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SITE INSPECTION REPORT
FOR
ANDERSON (MUNN) LANDFILL
NORTHVILLE, MICHIGAN

U.S. EPA ID: MID980678528
SS ID: NONE
TDD: F05-8702-153
PAN: FMI0550SA

DECEMBER 30, 1988

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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 Anderson (Munn) Landfill site under contract number 68-01-7347.

The site was initially discovered by Michigan Department of Natural Resources (MDNR) in 1985. A geology study written by Gregg Alan Swayze in 1982 appears to have raised concerns regarding this site. The site was evaluated in the form of a preliminary assessment (PA) that was submitted to U.S. EPA. The PA was prepared by Steve Cunningham and Nancy Rottschafer of MDNR. The PA is dated October 30, 1985.

FIT prepared an SSI work plan for the Anderson (Munn) Landfill site under technical directive document (TDD) F05-8701-106, issued on January 12, 1987. The SSI work plan was approved by U.S. EPA on February 3, 1987. The SSI of the Anderson (Munn) Landfill site was conducted on December 10, 1987 under TDD F05-8702-153, issued on November 14, 1987.

The FIT SSI included an interview with a site representative, a reconnaissance inspection of the site, and the collection of six soil samples and one on-site non-residential well sample. Five residential well samples were collected by FIT on March 10, 1987.

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 Priority 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

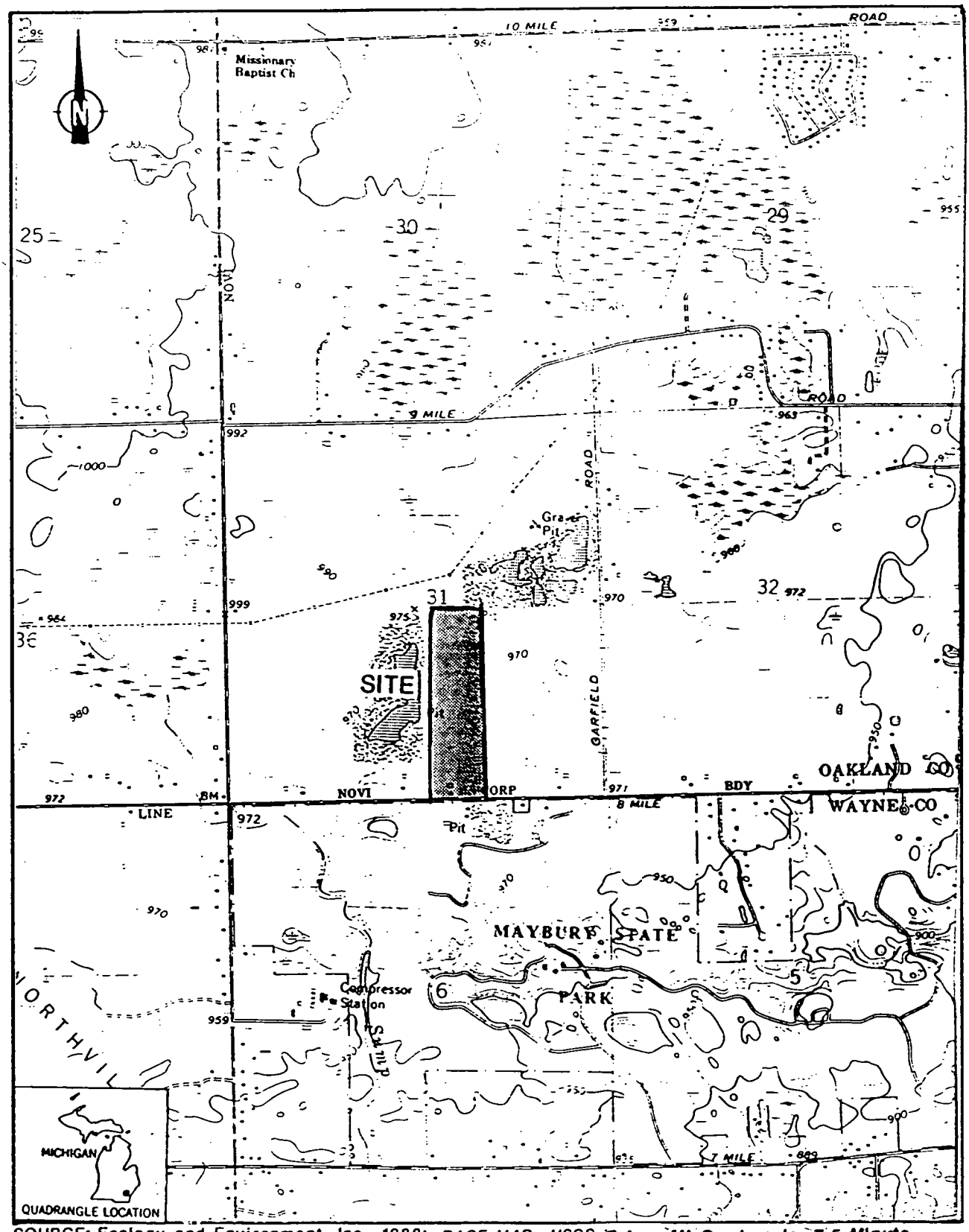
This section includes information obtained from SSI work plan preparation and the site representative interview.

2.2 SITE DESCRIPTION

The Anderson (Munn) Landfill is an inactive landfill where municipal refuse had been deposited and an unknown amount of a liquid waste also had been allegedly deposited (Berman 1968). The site is located on a 33-acre parcel of land in a moderately populous rural area approximately 1 1/2 miles west of the city of Northville, Michigan, in Oakland County (SW1/4SE1/4, sec. 31, T.1N., R.8E.) at 50250 West 8 Mile Road (see Figure 2-1). A 4-mile radius map of the Anderson (Munn) Landfill site is provided in Appendix A.

2.3 SITE HISTORY

Most of the site was originally a fruit farm owned by Philip Anderson. It was converted into a gravel pit in the late 1950s (Swayze 1982). Sometime in the period from 1959 through 1962, a petition to open a landfill on the site was filed. The village of Novi denied the landfill permit for several reasons including: the landfill could create a serious health problem, depreciation in the value of surrounding property was possible (in particular a parcel of land on



SOURCE: Ecology and Environment, Inc., 1988; BASE MAP: USGS, Salem, MI Quadrangle, 7.5 Minute Series, 1969.

SCALE
0 0.5 1 MILE

FIGURE 2-1 SITE LOCATION

8 Mile Road surrounded by the proposed landfill property), and the existence of other useful purposes for the land. The denial of the permit was contested in the Oakland County Circuit Court. The court upheld the permit denial decision of the village of Novi Circuit Court (1963). Sometime prior to March of 1966, a landfill operation did commence on-site. A permit apparently was issued after the portion of land on 8 Mile Road, mentioned earlier, was sold to Philip Anderson. The landfill was permitted between 1966 and 1969 and was operated by Munn Contracting Company. During this period, several Oakland County Department of Health summary reports cited the landfill for poor compliance with its solid waste disposal permit (Boyer 1967). Problems mentioned in the reports included the acceptance of an unknown liquid waste, poor daily cover, and the illegal burning of waste on-site (Rowland 1979). Various area residents filed complaints concerning odors emanating from the site and the excessive amounts of blowing paper originating from the site (Klopfenstein 1968). The landfill operated without a license in 1969 and early 1970 (Fellow 1970). The last license for this site was issued in 1970. An exact date of closure of the landfill on-site is not known. A final grading of the site was performed in 1979 by the village of Novi. The site license-bond was used to finance this grading (Swayze 1982).

In approximately 1980, the site property was sold to a real estate partnership. There have been several changes in the make-up of the partnership in recent years. The site is currently owned by Dr. Ralph Schwartz, Dr. Milt Goldvrath, Mr. Boschan, Dr. George Blum, and Mr. and Mrs. Stahl (Boschan 1987).

3. SCREENING SITE INSPECTION PROCEDURES AND FIELD OBSERVATIONS

3.1 INTRODUCTION

This section outlines procedures and observations of the SSI of the Anderson (Munn) Landfill 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 Anderson (Munn) Landfill site is provided in Appendix B. The U.S. EPA Immediate Removal Action Checksheet for the Anderson (Munn) Landfill site is provided in Appendix C.

3.2 SITE REPRESENTATIVE INTERVIEW

Loretta A. Guzdziol, FIT team leader, conducted an interview with Dr. Ralph Schwartz, one of the six current owners of the site, and his real estate agent, Marie Jenkins. The interview was conducted on December 10, 1987, at 10:00 a.m. near the front gate of the site property. The interview was held in an effort to gather information that would aid FIT in conducting SSI activities.

3.3 RECONNAISSANCE INSPECTION

Following the site representative interview, FIT conducted a reconnaissance inspection of the Andrson (Munn) Landfill site and the surrounding area in accordance with Ecology and Environment, Inc.

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

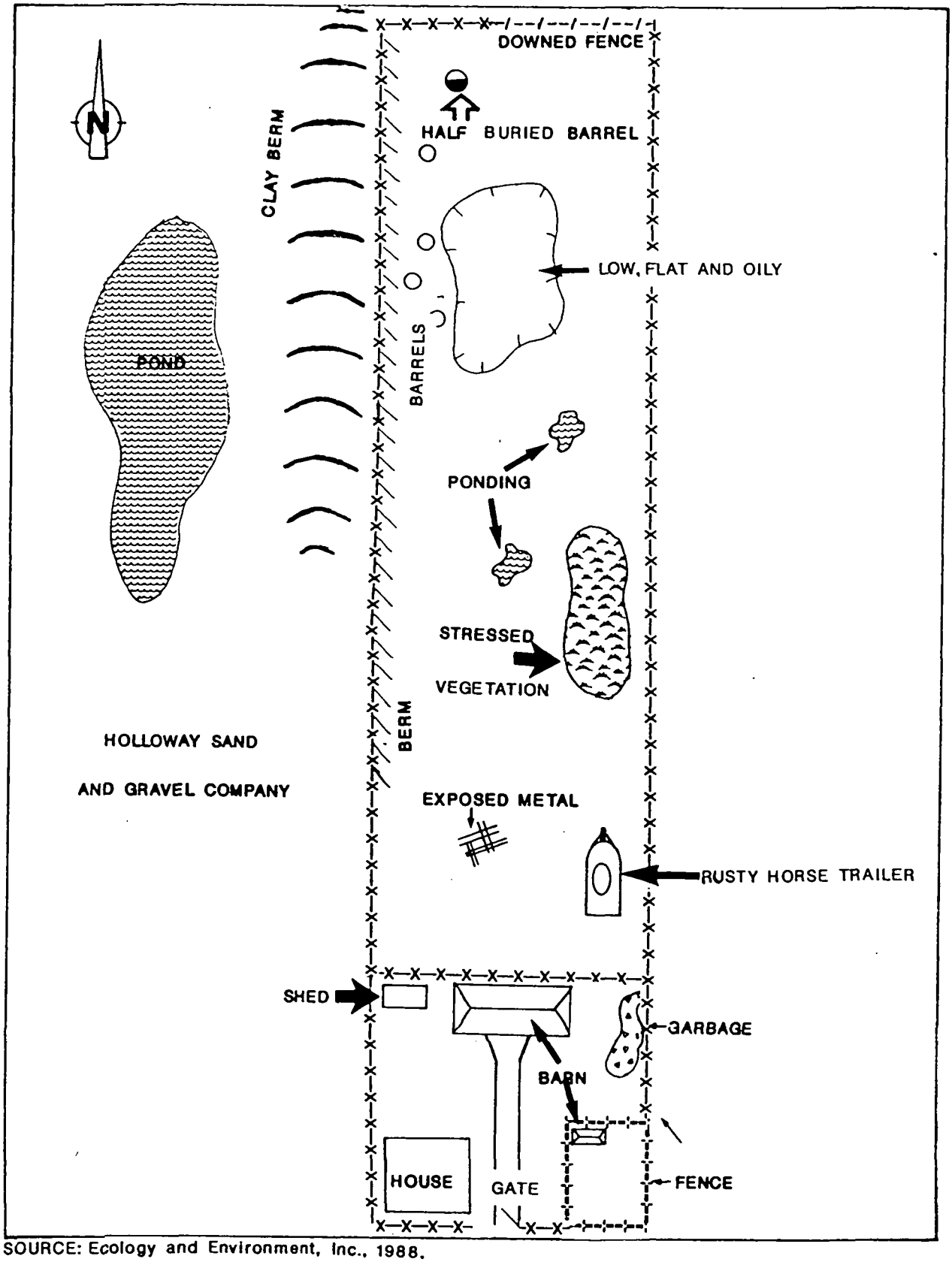
The reconnaissance inspection began on December 10, 1987, at approximately 10:15 a.m. Dr. Ralph Schwartz, representing the six current site owners, and Marie Jenkins accompanied FIT during the first 2 hours of the inspection.

Reconnaissance Inspection Observations. The Anderson (Munn) Landfill is located on the northern portion of the site, behind an unoccupied house, a barn, and a horse corral (see Figure 3-1 for locations of site features). These structures were visible from 8 Mile Road. The portion of the site occupied by these structures comprises approximately 7 acres of the site property. This area is apparently not used for filling when the landfill was active. There is a gate at the entrance to the site that prohibits vehicular access. Fencing continues around the perimeter of the site; however, sections of fencing on the northeast corner of the site were down.

The area surrounding the site consists of agricultural land mixed with small clusters of homes. Maybury State Park is located directly south of the site, across 8 Mile Road. The site is bordered on the west by a large gravel pit owned by Holloway Sand and Gravel. To the north and east of the site agricultural land predominates.

Near the west perimeter fence on the Anderson (Munn) Landfill site is a berm that is approximately 4 to 5 feet in height. The berm starts in the northwest corner of the site and runs south for about 2,000 feet. The berm is very uneven, with numerous eroded sections. A second berm constructed on the Holloway Sand and Gravel property is about 10 feet in height and runs parallel to the first berm for about 900 feet.

The landfill is situated on the northern 25 acres of the site. The landfill was observed to be poorly covered, with exposed refuse noted at numerous locations. Even where the soil completely covered the refuse,



SOURCE: Ecology and Environment, Inc., 1988.

SCALE
0 500 1000 FEET

FIGURE 3-1 SITE FEATURES

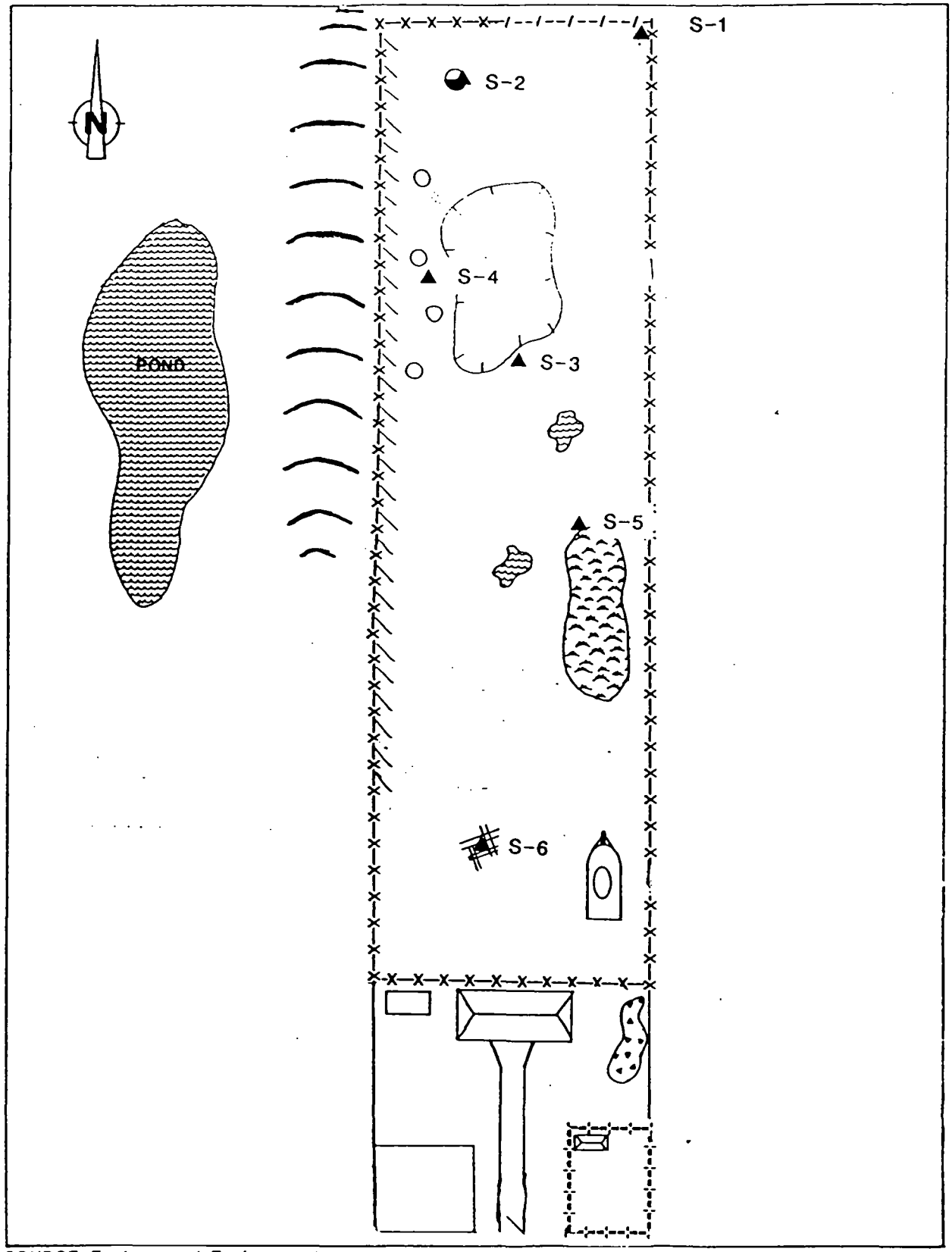
walking was difficult because of poor compaction, which caused the cover material to sink with each step. Exposed refuse included metal debris, tires, and several drums. One drum at the north end of the site contained a red crusty material and was unlabeled. Most of the site is covered with grass and young trees. Stressed vegetation was evident in numerous areas of the site. In particular, a patch of oily, darkly stained soil was noted. The patch had a strong odor, although no organic vapors were detected by the flame ionization detector. Two small areas of ponded water were also visible at the time of the reconnaissance inspection. No evidence of a liner was observed by FIT. Photographs of the Anderson (Munn) Landfill 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. Because of access problems on March 10, 1987, only five residential well samples were taken. No on-site soil samples were collected at that time.

During a second visit to the site, on December 10, 1987, FIT collected a groundwater sample from a well located in an unoccupied house on-site. Five soil samples were collected on this date from around the landfill. A potential background soil sample was also collected. Portions of the FIT-collected samples were not taken by Dr. Schwartz.

Soil Sampling Procedures. Soil sample S1 was collected at the northeast corner of the site (see Figure 3-2 for soil sampling locations). This sample was collected as a potential background soil sample because the area appeared to be undisturbed. Soil sample S2 was collected near the north end of the landfill area just west of the center of the site. Sample S2 was collected next to a half-exposed barrel partially filled with a crusty orange material. No label was visible on the barrel. Soil sample S3 was taken in a low, flat, odorous area near the center of the landfill.



SOURCE: Ecology and Environment, Inc., 1988.

SCALE
0 500 1000 FEET

FIGURE 3-2 SOIL SAMPLING LOCATIONS

Soil sample S4 was collected in an area of exposed metal and rubber debris. An area of stressed vegetation near the eastern border of the site was the location for the collection of soil sample S5. Soil sample S6 was taken in an area filled with partly exposed scrap metal at the southern end of the fill area.

All soil samples were obtained by using a garden trowel to dig to an approximate depth of 6 inches. The soil samples at each sample location were mixed together with the hand trowel in the hole from which the samples were taken, so that a homogeneous, representative sample could be obtained. Soil samples from each location were then transferred to the sample bottles using the hand trowel.

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

As directed by U.S. EPA, samples S1, S2, S3, S4, S5, and S6 were analyzed for TCL compounds by KEMRON of Baton Rouge, Louisiana, and for TAL analytes by Enseco/Rocky Mountain Analytical of Arvada, Colorado.

NON-RESPONSIVE

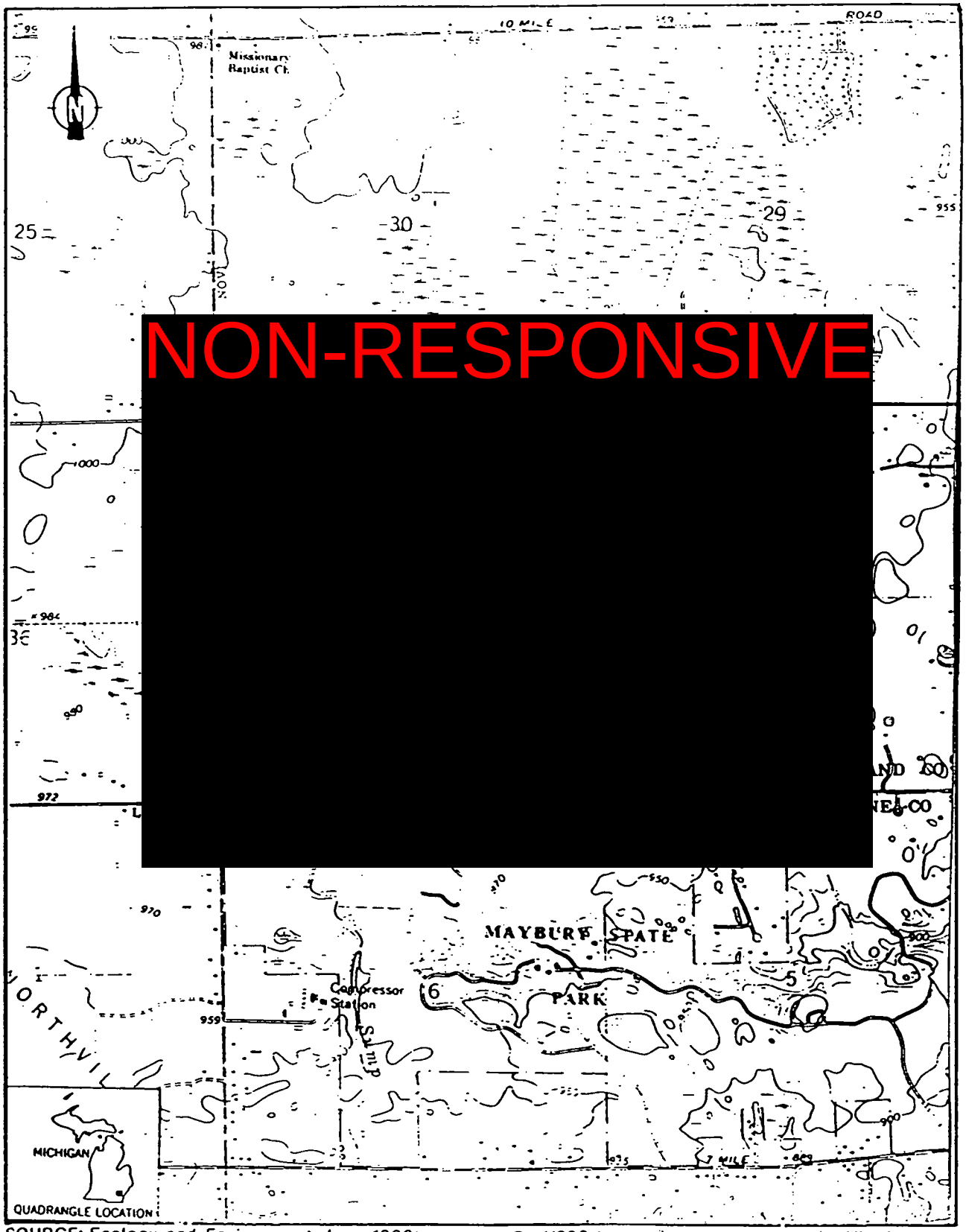
[redacted]

NON-RESPONSIVE

[redacted]

Non-Residential Well Sampling Procedures. One sample (identified as NRW) was taken from a well on-site to determine whether TCL compounds and/or TAL analytes had migrated from the site to the groundwater. The well is not currently used as a residential well, but is used to provide water for the care of horses that are stabled on-site. This sample was collected from an outlet that bypassed water treatment systems and storage tanks. The water was allowed to discharge from the outlet for 15 minutes before the sample was collected to ensure that the sample source had been purged of standing water (E & E 1987). The sample was packaged and shipped in accordance with U.S. EPA-required procedures. A blank sample was also taken to fulfill QA/QC requirements.

As directed by U.S. EPA, the sample was analyzed for TCL compounds by KEMRON of Baton Rouge, Louisiana, and for TAL analytes by Enseco/ Rocky Mountain Analytical of Arvada, Colorado.



SOURCE: Ecology and Environment, Inc., 1988; BASE MAP: USGS, Salem, MI Quadrangle, 7.5 Minute Series, 1969.

SCALE
0 0.5 1 MILE

FIGURE 3-3 GROUNDWATER SAMPLING LOCATIONS

Table 3-1

ADDRESSES OF RESIDENTIAL
WELL SAMPLING
LOCATIONS

Sample	Location/Address
NON-RESPONSIVE	[redacted]

Source: Ecology and Environment, Inc. 1987.

4. ANALYTICAL RESULTS

4.1 INTRODUCTION

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

4.2 RESULTS OF CHEMICAL ANALYSIS OF FIT-COLLECTED SAMPLES

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

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

Laboratory analytical data of soil sample analysis and groundwater 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
Date	12/10/87	12/10/87	12/10/87	12/10/87	12/10/87	12/10/87
Time	1215	1230	1245	1300	1315	1330
Organic Traffic Report Number	ES392	ES393	ES394	ES395	ES396	ES397
Inorganic Traffic Report Number	MEQ486	MEQ487	MEQ488	MEQ489	MEQ490	MEQ491
Compound Detected (values in μg/kg)						
Volatile Organics						
methylene chloride	24B	--	15J	28J	--	7J
acetone	4BJ	12BJ	--	--	--	--
toluene	5J	--	--	--	--	--
Semivolatile Organics						
bis(2-chloroethyl)ether	--	--	--	--	96JZ	--
1,4-dichlorobenzene	--	--	290J	52J	--	--
acenaphthylene	--	--	--	--	90J	--
acenaphthene	--	--	--	--	110J	--
dibenzofuran	--	--	--	--	59J	--
fluorene	--	--	--	--	120J	--
phenanthrene	--	--	240J	--	1,500	140J
anthracene	--	--	73J	--	300J	--
di-n-butylphthalate	--	--	--	--	68J	220J
fluoranthene	--	--	1,100	94J	2,100	280J
pyrene	--	--	1,400	120J	3,800J	330J
butylbenzylphthalate	--	--	--	--	320J	--
benzo[a]anthracene	--	--	700	--	1,500	140J
chrysene	--	--	670	67J	1,800	160J
bis(2-ethylhexyl)phthalate	45J	--	160J	53J	320J	--
benzo[b]fluoranthene	--	--	650J	56J	1,500	120J

Table 4-1 Cont.

