
65-85-0	Benzoic acid	2100.	U
111-91-1	bis(2-Chloroethoxy)methane	430.	U
120-83-2	2,4-Dichlorophenol	430.	U
120-82-1	1,2,4-Trichlorobenzene	430.	U
91-20-3	Naphthalene	19.	J
106-47-8	4-Chloroaniline	430.	U
87-68-3	Hexachlorobutadiene	430.	U
59-50-7	4-Chloro-3-methylphenol	430.	U
91-57-6	2-Methylnaphthalene	13.	J
77-47-4	Hexachlorocyclopentadiene	430.	U
88-06-2	2,4,6-Trichlorophenol	430.	U
95-95-4	2,4,5-Trichlorophenol	2100.	U
91-58-7	2-Chloronaphthalene	430.	U
88-74-4	2-Nitroaniline	2100.	U
131-11-3	Dimethylphthalate	430.	U
208-96-8	Acenaphthylene	430.	U
606-20-2	2,6-Dinitrotoluene	430.	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW310

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9693B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 22. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/16/88

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2100.	U
83-32-9	Acenaphthene	110.	J
51-28-5	2,4-Dinitrophenol	2100.	U
100-02-7	4-Nitrophenol	2100.	U
132-64-9	Dibenzofuran	37.	J
121-14-2	2,4-Dinitrotoluene	430.	U
84-66-2	Diethylphthalate	430.	U
7005-72-3	4-Chlorophenyl-phenylether	430.	U
86-73-7	Fluorene	120.	J
100-01-6	4-Nitroaniline	2100.	U
534-52-1	4,6-Dinitro-2-methylphenol	2100.	U
86-30-6	N-Nitrosodiphenylamine (1)	430.	U
101-55-3	4-Bromophenyl-phenylether	430.	U
118-74-1	Hexachlorobenzene	430.	U
87-86-5	Pentachlorophenol	2100.	U
85-01-8	Phenanthrene	1300.	
120-12-7	Anthracene	390.	J
84-74-2	Di-n-butylphthalate	35.	J
206-44-0	Fluoranthene	2400.	
129-00-0	Pyrene	3700.	
85-68-7	Butylbenzylphthalate	430.	U
91-94-1	3,3'-Dichlorobenzidine	850.	U
56-55-3	Benzo(a)anthracene	980.	
218-01-9	Chrysene	1000.	
117-81-7	bis(2-Ethylhexyl)phthalate	2000.	~~B~~ U — PS 5/25/88
117-84-0	Di-n-octylphthalate	430.	U
205-99-2	Benzo(b)fluoranthene	1200.	
207-08-9	Benzo(k)fluoranthene	710.	
50-32-8	Benzo(a)pyrene	1100.	
193-39-5	Indeno(1,2,3-cd)pyrene	1000.	
53-70-3	Dibenz(a,h)anthracene	430.	U
191-24-2	Benzo(g,h,i)perylene	1100.	

(1) - Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW310

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9693B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 22. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/16/88

GPC Cleanup: (Y/N) N pH: 7.4 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 COMPOUND	6.55	200.	J
2.	- -	UNKNOWN COMPOUND	8.31	500.	J
3.	544-76-3	Hexadecane (8CI9CI)	20.48	200.	J
4.	629-78-7	Heptadecane (8CI9CI)	21.92	300.	J
5.	55000-52-7	Hexadecane, 2,6,10-trimethyl	22.01	200.	J
6.	- -	UNKNOWN HYDROCARBON	23.31	200.	J
7.	- -	UNKNOWN HYDROCARBON	23.43	200.	J
8.	832-64-4	Phenanthrene, 4-methyl- (8CI	24.43	300.	J
9.	613-12-7	Anthracene, 2-methyl- (8CI9C	24.61	200.	J
10.	203-64-5	4H-Cyclopenta[def]phenanthre	24.69	200.	J
11.	- -	UNKNOWN COMPOUND	26.79	200.	J
12.	243-42-5	Benzo[b]naphtho[2,3-d]furan	27.20	1000.	J
13.	243-42-5	Benzo[b]naphtho[2,3-d]furan	27.58	1000.	J
14.	238-84-6	11H-Benzo[a]fluorene (8CI9CI	28.23	3000.	J
15.	243-17-4	11H-Benzo[b]fluorene (8CI9CI	28.44	1000.	J
16.	- -	UNKNOWN HYDROCARBON	29.32	900.	J
17.	- -	UNKNOWN AROMATIC	30.20	900.	J
18.	123-79-5	Hexanedioic acid, dioctyl es	30.38	4000.	BJ
19.	629-99-2	Pentacosane (8CI9CI)	31.41	900.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW311

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 31. (g/mL) G Lab File ID: 9694B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 26. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/16/88

GPC Cleanup: (Y/N) N pH: 5.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	440.	U
111-44-4	bis(2-chloroethyl)ether	440.	U
95-57-8	2-Chlorophenol	440.	U
541-73-1	1,3-Dichlorobenzene	440.	U
106-46-7	1,4-Dichlorobenzene	38.	J
100-51-6	Benzyl alcohol	440.	U
95-50-1	1,2-Dichlorobenzene	440.	U
95-48-7	2-Methylphenol	440.	U
108-60-1	bis(2-chloroisopropyl)ether	440.	U
106-44-5	4-Methylphenol	440.	U
621-64-7	N-Nitroso-di-n-propylamine	440.	U
67-72-1	Hexachloroethane	440.	U
98-95-3	Nitrobenzene	440.	U
78-59-1	Isophorone	440.	U
88-75-5	2-Nitrophenol	440.	U
105-67-9	2,4-Dimethylphenol	440.	U
65-85-0	Benzoic acid	2200.	U
111-91-1	bis(2-Chloroethoxy)methane	440.	U
120-83-2	2,4-Dichlorophenol	440.	U
120-82-1	1,2,4-Trichlorobenzene	440.	U
91-20-3	Naphthalene	440.	U
106-47-8	4-Chloroaniline	440.	U
87-68-3	Hexachlorobutadiene	440.	U
59-50-7	4-Chloro-3-methylphenol	440.	U
91-57-6	2-Methylnaphthalene	440.	U
77-47-4	Hexachlorocyclopentadiene	440.	U
88-06-2	2,4,6-Trichlorophenol	440.	U
95-95-4	2,4,5-Trichlorophenol	2200.	U
91-58-7	2-Chloronaphthalene	440.	U
88-74-4	2-Nitroaniline	2200.	U
131-11-3	Dimethylphthalate	440.	U
208-96-8	Acenaphthylene	440.	U
606-20-2	2,6-Dinitrotoluene	440.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW311

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 31. (g/mL) G Lab File ID: 9694B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 26. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/16/88

GPC Cleanup: (Y/N) N pH: 5.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2200.	U
83-32-9	Acenaphthene	440.	U
51-28-5	2,4-Dinitrophenol	2200.	U
100-02-7	4-Nitrophenol	2200.	U
132-64-9	Dibenzofuran	440.	U
121-14-2	2,4-Dinitrotoluene	440.	U
84-66-2	Diethylphthalate	440.	U
7005-72-3	4-Chlorophenyl-phenylether	440.	U
86-73-7	Fluorene	440.	U
100-01-6	4-Nitroaniline	2200.	U
534-52-1	4,6-Dinitro-2-methylphenol	2200.	U
86-30-6	N-Nitrosodiphenylamine (1)	440.	U
101-55-3	4-Bromophenyl-phenylether	440.	U
118-74-1	Hexachlorobenzene	440.	U
87-86-5	Pentachlorophenol	2200.	U
85-01-8	Phenanthrene	440.	U
120-12-7	Anthracene	440.	U
84-74-2	Di-n-butylphthalate	440.	U
206-44-0	Fluoranthene	440.	U
129-00-0	Pyrene	440.	U
85-68-7	Butylbenzylphthalate	440.	U
91-94-1	3,3'-Dichlorobenzidine	870.	U
56-55-3	Benzo(a)anthracene	440.	U
218-01-9	Chrysene	440.	U
117-81-7	bis(2-Ethylhexyl)phthalate	1200.	~~B~~U — PS 5/25/88
117-84-0	Di-n-octylphthalate	440.	U
205-99-2	Benzo(b)fluoranthene	440.	U
207-08-9	Benzo(k)fluoranthene	440.	U
50-32-8	Benzo(a)pyrene	440.	U
193-39-5	Indeno(1,2,3-cd)pyrene	440.	U
53-70-3	Dibenz(a,h)anthracene	440.	U
191-24-2	Benzo(g,h,i)perylene	440.	U