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5	S6
benzo[k]fluoranthene	--	--	520	--	1,400	120J
benzo[a]pyrene	--	--	470J	--	1,400	130J
indeno[1,2,3-cd]pyrene	--	--	220J	--	1,200	110J
dibenzo[a,h]anthracene	--	--	60J	--	--	--
benzo[g,h,i]perylene	--	--	200J	--	1,500	130J
Pesticides/PCBs						
beta BHC	6.9J	--	40	--	--	--
gamma BHC (Lindane)	--	--	--	0.80J	--	14J
Heptachlor epoxide	--	--	66	--	--	120
Endosulfan I	--	--	630	--	--	--
Dieldrin	--	18J	--	--	--	--
4,4'-DDE	160	36	190	130	--	150
4,4'-DDD	4.7J	--	170	110	--	110
4,4'-DDT	160	45	31	73	--	240
alpha Chlordane	--	--	--	--	--	200J
gamma Chlordane	1.5J	--	--	--	--	200J
Aroclor 1254	--	--	--	--	8,600	--
Analyte Detected (values in mg/kg)						
aluminum	7,170	16,800	8,220	7,330	8,090	4,290
antimony	--	1,050N	--	--	--	--
arsenic	9.7*N	20.3*N	18.8*N	20.4+*N	11.5*N	15.1*N
barium	77.2	77,500	67.8	45.6B	65.8	44.3B
beryllium	0.55B	--	0.45B	0.51B	0.76B	0.30B
cadmium	--	13.0*	12.8*	--	2.4*	--
calcium	5,190	36,500	26,500	23,000	48,700	81,700
chromium	11.5*	402*	19.3*	47.4*	28.0*	8.7*
cobalt	6.4B	--	6.0B	10.7B	6.3B	5.6B
copper	23.7E	339E	57.1E	31.3E	41.3E	25.3E
iron	16,900	52,200	14,300	17,400	13,000	11,600

Table 4-1 Cont.

Sample Collection Information and Parameters	Sample Number S1	S2	S3	S4	S5	S6
lead	17.7	73,600	111	49.6	803	72.7
magnesium	2,190	23,400	8,620	8,290	10,800	23,900
manganese	1,270	451	171	467	517	460
mercury	--	--	--	--	0.5	--
nickel	15.6	525	21.7	20.0	14.1	12.7
potassium	799BE	677BE	1,090BE	885BE	1,030BE	564BE
sodium	--	64,900	--	--	--	--
vanadium	19.2E	20.8BE	21.1E	23.0E	13.7E	12.8E
zinc	149	5,010	151	87.3	822	231
cyanide	--	--	--	--	1.3J	1.0J

-- Not detected.

Table 4-1 Cont.

COMPOUND QUALIFIERS	DEFINITION	INTERPRETATION
J	Indicates an estimated value.	Compound value may be semiquantitative.
JZ	Indicates a compound is a false positive and not a "hit" compound	
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).

ANALYTE QUALIFIERS	DEFINITION	INTERPRETATION
E	Estimated or not reported due to interference. See laboratory narrative.	Analyte or element was not detected, or value may be semiquantitative.
N	Spike recoveries outside QC protocols, which indicates a possible matrix problem. Data may be biased high or low. See spike results and laboratory narrative.	Value may be quantitative or semi-quantitative.
*	Duplicate value outside QC protocols which indicates a possible matrix problem.	Value may be quantitative or semi-quantitative.
+	Correlation coefficient for standard additions is less than 0.995. See review and laboratory narrative.	Data value may be biased.
B	Value is real, but is above instrument DL and below CRDL.	Value may be quantitative or semi-quantitative.
J	Value is above CRDL and is an estimated value because of a QC protocol.	Value may be semiquantitative.

Source: Ecology and Environment, Inc. 1988.

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 Anderson (Munn) Landfill site.

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

5.2 GROUNDWATER

A review of the Hydrogeologic Atlas of Michigan indicates that the unconsolidated material in the area of the site is composed of glacial till between 200 to 400 feet thick. The glacial till is composed of both outwash and moraine deposits. The outwash deposits consist chiefly of sand and gravel. The moraine deposits consist of a mixture of sand, gravel, and clay. The underlying bedrock is Mississipian Antrim Shale. A review of local well logs within 2 miles of the site indicates that the type of glacial deposits varies greatly in this area (e.g., one well log indicates 322 feet of gravel, while a second one, 1 1/4 miles from the first, indicates several clay layers interbedded with sand and gravel layers). The unconsolidated glacial deposits form the aquifer of concern, which is unconfined. Depth to groundwater is between 30 and 70 feet. The unsaturated zone is composed of sand, gravel, and clay. A potential does exist for TCL compounds and/or TAL analytes to migrate from the site to groundwater in the area for the following reasons.

- The aquifer of concern is an unconfined, unconsolidated glacial unit (depth to water is between 30 and 70 feet).

- The unsaturated zone consists of sand, gravel, and clay.

- TAL analytes and TCL compounds have been detected in on-site soil samples, including: phenanthrene at 1,500 µg/kg, fluoranthene at 2,100 µg/kg, benzo[a]anthracene at 1,500 µg/kg, chrysene at 1,800 µg/kg, Endosulfan I at 630 µg/kg, Aroclor 1254 at 8,600 µg/kg, 4,4-DDT at 240 µg/kg, antimony at 1,050 mg/kg, arsenic at 20.4 mg/kg, chromium at 402 mg/kg, lead at 73,600 mg/kg, mercury at 0.5 mg/kg, nickel at 525 mg/kg, and cyanide at 1.3 mg/kg.

- It is alleged that liquid wastes were accepted when the landfill was active (MDNR 1985).

- There is no information indicating the presence of a liner on-site.

- No leachate collection system was observed on-site.

Local residents have wells drawing from the aquifer of concern that are screened at depths between 64 and 110 feet. The groundwater flow direction is ambiguous, possibly flowing both north and south. Therefore, there is a possibility that groundwater contamination in the wells around the site, is attributable to the site. Using both the Salem, Michigan (1969) and the Northville, Michigan (1969) Quadrangles, a house count of 1,098 was made in the 3-mile radius. Based on 1980 Oakland County Census data, 2.8 persons per household can be used to estimate population. Multiplying yields a figure of 3,074 people within a 3-mile radius of the site. Adding about 100 more households that still draw from domestic wells within the city limits of Northville (Warner 1988), a total of 3,354 people are potential targets of groundwater contamination within the 3-mile radius.

NON-RESPONSIVE

5.3 SURFACE WATER

In accordance with the U.S. EPA-approved work plan, no surface water samples were taken during this site inspection. TCL compounds and TAL analytes were detected in the on-site soil samples. However, the site is in a fairly level area and no overland migration pathway was noted during the inspection.

Wetlands do exist to the north (1/2 mile), northeast (3/4 mile), and to the west (1/2 mile) of the site. The nearest surface water is a pond in Maybury State Park, which is about 1,000 feet southwest of the site property. This pond is used for recreation only. It is not used for drinking water. No surface pathways to these water bodies were noted.

5.4 AIR

A release of potential contaminants to the air was not documented during the SSI of the Anderson (Munn) Landfill site. During the reconnaissance inspection, the FIT site-entry instruments (oxygen meter, flame ionization detector, explosimeter, and colorimetric monitoring tubes for hydrogen cyanide) 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 windblown particulates to carry contaminants from the site. This potential is based on the following information:

- On-site soil samples contain TCL compounds and TAL analytes;

- Inadequate cover was observed, with exposed refuse present on-site.

An approximate population of 11,359 people within a 4-mile radius of the site could be affected by a release of contaminants to the air.

5.5 FIRE AND EXPLOSION

During its operation as a landfill, the Anderson (Munn) Landfill was cited repeatedly by the Oakland Department of Health for illegal burning (Orth 1969). FIT did not observe a potential for fire at the site. Explosimeter readings during the inspection confirmed that no explosion potential apparently exists 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 Anderson (Munn) Landfill site.

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

- Access to the site is not completely restricted; a section of fencing was observed to be down;
- TCL compounds and TAL analytes have been detected in soil samples collected at the site;
- Waste was observed to be exposed on the ground surface;
- Evidence of casual site use (a deer stand) was observed.

Based on the Salem, Michigan 1980 Quadrangle, 140 homes were counted in the 1-mile radius. Using Oakland County 1980 Census information, 2.8 persons per household can be used to calculate the population. A total of 392 people are potential direct contact targets within a 1-mile radius of the Anderson (Munn) Landfill site.

6. BIBLIOGRAPHY

Berman, Bernard D., March 20, 1968, Oakland County Department of Health, letter to Munn Contracting Company.

Boschan, Mr., November 9, 1987, telephone conversation, property owner, contacted by Loretta Guzdziol of FIT.

Boyer, Oscar B., June 6, 1967, Oakland County Department of Health, Solid Waste Disposal Evaluation Report.

Circuit Court for the County of Oakland, Michigan, February 7, 1963, Ruling on Original and Supplemental Record Made Pursuant to Supreme Court's Directive, Preparatory to Entry of "A New Decree."

E & E, 1987, Quality Assurance Project Plan Region V FIT Conducted Site Inspections, Chicago, Illinois.

Kellow, Fred B., January 20, 1970, Environmental Health Planning Unit, letter to Munn Contracting Company.

Klopfenstein, Morris D., December 9, 1968, area resident, letter to State Health Department.

MDNR, 1985, Potential Hazardous Waste Site Preliminary Assessment, for the Anderson (Munn) Landfill Site, Northville, Michigan.

Orth, Donovan, 1969, Oakland County Health Department, Solid Waste Disposal Evaluation Report.

Rowland, Marty, December 18, 1979, Potential Ground Water Contamination Source Identification and Preliminary Assessment.

Swayze, Gregg Alan, 1982, The Glacial Geology of Maybury State Park and the Northville Area.

U.S. Department of Commerce, Bureau of the Census, January 1982, 1980 Census of Population, Volume 1, Chapter A, Number of Inhabitants Part 24, Michigan.

U.S. EPA, Office of Solid Waste and Emergency Response, February 12, 1988, Pre-Remedial Strategy for Implementing SARA, Directive number 9345.2-01, Washington, D.C.

Warner, Bob, June 30, 1988, McNealy and Lincoln Engineering Consultants, telephone conversation, contacted by Loretta Guzdziol.

1203:5

APPENDIX A

SITE 4-MILE RADIUS MAP

APPENDIX B

U.S. EPA FORM 2070-13

APPENDIX C

U.S. EPA

IMMEDIATE REMOVAL ACTION

CHECKSHEET

APPENDIX D

FIT SITE PHOTOGRAPHS

APPENDIX E

CHEMICAL ANALYSIS DATA
OF
FIT-COLLECTED SAMPLES

APPENDIX F

WELL LOGS OF THE AREA OF THE SITE

APPENDIX A

SITE 4-MILE RADIUS MAP

APPENDIX B

U.S. EPA FORM 2070-13

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
MI	0980678528

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
ANDERSON (MUNN) LDFL	50256 W. 8 Mile Rd.

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Northville	MI	48050	Oakland	125	19

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Check one)
42 26 07.0	083 34 50.5	[X] A. PRIVATE [ ] B. FEDERAL ____ [ ] C. STATE [ ] D. COUNTY [ ] E. MUNICIPAL [ ] F. OTHER ____ [ ] G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION (Month Day Year)	02 SITE STATUS	03 YEARS OF OPERATION (Beginning Year / Ending Year)
12,10,87	[ ] ACTIVE [X] INACTIVE	~1966 / ~1970 ____ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
[ ] A. EPA [X] B. EPA CONTRACTOR Ecology + Environment Inc (Name of firm) [ ] C. MUNICIPAL [ ] D. MUNICIPAL CONTRACTOR ____ (Name of firm)
[ ] E. STATE [ ] F. STATE CONTRACTOR ____ (Name of firm) [ ] G. OTHER ____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
LORETTA Guzdziol	Chemical ENGINEER	E+E	(312)6639415

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
LINDA MARTIN	BIOLOGIST	E+E	(312)663-9415
DANIELLE PROVENZALE	BIOLOGIST	E+E	(312)663-9415
MIKE FELTES	Natural Resource Manager	E+E	(312)663-9415
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE		
DR. RALPH SCHWARTZ	Part Owner	NON-RESPONSIVE	
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
[X] PERMISSION [ ] WARRANT	0900	Clear + Cool

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Hakim Shakir	MDNR District Supr	(313)344-9440

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE (Month Day Year)
Loretta Guzdziol	U.S.EPA	E+E Inc	312-663-9415	08,17,88

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MI	D980678528

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

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

TONS UNKNOWN
CUBIC YARDS _____
NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

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

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			(General household
PSD	PESTICIDES	UNKNOWN		refuse was deposited
OCC	OTHER ORGANIC CHEMICALS	UNKNOWN		in this landfill)
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	UNKNOWN		

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	Phenanthrene	85-01-8	S-5	1500	µg/kg
OCC	Chrysene	218-01-9	S-3	1800	µg/kg
OCC	Fluoranthene	206-44-0	S-5	2100	µg/kg
PSD	Endosulfan I	959-98-8	S-3	630	µg/kg
PSD	4-4'-DDE	72-55-9	S-3	190	µg/kg
PSD	4-4'-DDD	72-54-8	S-3	170	µg/kg
PSD	4-4'-DDT	50-29-3	S-6	240	µg/kg
OCC	Arochlor 1254	11097-69-1	S-5	8600	µg/kg
MES	Lead	7439-92-1	S-2	73600	MG/kg
IOC	Cyanide	999	S-5	1.3 J	MG/kg
MES	Nickel	7440-02-0	S-2	525	MG/kg
MES	Chromium	7440-47-3	S-2	402 *	MG/kg
MES	Mercury	7439-97-6	S-5	0.5	MG/kg
MES	Cobalt	7440-48-4	S-1	6.4 B	MG/kg
MES	Cadmium	7440-43-9	S-2	13.0 *	MG/kg
MES	Antimony	7440-36-0	S-2	1050 N	MG/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)

FIT SAMPLE DATA, Case#8680

EPA

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

I. IDENTIFICATION
01 STATE: MI
02 SITE NUMBER: D980678528

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ■ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 3354
02 ■ OBSERVED (DATE: 3/10/87) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Residential wells in the area of the site do show contamination. Further groundwater study needs to be performed to determine source of this contamination.

01 ☐ B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 0
02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
There were no surface pathways noted to surface water. The nearest surface water is the Maybury State Park pond which is about 1000 feet southwest of site. It's used for recreation only.

01 ■ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: 11,314
02 ☐ OBSERVED (DATE:) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Poor cover and the detection of contaminants in on-site soil leads to a potential for air contamination by way of wind-blown particulates. No air monitoring was done by FIT.

01 ■ D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: 11,314
02 ■ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Several Health Dept. reports, during active use, indicated that there were fires at the landfill. During the site investigation no evidence of possible fire or explosion was observed by FIT.

01 ■ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: 392
02 ☐ OBSERVED (DATE:) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Fencing around the perimeter of the site is not intact. There is evidence of casual site use. Contaminants have been detected in on-site soils. Exposed refuse was observed.

01 ■ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: 33 (Acres)
02 ■ OBSERVED (DATE: 12/10/87) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
FIT sampling confirmed contamination of on-site soils with pesticides, PAH's, PCB's and heavy metals.

01 ■ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 3354
02 ■ OBSERVED (DATE: 3/10/87) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Residential wells are contaminated. Due to ambiguous direction of groundwater flow this contamination cannot be attributable to this site at this time.

01 ■ H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: UNKNOWN
02 ☐ OBSERVED (DATE:) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
During operation of landfill worker exposure was possible

01 ■ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: 11,395
02 ■ OBSERVED (DATE: 3/10/87) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
See 'E', 'G' + 'H'

EPA

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

I. IDENTIFICATION
01 STATE: MI | 02 SITE NUMBER: D980678528

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ■ J. DAMAGE TO FLORA — 02 ■ OBSERVED (DATE: 12/10/87) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
During the site investigation several areas of discoloration were observed. Patches of dirt were visible which had a strong odor.

01 ■ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)
Deer tracks observed on site (12/10/87) as well as a deer stand. Horses are stabled on site.

01 ■ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ■ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
Farmland borders the site, possibly growing food crops, which could become contaminated. Soil contamination on site is documented.

01 ■ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ■ OBSERVED (DATE: 12/10/87) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 11,314 — 04 NARRATIVE DESCRIPTION
Groundwater contamination is documented. No berm was observed on the east end of the property to deter the run-off of waste to the adjoining property.

01 ■ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ■ ALLEGED
04 NARRATIVE DESCRIPTION
Adjacent property owners complained on property damage incurred during operation of the landfill (1969-1975). Windblown particulates could potentially carry TCLs + TALs from the site.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION
No contamination of sewers, storm drains, or WWTPs were observed.

01 ■ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ■ ALLEGED
04 NARRATIVE DESCRIPTION
In 1968 liquid wastes were allegedly accepted in violation of the permit.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS
Walking on the fill area was difficult due to poor compaction, large buried metal debris could rust and cause the cover material to collapse with walking.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 11,314

IV. COMMENTS

NONE

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

SITE INSPECTION 12/10/87
Oakland County Census 1980

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
MI	D980678528

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)				
■ H. LOCAL (Specify) OAKLAND CNTY DEPT. of HEALTH	69-537	2/11/70	2/11/71	
☐ 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	UNKNOWN	
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
■ F. LANDFILL	25 1/2	acres
☐ G. LANDFARM		
☐ H. OPEN DUMP		
■ I. OTHER drums (partially buried)	UNKNOWN	

04 TREATMENT (Check all that apply) NONE
- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER _____ (Specify)

05 OTHER
- ■ A. BUILDINGS ON SITE: 3

06 AREA OF SITE: 33 (Acres)

07 COMMENTS

The three buildings on site are a house, a horse barn and another large storage barn.

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.

There is no evidence of a liner at the site. Rusty drums were rusted through and partially buried. No leachate collection system is in use. A berm on the west side of fill area was constructed.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ■ YES ☐ NO

02 COMMENTS The site is not fully fenced. Contaminants were detected in on-site soils. There was evidence of casual site use, (a deer stand).

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

Site inspection on 12/10/87
State + E+E file information.

EPA

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

I. IDENTIFICATION
01 STATE: MI
02 SITE NUMBER: D980678528

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable) N/A

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

02 STATUS

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

03 DISTANCE TO SITE
A. > 3 (mi)
B. 40 (gal) ft.

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 3354
03 DISTANCE TO NEAREST DRINKING WATER WELL 40 (gal) ft.

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
30-70 (ft)	variable	30-70 (ft)	UNKNOWN (gpd)	■ YES ☐ NO

09 DESCRIPTION OF WELLS (Including usage, depth, and location relative to population and buildings)
There are several wells, in the vicinity of the site, which are the only source of drinking water available.

10 RECHARGE AREA
☐ YES ☐ NO
COMMENTS: UNKNOWN

11 DISCHARGE AREA
☐ YES ☐ NO
COMMENTS: UNKNOWN

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)
■ A. RESERVOIR, RECREATION, DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Maybury State Park	☐	3/4 (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. 392 NO. OF PERSONS	B. 2020 NO. OF PERSONS	C. 7103 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION
40 (gal) ft.

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE
684

04 DISTANCE TO NEAREST OFF-SITE BUILDING
40 (gal) ft.

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)
Rural area with farmland as well as some housing developments. Most of the city of Northville is within the three mile radius.

EPA

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

I. IDENTIFICATION

01 STATE: MI | 02 SITE NUMBER: D980678528

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
110 (ft)	UNKNOWN (ft)	7.5-10.0

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
0.28 (in)	2.076 (in)	<3 %	N/A	0 %

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. 0.5 (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	AG LAND
A. 1.5 (mi)	B. 40 ft. (yd)	C. N/A (mi)	D. 40 ft. (yd)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

See Appendix A

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

Climactic Atlas
State file information
USGS topo 1980 Salem Quad
Oakland County file phone log (ROS 841003A - MI0409)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MI	D980678528

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	1	TCL - KEMRON BATON ROUGE, LA TAL - ROCKY MNTN ANALYTICAL - ARVADA, CO	Available
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	6	TCL - KEMRON - BATON ROUGE, LA TAL - ROCKY MNTN ANALYTICAL, ARVADA, CO	Available
VEGETATION			
OTHER Residential Well	5	TCL - ENSECO/CAL Sacramento, CA TAL - CENTURY LAB. Thorofare, NJ	Available

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
Radiation Mini Alert	No readings above background.
Oxygen Meter	No readings above background.
Flame Ionization Detector	No readings above background.
EXPLOSIMETER	No readings above background.
Color Metric Monitoring Tube	(CN MONITORED) NON-DETECTED.

IV. PHOTOGRAPHS AND MAPS

01 TYPE ■ GROUND ☐ AERIAL

02 IN CUSTODY OF Ecology + Environment Inc. (Chicago)
(Name of organization or individual)

03 MAPS ■ YES ☐ NO

04 LOCATION OF MAPS Ecology + Environment Inc. (Chicago)

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 FILE INFORMATION

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
NJ	098067859 8

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
DR. RALPH SCHWARTZ (power of atty)	—	N/A	

NON-RESPONSIVE

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
DR. MILT GOLDWRATH	—	N/A	

NON-RESPONSIVE

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
Mr. Boschan	—	N/A	—

NON-RESPONSIVE

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE
	—

12 CITY	13 STATE	14 ZIP CODE
Current owner (CONT)		

01 NAME	02 D+B NUMBER	08 NAME	09 D+B NUMBER
Mr. & Mrs. Stahl	—	Dr. George Blum	—

NON-RESPONSIVE

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

01 NAME	02 D+B NUMBER
Bernard Rollins	

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

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER
Mr + Mrs. Ross	—

NON-RESPONSIVE

PHILLIP ANDERSON	—

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

05 CITY	06 STATE	07 ZIP CODE
UNKNOWN	FLA	UNKNOWN

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

01 NAME	02 D+B NUMBER

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

	06 STATE	07 ZIP CODE

	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

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

SI (12/10/87)
State file information

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
MI	0980678528

II. CURRENT OPERATOR (Provide if different from owner)

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

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
Munn Contracting Co.	—

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
31700 W. 8 MILE ROAD	

05 CITY	06 STATE	07 ZIP CODE
FARMINGTON	MI	48024

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD
1966-1970	ANDERSON

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

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

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

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

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

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

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

14 CITY	15 STATE	16 ZIP CODE

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

State file information

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MI	D980678528

II. ON-SITE GENERATOR

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

III. OFF-SITE GENERATOR(S)

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

IV. TRANSPORTER(S)

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

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

State file information

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NJ	D980678528

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
MI	D980678528

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 1969 — 03 AGENCY Novi Fire Dept.
04 DESCRIPTION During operation numerous fires were reported at the landfill

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

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

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

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

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

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

STATE FILE INFORMATION

EPA FORM 2070-13 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MI	0980678528

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

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

Citation: March 18, 1968 by Oakland County Department of Health - liquid wastes disposed of on the property, illegal burning.

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

STATE FILE INFORMATION

APPENDIX C

U.S. EPA
IMMEDIATE REMOVAL ACTION
CHECKSHEET

Immediate Removal Action Check Sheet

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

Comments: #1 - Site fence was observed to be down in northeast corner

#2 - Exposed debris observed on site

#3 - State Park directly South of site

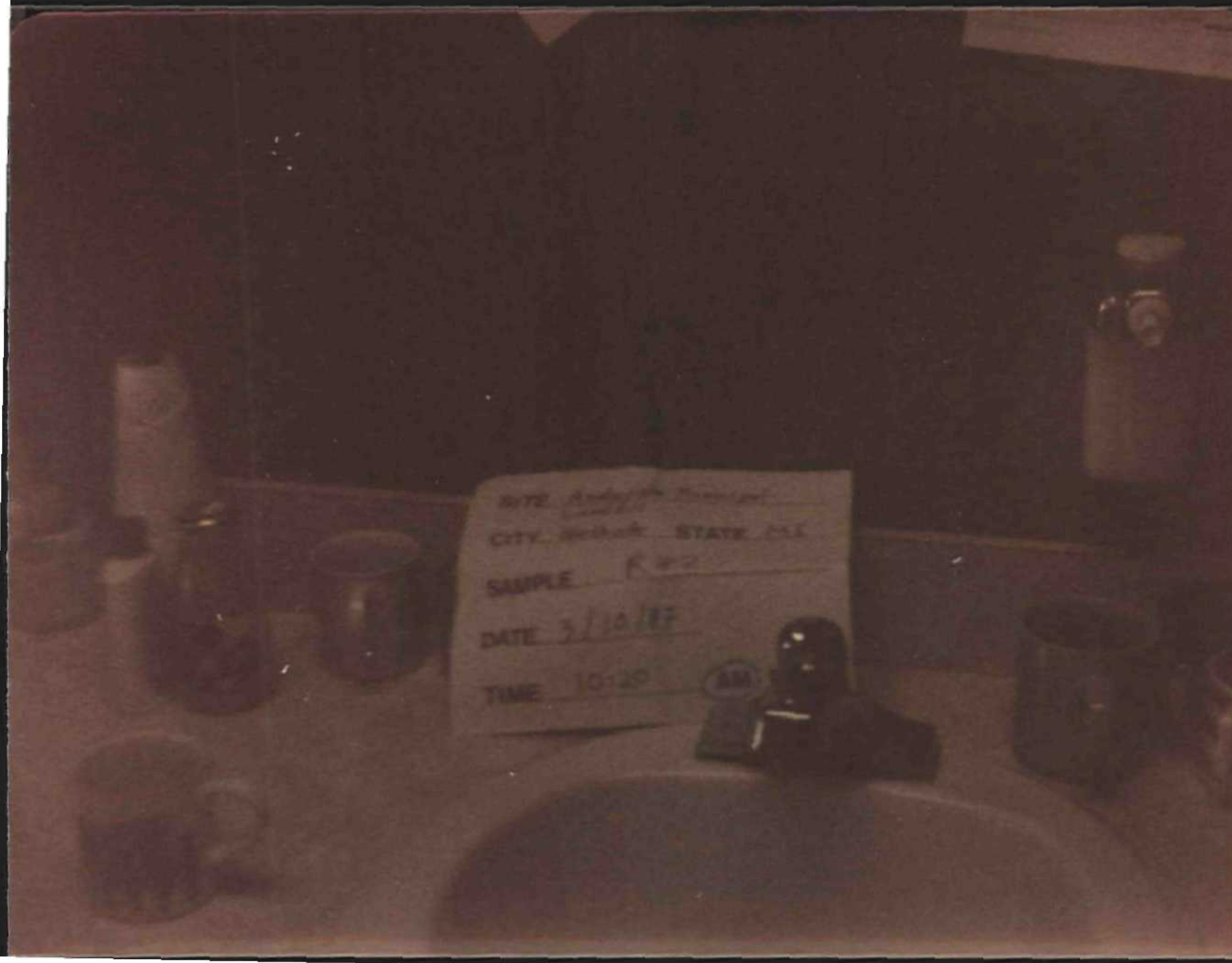
#4 - Deer Stand found on landfill site.

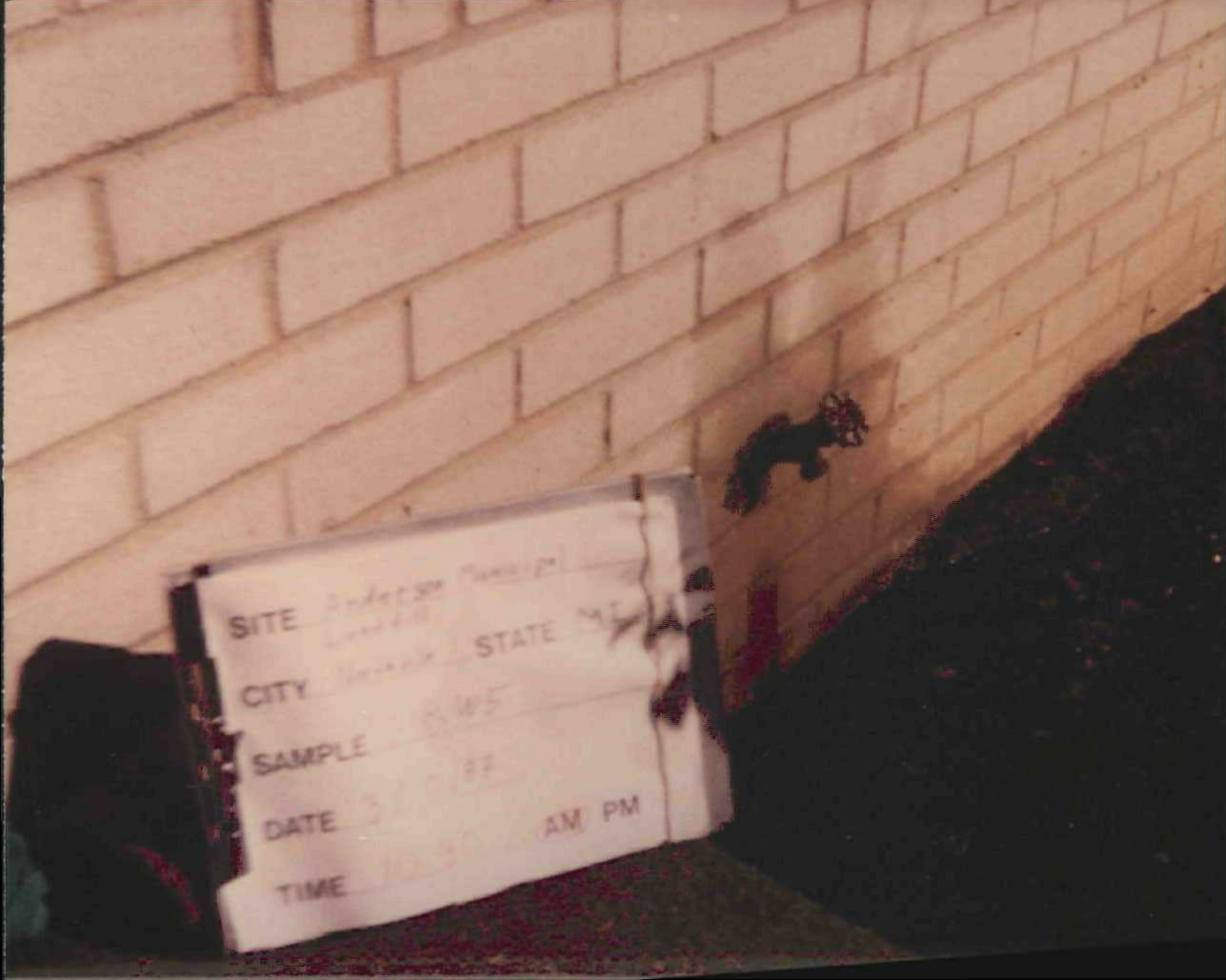
#5 - Area immediately surrounding site does not have alternate source of drinking water.

#6 - On-site soil samples are contaminated with

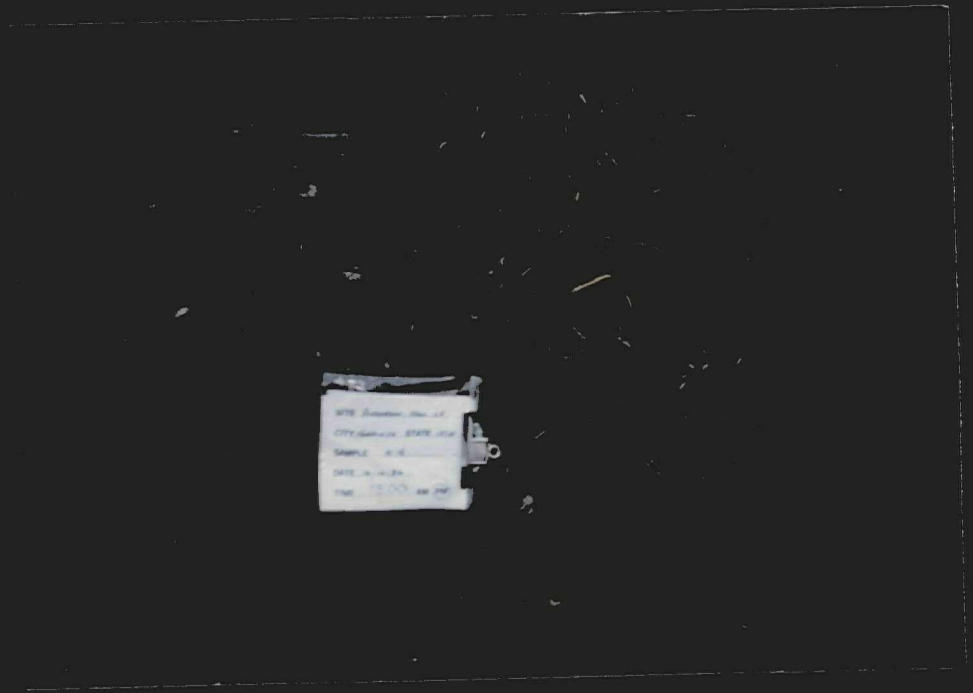
APPENDIX D

FIT SITE PHOTOGRAPHS


SITE
CITY
STATE
SAMPLE
DATE
TIME
AM


SITE
STATE
CITY
SAMPLE
DATE
AM PM
TIME

STATE



FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Anderson (Munn) Landfill PAGE 1 OF 9

U.S. EPA ID: MID980678528 TDD: F05 8702 153 PAN: FMI 0550

DATE: > 3/10/87

TIME: > 10:00

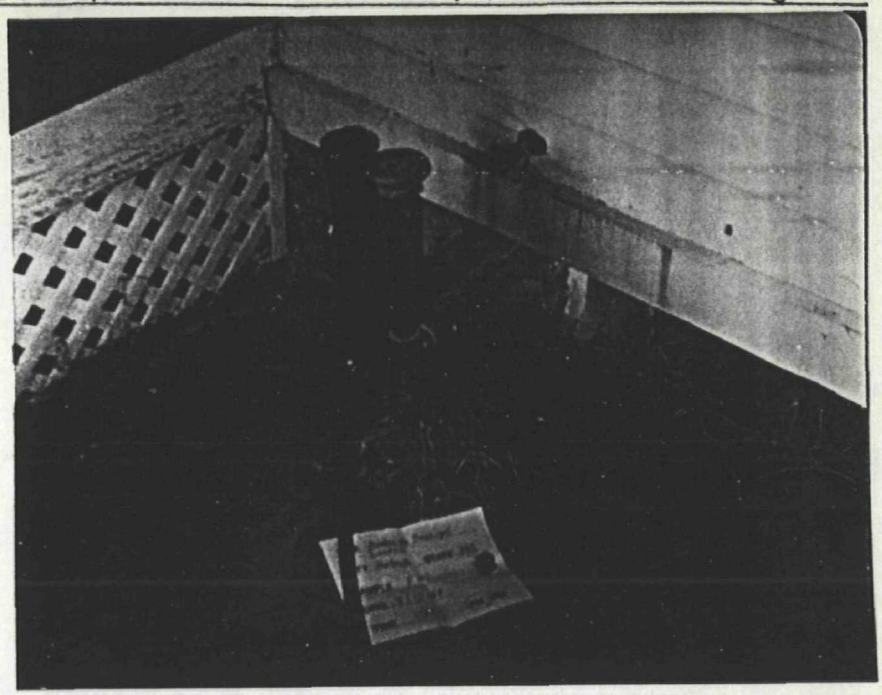
DIRECTION OF PHOTOGRAPH:
>

WEATHER CONDITIONS:
> Cool

> Partly Cloudy

PHOTOGRAPHED BY:
> J. Geiger

SAMPLE ID (if applicable):
> RW-1



DESCRIPTION: > Maybury State Park Farm 1

>

DATE: > 3/10/87

TIME: > 10:00

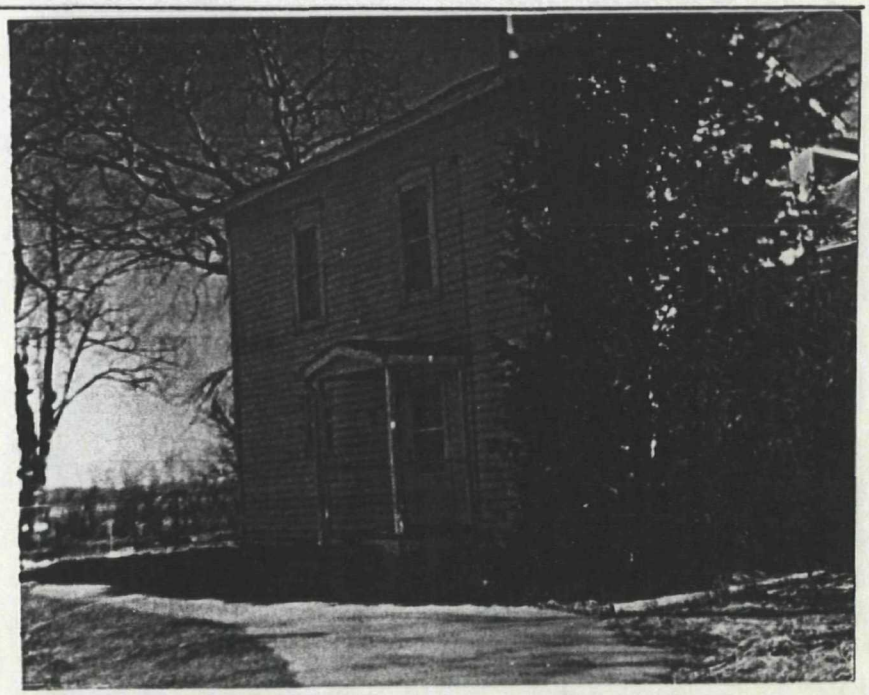
DIRECTION OF PHOTOGRAPH:
>

WEATHER CONDITIONS:
> Cool

> Partly Cloudy

PHOTOGRAPHED BY:
> J. Geiger

SAMPLE ID (if applicable):
> RW-1



DESCRIPTION: > Maybury State Park Farm 2

>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Anderson (Munn) Landfill PAGE 2 OF 9

U.S. EPA ID: MID980678528 TDD: F05 8702153 PAN: FMI0550

DATE: > 3/10/87

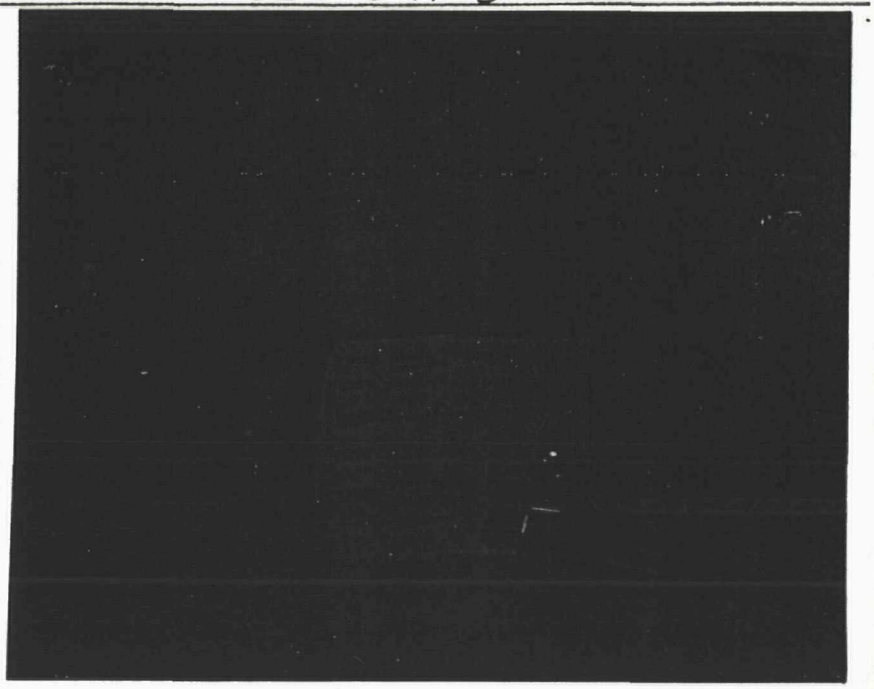
TIME: > 10:00

DIRECTION OF PHOTOGRAPH:
>

WEATHER CONDITIONS:
> Cool
> Partly Cloudy

PHOTOGRAPHED BY:
> J. Geiger

SAMPLE ID (if applicable):
> RW-2



DESCRIPTION: > William Allan Academy 3
>

DATE: > 3/10/87

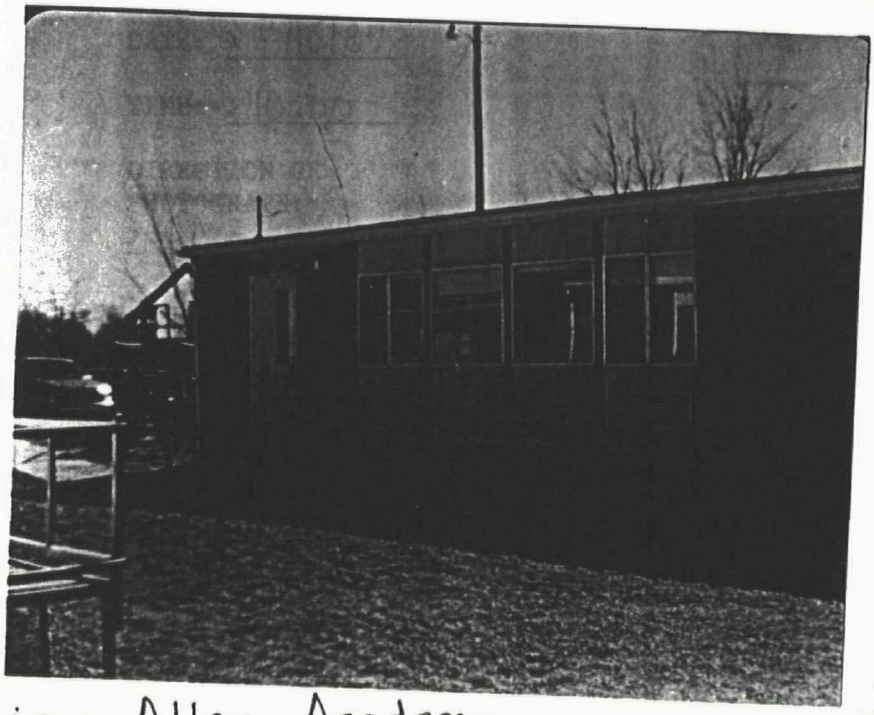
TIME: > 10:00

DIRECTION OF PHOTOGRAPH:
>

WEATHER CONDITIONS:
> Cool
> Partly Cloudy

PHOTOGRAPHED BY:
> J. Geiger

SAMPLE ID (if applicable):
> RW-2



DESCRIPTION: > William Allan Academy 4
>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Anderson (Munn) Landfill PAGE 3 OF 9

U.S. EPA ID: MID980678528 TDD: F05 8702153 PAN: FMI0550

DATE: > 3/10/87

TIME: > 10:00

DIRECTION OF PHOTOGRAPH:
>

WEATHER CONDITIONS:
> Cool

> Partly Cloudy

PHOTOGRAPHED BY:
> J. Geiger

SAMPLE ID

NON-RESPONSIVE

[redacted]

5

TIME: > 10:00

DIRECTION OF PHOTOGRAPH:
>

WEATHER CONDITIONS:
> Cool

> Partly Cloudy

PHOTOGRAPHED BY:
> J. Geiger

SAMPLE ID

NON-RESPONSIVE

[redacted]

6

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Anderson (Munn) Landfill PAGE 4 OF 9

U.S. EPA ID: MID980678528 TDD: F058702153 PAN: FMI0550

DATE: > 3/10/87

TIME: > 10:00

DIRECTION OF PHOTOGRAPH: >

WEATHER CONDITIONS: > Cool, Partly Cloudy

PHOTOGRAPHED BY: > J. Geiger

SAMPLE ID (if applicable): > RW-4

DESCRIPTION: >

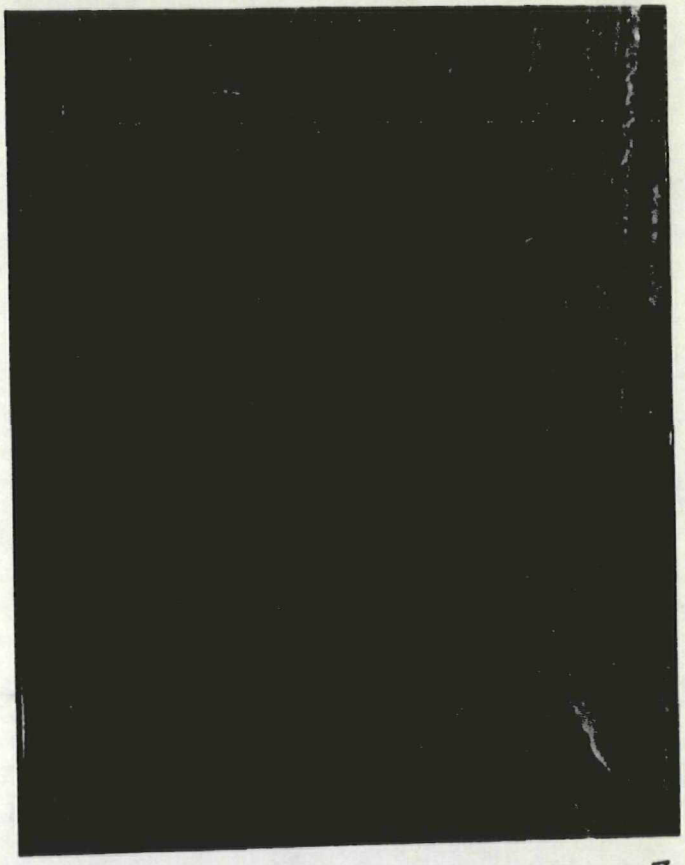
> Access tunnel to

> well

>

>

>



7

DATE: > 3/10/87

TIME: > 10:00

DIRECTION OF PHOTOGRAPH:

>

WEATHER CONDITIONS:

> Cool

> Partly Cloudy

PHOTOGRAPHED BY:

> J. Geiger

SAMPLE ID

NON-RESPONSIVE

[redacted]

8

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Anderson (Munn) Landfill PAGE 5 OF 9

U.S. EPA ID: MID980678528 TDD: F05 8702153 PAN: FMI0550

DATE: > 12/10/87

TIME: > 13:10

DIRECTION OF PHOTOGRAPH: > UNKNOWN

WEATHER CONDITIONS: > Cool

> Clear

PHOTOGRAPHED BY: > L. Guzdziol

SAMPLE ID (if applicable): > —

DESCRIPTION: > Metal Scrap 9

>

DATE: > 12/10/87

TIME: > 13:32

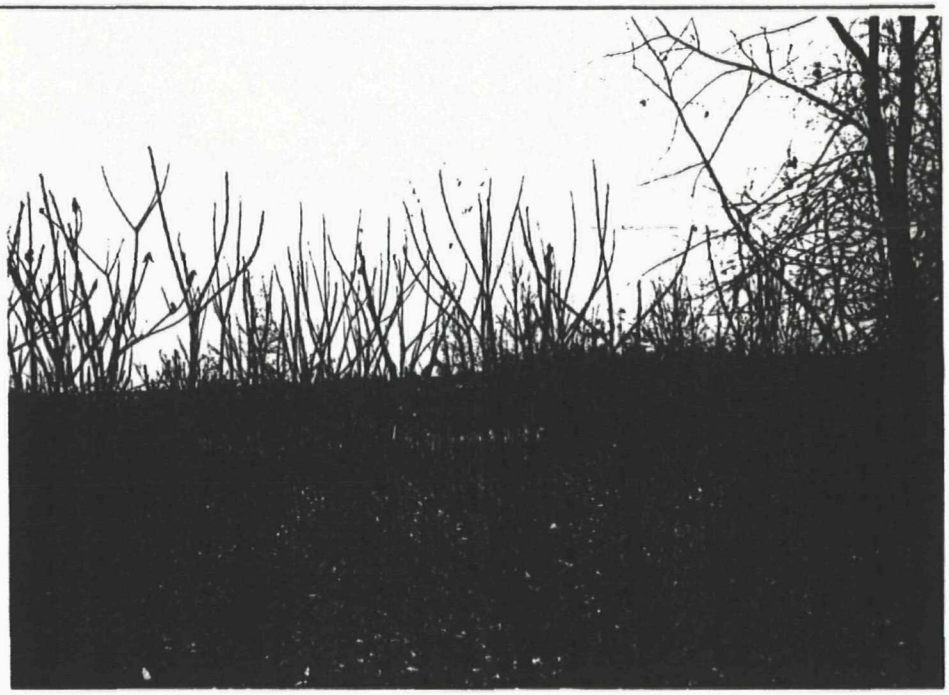
DIRECTION OF PHOTOGRAPH: > South

WEATHER CONDITIONS: > Cool

> Clear

PHOTOGRAPHED BY: > L. Guzdziol

SAMPLE ID (if applicable): > —



DESCRIPTION: > Site View 10

>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Anderson (Munn) Landfill PAGE 6 OF 9

U.S. EPA ID: MID980678528 TDD: F05870215 3 PAN: FMI0550

DATE: > 12/10/87

TIME: > 1335

DIRECTION OF PHOTOGRAPH: > NW

WEATHER CONDITIONS: > Cool

> Clear

PHOTOGRAPHED BY: > L. Guzdziol

SAMPLE ID (if applicable): > —

DESCRIPTION: > Site house - currently uninhabited 11

>

DATE: > 12/10/87

TIME: > 13:35

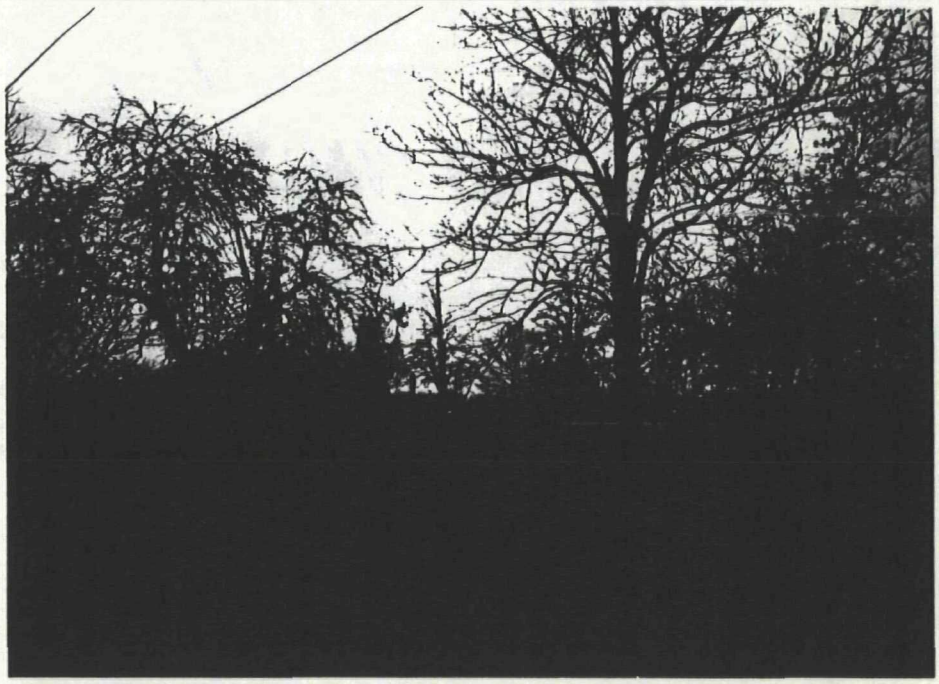
DIRECTION OF PHOTOGRAPH: > SE

WEATHER CONDITIONS: > Cool

> Clear

PHOTOGRAPHED BY: > L. Guzdziol

SAMPLE ID (if applicable): > —



DESCRIPTION: > Corralled horses - Eight Mile Road 12

> on Right.