(1) - Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW311

ab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

atrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 31. (g/mL) G Lab File ID: 9694B

Level: (low/med) LOW Date Received: 4/ 6/88

Moisture: not dec. 26. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/16/88

GPC Cleanup: (Y/N) N pH: 5.9 Dilution Factor: 1.00

Number TICs found: 6

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN COMPOUND	6.56	200.	J
2.	- -	UNKNOWN COMPOUND	8.32	500.	J
3.	- -	UNKNOWN COMPOUND	12.52	200.	J
4.	21964-49-8	1,13-Tetradecadiene (8CI9CI)	26.71	3000.	J
5.	123-79-5	Hexanedioic acid, dioctyl es	30.36	2000.	BJ
6.	- -	UNKNOWN COMPOUND	38.60	1000.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW312

Name: EMSIN Contract: 68-W8-0044

Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

trix: (soil/water) SOIL Lab Sample ID:

le wt/vol: 30. (g/mL) G Lab File ID: 9724B

vel: (low/med) LOW Date Received: 4/ 6/88

isture: not dec. 26. dec. 0. Date Extracted: 4/ 8/88

action: (SepF/Cont/Sonc) Date Analyzed: 4/19/88

C Cleanup: (Y/N) N pH: 5.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	450.	U
111-44-4	bis(2-chloroethyl)ether	450.	U
95-57-8	2-Chlorophenol	450.	U
541-73-1	1,3-Dichlorobenzene	450.	U
106-46-7	1,4-Dichlorobenzene	450.	U
100-51-6	Benzyl alcohol	450.	U
95-50-1	1,2-Dichlorobenzene	450.	U
95-48-7	2-Methylphenol	450.	U
108-60-1	bis(2-chloroisopropyl)ether	450.	U
106-44-5	4-Methylphenol	450.	U
621-64-7	N-Nitroso-di-n-propylamine	450.	U
67-72-1	Hexachloroethane	450.	U
98-95-3	Nitrobenzene	450.	U
78-59-1	Isophorone	450.	U
88-75-5	2-Nitrophenol	450.	U
105-67-9	2,4-Dimethylphenol	450.	U
65-85-0	Benzoic acid	2200.	U
111-91-1	bis(2-Chloroethoxy)methane	450.	U
120-83-2	2,4-Dichlorophenol	450.	U
120-82-1	1,2,4-Trichlorobenzene	450.	U
91-20-3	Naphthalene	450.	U
106-47-8	4-Chloroaniline	450.	U
87-68-3	Hexachlorobutadiene	450.	U
59-50-7	4-Chloro-3-methylphenol	450.	U
91-57-6	2-Methylnaphthalene	450.	U
77-47-4	Hexachlorocyclopentadiene	450.	U
88-06-2	2,4,6-Trichlorophenol	450.	U
95-95-4	2,4,5-Trichlorophenol	2200.	U
91-58-7	2-Chloronaphthalene	450.	U
88-74-4	2-Nitroaniline	2200.	U
131-11-3	Dimethylphthalate	450.	U
208-96-8	Acenaphthylene	450.	U
606-20-2	2,6-Dinitrotoluene	450.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW312

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9724B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 26. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/19/88

GPC Cleanup: (Y/N) N pH: 5.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2200.	U
83-32-9	Acenaphthene	450.	U
51-28-5	2,4-Dinitrophenol	2200.	U
100-02-7	4-Nitrophenol	2200.	U
132-64-9	Dibenzofuran	450.	U
121-14-2	2,4-Dinitrotoluene	450.	U
84-66-2	Diethylphthalate	450.	U
7005-72-3	4-Chlorophenyl-phenylether	450.	U
86-73-7	Fluorene	450.	U
100-01-6	4-Nitroaniline	2200.	U
534-52-1	4,6-Dinitro-2-methylphenol	2200.	U
86-30-6	N-Nitrosodiphenylamine (1)	450.	U
101-55-3	4-Bromophenyl-phenylether	450.	U
118-74-1	Hexachlorobenzene	450.	U
87-86-5	Pentachlorophenol	2200.	U
85-01-8	Phenanthrene	450.	U
120-12-7	Anthracene	450.	U
84-74-2	Di-n-butylphthalate	450.	U
206-44-0	Fluoranthene	450.	U
129-00-0	Pyrene	450.	U
85-68-7	Butylbenzylphthalate	450.	U
91-94-1	3,3'-Dichlorobenzidine	900.	U
56-55-3	Benzo(a)anthracene	450.	U
218-01-9	Chrysene	450.	U
117-81-7	bis(2-Ethylhexyl)phthalate	570.	~~B~~U — PS 5/25/89
117-84-0	Di-n-octylphthalate	450.	U
205-99-2	Benzo(b)fluoranthene	450.	U
207-08-9	Benzo(k)fluoranthene	450.	U
50-32-8	Benzo(a)pyrene	450.	U
193-39-5	Indeno(1,2,3-cd)pyrene	450.	U
53-70-3	Dibenz(a,h)anthracene	450.	U
191-24-2	Benzo(g,h,i)perylene	450.	U

(1) - Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW312

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9724B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 26. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/19/88

GPC Cleanup: (Y/N) N pH: 5.9 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 COMPOUND	6.44	400.	J
2.	- -	UNKNOWN COMPOUND	8.21	900.	J
3.	- -	UNKNOWN COMPOUND	15.11	200.	J
4.	5675-51-4	1,12-Dodecanediol (8CI9CI)	26.57	3000.	J
5.	- -	UNKNOWN COMPOUND	26.89	300.	J
6.	- -	UNKNOWN COMPOUND	27.32	300.	J
7.	- -	UNKNOWN COMPOUND	27.39	300.	J
8.	- -	UNKNOWN HYDROCARBON	29.19	200.	J
9.	123-79-5	Hexanedioic acid, dioctyl es	30.24	700.	BJ
10.	- -	UNKNOWN COMPOUND	31.35	200.	J
11.	- -	UNKNOWN HYDROCARBON	33.22	600.	J
12.	- -	UNKNOWN COMPOUND	33.32	500.	J
13.	- -	UNKNOWN COMPOUND	34.39	200.	J
14.	- -	UNKNOWN COMPOUND	34.83	300.	J
15.	- -	UNKNOWN COMPOUND	36.82	400.	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW313

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9696B

Level: (low/med) LOW Date Received: 4/ 6/88

Moisture: not dec. 15. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/16/88

GPC Cleanup: (Y/N) N pH: 6.8 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
108-60-1	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	2000.	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	29.	J
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	18.	J
77-47-4	Hexachlorocyclopentadiene	390.	U
88-06-2	2,4,6-Trichlorophenol	390.	U
95-95-4	2,4,5-Trichlorophenol	2000.	U
91-58-7	2-Chloronaphthalene	390.	U
88-74-4	2-Nitroaniline	2000.	U
131-11-3	Dimethylphthalate	390.	U
208-96-8	Acenaphthylene	390.	U
606-20-2	2,6-Dinitrotoluene	390.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW313

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9696B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 15. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/16/88