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Anderson (Munn) Landfill PAGE 7 OF 9

U.S. EPA ID: MI 0980678528 TDD: F05802153 PAN: FMI0550

DATE: > 12/10/87

TIME: > 13:40

DIRECTION OF PHOTOGRAPH: > S

WEATHER CONDITIONS: > Cool Clear

PHOTOGRAPHED BY: > M. Feltes

SAMPLE ID (if applicable): > —

DESCRIPTION: >

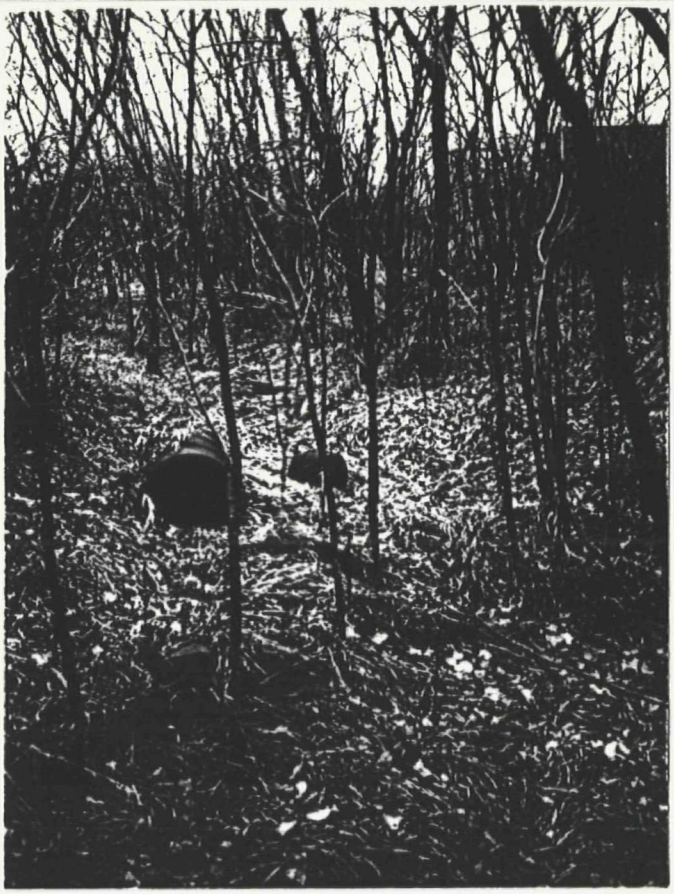
> Exposed Barrels

> on site

>

>

>



13

DATE: > 12/10/87

TIME: > 13:42

DIRECTION OF PHOTOGRAPH: > SE

WEATHER CONDITIONS: > Cool

> Clear

PHOTOGRAPHED BY: > M. Feltes

SAMPLE ID (if applicable): > —

DESCRIPTION: > Recently dumped debris 14

>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Anderson (Munn) Landfill PAGE 8 OF 9

U.S. EPA ID: MID980678528 TDD: F05 8702153 PAN: FMI0550

DATE: > 12/10/87

TIME: > 1300

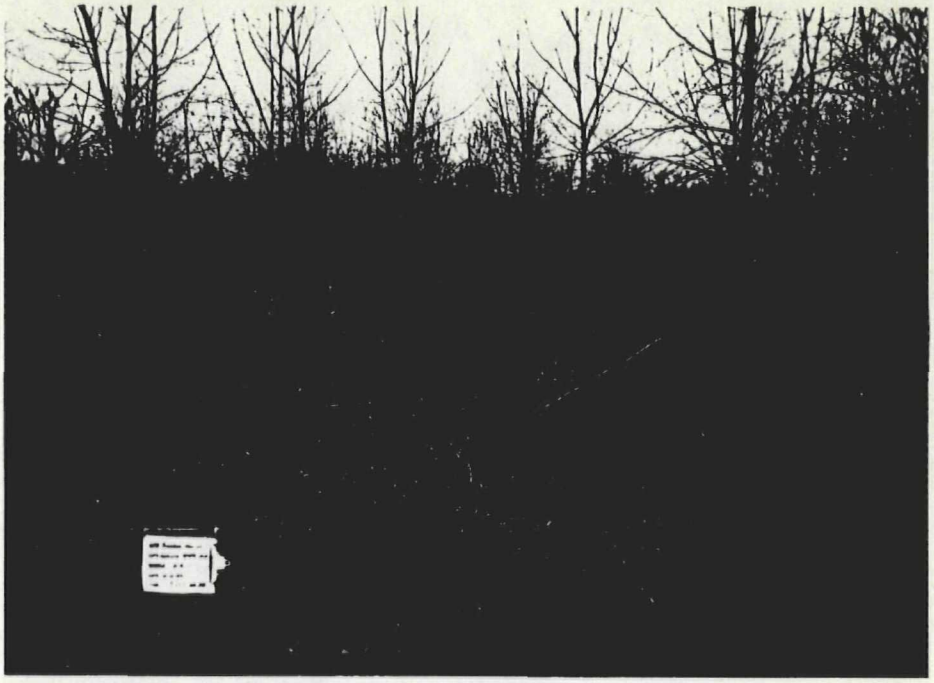
DIRECTION OF PHOTOGRAPH: > —

WEATHER CONDITIONS: > Cool

> Clear

PHOTOGRAPHED BY: > L. Guzdziol

SAMPLE ID (if applicable): > S-4



DESCRIPTION: > 15

>

DATE: > 12/10/87

TIME: > 1300

DIRECTION OF PHOTOGRAPH: > —

WEATHER CONDITIONS: > Cool

> Clear

PHOTOGRAPHED BY: > L. Guzdziol

SAMPLE ID (if applicable): > S-4

DESCRIPTION: > 16

>

FIELD PHOTOGRAPHY LOG SHEET

SITE NAME: Anderson (Munn) Landfill PAGE 9 OF 9

U.S. EPA ID: MID980678528 TDD: F058702153 PAN: FMI0550

DATE: > 12/10/87

TIME: > 1330

DIRECTION OF PHOTOGRAPH: > —

WEATHER CONDITIONS: > Cool

> Clear

PHOTOGRAPHED BY: > L. Guzdziol

SAMPLE ID (if applicable): > S-6

DESCRIPTION: > 17

>

DATE: > 12/10/87

TIME: > 1330

DIRECTION OF PHOTOGRAPH: > —

WEATHER CONDITIONS: > Cool

> Clear

PHOTOGRAPHED BY: > L Guzdziol

SAMPLE ID (if applicable): > S-6

DESCRIPTION: > 18

>

APPENDIX E

CHEMICAL ANALYSIS DATA
OF
FIT-COLLECTED SAMPLES

ADDENDUM A

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

Table A
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

Table A
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

Table A
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

Table A
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

ADDENDUM B

CENTRAL REGIONAL LABORATORY
DETECTION LIMITS

TABLE B
CENTRAL REGIONAL LABORATORY
VOLATILE DETECTION LIMITS

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

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

TABLE B (cont.)
CRL
SEMIVOLATILE DETECTION LIMITS

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

cont.

TABLE B (Cont.)
CRL
SEMIVOLATILE DETECTION LIMITS

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

cont. 9/87

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

Note: Limits are for reagent water.

TABLE B (Cont.)
CRL
PESTICIDE AND PCB DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aldrin	309-00-2	0.005 ug/L
alpha BHC	319-84-6	(0.010)
beta BHC	319-85-7	(0.005)
delta BHC	319-86-8	(0.005)
gama BHC (Lindane)	58-89-9	0.005
Chlordane	57-74-8	(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.

TABLE B (Cont.)
CRL
INORGANIC DETECTION LIMITS

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

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

See inorganic Routine Analytical Services for related CAS #.

ADDENDUM C

SPECIAL ANALYTICAL SERVICES
DETECTION LIMITS

Drinking Water Samples

TABLE C
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.

TABLE C (cont.)
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

TABLE C (Cont.)
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.

TABLE C (Cont.)
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.

TABLE C (Cont.)
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 #.

ADDENDUM D

SPECIAL ANALYTICAL SERVICES
DETECTION LIMITS

High Concentration Samples

TABLE D
SAS HIGH CONCENTRATION
VOLATILES DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Benzene	71-43-2	2.5 mg/Kg
Bromodichloromethane	75-27-4	2.5
Bromoform	75-25-2	2.5
Bromomethane	74-83-9	5.0
Carbon tetrachloride	56-23-5	2.5
Chlorobenzene	108-90-7	2.5
Chloroethane	75-00-3	5.0
2-Chloroethylvinylether	110-75-8	5.0
Chloroform	67-66-3	2.5
Chloromethane	74-87-3	2.5
Dibromochloromethane	124-48-1	2.5
1,2-Dichloropropane	156-87-5	2.5
1,2-Dichloroethane	107-06-2	2.5
1,1-Dichloroethene	75-35-4	2.5
trans-1,2-Dichloroethene	156-60-5	2.5
1,2-Dichloropropane	78-87-5	2.5
cis-1,3-Dichloropropene	10061-01-5	2.5
trans-1,3-Dichloropropene	10061-02-6	2.5
Ethyl benzene	100-41-4	2.5
Methylene chloride	75-09-2	2.5
1,1,2,2-Tetrachloroethane	79-34-5	2.5
Tetrachlorethene	127-18-4	2.5
Toluene	108-88-3	2.5
1,1,1-Trichloroethane	71-55-6	2.5
1,1,2-Trichloroethane	79-00-5	2.5
Trichloroethene	79-01-6	2.5
Vinyl chloride	75-01-4	5.0
Acetone	67-64-1	5.0
Carbon disulfide	75-15-0	2.5
2-Butanone	78-93-3	5.0
Vinyl acetate	108-05-4	5.0
4-Methyl-2-pentanone	108-10-1	5.0
2-Hexanone	591-78-6	5.0
Styrene	100-42-5	2.5
Xylenes	1330-02-7	2.5

* o-xylene and p-xylene are reported as a total.

TABLE D (Cont.)
SAS HIGH CONCENTRATION
SEMIVOLATILES DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Bis(2-chloroethyl)ether	11-44-4	20
Phenol	108-95-2	20 mg/Kg
2-Chlorophenol	95-57-8	20
1,3-Dichlorobenzene	541-73-1	20
1,4-Dichlorobenzene	106-46-7	20
1,2-Dichlorobenzene	95-50-1	20
Benzyl alcohol	100-51-6	20
bis(2-chloroisopropyl)ether	39638-32-9	20
2-Methylphenol	95-48-7	20
Hexachloroethane	67-72-1	20
N-Nitrosodipropylamine	621-64-7	20
Nitrobenzene	98-95-3	20
4-Methylphenol	106-44-5	20
Isophorone	78-59-1	20
2-Nitrophenol	88-75-5	20
2,4-Dimethylphenol	105-67-9	20
bis(2-chloroethoxy)methane	111-91-1	20
2,4-Dichlorophenol	120-83-2	20
1,2,4-Trichlorobenzene	120-82-1	20
Naphthalene	91-20-3	20
4-Chloroaniline	106-47-8	20
Hexachlorobutadiene	87-68-3	20
Benzoic acid	65-85-0	100
2-Methylnapthalene	91-57-6	20
4-Chloro-3-methylphenol	59-50-7	20
Hexachlorocyclopentadiene	77-47-4	20
2,4,6-Trichlorophenol	88-06-2	20
2,4,5-Trichlorophenol	95-95-4	100
2-Chloronaphthalene	91-58-7	20
Acenapthylene	208-96-8	20
Dimethyl phthalate	131-11-3	20
2,6-Dinitrotoluene	606-20-2	20
Acenaphthene	83-32-9	20
2-Nitroaniline	88-74-4	100
3-Nitroaniline	99-09-2	100
Dibenzofuran	132-64-9	20
2,4-Dinitrophenol	51-28-5	100
2,4-Dinitrotoluene	121-14-2	20

TABLE D (Cont.)
SAS HIGH CONCENTRATION
SEMIVOLATILES DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Fluorene	86-73-7	20 mg/kg
4-Nitrophenol	100-02-7	100
4-Chlorophenyl phenyl ether	7005-72-3	20
diethyl phthalate	84-66-2	20
4,6-Dinitro-2-methylphenol	534-52-1	100
1,2-Diphenylhydrazine	122-66-7	
n-Nitroso diphenylamine *	86-30-6	20
Diphenylamine *	122-39-4	
4-Nitroaniline	100-01-6	100
4-Bromophenyl phenyl ether	101-55-3	20
Hexachlorobenzene	118-74-1	20
Pentachlorophenol	87-86-5	100
Phenanthrene	85-01-8	20
Anthracene	120-12-7	20
di-n-Butyl phthalate	84-74-2	20
Fluoranthene	206-44-0	20
Pyrene	129-00-0	20
Butyl benzyl phthalate	85-68-7	20
Chrysene **	218-01-9	20
Benzo(a)anthracene **	56-55-3	20
bis(2-ethylhexyl)phthalate	117-81-7	20
di-n-octyl phthalate	117-84-0	20
Benzo(b)fluoranthene ***	205-99-2	20
Benzo(k)fluoranthene ***	207-08-9	20
Indeno(1,2,3-cd)pyrene	193-39-5	20
Dibenzo(a,h)anthracene	53-70-3	20
Benzo(g,h,i)perylene	191-24-2	20
2-Nitroaniline	88-74-4	100

* 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.

TABLE D (Cont.)
SAS HIGH CONCENTRATION
PESTICIDE AND PCB DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aldrin	309-00-2	20 mg/Kg
alpha BHC	319-84-6	20
beta BHC	319-85-7	20
delta BHC	319-86-8	20
gama BHC (Lindane)	58-89-9	20
Chlordane	57-74-9	20
alpha-Chlordane		
4,4'-DDD	72-54-8	20
4,4'-DDE	72-55-9	20
4,4'-DDT	50-29-3	20
Dieldrin	60-57-1	20
Endosulfan I	959-98-8	20
Endosulfan II	33213-65-9	20
Endosulfan sulfate	1031-07-8	20
Endrin	72-20-8	20
Endrin aldehyde	7421-93-4	20
Endrin ketone	53494-70-5	20
Heptachlor	76-44-8	20
Heptachlor epoxide	1024-57-3	20
4,4'-Methoxychlor	72-43-5	20
Toxaphene	8001-35-2	20
Monochlorobiphenyl	27323-18-8	100
Dichlorobiphenyl	25512-42-9	100
Trichlorobiphenyl	25323-68-6	100
Pentachlorobiphenyl	25429-29-2	100
Hexachlorobiphenyl	26601-64-9	100
Heptachlorobiphenyl	28655-71-2	100
Octachlorobiphenyl	31472-83-0	100
Nonochlorobiphenyl	53742-07-7	100
Decachlorobiphenyl	2051-24-3	100

TABLE D (Cont.)
SAS HIGH CONCENTRATION
INORGANIC DETECTION LIMITS

PARAMETER	CAS #	DETECTION LIMITS
Aluminum	7429-90-5	400 mg/kg
Antimony	7440-36-0	20
Arsenic	7440-38-2	20
Barium	7440-39-3	120
Beryllium	7440-41-7	40
Cadmium	7440-43-9	6
Calcium	7440-70-2	800
Chromium	7440-47-3	28
Cobalt	7440-48-4	20
Copper	7440-50-8	40
Iron	7439-89-6	200
Lead	7439-92-1	60
Lithium		
Magnesium	7439-95-4	800
Manganese	7439-96-5	40
Mercury	7439-97-6	0.3
Molybdenum		40
Nickel	7440-02-0	40
Potassium	7440-09-7	
Selenium	7782-49-1	20
Silicon		800
Silver	7440-22-4	40
Sodium	7440-23-5	4000
Strontium		
Thallium	7440-28-0	400
Titanium		400
Tin		
Vanadium	7440-62-2	200
Yttrium		
Zinc	7440-66-6	40
Cyanide		1.5
Sulfide		2.5
Conductivity		2.0 uhmos/cm

Note: Compounds with detection limits are analyzed by this method. Compounds without detection limits can be analyzed by a special SAS request.

SC = Specific conductance value

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

CRL Receipt Date 1/20/88 FIT Receipt Date 2/12/88 Review Completed 2/21/88

TO: Loretta Guzdziol
FROM: Brenda R. Jones
SUBJECT: Anderson Municipal Landfill
PAN: MI0550 (1 hour charged for review) Case # 8680

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
#	Low Soil	# 6	Low Soil
	Low Water	2	Low Water
	Drinking Water		Drinking Water
	Other		Other

Project Data Status _____ Completed!!

✓ Incomplete, awaiting _____

FIT Data Review Findings:

Check Data Sheets for Transcription Errors

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

Book No. 7 Page No. 171 Date Sampled 12/10/88

recycled paper

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

2/12/88
REC: 46 pages

DATE:

SUBJECT: Review of Region V CLP Data
Received for Review on 1-20-88

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory

R. Riccione 2.10.88

TO: Data User: FIT

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

SITE NAME: Anderson Municipal Landfill SMO case No. 8680

EPA Data Set No. SF4732 No. of Samples: 8 D.U./Activity Numbers Y905/C72IZZ

CRL No. 88FG10519-S25, R03

SMO Traffic No. MEQ 486-491, 494, 499

CLP Laboratory: RMAL Hrs. Required for Review:

Following are our findings:

Please see attached review by VIAR.

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

cc: Duane Geuder, Quality Assurance Officer, EPA Support Services
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

SCRL

536 — 10th. floor

memorandum

Date: February 8, 1988

To: Jay Thakkar, DPO
Region V

RV Piccione 2.10.88

From: Harry B. McCarty,
SMO Data Review Team

Subject: Data Review

Attached is a copy of our data review for Case 8680. In order to get the information to you as soon as possible, I have sent only one copy to you by telefax, rather than by surface mail. I would appreciate it if you would make photocopies for your contractors.

In addition, I will send one photocopy by surface mail, as a precaution.

Attachments

09 FEB 1988

RECEIVED
FEB 09 1988
ENVIRONMENTAL SERVICES
DIVISION

MEMORANDUM

DATE:

TO: Jay Thakker
USEPA Region 5

FROM: Harry B. McCarty
SMO Data Review Team

SUBJECT: QA/QC Compliance Review Summary for a Contract Laboratory Program Inorganic Sample Data Package: Case No. 8680 SDG-494

As requested, quality control and performance measures for the data packages noted have been examined and compared to EPA standards for compliance. Measures for the following general areas were evaluated:

Data Completeness	Blanks
Interference Check	Serial Dilution
Laboratory Control Sample	Analytical Spiking, MSA
Matrix Spikes/Duplicates	Holding Times
Calibration	

Any statistical measures used to support the following conclusions are attached so that the review may be reviewed by others.

Summary of Results

	I ICP	II Furnace	III Hg	IV Cyanide	V Other
Acceptable as Submitted			✓	✓	
Acceptable with Comments	✓	✓			
Unacceptable, Action Pending					
Unacceptable					

Data Reviewed By: John N. Paullin Date: 02-02-88

Review Authorized By: Harry B. McCarty Date: 2/8/88

Signature: H.B. M

Area Code/Phone No.: (703) 684-5678

FTS Line:

NARRATIVE

CASE NO. 8680
SDG MEQ 494

SITE NAME: Anderson Municipal Landfill

LABORATORY NAME: ENSECO/RMAL

Laboratory

The laboratory's portion of Case No. 8680 consisted of two (2) low water samples collected on December 7, 1987.

The laboratory reported no problem(s) with the receipt of these samples. The laboratory failed to indicate on the traffic report the sample condition upon receipt. The samples are assumed to be received in good condition.

The laboratory reported no problem(s) with the analysis of two low water samples. There was no case narrative. Sample MEQ 494 was prepped using a 50 ml aliquot, digested and adjusted to 50 mls final volume vs 100 mls to 100 mls as required by the statement of work. This was done due to the low sample volume received by the laboratory.

The reviewer has commented on the criteria specified under each analysis heading. All criteria have been assessed, but no discussion is given where the reviewer has determined that criteria were adequately performed or require no comment. Amounts of detected analytes are summarized in Appendix B.

Evaluation by Analysis

I. ICP Analysis

___ Initial Calibration
___ Continuing Calibration
___ Interference Check
___ Matrix Spike
___ Duplicate
___ Laboratory Control Sample
_X_ Blanks
___ Serial Dilution

Comments:

Eighteen elements were analyzed by ICP; Al, Ba, Ca, Cu, Fe, Mg, Mn, K, Na and Zn were detected.

The data are acceptable. Copper in MEQ 944 is flagged with a J because the sample value (22.8 ppb) is less than 5X the preparation blank of 11.4 ppb. The copper data in MEQ 944 are therefore considered suspect because it is not possible to specify if the level of Cu in the sample was due to contamintion.

II. Furnace AA Analysis

____	Initial Calibration
____	Continuing Calibration
X	Matrix Spike
____	Duplicate
____	Laboratory Control Sample
____	Blanks
X	Analytical Spiking, MSA

Comments:

The data are acceptable. As and Pb were detected, while Se and Tl were undected among the four elements analyzed by furnace AA.

The final concentration for Se in MEQ 494 determined by MSA is biased low and is considered minimal because the addition of a 5ppb spike to the sample produced no increase in the added concentration reading, i.e., the sample and the 5ppb added result produced identical values.

III. Mercury, Cyanide, Other

___ Initial Calibration
___ Continuing Calibration
___ Matrix Spike
___ Duplicate
___ Laboratory Control Sample
___ Blanks
___ Holding Times

Comments:

The data for mercury and cyanide are acceptable. The correlation coefficient done by linear regression analysis of the Hg standardization curve is 0.9980.

The correlation coefficient for the CN standardization curve is 0.9999.

APPENDIX

Case No. F680-S06 ME0494

Field Blank Results

		10X		10X
Al	20U			
Sb	31U			
As	4.0U			
Ba	3.0U			
Be	7.0U			
Cd	5.0U			
Ca	92.0U			
Cr	5.0U			
Co	6.0U			
Cu	87.7			
Fe	31.0U			
Pb	1.0U			
Mg	90.0U			
Mn	5.0U			
Hg	0.2U			
Ni	7.0U			
K	111U			
Se	2.0UN			
Ag	5.0U			
Na	1500U			
Tl	2.0U			
Sn	— NR			
V	8.0U			
Zn	13.0U			
CN	10U			

APPENDIX B. Summary of Elements Found

Case: 8680

Site: Anderson Landfill

Lab : Envsco/RMAL

		MEQ 494	499		CRQL						
Aluminum (Al)	B	21.1									
Antimony (Sb)		-									
Arsenic (As)	BW	7.5			10						
Barium (Ba)	B	172									
Beryllium (Be)											
Cadmium (Cd)											
Calcium (Ca)		94700									
Chromium (Cr)											
Cobalt (Co)											
Copper (Cu)	BJ	22.8	87.7		25						
Iron (Fe)		4820									
Lead (Pb)	BW	2.5			5						
Magnesium (Mg)		36400									
Manganese (Mn)		57.8									
Mercury (Hg)											
Nickel (Ni)											
Potassium (K)	B	1960									
Selenium (Se)	UWN	2.0									
Silver (Ag)		-									
Sodium (Na)		14600									
Thallium (Tl)											
Tin (Sn)		NR									
Vanadium (V)											
Zinc (Zn)		541									
Cyanide (CN^-)											

MEMORANDUM

DATE:

TO: Jay Thakkar
USEPA Region 5

FROM: Harry B. McCarty
SMO Data Review Team

SUBJECT: QA/QC Compliance Review Summary for a Contract Laboratory Program Inorganic Sample Data Package: Case No. 8680 506486

As requested, quality control and performance measures for the data packages noted have been examined and compared to EPA standards for compliance. Measures for the following general areas were evaluated:

Data Completeness	Blanks
Interference Check	Serial Dilution
Laboratory Control Sample	Analytical Spiking, MSA
Matrix Spikes/Duplicates	Holding Times
Calibration	

Any statistical measures used to support the following conclusions are attached so that the review may be reviewed by others.

Summary of Results

	I ICP	II Furnace	III Hg	IV Cyanide	V Other
Acceptable as Submitted		✓	✓		
Acceptable with Comments	✓			✓	
Unacceptable, Action Pending					
Unacceptable					

Data Reviewed By: John N. Paullin Date: 02-03-88

Review Authorized By: Harry B. McCarty Date: 2/8/88

Signature: [signature]

Area Code/Phone No.: (703) 684-5678

FTS Line:

NARRATIVE

CASE NO. 8680
SDG NO. 486

SITE NAME: Anderson Municipal Landfill

LABORATORY NAME: Enseco/RMAL

Laboratory

The laboratory's portion of Case No. 8680 consisted of 6 low soil samples collected on December 7, 1987.

The laboratory reported no problems with the receipt of these samples. The laboratory failed to indicate on the Traffic Report (TR) the sample condition upon receipt. The samples are assumed to be received in good condition.

The laboratory reported some problem(s) with the analysis of 6 low soil samples for CN. Nitrous Acid was suspected as an interferent. The samples were re-analyzed satisfactorily.

The reviewer has commented on the criteria specified under each analysis heading. All criteria have been assessed, but no discussion is given where the reviewer has determined that criteria were adequately performed or require no comment. Amounts of detected analytes are summarized in Appendix A.

Evaluation by Analysis

ICP Analysis

Initial Calibration
Continuing Calibration
X CRDL
Blanks
Interference Check Sample
X Matrix Spike
Post-Digestion Spike
X Duplicate
Laboratory Control Sample
Serial Dilution
IDL
Correction Factors
Linear Range
Field QC Samples

Comments:

Nineteen elements were analyzed by ICP. Al, Ba, Ca, Cu, Fe, Mg, Mn, Ni, K, V, and Fn were detected in all samples. Sb and Na were detected in one sample, Cd in three samples, and Be and Co were detected in five samples. The data are acceptable.

Because of data transcription problems from the raw data to the forms, the data regarding precision and accuracy require clarification.

The Cd values on Form I are imprecise and require a * flag. The Pb ICP values on Form I are precise and do not require a * flag. The Pb ICP values on Form I are accurate and do not require an N flag. The information in the raw data is accepted as valid.

The LCS Ca value on Form 7 should be reported as 191,274 from the raw data, not 18.4U. The Ca value is accepted as valid.

The soil samples in this case exhibited very high Pb values with three samples exceeding the U.S. Geological Survey 99% confidence interval, one sample exceeded the 95% confidence interval, and one sample exceeded the 68% confidence interval for Pb. One sample was analyzed with a result of 73,600 mg/kg. The Pb results are considered as accepted and valid.

Furnace AA Analysis

Initial Calibration
Continuing Calibration
CRDL
Blanks
Matrix Spike
Post-Digestion Spike
Duplicate
Laboratory Control Sample
Analytical Spiking, MSA
IDL
Field QC Samples

Comments:

The data are acceptable. Zeeman background correction was used for the Se analyses.

As and Pb were detected, while Se and Tl were undetected among all the samples analyzed by furnace AA.

Mercury, Cyanide, Other

- Initial Calibration
- X Continuing Calibration
- Blanks
- X Matrix Spike
- Post-Digestion Spike
- X Duplicate
- Laboratory Control Sample
- X Holding Times
- Field QC Samples

Comments:

The mercury and cyanide data are acceptable. One sample contained detectable Hg, while two samples contained detectable CN. The correlation coefficient for the Hg standard curve was 0.9980. The correlation coefficient for the CN standard curve was 0.9999.

The cyanide data are flagged with a "J" because the contractual holding time of 14 days was exceeded by 14 days for one sample and 19 days for five samples. Thus the detected values for the reported samples may be elevated over the reported data because of the possible loss of CN due to the excessive time until assay. The cyanide values were calculated incorrectly using a 50 ml final volume instead of the required 250 ml final volume.

The original CN duplicate was imprecise (48 RPD), and the original CN matrix spike recovery was negative. The laboratory suspected a nitrous acid interference problem and reassayed the samples for CN. Apparently, the reanalysis overcame the interference problem. The data on Appendix B are from the reanalysis.

The CN run data indicate the use of a rinse before the CCV and before the distilled mid-range standard. Unless there is a rinse before each sample, the data are considered biased low, as carryover from the samples would be expected to increase the obtained values for suceeding injections.

The CN data are accepted as the values obtained before the rinses were low and the possibility of significant carryover into the continuing calibration standards was low.

The reviewer emphasizes that the criteria for acceptance of the CN data are subjective, given the parameters and problems associated with the CN analyses.

8680

APPENDIX B: Summary of Elements Found

Case: SOG MEQ486

Site: Anderson Landfill

Lab: Ensecs/RMAL

	MEQ 486	MEQ 487	MEQ 488	MEQ 489	MEQ 490	MEQ 491				CRQL
Aluminum (Al)	7170	16800	8220	7330	8090	4290				8
Antimony (Sb) N		1050								2.4
Arsenic (As) * N	9.7	20.3	18.8	20.4	11.5	15.1				2
Barium (Ba)	77.2	77500	67.8	45.6	65.8	44.3				
Beryllium (Be)	0.55		0.45	0.51	0.76	0.30				1
Cadmium (Cd) *		13	12.8		2.4					1
Calcium (Ca)	5190	36500	26500	23000	48700	81700				
Chromium (Cr) *	11.5	402	19.3	47.4	28	8.7				2
Cobalt (Co)	6.4		6	10.7	6.3	5.6				10
Copper (Cu)	23.7	339	57.1	31.3	41.3	25.3				5
Iron (Fe)	16900	52200	14300	17400	13000	11600				
Lead (Pb)	17.7	73,600	111	49.6	803	72.7				1
Magnesium (Mg)	2190	23400	8620	8290	10800	23900				
Manganese (Mn)	1270	451	171	467	517	460				
Mercury (Hg)					0.5					.008
Nickel (Ni)	15.6	525	21.7	20.0	14.1	12.7				8
Potassium (K) E	799	418	1090	885	1030	564				
Selenium (Se)										
Silver (Ag)										
Sodium (Na)		64900								
Thallium (Tl)										
Tin (Sn)										
Vanadium (V) E	19.2	20.8	21.1	23	13.7	12.8				10
Zinc (Zn)	149	5010	151	87.3	822	231				
Cyanide (CN⁻)	0.62UJ	0.86UJ	0.82UJ	0.76UJ	1.3J	1.0J	* see attach memo			2

(☐ qualifier applies ○ qual does not apply)

APPENDIX C
COMPARISON OF SOIL SAMPLE RESULTS TO U.S. BACKGROUND DATA[1]

Element	Number of Soil Samples	Number Over D.L.	Geometric (ppm) Mean	Geometric (ppm) Deviation	Number Over 68% CI	Number Over 95% CI	Number Over 99% CI
Ag	6	0					
Al	6	6	47,000	2.48			
As	6	6	5.2	2.23	5		
Ba	6	6	440	2.14			1
Be	6	5	.63	2.38			
Ca	6	6	9200	4.00	1		
Cd	6	3					
Co	6	5	6.7	2.19			
Cr	6	6	37	2.37		1	
Cu	6	6	17	2.44	1		1
Fe	6	6	18,000	2.38	1		
Hg	6	1	.058	2.52		1	
K[2]	6	6	15,000	7900			
Mg	6	6	4400	3.28		2	
Mn	6	6	330	2.77	1		
Na	6	1	5900	3.27		1	
Ni	6	6	13	2.31			1
Pb	6	6	16	1.86	1	1	3
Sb	6	1	.48	2.27			1
Se	6	0	.26	2.46			
Sn			.89	2.36			
Tl	6	0					
V	6	6	58	2.25			
Zn	6	6	48	1.95	2	1	2

---

1 U.S.G.S. Professional Paper 1270, U.S. GPO, Wash., D.C., 1984

2 Arithmetic mean, standard deviation

SF 4732

DEC 17 REC'D

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

DUE DATE 1/28/88 ORL

Logged in 1/8/87

Sample DATE 12/10/87

CASE NUMBER/SAS No. 8630 SITE NAME Anderson Municipal Landfill LABORATORY Kemron / RMAL DATE SHIPPED 12/10/87

SUPERFUND DU NUMBER U905 EPA RPM or OSC (S.M.S.)/(CES) _____ CERCLIS NUMBER MID980678528 PAGE 1 OF 1

ACTIVITY NUMBER C7210

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				
88FG10S19	ES392	MEQ486	✓												✓	✓	✓	✓	✓	✓						
88FG10S20	ES393	MEQ487	✓												✓	✓	✓	✓	✓	✓						
88FG10S21	ES394	MEQ488	✓												✓	✓	✓	✓	✓	✓						
88FG10S22	ES395	MEQ489	✓												✓	✓	✓	✓	✓	✓						
88FG10S23	ES396	MEQ490	✓												✓	✓	✓	✓	✓	✓						
88FG10S24	ES397	MEQ491	✓												✓	✓	✓	✓	✓	✓						
88FG10S25	ES400	MEQ494	✓	✓	✓	✓	✓	✓																		
88FG10R03	ES405	MEQ499	✓	✓	✓	✓	✓	✓																		

NARRATIVE

RMA QC # 87524

CASE/SAS # 8680

All samples in RMA QC# 87524 were initially distilled for CN on 12/22/87 and analyzed on 1/5/88. Results for the duplicate and spike analyses were erratic. Erratic and falsely high results such as occurred for these samples may indicate the presence of nitrate or nitrite in the sample which, during distillation, will form nitrous acid. Nitrous acid may react with some organic compounds to form oximes which, under test conditions, will decompose to generate HCN (1). In order to remove the nitrate or nitrite interference, sulfamic acid was added to MEQ486, MEQ486D, and MEQ486S and the three samples were redistilled and reanalyzed. The results from the reprepped samples indicated that the CN concentration in MEQ486 was below CRDL. The duplicate and spike analyses were also within control limits.

Due to the results obtained from the reanalysis of samples MEQ486, MEQ486D, and MEQ486S when distilled with sulfamic acid, it was decided that all samples in RMA QC# 87524 should be distilled with sulfamic acid added. The results obtained from the analysis of the reprepped samples are being submitted along with the associated report forms.

Reference: (1) Environmental Protection Agency, Methods for the Chemical Analysis of Waters and Wastes, March 1983, Method 335.2 (1980)

LAB MANAGER

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

SOW No.: 7/87

EPA Sample No.	Lab Sample ID.
MEQ486	
MEQ486D	
MEQ486S	
MEQ487	
MEQ488	
MEQ489	
MEQ490	
MEQ491	

RECEIVED
JAN 15 1988
U.S. EPA, CENTRAL REGIONAL LAB.
536 S. CLARK STREET
CHICAGO, ILLINOIS 60605

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:
6 LOW SOILS FOR TOTAL METALS AND CYANIDE ANALYSIS
INTERFERENCE NOTED FOR COPPER, LEAD, POTASSIUM AND VANADIUM ON SERIAL DILUTION. SELENIUM AND LEAD LCS VALUES ARE DETERMINED BY MSA.
RMA QC# 87524

Release of the data contained in this hardcopy data package and in the computer readable data submitted on floppy diskette have been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Lab Manager: [signature]

Date: 01/14/88

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ486

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

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

Level (low/med): LOW Date Recieved: 12/11/87

% Solids: 81.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7170			P
7440-36-0	Antimony	7.6	U	N	P
7440-38-2	Arsenic	9.7		S*N	F
7440-39-3	Barium	77.2			P
7440-41-7	Beryllium	0.55	B		P
7440-43-9	Cadmium	1.2	U	*	P
7440-70-2	Calcium	5190			P
7440-47-3	Chromium	11.5		*	P
7440-48-4	Cobalt	6.4	B		P
7440-50-8	Copper	23.7		E	P
7439-89-6	Iron	16900			P
7439-92-1	Lead	17.7		*N	F
7439-95-4	Magnesium	2190			P
7439-96-5	Manganese	1270			P
7439-97-6	Mercury	0.1	U		CV
7440-02-0	Nickel	15.6			P
7440-09-7	Potassium	799	B	E	P
7482-49-2	Selenium	0.25	U	WN	F
7440-22-4	Silver	1.2	U	N	P
7440-23-5	Sodium	369	U		P
7440-28-0	Thallium	0.49	U	WN	F
7440-62-2	Vanadium	19.2		E	P
7440-66-6	Zinc	149			P
	Cyanide	0.62	U		AS

Color Before: BLACK Clarity Before: _____ Texture: FINE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:
ARSENIC VALUE IS DETERMINED BY MSA
LEAD VALUE IS REPORTED AT AN ADDITIONAL 10X DILUTION

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ487

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

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

Level (low/med): LOW Date Recieved: 12/11/87

% Solids: 58.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	16800			P
7440-36-0	Antimony	1050		N	P
7440-38-2	Arsenic	20.3		S*N	F
7440-39-3	Barium	77500			P
7440-41-7	Beryllium	1.7	U		P
7440-43-9	Cadmium	13.0		*	P
7440-70-2	Calcium	36500			P
7440-47-3	Chromium	402		*	P
7440-48-4	Cobalt	10.3	U		P
7440-50-8	Copper	339		E	P
7439-89-6	Iron	52200			P
7439-92-1	Lead	73600		E*N	P
7439-95-4	Magnesium	23400			P
7439-96-5	Manganese	451			P
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel	525			P
7440-09-7	Potassium	677	B	E	P
7482-49-2	Selenium	3.4	U	N	F
7440-22-4	Silver	8.6	U	N	P
7440-23-5	Sodium	64900			P
7440-28-0	Thallium	0.69	U	WN	F
7440-62-2	Vanadium	20.8	B	E	P
7440-66-6	Zinc	5010			P
	Cyanide	0.86	U		AS

Color Before: ORANGE Clarity Before: _____ Texture: MEDIUM
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:
ICP REPORTED AT AN ADDITIONAL 5X DILUTION DUE TO HIGH BARIUM AND LEAD VALUES
ARSENIC VALUE IS DETERMINED BY MSA
SELENIUM VALUE IS REPORTED AT AN ADDITIONAL 10X DILUTION

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ488

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

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

Level (low/med): LOW Date Recieved: 12/11/87

% Solids: 60.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8220			P
7440-36-0	Antimony	10.2	U	N	P
7440-38-2	Arsenic	18.8		S*N	F
7440-39-3	Barium	67.8			P
7440-41-7	Beryllium	0.45	B		P
7440-43-9	Cadmium	12.8			P
7440-70-2	Calcium	26500			P
7440-47-3	Chromium	19.3		*	P
7440-48-4	Cobalt	6.0	B		P
7440-50-8	Copper	57.1		E	P
7439-89-6	Iron	14300			P
7439-92-1	Lead	111		E*N	P
7439-95-4	Magnesium	8620			P
7439-96-5	Manganese	171			P
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel	21.7			P
7440-09-7	Potassium	1090	B	E	P
7482-49-2	Selenium	0.33	U	WN	F
7440-22-4	Silver	1.7	U	N	P
7440-23-5	Sodium	495	U		P
7440-28-0	Thallium	0.66	U	WN	F
7440-62-2	Vanadium	21.1		E	P
7440-66-6	Zinc	151			P
	Cyanide	0.80 ~~1.7~~	U		AS

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:
ARSENIC VALUE IS DETERMINED BY MSA

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1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ489

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

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

Level (low/med): LOW Date Recieved: 12/11/87

% Solids: 66.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7330			P
7440-36-0	Antimony	9.4	U	N	P
7440-38-2	Arsenic	20.4		+*N	F
7440-39-3	Barium	45.6	B		P
7440-41-7	Beryllium	0.51	B		P
7440-43-9	Cadmium	1.5	U	~~*~~	P
7440-70-2	Calcium	23000			P
7440-47-3	Chromium	47.4		*	P
7440-48-4	Cobalt	10.7	B		P
7440-50-8	Copper	31.3		E	P
7439-89-6	Iron	17400			P
7439-92-1	Lead	49.6		E*N	P
7439-95-4	Magnesium	8290			P
7439-96-5	Manganese	467			P
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel	20.0			P
7440-09-7	Potassium	885	B	E	P
7482-49-2	Selenium	0.30	U	WN	F
7440-22-4	Silver	1.5	U	N	P
7440-23-5	Sodium	454	U		P
7440-28-0	Thallium	0.61	U	WN	F
7440-62-2	Vanadium	23.0		E	P
7440-66-6	Zinc	87.3			P
	Cyanide	0.76 ~~3.2~~	U		AS

Color Before: BROWN Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:
ARSENIC VALUE IS DETERMINED BY MSA

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1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ490

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

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

Level (low/med): LOW Date Recieved: 12/11/87

% Solids: 74.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8090			P
7440-36-0	Antimony	8.3	U	N	P
7440-38-2	Arsenic	11.5		S*N	F
7440-39-3	Barium	658			P
7440-41-7	Beryllium	0.76	B		P
7440-43-9	Cadmium	2.4		*N	P
7440-70-2	Calcium	48700			P
7440-47-3	Chromium	28.0		*	P
7440-48-4	Cobalt	6.3	B		P
7440-50-8	Copper	41.3		E	P
7439-89-6	Iron	13000			P
7439-92-1	Lead	803		E*N	P
7439-95-4	Magnesium	10800			P
7439-96-5	Manganese	517			P
7439-97-6	Mercury	0.5			CV
7440-02-0	Nickel	14.1			P
7440-09-7	Potassium	1030	B	E	P
7482-49-2	Selenium	0.27	U	WN	F
7440-22-4	Silver	1.3	U	N	P
7440-23-5	Sodium	401	U		P
7440-28-0	Thallium	0.53	U	WN	F
7440-62-2	Vanadium	13.7		E	P
7440-66-6	Zinc	822			P
	Cyanide	1.3 ~~0.676~~	U		AS

Color Before: BLACK Clarity Before: _____ Texture: COARSE
Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:
ARSENIC VALUE IS DETERMINED BY MSA

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ491

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

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

Level (low/med): LOW Date Recieved: 12/11/87

% Solids: 81.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4290			P
7440-36-0	Antimony	7.6	U	N	P
7440-38-2	Arsenic	15.1		S*N	F
7440-39-3	Barium	44.3	B		P
7440-41-7	Beryllium	0.30	B		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	81700			P
7440-47-3	Chromium	8.7		*	P
7440-48-4	Cobalt	5.6	B		P
7440-50-8	Copper	25.3		E	P
7439-89-6	Iron	11600			P
7439-92-1	Lead	72.7		E*N	P
7439-95-4	Magnesium	23900			P
7439-96-5	Manganese	460			P
7439-97-6	Mercury	0.1	U		CV
7440-02-0	Nickel	12.7			P
7440-09-7	Potassium	564	B	E	P
7482-49-2	Selenium	2.5	U	WN	F
7440-22-4	Silver	1.2	U	N	P
7440-23-5	Sodium	369	U		P
7440-28-0	Thallium	0.49	U	WN	F
7440-62-2	Vanadium	12.8		E	P
7440-66-6	Zinc	231			P
	Cyanide	1.0			AS

Color Before: BROWN Clarity Before: _____ Texture: COARSE

Color After: BROWN Clarity After: _____ Artifacts: _____

Comments:

ARSENIC VALUE IS DETERMINED BY MSA

SELENIUM VALUE IS REPORTED AT AN ADDITIONAL 10X DILUTION

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3
BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: ME0486

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum	20.0	U	20.0	U	20.0	U	20.0	U	10.9	B	P
Antimony	44.1	B	31.0	U	31.0	U	31.0	U	6.2	U	P
Arsenic											
Barium	3.0	U	3.0	U	3.0	U	3.0	U	0.60	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	0.20	U	P
Cadmium	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	P
Calcium	92.0	U	92.0	U	92.0	U	92.0	U	47.0	B	P
Chromium	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	P
Cobalt	6.0	U	6.0	U	6.0	U	6.0	U	1.2	U	P
Copper	9.0	U	9.0	U	9.0	U	9.0	U	1.8	U	P
Iron	-38.7	B	-35.4	B	31.0	U	-35.4	B	6.2	U	P
Lead	28.0	U	28.0	U	28.0	U	28.0	U	5.6	U	P
Magnesium	90.0	U	90.0	U	90.0	U	90.0	U	18.0	U	P
Manganese	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	P
Mercury											
Nickel	7.0	U	7.0	U	7.0	U	7.0	U	1.4	U	P
Potassium	111	U	111	U	111	U	111	U	22.2	U	P
Selenium											
Silver	5.0	U	5.0	U	5.0	U	5.0	U	1.0	U	P
Sodium	1500	U	1500	U	1500	U	1500	U	300	U	P
Thallium											
Vanadium	2.0	U	2.0	U	2.0	U	2.0	U	0.40	U	P
Zinc	13.0	U	13.0	U	13.0	U	13.0	U	2.6	U	P
Cyanide											

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3
BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum											
Antimony											
Arsenic	4.0	U	4.0	U	4.0	U	4.0	U	0.80	U	F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	1.0	U	1.0	U	1.0	U					F
Magnesium											
Manganese											
Mercury	0.2	U	0.2	U	0.2	U			0.1	U	CV
Nickel											
Potassium											
Selenium	1.0	U	1.0	U	1.0	U	1.0	U	0.20	U	F
Silver											
Sodium											
Thallium	2.0	U	2.0	U	2.0	U	2.0	U			F
Vanadium											
Zinc											
Cyanide	10.0	U	10.0	U	10.0	U			0.50	U	AS

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3
BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum											
Antimony											
Arsenic			4.0	U	4.0	U					F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium			1.0	U							F
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

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3
BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum											
Antimony											
Arsenic			4.0	U	4.0	U					F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium			1.0	U							F
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	0.50	U	AS

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEQ486S

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum		7500		7170					NR
Antimony	75-125	64.4		7.6	U	123	52.4	N	P
Arsenic	75-125	17.0		9.7		9.9	73.7	N	F
Barium	75-125	567		77.2		493	99.4		P
Beryllium	75-125	13.0		0.55	B	12.3	101.2		P
Cadmium	75-125	14.1		1.2	U	12.3	114.6		P
Calcium		5050		5190					NR
Chromium	75-125	59.4		11.5		49.3	97.2		P
Cobalt	75-125	133		6.4	B	123	102.9		P
Copper	75-125	88.9		23.7		61.6	105.8		P
Iron		14800		16900					NR
Lead	75-125	152		30.8		123	98.5		P
Magnesium		2020		2190					NR
Manganese		1260		1270		123	-8.1		P
Mercury	75-125	0.6		0.1	U	0.6	103.3		CV
Nickel	75-125	142		15.6		123	102.8		P
Potassium		869	B	799	B				NR
Selenium	75-125	1.1	B	0.25	U	2.5	44.0	N	F
Silver	75-125	9.0		1.2	U	12.3	73.2	N	P
Sodium		480	B	369	U				NR
Thallium	75-125	9.2		0.49	U	12.3	74.8	N	F
Vanadium	75-125	139		19.2		123	97.4		P
Zinc	75-125	257		149		123	87.8		P
Cyanide	75-125	5.5 ~~5.9~~ 76		0.62	U	6.2	~~95.2~~ 88.7		AS

Comments:
ARSENIC MATRIX SPIKE AND SAMPLE RESULTS ARE DETERMINED BY MSA
SELENIUM MATRIX SPIKE RESULT IS DETERMINED BY MSA
LEAD SAMPLE RESULT IS REPORTED AT AN ADDITIONAL 10X DILUTION AND
MATRIX SPIKE RESULT DETERMINED BY MSA

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEQ486S

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	75-125	23.9		17.7		4.9	126.5	N	F
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

Comments:
ARSENIC MATRIX SPIKE AND SAMPLE RESULTS ARE DETERMINED BY MSA
SELENIUM MATRIX SPIKE RESULT IS DETERMINED BY MSA
LEAD SAMPLE RESULT IS REPORTED AT AN ADDITIONAL 10X DILUTION AND
MATRIX SPIKE RESULT DETERMINED BY MSA

U.S. EPA - CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEQ486A

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony		146		11.0	B	120	112.5		P
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver		19.6		5.0	U	20.0	98.0		P
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

MEQ486D

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 81.2 % Solids for Duplicate: 80.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		7170		8370		15.4		P
Antimony		7.6	U	7.6	U			P
Arsenic	2.5	9.7		15.1		43.5	*	F
Barium	49.3	77.2		72.3		6.6		P
Beryllium		0.55	B	0.50	B	9.5		P
Cadmium	1.2	1.2	U	1.4		200	*	P
Calcium	1232	5190		5140		1.0		P
Chromium	2.5	11.5		15.1		27.1	*	P
Cobalt		6.4	B	6.5	B	1.6		P
Copper	6.2	23.7		20.3		15.5		P
Iron		16900		15700		7.4		P
Lead		30.8		30.1		2.3		P
Magnesium	1232	2190		2470		12.0		P
Manganese		1270		1140		10.8		P
Mercury		0.1	U	0.1	U			CV
Nickel	9.9	15.6		20.0		24.7		P
Potassium		799	B	903	B	12.2		P
Selenium		0.25	U	0.25	U			F
Silver		1.2	U	1.2	U			P
Sodium		369	U	369	U			P
Thallium		0.49	U	0.49	U			F
Vanadium	12.3	19.2		21.1		9.4		P
Zinc		149		134		10.6		P
Cyanide		0.62	U	0.62	U			AS

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6
DUPLICATES

EPA SAMPLE NO.