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2000.	U
83-32-9	Acenaphthene	390.	U
51-28-5	2,4-Dinitrophenol	2000.	U
100-02-7	4-Nitrophenol	2000.	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
100-01-6	4-Nitroaniline	2000.	U
534-52-1	4,6-Dinitro-2-methylphenol	2000.	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	2000.	U
85-01-8	Phenanthrene	34.	J
120-12-7	Anthracene	390.	U
84-74-2	Di-n-butylphthalate	33.	J
206-44-0	Fluoranthene	54.	J
129-00-0	Pyrene	76.	J
85-68-7	Butylbenzylphthalate	350.	J
91-94-1	3,3'-Dichlorobenzidine	780.	U
56-55-3	Benzo(a)anthracene	390.	U
218-01-9	Chrysene	72.	J
117-81-7	bis(2-Ethylhexyl)phthalate	1900.	~~B~~ U — PS 5/25/88
117-84-0	Di-n-octylphthalate	390.	U
205-99-2	Benzo(b)fluoranthene	390.	U
207-08-9	Benzo(k)fluoranthene	390.	U
50-32-8	Benzo(a)pyrene	390.	U
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

(1) - Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW313

ab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

atrix: (soil/water) SOIL Lab Sample ID:

ample wt/vol: 30. (g/mL) G Lab File ID: 9696B

Level: (low/med) LOW Date Received: 4/ 6/88

Moisture: not dec. 15. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/16/88

PC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00

Number TICs found: 14

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN COMPOUND	6.55	300.	J
2.	- -	UNKNOWN COMPOUND	8.32	800.	J
3.	934-34-9	2(3H)-Benzothiazolone (9CI)	21.42	400.	J
4.	- -	UNKNOWN HYDROCARBON	24.60	200.	J
5.	21964-49-8	1,13-Tetradecadiene (8CI9CI)	26.65	5000.	J
6.	- -	UNKNOWN COMPOUND	27.51	400.	J
7.	- -	UNKNOWN COMPOUND	27.69	200.	J
8.	50-29-3	p,p'-DDT	28.94	200.	J
9.	- -	UNKNOWN COMPOUND	29.15	200.	J
10.	- -	UNKNOWN COMPOUND	29.32	300.	J
11.	123-79-5	Hexanedioic acid, dioctyl es	30.36	2000.	BJ
12.	- -	UNKNOWN HYDROCARBON	31.39	300.	J
13.	- -	UNKNOWN HYDROCARBON	33.33	600.	J
14.	- -	UNKNOWN COMPOUND	38.58	800.	J
15.					
16.					
17.					
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW314

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9699B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 7. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/17/88

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	360.	U
111-44-4	bis(2-chloroethyl)ether	360.	U
95-57-8	2-Chlorophenol	360.	U
541-73-1	1,3-Dichlorobenzene	360.	U
106-46-7	1,4-Dichlorobenzene	360.	U
100-51-6	Benzyl alcohol	360.	U
95-50-1	1,2-Dichlorobenzene	360.	U
95-48-7	2-Methylphenol	360.	U
108-60-1	bis(2-chloroisopropyl)ether	360.	U
106-44-5	4-Methylphenol	360.	U
621-64-7	N-Nitroso-di-n-propylamine	360.	U
67-72-1	Hexachloroethane	360.	U
98-95-3	Nitrobenzene	360.	U
78-59-1	Isophorone	360.	U
88-75-5	2-Nitrophenol	360.	U
105-67-9	2,4-Dimethylphenol	360.	U
65-85-0	Benzoic acid	1800.	U
111-91-1	bis(2-Chloroethoxy)methane	360.	U
120-83-2	2,4-Dichlorophenol	360.	U
120-82-1	1,2,4-Trichlorobenzene	360.	U
91-20-3	Naphthalene	360.	U
106-47-8	4-Chloroaniline	360.	U
87-68-3	Hexachlorobutadiene	360.	U
59-50-7	4-Chloro-3-methylphenol	360.	U
91-57-6	2-Methylnaphthalene	360.	U
77-47-4	Hexachlorocyclopentadiene	360.	U
88-06-2	2,4,6-Trichlorophenol	360.	U
95-95-4	2,4,5-Trichlorophenol	1800.	U
91-58-7	2-Chloronaphthalene	360.	U
88-74-4	2-Nitroaniline	1800.	U
131-11-3	Dimethylphthalate	360.	U
208-96-8	Acenaphthylene	360.	U
606-20-2	2,6-Dinitrotoluene	360.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW314

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9699B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 7. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/17/88

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	1800.	U
83-32-9	Acenaphthene	360.	U
51-28-5	2,4-Dinitrophenol	1800.	U
100-02-7	4-Nitrophenol	1800.	U
132-64-9	Dibenzofuran	360.	U
121-14-2	2,4-Dinitrotoluene	360.	U
84-66-2	Diethylphthalate	150.	J
7005-72-3	4-Chlorophenyl-phenylether	360.	U
86-73-7	Fluorene	360.	U
100-01-6	4-Nitroaniline	1800.	U
534-52-1	4,6-Dinitro-2-methylphenol	1800.	U
86-30-6	N-Nitrosodiphenylamine (1)	360.	U
101-55-3	4-Bromophenyl-phenylether	360.	U
118-74-1	Hexachlorobenzene	360.	U
87-86-5	Pentachlorophenol	1800.	U
85-01-8	Phenanthrene	360.	U
120-12-7	Anthracene	360.	U
84-74-2	Di-n-butylphthalate	160.	J
206-44-0	Fluoranthene	360.	U
129-00-0	Pyrene	360.	U
85-68-7	Butylbenzylphthalate	110.	J
91-94-1	3,3'-Dichlorobenzidine	710.	U
56-55-3	Benzo(a)anthracene	360.	U
218-01-9	Chrysene	360.	U
117-81-7	bis(2-Ethylhexyl)phthalate	920.	~~B~~U — 5/25/88
117-84-0	Di-n-octylphthalate	360.	U
205-99-2	Benzo(b)fluoranthene	360.	U
207-08-9	Benzo(k)fluoranthene	360.	U
50-32-8	Benzo(a)pyrene	360.	U
193-39-5	Indeno(1,2,3-cd)pyrene	360.	U
53-70-3	Dibenz(a,h)anthracene	360.	U
191-24-2	Benzo(g,h,i)perylene	360.	U

(1) - Cannot be separated from diphenylamine

FORM I SV-2 1/87 Rev.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW314

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9699B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 7. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/17/88

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

Number TICs found: 16

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN COMPOUND	6.50	200.	J
2.	57-15-8	2-Propanol, 1,1,1-trichloro-	8.27	500.	J
3.	629-59-4	Tetradecane (8CI9CI)	17.27	200.	J
4.	629-62-9	Pentadecane (8CI9CI)	18.90	200.	J
5.	- -	UNKNOWN COMPOUND	19.68	100.	J
6.	- -	UNKNOWN HYDROCARBON	20.43	100.	J
7.	- -	UNKNOWN HYDROCARBON	21.16	300.	J
8.	- -	UNKNOWN HYDROCARBON	21.89	400.	J
9.	- -	UNKNOWN HYDROCARBON	21.97	500.	J
10.	593-45-3	Octadecane (8CI9CI)	23.25	200.	J
11.	- -	UNKNOWN HYDROCARBON	23.39	300.	J
12.	- -	UNKNOWN COMPOUND	23.73	100.	J
13.	629-92-5	Nonadecane (8CI9CI)	24.57	100.	J
14.	143-28-2	9-Octadecen-1-ol, (Z)- (8CI9	26.72	3000.	J
15.	- -	UNKNOWN COMPOUND	29.55	300.	J
16.	123-79-5	Hexanedioic acid, dioctyl es	30.31	900.	BJ
17.					
18.					
19.					
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW315

ame: EMSIN Contract: 68-W8-0044

Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

.x: (soil/water) SOIL Lab Sample ID:

e wt/vol: 30. (g/mL) G Lab File ID: 9700B

l: (low/med) LOW Date Received: 4/ 6/88

sture: not dec. 20. dec. 0. Date Extracted: 4/ 8/88

action: (SepF/Cont/Sonc) Date Analyzed: 4/17/88

Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	410.	U
111-44-4	bis(2-chloroethyl)ether	410.	U
95-57-8	2-Chlorophenol	410.	U
541-73-1	1,3-Dichlorobenzene	410.	U
106-46-7	1,4-Dichlorobenzene	410.	U
100-51-6	Benzyl alcohol	410.	U
95-50-1	1,2-Dichlorobenzene	410.	U
95-48-7	2-Methylphenol	410.	U
108-60-1	bis(2-chloroisopropyl)ether	410.	U
106-44-5	4-Methylphenol	410.	U
621-64-7	N-Nitroso-di-n-propylamine	410.	U
67-72-1	Hexachloroethane	410.	U
98-95-3	Nitrobenzene	410.	U
78-59-1	Isophorone	410.	U
88-75-5	2-Nitrophenol	410.	U
105-67-9	2,4-Dimethylphenol	410.	U
65-85-0	Benzoic acid	2100.	U
111-91-1	bis(2-Chloroethoxy)methane	410.	U
120-83-2	2,4-Dichlorophenol	410.	U
120-82-1	1,2,4-Trichlorobenzene	410.	U
91-20-3	Naphthalene	410.	U
106-47-8	4-Chloroaniline	410.	U
87-68-3	Hexachlorobutadiene	410.	U
59-50-7	4-Chloro-3-methylphenol	410.	U
91-57-6	2-Methylnaphthalene	410.	U
77-47-4	Hexachlorocyclopentadiene	410.	U
88-06-2	2,4,6-Trichlorophenol	410.	U
95-95-4	2,4,5-Trichlorophenol	2100.	U
91-58-7	2-Chloronaphthalene	410.	U
88-74-4	2-Nitroaniline	2100.	U
131-11-3	Dimethylphthalate	410.	U
208-96-8	Acenaphthylene	410.	U
606-20-2	2,6-Dinitrotoluene	410.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW315

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9700B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 20. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/17/88

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2100.	U
83-32-9	Acenaphthene	410.	U
51-28-5	2,4-Dinitrophenol	2100.	U
100-02-7	4-Nitrophenol	2100.	U
132-64-9	Dibenzofuran	410.	U
121-14-2	2,4-Dinitrotoluene	410.	U
84-66-2	Diethylphthalate	24.	J
7005-72-3	4-Chlorophenyl-phenylether	410.	U
86-73-7	Fluorene	410.	U
100-01-6	4-Nitroaniline	2100.	U
534-52-1	4,6-Dinitro-2-methylphenol	2100.	U
86-30-6	N-Nitrosodiphenylamine (1)	410.	U
101-55-3	4-Bromophenyl-phenylether	410.	U
118-74-1	Hexachlorobenzene	410.	U
87-86-5	Pentachlorophenol	2100.	U
85-01-8	Phenanthrene	410.	U
120-12-7	Anthracene	410.	U
84-74-2	Di-n-butylphthalate	100.	J
206-44-0	Fluoranthene	410.	U
129-00-0	Pyrene	410.	U
85-68-7	Butylbenzylphthalate	410.	U
91-94-1	3,3'-Dichlorobenzidine	820.	U
56-55-3	Benzo(a)anthracene	410.	U
218-01-9	Chrysene	410.	U
117-81-7	bis(2-Ethylhexyl)phthalate	880.	~~B~~ U — PS 5/25/88
117-84-0	Di-n-octylphthalate	410.	U
205-99-2	Benzo(b)fluoranthene	410.	U
207-08-9	Benzo(k)fluoranthene	410.	U
50-32-8	Benzo(a)pyrene	410.	U
193-39-5	Indeno(1,2,3-cd)pyrene	410.	U
53-70-3	Dibenz(a,h)anthracene	410.	U
191-24-2	Benzo(g,h,i)perylene	410.	U

(1) - Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW315

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: 9700B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 20. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 4/17/88

GPC Cleanup: (Y/N) N pH: 6.7 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 COMPOUND	6.53	300.	J
2.	- -	UNKNOWN COMPOUND	8.28	600.	J
3.	143-28-2	9-Octadecen-1-ol, (Z)- (8CI9	26.64	5000.	J
4.	- -	UNKNOWN COMPOUND	27.50	600.	J
5.	123-79-5	Hexanedioic acid, dioctyl es	30.30	1000.	BJ
6.	- -	UNKNOWN COMPOUND	31.35	300.	J
7.	- -	UNKNOWN HYDROCARBON	32.63	300.	J
8.	- -	UNKNOWN HYDROCARBON	33.27	700.	J
9.	- -	UNKNOWN COMPOUND	33.50	1000.	J
10.	- -	UNKNOWN HYDROCARBON	34.20	500.	J
11.	638-66-4	Octadecanal (9CI)	34.53	900.	J
12.	630-03-5	Nonacosane (8CI9CI)	35.09	4000.	J
13.	- -	UNKNOWN HYDROCARBON	35.35	2000.	J
14.	- -	UNKNOWN COMPOUND	36.32	800.	J
15.	- -	UNKNOWN HYDROCARBON	36.91	6000.	J
16.	- -	UNKNOWN COMPOUND	37.36	1000.	J
17.	- -	UNKNOWN COMPOUND	38.05	600.	J
18.	- -	UNKNOWN COMPOUND	39.19	1000.	J
19.	- -	UNKNOWN HYDROCARBON	39.40	1000.	J
20.	- -	UNKNOWN COMPOUND	31.55	500.	J
21.					
22.					
23.					
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1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW306

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: A115

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 14. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 5/ 1/88

GPC Cleanup: (Y/N) N pH: 7.1 Dilution Factor: 5.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	39.	U
319-85-7	beta-BHC	39.	U
319-86-8	delta-BHC	39.	U
58-89-9	gamma-BHC (Lindane)	39.	U
76-44-8	Heptachlor	39.	U
309-00-2	Aldrin	39.	U
1024-57-3	Heptachlor epoxide	39.	U
959-98-8	Endosulfan I	39.	U
60-57-1	Dieldrin	77.	U
72-55-9	4,4'-DDE	77.	U
72-20-8	Endrin	77.	U
33213-65-9	Endosulfan II	77.	U
72-54-8	4,4'-DDD	77.	U
1031-07-8	Endosulfan sulfate	77.	U
50-29-3	4,4'-DDT	77.	U
72-43-5	Methoxychlor	390.	U
53494-70-5	Endrin ketone	77.	U
5103-71-9	alpha-Chlordane	390.	U
5103-74-2	gamma-Chlordane	390.	U
8001-35-2	Toxaphene	770.	U
12674-11-2	Arochlor-1016	390.	U
11104-28-2	Arochlor-1221	390.	U
11141-16-5	Arochlor-1232	390.	U
53469-21-9	Arochlor-1242	390.	U
12672-29-6	Arochlor-1248	250.	J
11097-69-1	Arochlor-1254	1000.	
11096-82-5	Arochlor-1260	770.	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW307

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: A116

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 17. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 5/ 1/88

GPC Cleanup: (Y/N) N pH: 7.8 Dilution Factor: 5.00

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	Arochlor-1016	400.	U
11104-28-2	Arochlor-1221	400.	U
11141-16-5	Arochlor-1232	400.	U
53469-21-9	Arochlor-1242	400.	U
12672-29-6	Arochlor-1248	1800.	
11097-69-1	Arochlor-1254	4800.	
11096-82-5	Arochlor-1260	800.	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW308

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: A117

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 14. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 5/ 1/88