MEQ486D

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 81.2 % Solids for Duplicate: 80.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead		17.7		22.7		24.8	*	F
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								
Cyanide								

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7
LABORATORY CONTROL SAMPLE

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

Solid LCS Source: EMSL-LV

Aqueous LCS Source: EMSL-LV

Analyte	Aqueous (ug/L) True	Found	%R(1)	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum				325	290		225	424	89.2
Antimony				211	233		127	294	110
Arsenic									
Barium				4.8	6.0	B	0.0	40.0	125
Beryllium				19.4	19.8		16.5	22.3	102
Cadmium				45.4	44.6		35.7	55.1	98.2
Calcium				196200	18.4	U	166800	225600	
Chromium				99.6	95.2		79.2	120	95.6
Cobalt				144	146		125	162	101
Copper				6910	7220		6006	7820	104
Iron				22430	22500		17770	27080	100
Lead				236	228		188	285	96.6
Magnesium				118100	121000		100400	129900	102
Manganese				208	216		177	239	104
Mercury									
Nickel				60.9	59.2		49.2	72.6	97.2
Potassium				50.0	62.0	B	0.0	1000	124
Selenium									
Silver				22.2	20.9		15.5	29.0	94.1
Sodium				50.0	300	U	0.0	1000	
Thallium									
Vanadium				65.8	67.3		51.7	79.9	102
Zinc				187	173		138	236	92.5
Cyanide									

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LABORATORY CONTROL SAMPLE

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ486

Solid LCS Source: EMSL-LV

Aqueous LCS Source: EMSL-LV

Analyte	Aqueous (ug/L) True	Found	%R(1)	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic				917	774		635	1199	84.4
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				236	203		188	285	86.0
Magnesium									
Manganese									
Mercury				12.7	12.0		8.5	17.0	94.5
Nickel									
Potassium									
Selenium				39.2	30.9		19.1	59.4	78.8
Silver									
Sodium									
Thallium				39.0	32.0		24.6	53.5	82.1
Vanadium									
Zinc									
Cyanide									

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ494

SOW No.: 7/87

EPA Sample No.	Lab Sample ID.
MEQ494	
MEQ494D	
MEQ494S	
MEQ499	

RECEIVED
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U.S. EPA, CENTRAL REGIONAL LAB.
536 S. CLARK STREET
CHICAGO, ILLINOIS 60605

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:
2 LOW WATERS FOR TOTAL METALS AND CYANIDE ANALYSIS
RMA QC# 87525

Release of the data contained in this hardcopy data package and in the computer readable data submitted on floppy diskette have been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Lab Manager: [signature]

Date: 01/14/88

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1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ494

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ494

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/11/87

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	21.1	B		P
7440-36-0	Antimony	31.0	U		P
7440-38-2	Arsenic	7.5	B	W	F
7440-39-3	Barium	172	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	94700			P
7440-47-3	Chromium	5.0	U		P
7440-48-4	Cobalt	6.0	U		P
7440-50-8	Copper	22.8	B		P
7439-89-6	Iron	4820			P
7439-92-1	Lead	2.8	B	W	F
7439-95-4	Magnesium	36400			P
7439-96-5	Manganese	57.8			P
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel	7.0	U		P
7440-09-7	Potassium	1960	B		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	14600			P
7440-28-0	Thallium	2.0	U	W	F
7440-62-2	Vanadium	2.0	U		P
7440-66-6	Zinc	541			P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____
Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:

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1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MEQ499

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ494

Matrix (soil/water): WATER Lab Sample ID: _____

Level (low/med): LOW Date Recieved: 12/11/87

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	20.0	U		P
7440-36-0	Antimony	31.0	U		P
7440-38-2	Arsenic	4.0	U		F
7440-39-3	Barium	3.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	92.0	U		P
7440-47-3	Chromium	5.0	U		P
7440-48-4	Cobalt	6.0	U		P
7440-50-8	Copper	87.7			P
7439-89-6	Iron	31.0	U		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	90.0	U		P
7439-96-5	Manganese	5.0	U		P
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel	7.0	U		P
7440-09-7	Potassium	111	U		P
7482-49-2	Selenium	2.0	U	N	F
7440-22-4	Silver	5.0	U		P
7440-23-5	Sodium	1500	U		P
7440-28-0	Thallium	2.0	U		F
7440-62-2	Vanadium	2.0	U		P
7440-66-6	Zinc	13.0	U		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____
Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments:
Sample is a Blank

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3
BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ494

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum	20.0	U	20.0	U	20.0	U			20.0	U	P
Antimony	35.3	B	31.0	U	31.0	U			31.0	U	P
Arsenic											
Barium	3.0	U	3.0	U	3.0	U			3.0	U	P
Beryllium	1.0	U	1.0	U	1.0	U			1.0	U	P
Cadmium	5.0	U	5.0	U	5.0	U			5.0	U	P
Calcium	92.0	U	92.0	U	92.0	U			92.0	U	P
Chromium	5.0	U	5.0	U	5.0	U			5.0	U	P
Cobalt	6.0	U	6.0	U	6.0	U			6.0	U	P
Copper	9.0	U	9.0	U	9.0	U			11.4	B	P
Iron	31.0	U	31.0	U	31.0	U			31.0	U	P
Lead											
Magnesium	90.0	U	90.0	U	90.0	U			90.0	U	P
Manganese	5.0	U	5.0	U	5.0	U			5.0	U	P
Mercury											
Nickel	7.0	U	7.0	U	7.0	U			7.0	U	P
Potassium	111	U	111	U	111	U			111	U	P
Selenium											
Silver	5.0	U	5.0	U	5.0	U			5.0	U	P
Sodium	1500	U	1500	U	1500	U			1500	U	P
Thallium											
Vanadium	2.0	U	2.0	U	2.0	U			2.0	U	P
Zinc	13.0	U	13.0	U	13.0	U			13.0	U	P
Cyanide											

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3
BLANKS

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ494

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration BLANK	C	M
Aluminum											
Antimony											
Arsenic	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	F
Magnesium											
Manganese											
Mercury	0.2	U	0.2	U	0.2	U			0.2	U	CV
Nickel											
Potassium											
Selenium	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	F
Silver											
Sodium											
Thallium	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	F
Vanadium											
Zinc											
Cyanide	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	AS

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEQ494

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ494

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	1840		21.1	B	2000	90.9		P
Antimony	75-125	491		31.0	U	500	98.2		P
Arsenic	75-125	38.3		7.5	B	40.0	77.0		F
Barium	75-125	1910		172	B	2000	86.9		P
Beryllium	75-125	45.9		1.0	U	50.0	91.8		P
Cadmium	75-125	42.5		5.0	U	50.0	85.0		P
Calcium		93500		94700					NR
Chromium	75-125	170		5.0	U	200	85.0		P
Cobalt	75-125	446		6.0	U	500	89.2		P
Copper	75-125	246		22.8	B	250	89.3		P
Iron		5650		4820		1000	83.0		P
Lead	75-125	22.1		2.8	B	20.0	96.5		F
Magnesium		35800		36400					NR
Manganese	75-125	506		57.8		500	89.6		P
Mercury	75-125	1.1		0.2	U	1.0	110.0		CV
Nickel	75-125	447		7.0	U	500	89.4		P
Potassium		1940	B	1960	B				NR
Selenium	75-125	32.4		2.0	U	10.0	324.0	N	F
Silver	75-125	38.3		5.0	U	50.0	76.6		P
Sodium		15400		14600					NR
Thallium	75-125	38.2		2.0	U	50.0	76.4		F
Vanadium	75-125	434		2.0	U	500	86.8		P
Zinc	75-125	976		541		500	87.0		P
Cyanide	75-125	87.8		10.0	U	100	87.8		AS

Comments:
SELENIUM, THALLIUM AND LEAD VALUES DETERMINED BY MSA

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

MEQ494

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ494

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		21.1	B	20.0	U	200		P
Antimony		31.0	U	31.0	U			P
Arsenic		7.5	B	7.6	B	1.3		F
Barium		172	B	168	B	2.4		P
Beryllium		1.0	U	1.0	U			P
Cadmium		5.0	U	5.0	U			P
Calcium		94700		93000		1.8		P
Chromium		5.0	U	5.0	U			P
Cobalt		6.0	U	6.0	U			P
Copper		22.8	B	16.6	B	31.5		P
Iron		4820		4720		2.1		P
Lead		2.8	B	2.9	B	3.5		F
Magnesium		36400		35700		1.9		P
Manganese	15.0	57.8		53.7		7.4		P
Mercury		0.2	U	0.2	U			CV
Nickel		7.0	U	7.0	U			P
Potassium		1960	B	1860	B	5.2		P
Selenium		2.0	U	2.0	U			F
Silver		5.0	U	5.0	U			P
Sodium	5000	14600		14200		2.8		P
Thallium		2.0	U	2.0	U			F
Vanadium		2.0	U	2.0	U			P
Zinc		541		530		2.1		P
Cyanide		10.0	U	10.0	U			AS

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ494

Solid LCS Source: EMSL-LV

Aqueous LCS Source: EMSL-LV

Analyte	Aqueous (ug/L) True	Found	%R(1)	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	1980	2090	106						
Antimony	1010	1070	106						
Arsenic									
Barium	1980	1980	100						
Beryllium	481	508	106						
Cadmium	489	504	103						
Calcium	49800	53900	108						
Chromium	506	478	94.5						
Cobalt	474	510	108						
Copper	542	585	108						
Iron	1990	2040	103						
Lead									
Magnesium	25000	26300	105						
Manganese	513	535	104						
Mercury									
Nickel	496	498	100						
Potassium	50200	51600	103						
Selenium									
Silver	509	508	99.8						
Sodium	50700	53500	106						
Thallium									
Vanadium	511	502	98.2						
Zinc	3100	3080	99.4						
Cyanide									

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: ROCKY MOUNTAIN ANALYTICAL Contract: 68-01-7476

Lab Code: ENSECO Case No.: 8680 SAS No.: _____ SDG No.: MEQ494

Solid LCS Source: EMSL-LV

Aqueous LCS Source: EMSL-LV

Analyte	Aqueous (ug/L) True	Found	%R(1)	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic	49.4	44.9	90.9						
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	97.9	82.8	84.6						
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	98.2	94.6	96.3						
Silver									
Sodium									
Thallium	97.3	91.8	94.3						
Vanadium									
Zinc									
Cyanide									

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

CRL Receipt Date 1/21/88 FIT Receipt Date 2/26/88 Review Completed 2/29/88

TO: Guzdziol
FROM: Loretta Guzdziol
SUBJECT: Anderson Mun. Landfill
PAN: MI0550 (1 hour charged for review) Case # 8680

Sample Description

Organics (VOA, ABN, Pest/PCB)		Inorganics (Metals, Cyanide)	
# 6	Low Soil	#	Low Soil
~~8~~ 2	Low Water		Low Water
	Drinking Water		Drinking Water
	Other		Other

Project Data Status X Completed!!

Incomplete, awaiting

FIT Data Review Findings:
Waters Clean - Soils have polynuclear aromatic & pesticide hits.
PCB

Check Data Sheets for Transcription Errors

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

Book No. 7 Page No. 170 Date Sampled 12/10/87

recycled paper

2/26

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 2/22/88

SUBJECT: Review of Region V CLP Data
Received for Review on 1-21-88

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

TO: Data User: FIT

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

SITE NAME: Anderson Municipal Landfill SMO Case No. 8680

EPA Data Set No. SF4732 No. of Samples: 8 D.U./Activity Numbers Y905/C721ZZ

CRL No. 88FG10S19-S25,R03

SMO Traffic No. ES392-397,400,405

CLP Laboratory: KEMRON Hrs. Required for Review: 12

PAN # FMI0550SA E+E

Following are our findings: See attached review.

( ) Data are acceptable for use.
(x) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

cc: Duane Geuder, Quality Assurance Officer, EPA Support Services
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

EPA FORM 1320-6 (Ref. 5/87)

Site name Anderson Municipal Landfill Lab-KEMRON Date-February 10,1988

PAN # FMI0550SA Case # 8680

This case number had six soils and two waters that was scheduled for full RAS HSL, all of which followed low soil or water extraction or preparation protocol for analysis. This review will address the six soils on this page and the two waters on the next review page.

A. Holding Times-Acceptable

B. Surrogates-Acceptable

% Recoveries:	VOAs	0 out of 33	Outside QC limits
	SVs	0 out of 54	Outside QC limits
	Pest.	4 out of 8	Outside QC limits

C. MS/MSD-Acceptable

% Recoveries:	VOAs	0 out of 10	Outside QC limits
	SVs	13 out of 22	Outside QC limits
	Pest.	5 out of 12	Outside QC limits
RPDs:	VOAs	0 out of 5	Outside QC limits
	SVs	1 out of 11	Outside QC limits
	Pest.	2 out of 6	Outside QC limits

D. Method Blank-Acceptable

E. Calibration-Acceptable

Compounds that are outside specifications are listed on the calibrations outlier form.

F. Tuning-Acceptable

G. Pesticides-Acceptable

Linearity-Acceptable
Breakdown-Acceptable
DBC Shift-Acceptable
DDT retention time > 12 minutes

Site name Anderson Municipal Landfill Lab-KEMRON Date February 11,1988

PAN # FMI0550SA Case # 8680

This review addresses the two water samples stated on page 2 pertaining to Case #8680.

A. Holding Times-Acceptable

B. Surrogates-Acceptable

% Recoveries:	VOAs	0	out of 15	Outside QC limits
	SV	0	out of 30	Outside QC limits
	Pest.	0	out of 5	Outside QC limits

C. MS/MSD-Acceptable

% Recoveries:	VOAs	0	out of 5	Outside QC limits
	SVs	0	out of 22	Outside QC limits
	Pest.	1	out of 12	Outside QC limits
RPDs:	VOAs	1	out of 10	Outside QC limits
	SVs	0	out of 11	Outside QC limits
	Pest.	3	out of 6	Outside QC limits

D. Method Blank-Acceptable

E. Calibration-Acceptable

Compounds that are outside specifications are listed on the calibrations outlier form.

F. Tuning-Acceptable

G. Pesticides-Acceptable

Linearity-Acceptable
Breakdown-Acceptable
DBC Shift-Acceptable
DDT retention time > 12 minutes

User Information Sheet

Anderson Municipal Landfill KEMRON February 11, 1988

Case # 8680 Reviewed by Larry K Landry

Common lab artifacts were present for the water method and soil method blanks. Numerous polynuclear aromatics and pesticides were present in the soil samples. Only three compounds[chloroform,bis(2-ethylhexyl)phthalate, and di-n-octylphthalate] were detected in the two water samples. These compounds are ususally considered common lab artifacts.
In the initial calibration for the volatiles from the soil samples, the %RSD for acetone (43.4) was high(see attached calibration sheets). Within the continuing calibrations for the volatiles from the soil samples the %D were high for acetone on 12/16/87 (47.6) and on 12/18/87 (47.9). A J should be added to these concentrations on the data sheets for quantification purposes. The lab did add a J to these concentrations. Methylene chloride's %RSD was high for continuing calibration on 12/18/87. The quantification for this compound (methylene chloride) should be flagged with a J, which was added to the concentrations for samples EQ394, EQ395 and EQ397.
In the initial calibration for the semivolatiles , the %RSD for benzo(b)fluoranthene(31) was high. A J should be added to sample EQ394 for the concentration of benzo(b)fluoranthene. Within the continuing calibrations for the semivolatiles the %D was high for pyrene(29.2). A J should be added to the concentration of pyrene for sample EQ396.

2/12/88

Case# 8680

Site: Anderson Municipal Landfill

	COMPOUND	SAMPLE	DET. LIMIT	units ug/kg						
				S EQ392	S EQ393	S EQ394	S EQ395	S EQ396	S EQ397	
L	chloromethane									
	bromomethane									
	vinyl chloride									
	chloroethane									
	methylene chloride			24B		15J	28J		7J	
	acetone			4BJ	12BJ					
	carbon disulfide									
	1,1-dichloroethene									
	1,1-dichloroethane									
V	trans-1,2,-dichloroethene									
	chloroform									
O	1,2-dichloroethane									
A	2-butanone									
	1,1,1-trichloroethane									
	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			5J						
	chlorobenzene									
	ethylbenzene									
	styrene									
	total xylenes									
	N-nitrosodimethylamine									
	phenol									
	aniline									
	bis(2-chloroethyl)ether							96JZ		
	2-chlorophenol									
	1,3-dichlorobenzene									
	1,4-dichlorobenzene					290J	52J			
	benzyl alcohol									
	1,2-dichlorobenzene									
	2-methylphenol									
	bis(2-chloroisopropyl)ether									
	4-methylphenol									
	N-nitroso-di-n-propylamine									
	hexachloroethane									
	nitrobenzene									
S	isophrone									
	2-nitrophenol									
	2,4-dimethylphenol									
	benzoic acid									
	bis(2-chloroethoxy)methane									
	2,4-dichlorophenol									
	1,2,4-trichlorobenzene									
	nepthalene									
	4-chloroaniline									
	hexachlorobutadiene									
	4-chloro-3-methylphenol									
	2-methylnepthalene									
	hexachlorocyclopentadiene									
	2,4,6-trichlorophenol									

Case # 8680

Site: Anderson Municipal Landfill

	COMPOUND	SAMPLE	DET. LIMIT	units ug/kg S EX392	S EX393	S EX394	S EX395	S EX396	S EX397		
V	dimethyl phthalate										
	acenaphthylene							90J			
	3-nitroaniline										
	acenaphthene							110J			
	2,4-dinitrophenol										
	4-nitrophenol										
	dibenzofuran							59J			
	2,4-dinitrotoluene										
	2,6-dinitrotoluene										
S	diethylphthalate										
	4-chlorophenyl-phenylether										
	fluorene							120J			
V	4-nitroaniline										
	4,6-dinitro-2-methylphenol										
	N-nitrosodiphenylamine										
	4-bromophenyl-phenylether										
	hexachlorobenzene										
	pentachlorophenol										
	phenanthrene					240J		1500	140J		
	anthracene					73J		300J			
	di-n-butylphthalate							68J	220J		
	fluoranthene					1100	94J	2100	280J		
	benzidine										
	pyrene					1400	120J	3800J	330J		
	butylbenzylphthalate							320J			
	3,3'-dichlorobenzidine										
	benzo(a)anthracene					700		1500	140J		
	bis(2-ethylhexyl)phthalate			45J		160J	53J	320J			
	chrysene					670	67J	1800	160J		
	di-n-octylphthalate					65J					
	benzo(b&k)fluoranthene b/k sep					~~530~~/520	56J/	1500/1400	120J/120J		
	benzo(a)pyrene ✓					~~410~~J		1400	130J		
	indeno(1,2,3-cd)pyrene					220J		1200	110J		
	dibenzo(a,h)anthracene					60J					
↑	benzo(g,h,i)perylene					200J		1500	130J		
↓	alpha-BHC										
	beta-BHC			6.9J		40					
	delta-BHC										
	gamma-BHC(lindane)						0.8J				
P	heptachlor								14J		
	aldrin										
E	heptachlor epoxide					66			120		
	endosulfan I					630					
S	dieldrin				18J						
T	4,4'-DDE			160	36	190	130		150		
	endrin										
	endosulfan II										
	4,4'-DDD			4.7J		170	110		110		
	endrin aldehyde										
	endosulfan sulfate										
	4,4'-DDT			160	45	31	73		240		
	methoxychlor										
	endrin ketone								~~200J~~ 200J		
	chlordane alpha / gamma			1.5J					~~200J~~		
	toxaphene										
	Aroclor-1016										
P	Aroclor-1221										
C	Aroclor-1232										
B	Aroclor-1242										
	Aroclor-1248										
	Aroclor-1254							8600			2/2/88
	Aroclor-1260										

Case # 8680

Site: Anderson Municipal Landfill

	COMPOUND	SAMPLE	DET. LIMIT	ug/l → ES400	ES405					
	chloromethane									
	bromomethane									
	vinyl chloride									
	chloroethane									
	methylene chloride									
	acetone									
	carbon disulfide									
	1,1-dichloroethene									
	1,1-dichloroethane									
V	trans-1,2,-dichloroethene									
	chloroform			3J	2J					
O	1,2-dichloroethane									
A	2-butanone									
	1,1,1-trichloroethane									
	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									
	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									
S	isophrone									
	2-nitrophenol									
	2,4-dimethylphenol									
	benzoic acid									
	bis(2-chloroethoxy)methane									
	2,4-dichlorophenol									
	1,2,4-trichlorobenzene									
	nepthalene									
	4-chloroaniline									
	hexachlorobutadiene									
	4-chloro-3-methylphenol									
	2-methylnepthalene									
	hexachlorocyclopentadiene									
	2,4,6-trichlorophenol									
	2,4,5-trichlorophenol									

initial

Case # 8680

SITE: Anderson Municipal Landfill

	COMPOUND	SAMPLE	DET. LIMIT	UNITS ug/l → Es400	Es405						
↓	dimethyl phthalate										
	acenaphthylene										
	3-nitroaniline										
	acenaphthene										
	2,4-dinitrophenol										
	4-nitrophenol										
	dibenzofuran										
	2,4-dinitrotoluene										
	2,6-dinitrotoluene										
S	diethylphthalate										
	4-chlorophenyl-phenylether										
	fluorene										
V	4-nitroaniline										
	4,6-dinitro-2-methylphenol										
	N-nitrosodiphenylamine										
	4-bromophenyl-phenylether										
	hexachlorobenzene										
	pentachlorophenol										
	phenanthrene										
	anthracene										
	di-n-butylphthalate										
	fluoranthene										
	benzidine										
	pyrene										
	butylbenzylphthalate										
	3,3'-dichlorobenzidine										
	benzo(a)anthracene										
	bis(2-ethylhexyl)phthalate			60B	15B						
	chrysene										
	di-n-octylphthalate			2J							
	benzo(b&k)fluoranthene										
	benzo(a)pyrene										
	indeno(1,2,3-cd)pyrene										
	dibenzo(a,h)anthracene										
↑	benzo(g,h,i)perylene										
↓	alpha-BHC										
	beta-BHC										
	delta-BHC										
	gamma-BHC(lindane)										
P	heptachlor										
	aldrin										
E	heptachlor epoxide										
	endosulfan I										
S	dieldrin										
T	4,4'-DDE										
	endrin										
	endosulfan II										
	4,4'-DDD										
	endrin aldehyde										
	endosulfan sulfate										
	4,4'-DDT										
	methoxychlor										
	endrin ketone										
	chlordane										
	toxaphene										
P	Aroclor-1016										
	Aroclor-1221										
C	Aroclor-1232										
B	Aroclor-1242										
	Aroclor-1248										
	Aroclor-1254										
	Aroclor-1260										

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

CASE/SAS # 8680 CONTRACTOR KEMRON

Instrument # Finn 1	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal		
DATE/TIME:	11/3/87			12/15/87			12/16/87			12/18/87					
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane															
Bromomethane															
Vinyl Chloride															
Chloroethane															
Methylene Chloride								28.9	J						
Acetone		43.4	J					47.6	J		47.9	J			
Carbon Disulfide															
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone															
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate															
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform															
4-Methyl-2-Pentanone															
2-Hexanone															
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

		VSTD050 D16	VSTD050 D18
All Samples		V BK D16	VS BLK D18
		ES 393	ES 396
		ES 393MS	
		ES 393MSD	
		ES 394	
		ES 395	
		ES 397	

Reviewer's Initials/Date: DKS/2-11-88

* 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 # 8680 CONTRACTOR KEMRON

Instrument # Finn	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	1/8/88			11/11/88			1/5/88								
	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								29.2	J						
Butylbenzylphthalate															
Benzo(a)Anthracene															
bis(2-Ethylhexyl)Phthalate															
Chrysene															
Di-n-Octyl Phthalate															
Benzo(b)Fluoranthene		31	J												
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: [illegible] / 2-11-88

8/87

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

CASE/SAS # 8680 CONTRACTOR KEMRON

Instrument # FINN	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	1/8/88			1/11/88			1/13/88								
	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:

		SST D050J13	
ALL SAMPLES		ES 395	
		ES 396	
		ES 397	
		ES 397MS	
		ES 397MSD	

Reviewer Initials/Date: 2-11-88

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

JAN 21 1988

U.S. EPA CENTRAL REGISTRY

KEMRON Environmental Services

CASE NARRATIVE

Laboratory Name: KEMRON, Baton Rouge

Case No.: 8680
SDG No: ES392
Contract No.: 68-01-7409

The following samples were received from Region V on 12/11/87 for the analysis of VOA, BNA, and Pesticides.

SMO ID	MATRIX
ES392	Soil
ES393	Soil
ES394	Soil
ES395	Soil
ES396	Soil
ES397	Soil
ES400	Water
ES405	Water

1. In the VOA fraction, the recovery of trichloroethylene spike compound was outside QC limits.

2. The qualifier "JZ" is used to indicate that the compound is a false positive and not "hit" compound.

3. In the BNA fraction, before analyzing the samples ES397, ES397MS and, ES397MSD, the computer was rebooted due to a power glitch and, inadvertently, the date of analysis was entered as 01/13/87 instead of 01/13/88.

4. The matrix spike compound, pentachlorophenol, was not recovered in sample ES397MS and recovered only 6% in sample ES397MSD. The low recovery could, probably be due to matrix effect. The sample was not reextracted as it was not necessary according to protocol.

5. One RPD and 13 recoveries were outside QC limits in the BNA fraction of samples ES397MS and ES397MSD.

6. In the pesticide fraction, DBC was diluted out in sample ES396 and recovered outside QC limits in samples ES394, ES397, ES397MS and ES397MSD.

7. Two RPD's and 5 spike recoveries were outside QC limits in the pesticide fraction of soil sample ES397.

8. Three RPD's and 1 spike recovery were outside QC limits in the pesticide fraction of water sample ES400.

Case: 8680

Contractor: KEMRON

TENTATIVELY IDENTIFIED COMPOUNDS
WATCH 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 intensitie

(3) Molecular ions present in reference spectrum should be [illegible]ent in sample spectrum.

(4) Ions present in sample spectrum, but not in reference [illegible]trum should be reviewed for possible background contaminati[illegible] 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.

Reviewer's Initials/Date: LKL / 2-11-88

9. The Qualifier "DL" was used in Form VIII, Pest. 2 to explain that the DBC was diluted out in sample ES396.

10. The Qualifier "NU" was used to explain that the RT for spike compounds, Aldrin and Dieldrin, were outside the RT windows on single phase column.

Seshu Chalasani
Seshu Chalasani
Project Manager 01/15/88

"Release of the data contained in this hard copy 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."

Seshu Chalasani
Seshu Chalasani
Project Manager (5/88

SC:clp

2A
WATER VOLATILE SURROGATE RECOVERY

000004

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	ES400	100	92	98		0
02	ES405	92	101	89		0
03	ES400MS	100	96	98		0
04	ES400MSD	100	94	99		0
05	VBLKD15	91	100	100		0

		QC LIMITS
S1 (TOL) =	Toluene-d8	(88-110)
S2 (BFB) =	Bromofluorobenzene	(86-115)
S3 (DCE) =	1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

FORM II VOA-1

1/87 Rev.

2B
SOIL VOLATILE SURROGATE RECOVERY

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409 000005

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	ES392	109	81	93		0
02	ES393	94	98	93		0
03	ES394	106	85	94		0
04	ES395	110	76	93		0
05	ES396	110	78	95		0
06	ES397	108	80	92		0
07	ES393MS	95	97	92		0
08	ES393MSD	95	99	95		0
09	VBLKD15	92	103	91		0
10	VBLKD16	96	97	90		0
11	VSBLKD18	91	101	95		0

		QC LIMITS
S1 (TOL)	= Toluene-d8	(81-117)
S2 (BFB)	= Bromofluorobenzene	(74-121)
S3 (DCE)	= 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

FORM II VOA-2 1/87 Rev.

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409 000245

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES792

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	ES400	74	80	85	61	56	59		0
02	ES400MS	76	77	86	67	67	63		0
03	ES400MSD	85	89	95	62	56	54		0
04	ES405	73	70	92	65	64	43		0
05	SBLK	67	77	93	58	56	50		0

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(35-114)
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)
S3 (TPH)	= Terphenyl	(33-141)
S4 (PHL)	= Phenol-d5	(10-94)
S5 (2FP)	= 2-Fluorophenol	(21-100)
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate= diluted out

FORM II SV-1

1/87 Rev.

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

000246

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	ES392	62	69	81	59	60	54		0
02	ES393	54	56	67	53	52	19		0
03	ES394	54	62	75	57	55	44		0
04	ES395	55	59	76	49	50	50		0
05	ES396	49	48	77	45	44	44		0
06	ES397	59	59	77	52	55	29		0
07	ES397MS	56	52	76	47	49	24		0
08	ES397MSD	62	60	81	53	54	52		0
09	FBLK2	64	72	87	59	57	24		0

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(23-120)
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)
S3 (TPH)	= Terphenyl	(18-137)
S4 (PHL)	= Phenol-d5	(24-113)
S5 (2FP)	= 2-Fluorophenol	(25-121)
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

FORM II SV-2

2E

WATER PESTICIDE SURROGATE RECOVERY

000835

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
01	ES400	125	0
02	ES405	117	0
03	ES400MS	125	0
04	ES400MSD	119	0
05	PBLK	102	0

ADVISORY QC LIMITS

S1 (DBC) = Dibutlychlorendate (24-154)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

2F

SOIL PESTICIDE SURROGATE RECOVERY

000834

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
01	ES392	142	0
02	ES393	129	0
03	ES394	183 *	0
04	ES395	115	0
05	ES396	0 D	0
06	ES397	204 *	0
07	ES397MS	220 *	0
08	ES397MSD	206 *	0
09	PBLK	150	0

ADVISORY QC LIMITS

S1 (DBC) = Dibutylchlorendate (20-150)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409 000006

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix Spike - EPA Sample No.: ES400

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0	52.1	104	61-145
Trichloroethene	50.0	0	32.2	64 *	71-120
Benzene	50.0	0	47.6	95	76-127
Toluene	50.0	0	50.8	102	76-125
Chlorobenzene	50.0	0	47.9	96	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.0	56.1	112	-7	14	61-145
Trichloroethene	50.0	35.9	72	-12	14	71-120
Benzene	50.0	52.2	104	-9	11	76-127
Toluene	50.0	55.3	111	-8	13	76-125
Chlorobenzene	50.0	52.5	105	-9	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 1 out of 10 outside limits

COMMENTS: CLP,8680,ES392,ES400,L,W,1715067,V,EPA,5MLS+IS,SS
1%SP-1000 CARB B 60/80 6'X1/4"GL:45C-3M.@8C/M.220C-15M.:FINN1

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

000007

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix Spike - EPA Sample No.: ES393 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	98.0	0	101	103	59-172
Trichloroethene	98.0	0	100	102	62-137
Benzene	98.0	0	102	104	66-142
Toluene	98.0	0	102	104	59-139
Chlorobenzene	98.0	0	102	104	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	98.0	105	107	-4	22	59-172
Trichloroethene	98.0	100	102	0	24	62-137
Benzene	98.0	103	105	-1	21	66-142
Toluene	98.0	104	106	-2	21	59-139
Chlorobenzene	98.0	104	106	-2	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: CLP,8680,ES392,ES393,L,5,1715061,V,EPA,5G/5MLS+15,SS
1%SP-1000 CARB B 60/80 6'X1/4"GL:45C-3M,@8C/M,220C-10M:4500

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

000247

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix Spike - EPA Sample No.: ES400

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
Phenol	200	0	142	71	12- 86
2-Chlorophenol	200	0	156	78	27-123
1,4-Dichlorobenzene	100	0	81.8	82	36 97
N-Nitroso-di-n-prop.(1)	100	0	63.8	64	41 116
1,2,4-Trichlorobenzene	100	0	79.8	80	39 98
4-Chloro-3-methylphenol	200	0	144	72	23 97
Acenaphthene	100	0	79.0	79	46-118
4-Nitrophenol	200	0	128	64	10- 80
2,4-Dinitrotoluene	100	0	59.8	60	24- 96
Pentachlorophenol	200	0	105	53	9-103
Pyrene	100	0	92.2	92	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	200	126	63	12	42	12- 86
2-Chlorophenol	200	137	69	12	40	27-123
1,4-Dichlorobenzene	100	90.2	90	-9	28	36 97
N-Nitroso-di-n-prop.(1)	100	71.8	72	-12	38	41 116
1,2,4-Trichlorobenzene	100	88.2	88	-10	28	39 98
4-Chloro-3-methylphenol	200	135	68	6	42	27 97
Acenaphthene	100	87.2	87	-10	31	46-118
4-Nitrophenol	200	107	54	17	50	10- 80
2,4-Dinitrotoluene	100	66.8	67	-11	38	24- 96
Pentachlorophenol	200	79.6	40	28	50	9-103
Pyrene	100	104	104	-12	31	26-127

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

COMMENTS: CLP,8680,ES392,ES400,L,W,1715066,S,EPA,1000ML/2ML
.32MMX30M DB-5 CAP 1U THICK 45C,9C/M,310C-15M,FINN

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409 000248

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix Spike - EPA Sample No.: ES397 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	4010	0	3770	94 *	26- 90
2-Chlorophenol	4010	0	3980	99	25-102
1,4-Dichlorobenzene	2010	0	1720	86	28 104
N-Nitroso-di-n-prop.(1)	2010	0	1970	98	41 126
1,2,4-Trichlorobenzene	2010	0	2010	100	38 107
4-Chloro-3-methylphenol	4010	0	4290	107 *	26 103
Acenaphthene	2010	0	1990	99	31-137
4-Nitrophenol	4010	0	2590	65	11-114
2,4-Dinitrotoluene	2010	0	1800	90 *	28- 89
Pentachlorophenol	4010	0	0	0 *	17-109
Pyrene	2010	331	4290	197 *	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	4010	4130	103 *	-9	35	26- 90
2-Chlorophenol	4010	4490	112 *	-12	50	25-102
1,4-Dichlorobenzene	2010	2270	113 *	-27	27	28 104
N-Nitroso-di-n-prop.(1)	2010	2170	108	-10	38	41 126
1,2,4-Trichlorobenzene	2010	2440	121 *	-19	23	38 107
4-Chloro-3-methylphenol	4010	4730	118 *	-10	33	26 103
Acenaphthene	2010	2180	109	-10	19	31-137
4-Nitrophenol	4010	3940	98	-40	50	11-114
2,4-Dinitrotoluene	2010	2100	105 *	-15	47	28- 89
Pentachlorophenol	4010	244	6 *	-200 *	47	17-109
Pyrene	2010	3310	145 *	28	36	35-142

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 1 out of 11 outside limits
Spike Recovery: 17 out of 22 outside limits

COMMENTS: CLP,8680,ES392,ES397,L.S,1715065,S,EPA,30G/1ML
.25MMX30M DB-5 CAP 1U THICK 45C-4M,9C/M,310C-15M,FINN

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409 000836

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix Spike - EPA Sample No.: ES397 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)	32.1	0	38.9	121	46-127
Heptachlor	32.1	13.8	56.6	133 *	35-130
Aldrin	32.1	0	39.8	124	34-132
Dieldrin	80.3	0	106	132	31-134
Endrin	80.3	0	89.5	112	42-139
4,4 -DDT	80.3	236	295	73	23-134

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	32.1	36.0	113	2	50	46-127
Heptachlor	32.1	116	318 *	-82 *	31	35-130
Aldrin	32.1	50.6	158 *	-24	43	34-132
Dieldrin	80.3	130	162 *	-20	38	31-134
Endrin	80.3	101	126	-12	45	42-139
4,4 -DDT	80.3	372	169 *	-79 *	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 4 outside limits
Spike Recovery: 5 out of 12 outside limits

COMMENTS:

3E

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

00083

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: B680 SAS No.: _____ SDG No.: ES392

Matrix Spike - EPA Sample No.: ES400

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	0.200	0	0.142	71	56-123
Heptachlor	0.200	0	0.164	82	40-131
Aldrin	0.200	0	0.118	59	40-120
Dieldrin	0.500	0	0.485	97	52-126
Endrin	0.500	0	0.498	100	56-121
4,4'-DDT	0.500	0	0.504	101	38-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	0.200	0.167	84	-16 *	15	56-123
Heptachlor	0.200	0.261	131	-46 *	20	40-131
Aldrin	0.200	0.136	68	-14	22	40-120
Dieldrin	0.500	0.582	116	-18	18	52-126
Endrin	0.500	0.661	132 *	-28 *	21	56-121
4,4'-DDT	0.500	0.538	108	-7	27	38-127

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 2 out of 6 outside limits
Spike Recovery: 1 out of 12 outside limits

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409 000008

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Lab File ID: XVBLKD15 Lab Sample ID: VBLKD15

Date Analyzed: 12/15/87 Time Analyzed: 0954

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: FINN1

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	ES400	1715067	XVES400	1136
02	ES405	1715068	XVES405	1048
03	ES400MS	1715067	XVES400MS	1225
04	ES400MSD	1715067	XVES400MSD	1319

COMMENTS: CLP,8680,ES392,VBLK,L,W,VBLK,V,,50PPB IS,SS
1%SP-1000 CARB B 60/80 6'X1/4"GL:45C-3M.@8C/M.220C-15M.:FINN1

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409 000009

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Lab File ID: VSBLKD15 Lab Sample ID: VBLKD15

Date Analyzed: 12/15/87 Time Analyzed: 1615

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: FINN1

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	ES392	1715060	XVSES392	1700

COMMENTS: CLP.8680.ES392,VSBLK,L,S.VSBLK,V,EPA,50PPB IS,SS
1%SP-1000 CARB B 60/80 6'X1/4"GL:45C-3M.@8C/M.220C-15M.:FINN1

FORM IV VOA 1/87 Rev.

4A

VOLATILE METHOD BLANK SUMMARY

000010

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Lab File ID: XVSBLKD16 Lab Sample ID: VBLKD16

Date Analyzed: 12/16/87 Time Analyzed: 1012

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: FINN1

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	ES393	1715061	XVSES393	1149
02	ES394	1715062	XVSES394	1402
03	ES395	1715063	XVSES395	1448
04	ES397	1715065	XVSES397	1636
05	ES393MS	1715061	XVSES393MS	1235
06	ES393MSD	1715061	XVSES393MSD	1319

COMMENTS: CLP,8680,ES392,VSBLK,L,S,VSBLK,V,BLK,50 PPB IS,SS
1%SP-1000 CARB B 60/80 6'X1/4"GL:45C-3M,@8C/M,220C-10M:4500

4A

VOLATILE METHOD BLANK SUMMARY

000011

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Lab File ID: XVBLKD18 Lab Sample ID: VSBLKD18

Date Analyzed: 12/18/87 Time Analyzed: 1349

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: FINN1

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	ES396	1715064	XVSES396A	1443

COMMENTS: CLP,8680,ES392,VSBLK,L,S,VSBLK,V,BLK,5G/5ML S+IS,SS
1%SP-1000 CARB B 60/80 6'X1/4"GL:45C-3M,@8C/M,220C-10M:4500

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET 000173

EPA SAMPLE NO.

VBLKD15

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) WATER Lab Sample ID: VBLKD15

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: XVBLKD15

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ Date Analyzed: 12/15/87

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	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
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	1	J
591-78-6	2-Hexanone	2	J
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	10	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
----------	Total Xylenes	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

000174

EPA SAMPLE NO.

VBLKD15

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: VBLKD15

Sample wt/vol: 5.0 (g/mL) G Lab File ID: VSBLKD15

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. 0 Date Analyzed: 12/15/87

Column: (pack/cap) PACK Dilution Factor: 1.00

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	2	J
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
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	1	J
591-78-6	2-Hexanone	5	J
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	10	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
----------	Total Xylenes	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

000175

EPA SAMPLE NO.

VBLKD16

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: VBLKD16

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVSBLKD16

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. 0 Date Analyzed: 12/16/87

Column: (pack/cap) PACK Dilution Factor: 1.00

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	7	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	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
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	3	J
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	10	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
----------	Total Xylenes	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

000176

EPA SAMPLE NO.

VSBLKD18

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: VSBLKD18

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVBLKD18

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. 0 Date Analyzed: 12/18/87

Column: (pack/cap) PACK Dilution Factor: 1.00

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	8	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	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
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	10	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
	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000177

EPA SAMPLE NO.

VBLKD15

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) WATER Lab Sample ID: VBLKD15

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: XVBLKD15

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 12/15/87

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED/COMPOUNDS

000179

EPA SAMPLE NO.

VBLKD16

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: VBLKD16

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVSBLKD16

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. 0 Date Analyzed: 12/16/87

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000180

EPA SAMPLE NO.

VSBLKD18

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: VSBLKD18

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVBLKD18

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. 0 Date Analyzed: 12/18/87

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2108-31-0	HEPTANE, 4-ETHYL-2,2,6,6-TET	29.71	7.6	J

4B

SEMIVOLATILE METHOD BLANK SUMMARY

000249

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Lab File ID: XBSESBLK Lab Sample ID: SBLKW

Date Extracted: 12/14/87 Extraction:(SepF/Cont/Sonc) CONT

Date Analyzed: 01/11/88 Time Analyzed: 1130

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: FINN

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	ES400	1715066	XBSES400	01/11/88
02	ES400MS	1715066	XBSES400MS	01/11/88
03	ES400MSD	1715066	XBSES400MSD	01/11/88
04	ES405	1715067	XBSES405	01/11/88

COMMENTS: CLP,8606,ES392,SWBLK1214,L,W,,S,BLANK,1000ML/2ML
.32MMX30M DB-5 CAP,35C 4M.8C/M,310C-15M,FINN2

4B

SEMIVOLATILE METHOD BLANK SUMMARY

000250

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Lab File ID: XBSESBLKS Lab Sample ID: SBLKS

Date Extracted: 12/14/87 Extraction:(SepF/Cont/Sonc) SONC

Date Analyzed: 01/11/88 Time Analyzed: 1702

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: FINN

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	ES392	1715060	XBSES392	01/11/88
02	ES393	1715061	XBSES393	01/11/88
03	ES394	1715062	XBSES394	01/11/88
04	ES395	1715063	XBSES395	01/13/88
05	ES396	1715064	XBSES396RE	01/13/88
06	ES397	1715065	XBSES397	01/13/88
07	ES397MS	1715065	XBSES397MS	01/13/88
08	ES397MSD	1715065	XBSES397MSD	01/13/88

COMMENTS: CLP,8406,ES392,SSBLK1214,L,S,,S,BLANK,30G/1ML
.32MM\30M DB-5 CAP,35C 4M,6C/M,310C-15M,FINN2

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 000769

EPA SAMPLE NO.

SBLKW

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) WATER Lab Sample ID: SBLKW

Sample wt/vol: 1000 (g/mL) ML Lab File ID: XBSESBLK

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 000770

EPA SAMPLE NO.

SBLKW

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) WATER Lab Sample ID: SBLKW

Sample wt/vol: 1000 (g/mL) ML Lab File ID: XBSESBLK

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	3	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000771

EPA SAMPLE NO.

SBLKS

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

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

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

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. 0 dec. _____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
100-51-6	Benzyl Alcohol	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
39638-32-9	bis(2-Chloroisopropyl)Ether	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-Di-n-Propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
65-85-0	Benzoic Acid	1600	U
111-91-1	bis(2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	1600	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	1600	U
131-11-3	Dimethyl Phthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000772

SBLKS

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

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

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

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. 0 dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
99-09-2	3-Nitroaniline	1600	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	1600	U
100-02-7	4-Nitrophenol	1600	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-10-6	4-Nitroaniline	1600	U
534-52-1	4,6-Dinitro-2-Methylphenol	1600	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	1600	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	660	U
56-55-3	Benzo(a)Anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)Phthalate	330	U
117-84-0	Di-n-Octyl Phthalate	330	U
205-99-2	Benzo(b)Fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenz(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000773

EPA SAMPLE NO.

SBLKW

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) WATER Lab Sample ID: SBLKW

Sample wt/vol: 1000 (g/mL) ML Lab File ID: XBSESBLK

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKOWN	11.10	14	J
2. 4337-65-9	HEXANEDIOIC ACID, MONO(2-ETH	32.26	24	J

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000774

EPA SAMPLE NO.

SBLKS

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: B680 SAS No.: _____ SDG No.: ES392

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

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

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. 0 dec. _____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.000

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 625-06-9	2-PENTANOL,2,4-DIMETHYL	8.60	4400	J

4C
PESTICIDE METHOD BLANK SUMMARY

000838

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: B680 SAS No.: _____ SDG No.: ES392

Lab Sample ID: 1214875 Lab File ID: _____

Matrix:(soil/water) SOIL Level:(low/med) LOW

Date Extracted: 12/14/87 Extraction:(SepF/Cont/Sonc) SONC

Date Analyzed (1): 12/31/87 Date Analyzed (2): 12/31/87

Time Analyzed (1): 0214 Time Analyzed (2): 0214

Instrument ID (1): GC-A Instrument ID (2): GC-A

GC Column ID (1): MIXED GC Column ID (2): SINGLE

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	ES392	1715060	12/31/87	12/31/87
02	ES393	1715061	12/31/87	12/31/87
03	ES394	1715062	12/31/87	12/31/87
04	ES395	1715063	12/31/87	12/31/87
05	ES396	1715064	12/31/87	12/31/87
06	ES397	1715065	12/31/87	12/31/87
07	ES397MS	1715065	12/31/87	12/31/87
08	ES397MSD	1715065	12/31/87	12/31/87

COMMENTS:

FORM IV PEST 1/87 Rev.

4C
PESTICIDE METHOD BLANK SUMMARY

000835

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Lab Sample ID: 121487W Lab File ID: _____

Matrix:(soil/water) WATER Level:(low/med) LOW

Date Extracted: 12/14/87 Extraction:(SepF/Cont/Sonc) SEPF

Date Analyzed (1): 12/30/87 Date Analyzed (2): 12/30/87

Time Analyzed (1): 1955 Time Analyzed (2): 1955

Instrument ID (1): GC-A Instrument ID (2): GC-A

GC Column ID (1): MIXED GC Column ID (2): SINGLE

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	ES400	1715066	12/30/87	12/30/87
02	ES405	1715067	12/31/87	12/31/87
03	ES400MS	1715066	12/30/87	12/30/87
04	ES400MSD	1715066	12/30/87	12/30/87

COMMENTS:

FORM IV-EST

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000929

EPA SAMPLE NO.

PBLKS

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: E8392

Matrix: (soil/water) SOIL Lab Sample ID: 1214875

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

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 0 dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/21/87

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/g) UG/KG	Q
319-84-6	alpha-BHC	6.0	U
319-85-7	beta-BHC	6.0	U
319-86-8	delta-BHC	6.0	U
58-89-9	gamma-BHC (Lindane)	6.0	U
76-44-8	Heptachlor	6.0	U
309-00-2	Aldrin	6.0	U
1024-57-3	Heptachlor epoxide	6.0	U
959-98-8	Endosulfan I	6.0	U
60-57-1	Dieldrin	10	U
72-54-8	4,4'-DDD	10	U
72-20-8	Endrin	10	U
33213-65-9	Endosulfan II	10	U
72-54-8	4,4'-DDE	10	U
1031-07-8	Endosulfan sulfate	10	U
50-29-3	4,4'-DDT	10	U
72-43-5	Methoxychlor	50	U
53494-70-5	Endrin ketone	10	U
5103-71-9	alpha-Chlordane	50	U
5103-74-2	gamma-Chlordane	50	U
8001-35-2	Toxaphene	100	U
12674-11-2	Aroclor-1016	80	U
11104-28-2	Aroclor-1221	80	U
11141-16-5	Aroclor-1232	80	U
53469-21-9	Aroclor-1242	80	U
12672-29-6	Aroclor-1248	80	U
11097-69-1	Aroclor-1254	160	U
11096-82-5	Aroclor-1260	160	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000930

PBLKW

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) WATER Lab Sample ID: 121487W

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. ____ dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 12/30/87

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

000017

EPA SAMPLE NO.

ES392

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715060

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVSES392

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 21 Date Analyzed: 12/15/87

Column: (pack/cap) PACK Dilution Factor: 1.00

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	24	B
67-64-1	Acetone	4	BJ
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-35-3	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
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	13	U
108-88-3	Toluene	5	J
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000018

EPA SAMPLE NO.

ES392

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715060

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVSES392

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 21 Date Analyzed: 12/15/87

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000254

EPA SAMPLE NO.

ES392

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715060

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES392

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 21 dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 8.5 Dilution Factor: 1.0000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	420	U
111-44-4	bis(2-Chloroethyl)Ether	420	U
95-57-8	2-Chlorophenol	420	U
541-73-1	1,3-Dichlorobenzene	420	U
106-46-7	1,4-Dichlorobenzene	420	U
100-51-6	Benzyl Alcohol	420	U
95-50-1	1,2-Dichlorobenzene	420	U
95-48-7	2-Methylphenol	420	U
39638-32-9	bis(2-Chloroisopropyl)Ether	420	U
106-44-5	4-Methylphenol	420	U
621-64-7	N-Nitroso-Di-n-Propylamine	420	U
67-72-1	Hexachloroethane	420	U
98-95-3	Nitrobenzene	420	U
78-59-1	Isophorone	420	U
88-75-5	2-Nitrophenol	420	U
105-67-9	2,4-Dimethylphenol	420	U
65-85-0	Benzoic Acid	2000	U
111-91-1	bis(2-Chloroethoxy)Methane	420	U
120-83-2	2,4-Dichlorophenol	420	U
120-82-1	1,2,4-Trichlorobenzene	420	U
91-20-3	Naphthalene	420	U
106-47-8	4-Chloroaniline	420	U
87-68-3	Hexachlorobutadiene	420	U
59-50-7	4-Chloro-3-Methylphenol	420	U
91-57-6	2-Methylnaphthalene	420	U
77-47-4	Hexachlorocyclopentadiene	420	U
88-06-2	2,4,6-Trichlorophenol	420	U
95-95-4	2,4,5-Trichlorophenol	2000	U
91-58-7	2-Chloronaphthalene	420	U
88-74-4	2-Nitroaniline	2000	U
131-11-3	Dimethyl Phthalate	420	U
208-96-8	Acenaphthylene	420	U
606-20-2	2,6-Dinitrotoluene	420	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000255

ES392

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: B680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715060

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES392

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 21 dec. _____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 8.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
98-54-4	4-Methylaniline	2000	U
83-32-9	Acenaphthene	420	U
51-28-5	2,4-Dinitrophenol	2000	U
100-02-7	4-Nitrophenol	2000	U
132-64-9	Dibenzofuran	420	U
121-14-2	2,4-Dinitrotoluene	420	U
84-66-2	Diethylphthalate	420	U
7005-72-3	4-Chlorophenyl-phenylether	420	U
86-73-7	Fluorene	420	U
100-01-6	4-Nitroaniline	2000	U
534-52-1	4,6-Dinitro-2-Methylphenol	2000	U
86-30-6	N-Nitrosodiphenylamine (1)	420	U
101-55-3	4-Bromophenyl-phenylether	420	U
118-74-1	Hexachlorobenzene	420	U
87-86-5	Pentachlorophenol	2000	U
85-01-8	Phenanthrene	420	U
120-12-7	Anthracene	420	U
84-74-2	Di-n-Butylphthalate	420	U
206-44-0	Fluoranthene	420	U
129-00-0	Pyrene	420	U
85-68-7	Butylbenzylphthalate	420	U
91-94-1	3,3'-Dichlorobenzidine	840	U
56-55-3	Benzo(a)Anthracene	420	U
218-01-9	Chrysene	420	U
117-81-7	bis(2-Ethylhexyl)Phthalate	45	J
117-84-0	Di-n-Octyl Phthalate	420	U
205-99-2	Benzo(b)Fluoranthene	420	U
207-08-9	Benzo(k)Fluoranthene	420	U
50-32-8	Benzo(a)Pyrene	420	U
193-39-5	Indeno(1,2,3-cd)Pyrene	420	U
53-70-3	Dibenz(a,h)Anthracene	420	U
191-24-2	Benzo(g,h,i)Perylene	420	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000256

EPA SAMPLE NO.

ES392

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715060

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES392

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 21 dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 5.5 Dilution Factor: 1.000

Number TICs found: 12

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 675-06-9	2-PENTANOL,2,4-DIMETHYL	8.61	5600	BJ
2.	UNKNOWN, HYDROCARBON	33.15	420	J
3.	UNKNOWN, HYDROCARBON	35.14	760	J
4	UNKNOWN, HYDROCARBON	36.31	300	J
5.	UNKNOWN, HYDROCARBON	36.91	670	J
6.	UNKNOWN, HYDROCARBON	37.65	5400	J
7.	UNKNOWN, HYDROCARBON	37.65	250	J
8	UNKNOWN, HYDROCARBON	39.21	340	J
9	UNKNOWN, HYDROCARBON	40.11	210	J
10.	UNKNOWN, HYDROCARBON	41.11	4400	J
11.	UNKNOWN, HYDROCARBON	45.95	510	J
12.	UNKNOWN, HYDROCARBON	49.17	420	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000840 ES392

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715060

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

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 21 dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/31/87

GPC Cleanup: (Y/N) N pH: 8.5 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
319-84-6	alpha-BHC	10	U
319-85-7	beta-BHC	6.9	J
319-86-8	delta-BHC	10	U
58-89-9	gamma-BHC (Lindane)	10	U
76-44-8	Heptachlor	10	U
309-00-2	Aldrin	10	U
1024-57-3	Heptachlor epoxide	10	U
959-98-8	Endosulfan I	10	U
60-57-1	Dieldrin	20	U
72-55-9	4,4'-DDE	160	
72-20-8	Endrin	20	U
33213-65-9	Endosulfan II	20	U
72-54-8	4,4'-DDD	4.7	J
1031-07-8	Endosulfan sulfate	20	U
50-29-3	4,4'-DDT	160	
72-43-5	Methoxychlor	100	U
53494-70-5	Endrin ketone	20	U
5103-71-9	alpha-Chlordane	100	U
5103-74-2	gamma-Chlordane	1.5	J
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	100	U
11104-28-2	Aroclor-1221	100	U
11141-16-5	Aroclor-1232	100	U
53469-21-9	Aroclor-1242	100	U
12672-29-6	Aroclor-1248	100	U
11097-69-1	Aroclor-1254	200	U
11096-82-5	Aroclor-1260	200	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

000030

EPA SAMPLE NO.

ES393

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715061

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVSES393

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 49 Date Analyzed: 12/16/87

Column: (pack/cap) PACK Dilution Factor: 1.00

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000031

EPA SAMPLE NO.

ES393

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715061

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVSES393

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 49 Date Analyzed: 12/16/87

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 000303

EPA SAMPLE NO.

ES393

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715061

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES393

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 49 dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 10.0 Dilution Factor: 1.000

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000304

ES393

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715061

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES393

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 49 dec. ____ Date Extracted: 12/14/87

Extraction: (Sep/Cont/Sonc) SONC Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 10.0 Dilution Factor: 1.000

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

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000305

EPA SAMPLE NO.