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 5.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	39.	U
319-85-7	beta-BHC	39.	U
319-86-8	delta-BHC	39.	U
58-89-9	gamma-BHC (Lindane)	39.	U
76-44-8	Heptachlor	39.	U
309-00-2	Aldrin	39.	U
1024-57-3	Heptachlor epoxide	39.	U
959-98-8	Endosulfan I	39.	U
60-57-1	Dieldrin	77.	U
72-55-9	4,4'-DDE	77.	U
72-20-8	Endrin	77.	U
33213-65-9	Endosulfan II	77.	U
72-54-8	4,4'-DDD	77.	U
1031-07-8	Endosulfan sulfate	77.	U
50-29-3	4,4'-DDT	77.	U
72-43-5	Methoxychlor	390.	U
53494-70-5	Endrin ketone	77.	U
5103-71-9	alpha-Chlordane	390.	U
5103-74-2	gamma-Chlordane	390.	U
8001-35-2	Toxaphene	770.	U
12674-11-2	Arochlor-1016	390.	U
11104-28-2	Arochlor-1221	390.	U
11141-16-5	Arochlor-1232	390.	U
53469-21-9	Arochlor-1242	390.	U
12672-29-6	Arochlor-1248	170.	J
11097-69-1	Arochlor-1254	190.	J
11096-82-5	Arochlor-1260	770.	U

610

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW309

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: A119

Level: (low/med) LOW Date Received: 4/ 6/88

Moisture: not dec. 43. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 5/ 1/88

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	12.	U
319-85-7	beta-BHC	12.	U
319-86-8	delta-BHC	12.	U
58-89-9	gamma-BHC (Lindane)	12.	U
76-44-8	Heptachlor	12.	U
309-00-2	Aldrin	12.	U
1024-57-3	Heptachlor epoxide	12.	U
959-98-8	Endosulfan I	12.	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	120.	U
53494-70-5	Endrin ketone	23.	U
5103-71-9	alpha-Chlordane	120.	U
5103-74-2	gamma-Chlordane	120.	U
8001-35-2	Toxaphene	230.	U
12674-11-2	Arochlor-1016	120.	U
11104-28-2	Arochlor-1221	120.	U
11141-16-5	Arochlor-1232	120.	U
53469-21-9	Arochlor-1242	120.	U
12672-29-6	Arochlor-1248	120.	U
11097-69-1	Arochlor-1254	230.	U
11096-82-5	Arochlor-1260	230.	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW310

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: A120

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 22. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 5/ 1/88

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.5	U
319-85-7	beta-BHC	8.5	U
319-86-8	delta-BHC	8.5	U
58-89-9	gamma-BHC (Lindane)	8.5	U
76-44-8	Heptachlor	8.5	U
309-00-2	Aldrin	8.5	U
1024-57-3	Heptachlor epoxide	1.1	J
959-98-8	Endosulfan I	8.5	U
60-57-1	Dieldrin	17.	U
72-55-9	4,4'-DDE	17.	U
72-20-8	Endrin	17.	U
33213-65-9	Endosulfan II	17.	U
72-54-8	4,4'-DDD	7.0	J
1031-07-8	Endosulfan sulfate	17.	U
50-29-3	4,4'-DDT	13.	J
72-43-5	Methoxychlor	85.	U
53494-70-5	Endrin ketone	17.	U
5103-71-9	alpha-Chlordane	85.	U
5103-74-2	gamma-Chlordane	85.	U
8001-35-2	Toxaphene	170.	U
12674-11-2	Arochlor-1016	85.	U
11104-28-2	Arochlor-1221	85.	U
11141-16-5	Arochlor-1232	85.	U
53469-21-9	Arochlor-1242	85.	U
12672-29-6	Arochlor-1248	85.	U
11097-69-1	Arochlor-1254	170.	U
11096-82-5	Arochlor-1260	170.	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW311

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 31. (g/mL) G Lab File ID: A121

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 24. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 5/ 1/88

GPC Cleanup: (Y/N) N pH: 5.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.5	U
319-85-7	beta-BHC	8.5	U
319-86-8	delta-BHC	8.5	U
58-89-9	gamma-BHC (Lindane)	8.5	U
76-44-8	Heptachlor	8.5	U
309-00-2	Aldrin	8.5	U
1024-57-3	Heptachlor epoxide	8.5	U
959-98-8	Endosulfan I	8.5	U
60-57-1	Dieldrin	17.	U
72-55-9	4,4'-DDE	17.	U
72-20-8	Endrin	17.	U
33213-65-9	Endosulfan II	17.	U
72-54-8	4,4'-DDD	17.	U
1031-07-8	Endosulfan sulfate	17.	U
50-29-3	4,4'-DDT	17.	U
72-43-5	Methoxychlor	85.	U
53494-70-5	Endrin ketone	17.	U
5103-71-9	alpha-Chlordane	85.	U
5103-74-2	gamma-Chlordane	85.	U
8001-35-2	Toxaphene	170.	U
12674-11-2	Arochlor-1016	85.	U
11104-28-2	Arochlor-1221	85.	U
11141-16-5	Arochlor-1232	85.	U
53469-21-9	Arochlor-1242	85.	U
12672-29-6	Arochlor-1248	85.	U
11097-69-1	Arochlor-1254	170.	U
11096-82-5	Arochlor-1260	170.	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW312

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: A122

Level: (low/med) LOW Date Received: 4/ 6/88

Moisture: not dec. 26. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 5/ 1/88

GPC Cleanup: (Y/N) N pH: 5.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.0	U
319-85-7	beta-BHC	9.0	U
319-86-8	delta-BHC	9.0	U
58-89-9	gamma-BHC (Lindane)	9.0	U
76-44-8	Heptachlor	2.1	J
309-00-2	Aldrin	9.0	U
1024-57-3	Heptachlor epoxide	9.0	U
959-98-8	Endosulfan I	9.0	U
60-57-1	Dieldrin	18.	U
72-55-9	4,4'-DDE	6.4	J
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	12.	J
72-43-5	Methoxychlor	90.	U
53494-70-5	Endrin ketone	18.	U
5103-71-9	alpha-Chlordane	2.0	J
5103-74-2	gamma-Chlordane	5.6	J
8001-35-2	Toxaphene	180.	U
12674-11-2	Arochlor-1016	90.	U
11104-28-2	Arochlor-1221	90.	U
11141-16-5	Arochlor-1232	90.	U
53469-21-9	Arochlor-1242	90.	U
12672-29-6	Arochlor-1248	90.	U
11097-69-1	Arochlor-1254	180.	U
11096-82-5	Arochlor-1260	180.	U

627

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW313

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: A124

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 15. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 5/ 1/88

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 5.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	39.	U
319-85-7	beta-BHC	39.	U
319-86-8	delta-BHC	39.	U
58-89-9	gamma-BHC (Lindane)	39.	U
76-44-8	Heptachlor	39.	U
309-00-2	Aldrin	39.	U
1024-57-3	Heptachlor epoxide	39.	U
959-98-8	Endosulfan I	39.	U
60-57-1	Dieldrin	78.	U
72-55-9	4,4'-DDE	110.	
72-20-8	Endrin	78.	U
33213-65-9	Endosulfan II	78.	U
72-54-8	4,4'-DDD	130.	
1031-07-8	Endosulfan sulfate	78.	U
50-29-3	4,4'-DDT	110.	
72-43-5	Methoxychlor	390.	U
53494-70-5	Endrin ketone	78.	U
5103-71-9	alpha-Chlordane	390.	U
5103-74-2	gamma-Chlordane	390.	U
8001-35-2	Toxaphene	780.	U
12674-11-2	Arochlor-1016	390.	U
11104-28-2	Arochlor-1221	390.	U
11141-16-5	Arochlor-1232	390.	U
53469-21-9	Arochlor-1242	390.	U
12672-29-6	Arochlor-1248	390.	U
11097-69-1	Arochlor-1254	780.	U
11096-82-5	Arochlor-1260	780.	U

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

CRL Receipt Date 5/16/88 FIT Receipt Date 7/22/88 Review Completed 7/27/88

TO: S. ANDERSON

FROM: Mary Gzyra

SUBJECT: LINDEN RD.

PAN: IN0451SA (1 hour charged for review) Case # 9307

Sample Description

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

Project Data Status XX Completed!!

_____ Incomplete, awaiting _____

FIT Data Review Findings:
ADDITIONAL DATA FOR EW307

Check Data Sheets for Transcription Errors

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

Book No. 7 Page No. 294 Date Sampled 4/5/88

0759:2

recycled paper

7/22/88

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 7/20/88

SUBJECT: Review of Region V CLP Data
Received for Review on 5-16-88

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

TO: Data User: FIT

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

SITE NAME: LINDEN ROAD SMO Case No. 9307

EPA Data Set No. SF5022 No. of Samples: ____ D.U./Activity Numbers 4905/C72122

CRL No. 88FA17514 - 523

SMO Traffic No. EW306 - 315

CLP Laboratory: EMS (IN) Hrs. Required for Review: ____

Following are our findings:

ADDITIONAL DATA

( ) 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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW307

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 1682B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 17. Date Analyzed: 4/14/88

Column: (pack/cap) PACK Dilution Factor: 1.0420

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	8.	
67-64-1	Acetone	32.	~~B~~ UJ
75-15-0	Carbon Disulfide	29.	
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	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	12.	U
71-55-6	1,1,1-Trichloroethane	1.	J
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
10061-02-6	trans-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
10061-01-5	cis-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
591-78-6	2-Hexanone	12.	U
108-10-1	4-Methyl-2-Pentanone	12.	U
127-18-4	Tetrachloroethene	1.	J
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	U
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

PSC 7/20/88

25-1

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW307

Lab Name: EMSMO Contract: 68-W8-0043

Lab Code: EMSMO Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 5. (g/mL) G Lab File ID: 1682B

Level: (low/med) LOW Date Received: 4/ 6/88

% Moisture: not dec. 17. Date Analyzed: 4/14/88

Column: (pack/cap) PACK Dilution Factor: 1.0420

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW314

Lab Name: EMSIN Contract: 68-W8-0044

Lab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

Sample wt/vol: 30. (g/mL) G Lab File ID: A125

Level: (low/med) LOW Date Received: 4/ 6/88

Moisture: not dec. 7. dec. 0. Date Extracted: 4/ 8/88

Extraction: (SepF/Cont/Sonc) Date Analyzed: 5/ 1/88

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
319-84-6	alpha-BHC	7.1	U
319-85-7	beta-BHC	7.1	U
319-86-8	delta-BHC	7.1	U
58-89-9	gamma-BHC (Lindane)	7.1	U
76-44-8	Heptachlor	7.1	U
309-00-2	Aldrin	7.1	U
1024-57-3	Heptachlor epoxide	7.1	U
959-98-8	Endosulfan I	7.1	U
60-57-1	Dieldrin	14.	U
72-55-9	4,4'-DDE	14.	U
72-20-8	Endrin	14.	U
33213-65-9	Endosulfan II	14.	U
72-54-8	4,4'-DDD	14.	U
1031-07-8	Endosulfan sulfate	14.	U
50-29-3	4,4'-DDT	14.	U
72-43-5	Methoxychlor	71.	U
53494-70-5	Endrin ketone	14.	U
5103-71-9	alpha-Chlordane	71.	U
5103-74-2	gamma-Chlordane	71.	U
8001-35-2	Toxaphene	140.	U
12674-11-2	Arochlor-1016	71.	U
11104-28-2	Arochlor-1221	71.	U
11141-16-5	Arochlor-1232	71.	U
53469-21-9	Arochlor-1242	71.	U
12672-29-6	Arochlor-1248	71.	U
11097-69-1	Arochlor-1254	140.	U
11096-82-5	Arochlor-1260	140.	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW315

ab Name: EMSIN Contract: 68-W8-0044

ab Code: EMSIN Case No.: 9307 SAS No.: SDG No.: EW306

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

ample wt/vol: 30. (g/mL) G Lab File ID: A126

Level: (low/med) LOW Date Received: 4/ 6/88

Moisture: not dec. 20. dec. 0. Date Extracted: 4/ 8/88

xtraction: (SepF/Cont/Sonc) Date Analyzed: 5/ 1/88

GPC Cleanup: (Y/N) N pH: 6.7 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.2	U
319-85-7	beta-BHC	8.2	U
319-86-8	delta-BHC	8.2	U
58-89-9	gamma-BHC (Lindane)	8.2	U
76-44-8	Heptachlor	8.2	U
309-00-2	Aldrin	8.2	U
1024-57-3	Heptachlor epoxide	8.2	U
959-98-8	Endosulfan I	8.2	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	82.	U
53494-70-5	Endrin ketone	16.	U
5103-71-9	alpha-Chlordane	82.	U
5103-74-2	gamma-Chlordane	82.	U
8001-35-2	Toxaphene	160.	U
12674-11-2	Arochlor-1016	82.	U
11104-28-2	Arochlor-1221	82.	U
11141-16-5	Arochlor-1232	82.	U
53469-21-9	Arochlor-1242	82.	U
12672-29-6	Arochlor-1248	82.	U
11097-69-1	Arochlor-1254	160.	U
11096-82-5	Arochlor-1260	160.	U

APPENDIX F

WELL LOGS OF THE AREA OF THE SITE

DIVISION OF WATER
DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA
STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46204

Telephone 317-232-4160

WL1

State Form 35690

WATER WELL RECORD

WELL LOCATION

(Fill in completely - Refer to instruction sheet)

County in which well was drilled St. Joseph Civil Township

Driving directions to the well location: Include County Road Names, Numbers, Subdivision Name, lot number, distinctive landmarks, etc.

from USGS Bulletin #3 Sj 4-T1
observation well St. Joseph 11
2/16/45 static 19.32' below limestone

NAME OF WELL OWNER and/or BUILDING CONTRACTOR

Well Owner City of South Bend Address Olive Street Station, 140 feet east of west property line and 200 feet north of NYC Railroad

Building Contractor Address

Name of Well Drilling Contractor: Layne Northern Company Inc

Address

Name of Drilling Equipment Operator:

WELL INFORMATION

Depth of well: 152 Date well was completed: 10/19/44

Diameter of casing or drive pipe: 3'-1½ Total Length:

Diameter of liner (if used): Total Length:

Diameter of Screen: Length: 6' Slot Size:

Type of Well: Drilled ☐ Gravel Pack ☐ Driven ☐ Other

Use of Well: For Home ☐ For Industry ☐ For Public Supply ☐ Stock ☐

Method of Drilling: Cable Tools ☐ Rotary ☐ Rev. Rotary ☐ Jet ☐ Bucket Rig ☐

Static water level in completed well (Distance from ground to water level) 18 feet

Bailer Test: Hours Tested Rate g.p.m. Drawdown ft.

Pumping Test: Hours Tested Rate g.p.m. Drawdown ft.

(Drawdown is the difference between static level and water level at end of test)

Signature

Date

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To
Quaternary		
top soil	0	2
sand and clay	2	3
sand	3	15
coarse sand	15	22
sand	22	25
sand and gravel	25	86
gravelly clay	86	118
sand and gravel	118	165
Lower Mississippian series shale	165	171
I do not feel this is bedrock,		
it should be at ~ 540		
or @ 175		
not used on bedrock map.		

COUNTY St. Joseph TWP. 37N RGE. 28E ¼ NE ¼ NW SEC 15 Subdivision Name

Topo Map South Bend West 7½

Field Located By _____ Date _____ Ft W of EL. _____ Ft N of SL. _____ Ft E of WL. _____ Ft S of NL. _____

Courthouse Location By _____ Date _____

Location accepted w/o verification by _____

Ground Elevation 716 Depth to bedrock 165 Bedrock elevation 551 Aquifer elevation _____ Lot Number _____

FOR ADMINISTRATIVE USE ONLY
(Well driller does not fill out)

C 6

DIVISION OF WATER
DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA
STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46204

Telephone 317-232-4160

WL 2

State Form 35690

WATER WELL RECORD

WELL LOCATION

(Fill in completely - Refer to instruction sheet)

County in which well was drilled _____ Civil Township _____

Driving directions to the well location: Include County Road Names, Numbers, Subdivision Name, lot number, distinctive landmarks, etc.

Olive Street, south of Sample Street, from USGS Bulletin #3, Sj 6-24 A

NAME OF WELL OWNER and/or BUILDING CONTRACTOR

Well Owner City of South Bend Address _____

Building Contractor _____ Address _____

Name of Well Drilling Contractor: _____

Address _____

Name of Drilling Equipment Operator: _____

WELL INFORMATION

Depth of well: 170 Date well was completed: <1921

Diameter of casing or drive pipe: _____ Total Length: _____

Diameter of liner (if used): _____ Total Length: _____

Diameter of Screen: _____ Length: _____ Slot Size: _____

Type of Well: Drilled ☐ Gravel Pack ☐ Driven ☐ Other _____

Use of Well: For Home ☐ For Industry ☐ For Public Supply ☐ Stock ☐

Method of Drilling: Cable Tools ☐ Rotary ☐ Rev. Rotary ☐ Jet ☐ Bucket Rig ☐

Static water level in completed well (Distance from ground to water level) 12.20 feet

Bailer Test: Hours Tested _____ Rate _____ g.p.m. Drawdown _____ ft.

Pumping Test: Hours Tested _____ Rate _____ g.p.m. Drawdown _____ ft.

(Drawdown is the difference between static level and water level at end of test)

Signature from USGS Bulletin #15

Date L. Willp 2/85

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To
no log for Sj 6-24A		
similar to well Sj-6-25A		
top soil	0	10
fine gravel with some sand	10	40
clay with small amounts of gravel	40	50
very coarse sand and gravel	50	100
very coarse gravel	100	113
very coarse sand and gravel	113	138
coarse sand with some pebbles	138	159
?	159	170
~~bed~~ bedrock	170	

FOR ADMINISTRATIVE USE ONLY
(Well driller does not fill out)

B1

COUNTY St. Joseph TWP. 37 N RGE. 2 E NW ¼ NW ¼ NE ¼ SEC. 15

Topo Map South Bend West 7½

Field Located By _____ Date _____ Ft W of EL. _____ Ft N of SL. _____ Ground Elevation 719 Depth to bedrock 170 Subdivision Name plotted on bedrock map

Courthouse Location By _____ Date _____ Ft E of WL. _____ Ft S of NL. _____ Bedrock elevation 549 Aquifer elevation _____ Lot Number ok

Location accepted w/o verification by _____

LAYNE-NORTHERN COMPANY
Incorporated

MISHAWAKA, INDIANA

WL3

☐ TEST
☒ PERMANENT

Job No. [illegible]

WELL LOG No. [illegible] CITY South Bend County St. Joseph

Owner City Water Department Township [illegible]

Section

Location State Indiana

From Land Description _____ ft. East and _____ ft. North of SW Corner of Section.

From Street or Road [illegible]

FORMATION FOUND — DESCRIBE FULLY	FROM NATURAL GROUND LEVEL			
	Depth to Top of Stratum	Depth to Bottom of Stratum	Thickness of Stratum	Static Water Level
Top soil	0	1	1	22
Coarse sand and gravel	1	20	19	
Medium sand and gravel	20	35	15	
Fine sand	35	65	30	
Medium and coarse Gravel	65	93	28	
Stopped in clay	93			

[illegible] inch diameter hole drilled by ☐ Cable Tool ☐ Rotary ☐ Jetting

Pipe left in hole

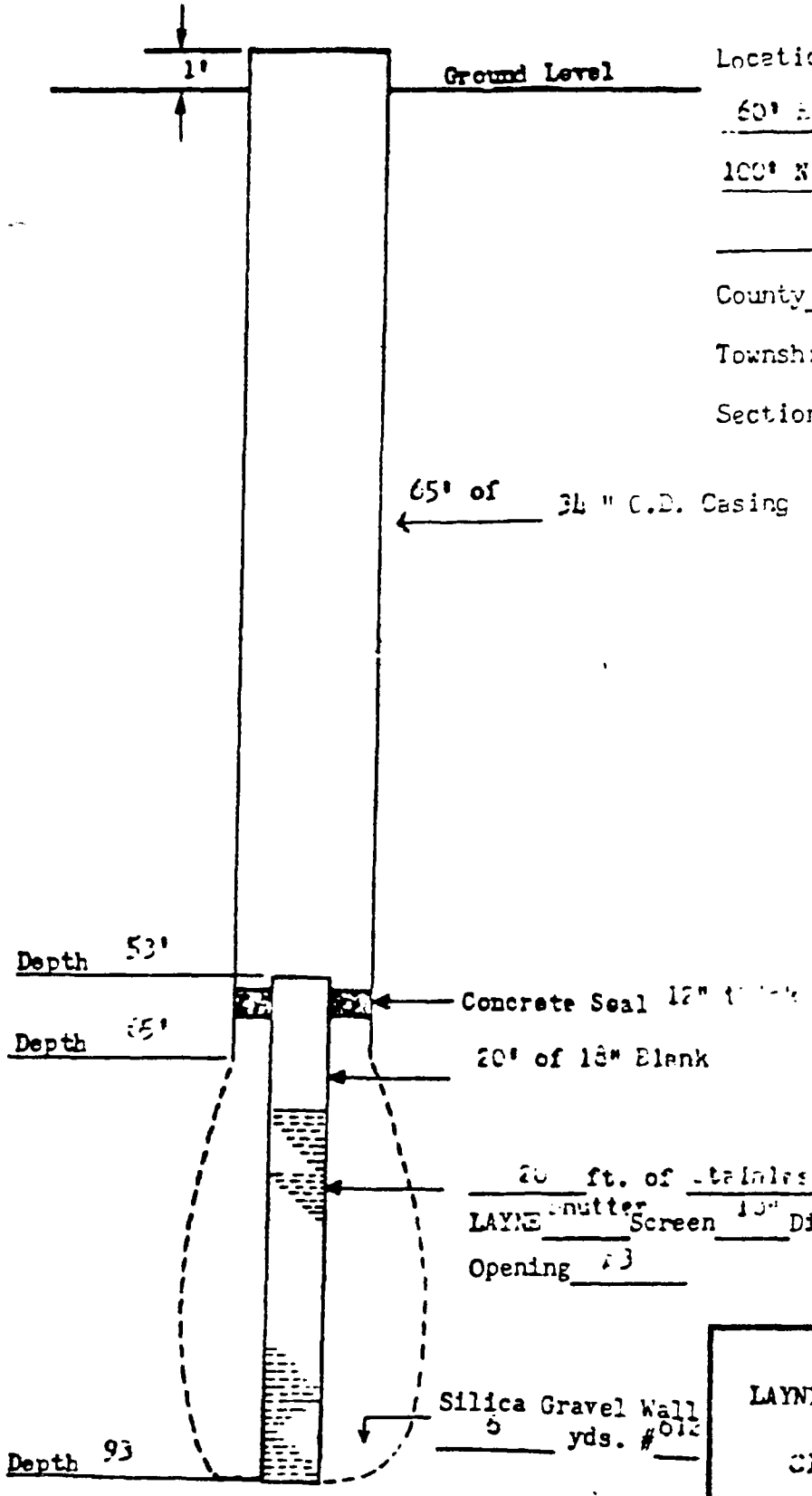
Date Started 2-10-64 Finished 2-27-64 Paul Scott

DRILLER

2

Casing extends 1 feet above ground level.

Job No. 11169



Location from Street or Road

60' E. of L.R.

100' N. of Chippewa

County St. Joseph

Township Portage

Section

APR 1964
RECEIVED
Div. of Conservation
Bureau of
Water Resources

Single Cased
LAYNE GRAVEL WALL WELL No. 19
For
CITY OF SOUTH BEND, IN.
South Station

Driller Paul Pyatt

Date Finished 2-20-64

Not drawn to Scale
All depths measured
from ground level

Static Level 32

Pumped 1404 GPM

at 53 Pumping Level

LAYNE NORTHERN CO. INC.
MISHAWAKA, INDIANA

DRAWN BY	DRAWING No.
APPROVED BY	
DATE	

2

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To
REMARKS:		

FOR ADMINISTRATIVE USE ONLY
(Well driller does not fill out)

COUNTY: ______ TWP. 37N RGE. 2E SW ¼ SE ¼ SE ¼ SEC. 23

Topo Map: ______ ______ Ft W of EL. Ground elevation ______

Well log classified By ______ Date ______ ______ Ft N of SL. Depth to bedrock ______

Courthouse located By ______ Date ______ ______ Ft E of WL. Bedrock elevation ______

Field located By ______ Date ______ ______ Ft S of NL. Aquifer elevation ______

Acc. w/o verification By ______ Date ______

INSTRUCTIONS

This Water Well Record form is designed to record the most essential data concerning water well. We request that you be as accurate as possible in recording this information as it may be of great assistance in the planning and development of new water supplies.

An accurate location of the well is equally as important as an accurate well log. Please include all information possible in the space provided for well location.

As specified in Chapter 6 of the Acts of 1959, a copy of this report must be submitted within thirty days after the completion of a well to the Division of Water Resources, Indiana Department of Conservation.

Murray-Kelly

1-B

Entered 2-2-64

WL4

LAYNE-NORTHERN COMPANY
Incorporated
MISHAWAKA, INDIANA

RECEIVED
Dept. of Conservation
Division of
Water Resources

☐ TEST
☐ PERMANENT

Job No. [illegible]

WELL LOG No. [illegible] CITY South Bend, In[illegible] County St. Joseph

Owner City Water Department Township [illegible]

Section [illegible]

Location State Indiana

From Land Description _____ ft. East and _____ ft. North of SW Corner of Section.

From Street or Road 50' [illegible] of hole - 600' N. of [illegible]

FORMATION FOUND — DESCRIBE FULLY	FROM NATURAL GROUND LEVEL			
	Depth to Top of Stratum	Depth to Bottom of Stratum	Thickness of Stratum	Static Water Level
Top Soil	0	1	1	30
Brown Sand with some gravel	1	65	[illegible]	
Coarse [illegible] Gravel, some sand	65	69	4	
Medium Sand	69	75	6	
Coarse Gravel	75	92	17	
Stopped in Clay	92			

34 inch diameter hole drilled by ☐ Cable Tool ☒ Rotary ☐ Jetting

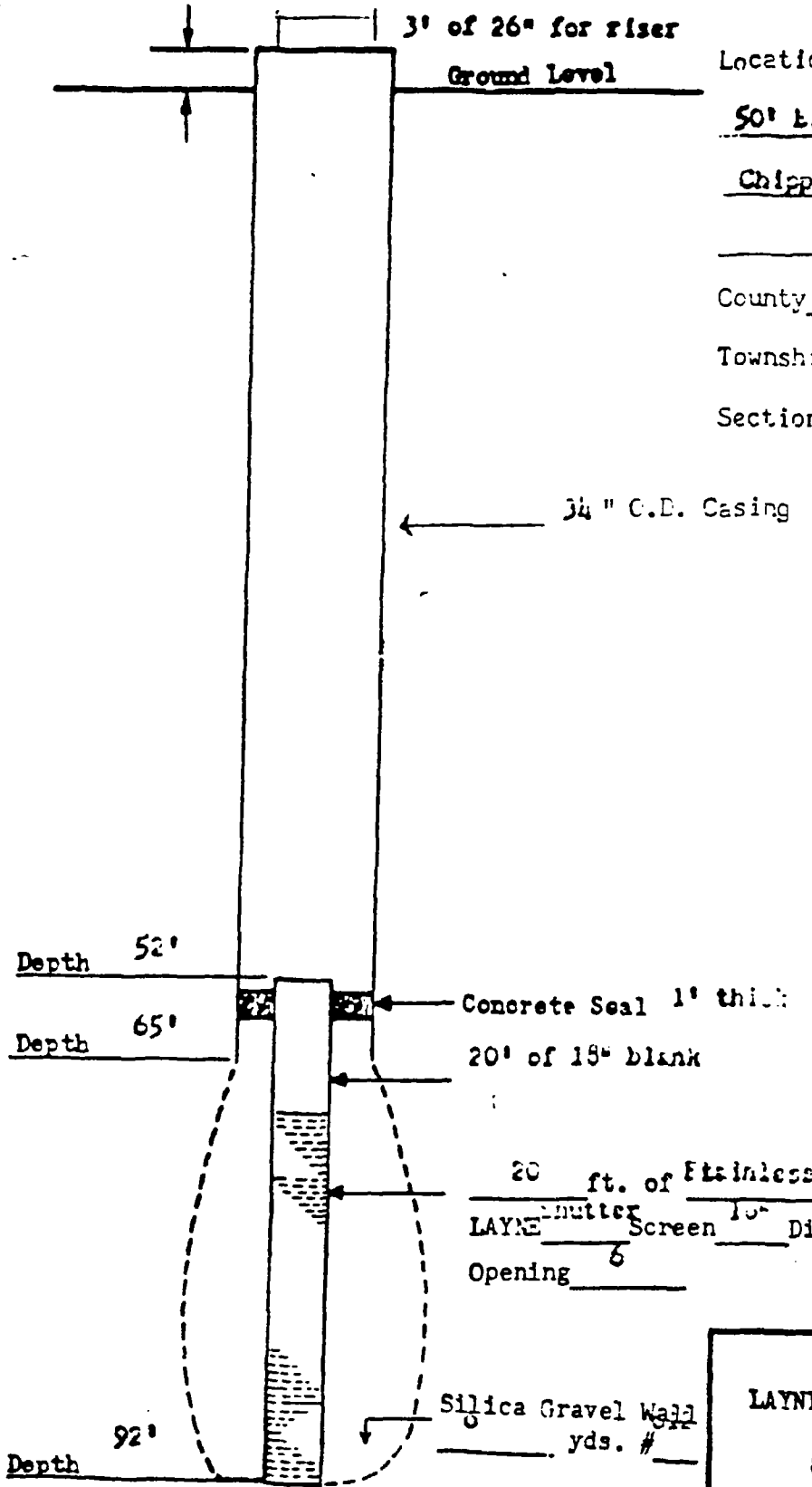
Pipe left in hole

Date Started 2-27-64 Finished 3-11-64 Paul Hyatt
Driller

3

Casing extends 1 feet above ground level.

Job No. M11069



Location from Street or Road

50' E. of R.R. - 600' N. of

Chippewa Ave.

County St. Joe

Township Portage

Section

Single Cased
LAYNE GRAVEL WALL WELL No. 28
For
CITY OF SOUTH BEND, IND.
SOUTH STATION

Driller Paul Wyatt

Date Finished 3-11-54

Not drawn to Scale
All depths measured from ground level

Static Level 30'

Pumped 1400 GPM

at 39' Pumping Level

LAYNE NORTHERN CO. INC.
MISHAWAKA, INDIANA

DRAWN BY	DRAWING NO.
APPROVED BY	
DATE	

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To

REMARKS:

FOR ADMINISTRATIVE USE ONLY (Well driller does not fill out)

COUNTY: ______ TWP. 37N RGE. 2E SW ¼ SE ¼ SE ¼ SEC. 23

Topo Map: ______ Ground elevation ______

Well log classified By ______ Date ______ Ft W of EL. Depth to bedrock ______

Courthouse located By ______ Date ______ Ft N of SL. Bedrock elevation ______

Field located By ______ Date ______ Ft E of WL. Aquifer elevation ______

Acc. w/o verification By ______ Date ______ Ft S of NL.

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