ES393

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715061

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES393

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 49 dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/11/89

GPC Cleanup: (Y/N) N pH: 10.0 Dilution Factor: 1.000

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 625-06-9	2-PENTANOL,2,4-DIMETHYL	8.60	7700	BJ
2.	UNKOWN	33.22	460	J
3.	UNKOWN, HYDROCARBON	36.91	1200	J
4.	UNKOWN	37.47	1800	J
5.	UNKOWN, HYDROCARBON	37.64	780	J
6.	UNKOWN	37.87	390	J
7.	UNKOWN	40.11	260	J
8.	UNKOWN	41.09	330	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000843 ES393

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715061

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

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 43 dec. _____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/31/87

GPC Cleanup: (Y/N) N pH: 10.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	16	U
319-85-7	beta-BHC	16	U
319-86-8	delta-BHC	16	U
58-89-9	gamma-BHC (Lindane)	16	U
76-44-8	Heptachlor	16	U
309-00-2	Aldrin	16	U
1024-57-3	Heptachlor epoxide	16	U
959-98-8	Endosulfan I	16	U
60-57-1	Dieldrin	16	U
72-55-9	4,4'-DDE	36	
72-20-8	Endrin	31	U
33213-65-9	Endosulfan II	31	U
72-54-8	4,4'-DDD	31	U
1031-07-8	Endosulfan sulfate	31	U
50-29-3	4,4'-DDT	45	
72-43-5	Methoxychlor	160	U
53494-70-5	Endrin ketone	31	U
5103-71-9	alpha-Chlordane	160	U
5103-74-2	gamma-Chlordane	160	U
8001-35-2	Toxaphene	310	U
12674-11-2	Aroclor-1016	160	U
11104-28-2	Aroclor-1221	160	U
11141-16-5	Aroclor-1232	160	U
53469-21-9	Aroclor-1242	160	U
12672-29-6	Aroclor-1248	160	U
11097-69-1	Aroclor-1254	310	U
11096-82-5	Aroclor-1260	310	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000039

ES394

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715062

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVSES394

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 31 Date Analyzed: 12/16/87

Column: (pack/cap) PACK Dilution Factor: 1.00

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000040

EPA SAMPLE NO.

ES394

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715062

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVSES394

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 31 Date Analyzed: 12/16/87

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 629-14-1	ETHANE, 1,2-DIETHOXY-	10.75	41	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000338

EPA SAMPLE NO.

ES394

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715062

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES394

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 21 dec. _____ Date Extracted: 12/14/87

Extraction: (Sep/Cont/Sonc) SONC Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 7.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
108-95-2	Phenol	480	U
111-44-4	bis(2-Chloroethyl)Ether	480	U
95-57-8	2-Chlorophenol	480	U
541-73-1	1,3-Dichlorobenzene	480	U
106-46-7	1,4-Dichlorobenzene	290	J
100-51-6	Benzyl Alcohol	480	U
95-50-1	1,2-Dichlorobenzene	480	U
95-48-7	2-Methylphenol	480	U
39638-32-9	bis(2-Chloroisopropyl)Ether	480	U
106-44-5	4-Methylphenol	480	U
621-64-7	N-Nitroso-Di-n-Propylamine	480	U
67-72-1	Hexachloroethane	480	U
98-95-3	Nitrobenzene	480	U
78-59-1	Isophorone	480	U
88-75-5	2-Nitrophenol	480	U
105-67-9	2,4-Dimethylphenol	480	U
65-85-0	Benzoic Acid	2300	U
111-91-1	bis(2-Chloroethoxy)Methane	480	U
120-83-2	2,4-Dichlorophenol	480	U
120-82-1	1,2,4-Trichlorobenzene	480	U
91-20-3	Naphthalene	480	U
106-47-8	4-Chloroaniline	480	U
87-68-3	Hexachlorobutadiene	480	U
59-50-7	4-Chloro-3-Methylphenol	480	U
91-57-6	2-Methylnaphthalene	480	U
77-47-4	Hexachlorocyclopentadiene	480	U
88-06-2	2,4,6-Trichlorophenol	480	U
95-95-4	2,4,5-Trichlorophenol	2300	U
91-58-7	2-Chloronaphthalene	480	U
88-74-4	2-Nitroaniline	2300	U
131-11-3	Dimethyl Phthalate	480	U
208-96-8	Acenaphthylene	480	U
606-20-2	2,6-Dinitrotoluene	480	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000339

ES394

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES332

Matrix: (soil/water) SOIL Lab Sample ID: 1715062

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES394

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 30 dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2300	U
83-32-9	Acenaphthene	480	U
51-28-5	2,4-Dinitrophenol	2300	U
100-02-7	4-Nitrophenol	2300	U
132-64-9	Dibenzofuran	480	U
121-14-2	2,4-Dinitrotoluene	480	U
84-66-2	Diethylphthalate	480	U
7005-72-3	4-Chlorophenyl-phenylether	480	U
86-73-7	Fluorene	480	U
100-01-6	4-Nitroaniline	2300	U
534-52-1	4,6-Dinitro-2-Methylphenol	2300	U
86-30-6	N-Nitrosodiphenylamine (1)	480	U
101-55-3	4-Bromophenyl-phenylether	480	U
118-74-1	Hexachlorobenzene	480	U
87-86-5	Pentachlorophenol	2300	U
85-01-8	Phenanthrene	240	J
120-12-7	Anthracene	73	J
84-74-2	Di-n-Butylphthalate	480	U
206-44-0	Fluoranthene	1100	
129-00-0	Pyrene	1400	
85-68-7	Butylbenzylphthalate	480	U
91-94-1	3,3'-Dichlorobenzidine	960	U
56-55-3	Benzo(a)Anthracene	700	
218-01-9	Chrysene	670	
117-81-7	bis(2-Ethylhexyl)Phthalate	160	J
117-84-0	Di-n-Octyl Phthalate	480	U
205-99-2	Benzo(b)Fluoranthene	650	
207-08-9	Benzo(k)Fluoranthene	520	
50-32-8	Benzo(a)Pyrene	470	J
193-39-5	Indeno(1,2,3-cd)Pyrene	220	J
53-70-3	Dibenz(a,h)Anthracene	60	J
191-24-2	Benzo(g,h,i)Perylene	200	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000340

EPA SAMPLE NO.

ES394

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8620 SAS No.: _____ SDG No.: ES394

Matrix: (soil/water) SOIL Lab Sample ID: 1715662

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XB6ES394

Level: (low med) LOW Date Received: 10/11/87

% Moisture: not dec. 31 dec. ____ Date Extracted: 10/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.000

Number TICs found: 15

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 105-08-9	2-PENTANONE,2,4-DIMETHYL	6.67	4800	JB
2.	UNKNOWN	27.11	430	J
3.	UNKNOWN	27.41	430	J
4.	UNKNOWN	31.19	630	J
5.	UNKNOWN, HYDROCARBON	32.19	390	J
6.	UNKNOWN	32.37	1400	J
7.	UNKNOWN	33.19	970	J
8.	UNKNOWN	33.47	1800	J
9.	UNKNOWN, HYDROCARBON	34.12	1200	J
10.	UNKNOWN, HYDROCARBON	35.14	1100	J
11.	UNKNOWN, HYDROCARBON	35.67	820	J
12.	UNKNOWN, HYDROCARBON	36.31	630	J
13.	UNKNOWN, HYDROCARBON	37.65	14000	J
14.	UNKNOWN, HYDROCARBON	39.22	2800	J
15.	UNKNOWN, HYDROCARBON	41.12	19000	J
16.	UNKNOWN, HYDROCARBON	43.36	2300	J
17.	UNKNOWN, HYDROCARBON	46.01	2100	J
18.	UNKNOWN, HYDROCARBON	48.94	2800	J
19.	UNKNOWN, HYDROCARBON	49.31	4000	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000846

EPA SAMPLE NO.

ES394

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715062

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

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 31 dec. _____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/31/87

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.0

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	40	
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	66	
959-98-8	Endosulfan I	670	
60-57-1	Dieldrin	23	U
72-55-9	4,4'-DDE	170	
72-20-8	Endrin	23	U
33213-65-9	Endosulfan II	23	U
72-54-8	4,4'-DDD	170	
1031-07-8	Endosulfan sulfate	23	U
50-29-3	4,4'-DDT	31	
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	Aroclor-1016	120	U
11104-28-2	Aroclor-1221	120	U
11141-16-5	Aroclor-1232	120	U
53469-21-9	Aroclor-1242	120	U
12672-29-6	Aroclor-1248	120	U
11097-69-1	Aroclor-1254	230	U
11096-82-5	Aroclor-1260	230	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000052

ES395

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715063

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVSES395

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 36 Date Analyzed: 12/16/87

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
74-87-3	Chloromethane	16	U
74-83-9	Bromomethane	16	U
75-01-4	Vinyl Chloride	16	U
75-00-3	Chloroethane	16	U
75-09-2	Methylene Chloride	28	
67-64-1	Acetone	16	U
75-15-0	Carbon Disulfide	8	U
75-35-4	1,1-Dichloroethene	8	U
75-34-3	1,1-Dichloroethane	8	U
540-59-0	1,2-Dichloroethene (total)	8	U
67-66-3	Chloroform	8	U
107-06-2	1,2-Dichloroethane	8	U
78-93-3	2-Butanone	16	U
71-55-6	1,1,1-Trichloroethane	8	U
56-23-5	Carbon Tetrachloride	8	U
108-05-4	Vinyl Acetate	16	U
75-27-4	Bromodichloromethane	8	U
78-87-5	1,2-Dichloropropane	8	U
10061-01-5	cis-1,3-Dichloropropene	8	U
79-01-6	Trichloroethene	8	U
124-48-1	Dibromochloromethane	8	U
79-00-5	1,1,2-Trichloroethane	8	U
71-43-2	Benzene	8	U
10061-02-6	Trans-1,3-Dichloropropene	8	U
75-25-2	Bromoform	8	U
108-10-1	4-Methyl-2-Pentanone	16	U
591-78-6	2-Hexanone	16	U
127-18-4	Tetrachloroethene	8	U
79-34-5	1,1,2,2-Tetrachloroethane	16	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
	Total Xylenes	8	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ES395

000053

Lab Name: KEMRON(LALABI) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715063

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVSES395

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 36 Date Analyzed: 12/16/87

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 629-14-1	ETHANE, 1,2-DIETHOXY-	11.00	40	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000436

EPA SAMPLE NO.

ES395

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715063

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES395

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 36 dec. ___ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/13/88

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	520	U
111-44-4	bis(2-Chloroethyl)Ether	520	U
95-57-8	2-Chlorophenol	520	U
541-73-1	1,3-Dichlorobenzene	520	U
106-46-7	1,4-Dichlorobenzene	52	J
100-51-6	Benzyl Alcohol	520	U
95-50-1	1,2-Dichlorobenzene	520	U
95-48-7	2-Methylphenol	520	U
39638-32-9	bis(2-Chloroisopropyl)Ether	520	U
106-44-5	4-Methylphenol	520	U
621-64-7	N-Nitroso-Di-n-Propylamine	520	U
67-72-1	Hexachloroethane	520	U
98-95-3	Nitrobenzene	520	U
78-59-1	Isophorone	520	U
88-75-5	2-Nitrophenol	520	U
105-67-9	2,4-Dimethylphenol	520	U
65-85-0	Benzoic Acid	2500	U
111-91-1	bis(2-Chloroethoxy)Methane	520	U
120-83-2	2,4-Dichlorophenol	520	U
120-82-1	1,2,4-Trichlorobenzene	520	U
91-20-3	Naphthalene	520	U
106-47-8	4-Chloroaniline	520	U
87-68-3	Hexachlorobutadiene	520	U
59-50-7	4-Chloro-3-Methylphenol	520	U
91-57-6	2-Methylnaphthalene	520	U
77-47-4	Hexachlorocyclopentadiene	520	U
88-06-2	2,4,6-Trichlorophenol	520	U
95-95-4	2,4,5-Trichlorophenol	2500	U
91-58-7	2-Chloronaphthalene	520	U
88-74-4	2-Nitroaniline	2500	U
131-11-3	Dimethyl Phthalate	520	U
208-96-8	Acenaphthylene	520	U
606-20-2	2,6-Dinitrotoluene	520	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000437

EPA SAMPLE NO.

ES395

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 6680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715063

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES395

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 36 dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/13/88

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2500	U
83-32-9	Acenaphthene	520	U
51-28-5	2,4-Dinitrophenol	2500	U
100-02-7	4-Nitrophenol	2500	U
132-64-9	Dibenzofuran	520	U
121-14-2	2,4-Dinitrotoluene	520	U
84-66-2	Diethylphthalate	520	U
7005-72-3	4-Chlorophenyl-phenylether	520	U
86-73-7	Fluorene	520	U
100-10-6	4-Nitroaniline	2500	U
534-52-1	4,6-Dinitro-2-Methylphenol	2500	U
86-30-6	N-Nitrosodiphenylamine (1)	520	U
101-55-3	4-Bromophenyl-phenylether	520	U
118-74-1	Hexachlorobenzene	520	U
87-86-5	Pentachlorophenol	2500	U
85-01-8	Phenanthrene	520	U
120-12-7	Anthracene	520	U
84-74-2	Di-n-Butylphthalate	520	U
206-44-0	Fluoranthene	94	J
129-00-0	Pyrene	120	J
85-68-7	Butylbenzylphthalate	520	U
91-94-1	3,3'-Dichlorobenzidine	1000	U
56-55-3	Benzo(a)Anthracene	520	U
218-01-9	Chrysene	67	J
117-81-7	bis(2-Ethylhexyl)Phthalate	53	J
117-84-0	Di-n-Octyl Phthalate	520	U
205-99-2	Benzo(b)Fluoranthene	56	J
207-08-9	Benzo(k)Fluoranthene	520	U
50-32-8	Benzo(a)Pyrene	520	U
193-39-5	Indeno(1,2,3-cd)Pyrene	520	U
53-70-3	Dibenz(a,h)Anthracene	520	U
191-24-2	Benzo(g,h,i)Perylene	520	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000438

EPA SAMPLE NO.

ES395

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715063

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES395

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 36 dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/13/88

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.000

Number TICs found: 11

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.54	6000	J
2. 6747-25-4	HEXANE, 2,2,3-TRIMETHYL-	13.57	260	J
3.	UNKNOWN	21.60	260	J
4.	UNKNOWN	27.01	620	J
5. 4105-67-2	HEPTADECANE, 2,6-DIMETHYL-	27.82	260	J
6. 7301-32-5	UNDECANE, 4,7-DIMETHYL-	28.96	360	J
7.	UNKNOWN	29.11	780	J
8.	UNKNOWN	30.11	2000	J
9. 2104-62-7	2-BUTANONE, 4-(DIMETHYLAMINO	31.84	620	J
10.	UNKNOWN	32.19	570	J
11.	UNKNOWN	32.54	260	J
12.	UNKNOWN	33.26	310	J
13.	UNKNOWN	34.06	210	J
14.	UNKNOWN	35.29	160	J
15.	UNKNOWN	35.79	160	J
16.	UNKNOWN	36.81	830	J
17.	UNKNOWN	48.96	2800	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000849

ES395

Lab Name: HEMRON(LALAB1) Contract: 68-01-7409

Lab Code: HEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES395

Matrix: (soil/water) SOIL Lab Sample ID: 1715063

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 3% dec. _____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 12/21/87

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.0

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)	0.80	J
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	25	U
72-55-9	4,4'-DDE	170	
72-20-8	Endrin	25	U
33213-65-9	Endosulfan II	25	U
72-54-8	4,4'-DDD	110	
1031-07-8	Endosulfan sulfate	25	U
50-29-3	4,4'-DDT	70	
72-43-5	Methoxychlor	120	U
53494-70-5	Endrin ketone	25	U
5103-71-9	alpha-Chlordane	120	U
5103-74-2	gamma-Chlordane	120	U
8001-35-2	Toxaphene	250	U
12674-11-2	Aroclor-1016	120	U
11104-28-2	Aroclor-1221	120	U
11141-16-5	Aroclor-1232	120	U
53469-21-9	Aroclor-1242	120	U
12672-29-6	Aroclor-1248	120	U
11097-69-1	Aroclor-1254	250	U
11096-82-5	Aroclor-1260	250	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

000065

EPA SAMPLE NO.

ES396

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715064

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVSES396A

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 29 Date Analyzed: 12/16/87

Column: (pack/cap) PACK Dilution Factor: 1.00

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000066

EPA SAMPLE NO.

ES396

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715064

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVSES396A

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 29 Date Analyzed: 12/18/87

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000512

ES396

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715064

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES396RE

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 29 dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/13/88

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	460	U
111-44-4	bis(2-Chloroethyl)Ether	96	J Z
95-57-8	2-Chlorophenol	460	U
541-73-1	1,3-Dichlorobenzene	460	U
106-46-7	1,4-Dichlorobenzene	460	U
100-51-6	Benzyl Alcohol	460	U
95-50-1	1,2-Dichlorobenzene	460	U
95-48-7	2-Methylphenol	460	U
39638-32-9	bis(2-Chloroisopropyl)Ether	460	U
106-44-5	4-Methylphenol	460	U
621-64-7	N-Nitroso-Di-n-Propylamine	460	U
67-72-1	Hexachloroethane	460	U
98-95-3	Nitrobenzene	460	U
78-59-1	Isophorone	460	U
88-75-5	2-Nitrophenol	460	U
105-67-9	2,4-Dimethylphenol	460	U
65-85-0	Benzoic Acid	2300	U
111-91-1	bis(2-Chloroethoxy)Methane	460	U
120-83-2	2,4-Dichlorophenol	460	U
120-82-1	1,2,4-Trichlorobenzene	460	U
91-20-3	Naphthalene	460	U
106-47-8	4-Chloroaniline	460	U
87-68-3	Hexachlorobutadiene	460	U
59-50-7	4-Chloro-3-Methylphenol	460	U
91-57-6	2-Methylnaphthalene	460	U
77-47-4	Hexachlorocyclopentadiene	460	U
88-06-2	2,4,6-Trichlorophenol	460	U
95-95-4	2,4,5-Trichlorophenol	2300	U
91-58-7	2-Chloronaphthalene	460	U
88-74-4	2-Nitroaniline	2300	U
131-11-3	Dimethyl Phthalate	460	U
208-96-8	Acenaphthylene	90	J
606-20-2	2,6-Dinitrotoluene	460	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000513

EPA SAMPLE NO.

ES396

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715064

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES396RE

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 29 dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/13/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
99-09-2	3-Nitroaniline	2300	U
83-32-9	Acenaphthene	110	J
51-28-5	2,4-Dinitrophenol	2300	U
100-02-7	4-Nitrophenol	2300	U
132-64-9	Dibenzofuran	59	J
121-14-2	2,4-Dinitrotoluene	460	U
84-66-2	Diethylphthalate	460	U
7005-72-3	4-Chlorophenyl-phenylether	460	U
86-73-7	Fluorene	120	J
100-10-6	4-Nitroaniline	2300	U
534-52-1	4,6-Dinitro-2-Methylphenol	2300	U
86-30-6	N-Nitrosodiphenylamine (1)	460	U
101-55-3	4-Bromophenyl-phenylether	460	U
118-74-1	Hexachlorobenzene	460	U
87-86-5	Pentachlorophenol	2300	U
85-01-8	Phenanthrene	1500	
120-12-7	Anthracene	300	J
84-74-2	Di-n-Butylphthalate	68	J
206-44-0	Fluoranthene	2100	
129-00-0	Pyrene	3800	
85-68-7	Butylbenzylphthalate	320	J
91-94-1	3,3'-Dichlorobenzidine	930	U
56-55-3	Benzo(a)Anthracene	1500	
218-01-9	Chrysene	1800	
117-81-7	bis(2-Ethylhexyl)Phthalate	320	J
117-84-0	Di-n-Octyl Phthalate	460	U
205-99-2	Benzo(b)Fluoranthene	1500	
207-08-9	Benzo(k)Fluoranthene	1400	
50-32-8	Benzo(a)Pyrene	1400	
193-39-5	Indeno(1,2,3-cd)Pyrene	1200	
53-70-3	Dibenz(a,h)Anthracene	460	U
191-24-2	Benzo(g,h,i)Perylene	1500	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000514

EPA SAMPLE NO.

ES396

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: B680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715064

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES396RE

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 29 dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/13/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.000

Number TICs found: 23

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKOWN	8.54	5100	J
2. 540-97-6	CYCLOHEXASILANE, DODECAMETHY	18.75	1200	J
3.	UNKOWN	21.10	2200	J
4.	UNKOWN	23.54	2300	J
5.	UNKOWN	24.65	700	J
6.	UNKOWN	25.27	350	J
7.	UNKOWN	25.66	1900	J
8.	UNKOWN	26.56	450	J
9.	UNKOWN	27.52	1700	J
10. 203-64-5	4H-CYCLOPENTA[DEF]PHENANTHRE	27.71	740	J
11.	UNKOWN	29.24	1800	J
12.	UNKOWN	30.79	2200	J
13. 238-84-6	11H-BENZO(C)FLUORENE	31.12	560	J
14.	UNKOWN	32.22	1800	J
15. 195-19-7	BENZO(C)PHENANTHRENE	33.07	670	J
16.	UNKOWN	33.56	2100	J
17.	UNKOWN	34.39	420	J
18.	UNKOWN	34.94	2000	J
19.	UNKOWN	36.54	9400	J
20. 205-82-3	BENZO(J)FLUORANTHENE	37.51	8900	J
21.	UNKOWN	38.47	7000	J
22.	UNKOWN	40.89	8000	J
23.	UNKOWN	43.93	3400	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000852

EPA SAMPLE NO.

ES396

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 171506-4

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

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 29 dec. ____ Date Extracted: 12/14/87

Extraction: (Sep/Cont/Sonc) SONC Date Analyzed: 12/31/87

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 10.00

CAS No.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
319-84-6	alpha-BHC	110	U
319-85-7	beta-BHC	110	U
319-86-8	delta-BHC	110	U
58-89-9	gamma-BHC (Lindane)	110	U
76-44-8	Heptachlor	110	U
309-00-2	Aldrin	110	U
1024-57-3	Heptachlor epoxide	110	U
959-98-8	Endosulfan I	110	U
60-57-1	Dieldrin	230	U
72-55-9	4,4'-DDE	230	U
72-20-8	Endrin	230	U
33213-65-9	Endosulfan II	230	U
72-54-8	4,4'-DDD	230	U
1031-07-8	Endosulfan sulfate	230	U
50-29-3	4,4'-DDT	230	U
72-43-5	Methoxychlor	1100	U
53494-70-5	Endrin ketone	230	U
5103-71-9	alpha-Chlordane	1100	U
5103-74-2	gamma-Chlordane	1100	U
8001-35-2	Toxaphene	2300	U
12674-11-2	Aroclor-1016	1100	U
11104-28-2	Aroclor-1221	1100	U
11141-16-5	Aroclor-1232	1100	U
53469-21-9	Aroclor-1242	1100	U
12672-29-6	Aroclor-1248	1100	U
11097-69-1	Aroclor-1254	8600	
11096-82-5	Aroclor-1260	2300	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

000072

EPA SAMPLE NO.

ES397

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715065

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVSES397

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 17 Date Analyzed: 12/16/87

Column: (pack/cap) PACK Dilution Factor: 1.00

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	7	J
67-64-1	Acetone	12	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	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	12	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
----------	Total Xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000073

EPA SAMPLE NO.

ES397

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715065

Sample wt/vol: 5.0 (g/mL) G Lab File ID: XVSES397

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 17 Date Analyzed: 12/16/87

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000630

EPA SAMPLE NO.

ES397

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715065

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES397

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 17 dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/17/88

GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
108-95-2	Phenol	400	U
111-44-4	bis(2-Chloroethyl)Ether	400	U
95-57-8	2-Chlorophenol	400	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
100-51-6	Benzyl Alcohol	400	U
95-50-1	1,2-Dichlorobenzene	400	U
95-48-7	2-Methylphenol	400	U
39638-32-9	bis(2-Chloroisopropyl)Ether	400	U
106-44-5	4-Methylphenol	400	U
621-64-7	N-Nitroso-Di-n-Propylamine	400	U
67-72-1	Hexachloroethane	400	U
98-95-3	Nitrobenzene	400	U
78-59-1	Isophorone	400	U
88-75-5	2-Nitrophenol	400	U
105-67-9	2,4-Dimethylphenol	400	U
65-85-0	Benzoic Acid	1900	U
111-91-1	bis(2-Chloroethoxy)Methane	400	U
120-83-2	2,4-Dichlorophenol	400	U
120-82-1	1,2,4-Trichlorobenzene	400	U
91-20-3	Naphthalene	400	U
106-47-8	4-Chloroaniline	400	U
87-68-3	Hexachlorobutadiene	400	U
59-50-7	4-Chloro-3-Methylphenol	400	U
91-57-6	2-Methylnaphthalene	400	U
77-47-4	Hexachlorocyclopentadiene	400	U
88-06-2	2,4,6-Trichlorophenol	400	U
95-95-4	2,4,5-Trichlorophenol	1900	U
91-58-7	2-Chloronaphthalene	400	U
88-74-4	2-Nitroaniline	1900	U
131-11-3	Dimethyl Phthalate	400	U
208-96-8	Acenaphthylene	400	U
606-20-2	2,6-Dinitrotoluene	400	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000631

ES397

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715065

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES397

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 17 dec. ____ Date Extracted: 12/14/87

Extraction: (Sep/Cont/Sonc) SONC Date Analyzed: 01/13/88

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/g) UG/KG	Q
99-09-2	3-Nitroaniline	1900	U
83-32-9	Acenaphthene	400	U
51-28-5	2,4-Dinitrophenol	1900	U
100-02-7	4-Nitrophenol	1900	U
132-64-9	Dibenzofuran	400	U
121-14-2	2,4-Dinitrotoluene	400	U
84-66-2	Diethylphthalate	400	U
7005-72-3	4-Chlorophenyl-phenylether	400	U
86-73-7	Fluorene	400	U
100-10-6	4-Nitroaniline	1900	U
534-52-1	4,6-Dinitro-2-Methylphenol	1900	U
86-30-6	N-Nitrosodiphenylamine (1)	400	U
101-55-3	4-Bromophenyl-phenylether	400	U
118-74-1	Hexachlorobenzene	400	U
87-86-5	Pentachlorophenol	1900	U
85-01-8	Phenanthrene	140	J
120-12-7	Anthracene	400	U
84-74-2	Di-n-Butylphthalate	220	J
206-44-0	Fluoranthene	280	J
129-00-0	Pyrene	330	J
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	800	U
56-55-3	Benzo(a)Anthracene	140	J
218-01-9	Chrysene	160	J
117-81-7	bis(2-Ethylhexyl)Phthalate	400	U
117-84-0	Di-n-Octyl Phthalate	400	U
205-99-2	Benzo(b)Fluoranthene	120	J
207-08-9	Benzo(k)Fluoranthene	120	J
50-32-8	Benzo(a)Pyrene	130	J
193-39-5	Indeno(1,2,3-cd)Pyrene	110	J
53-70-3	Dibenz(a,h)Anthracene	400	U
191-24-2	Benzo(g,h,i)Perylene	130	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000632

EPA SAMPLE NO.

ES397

Lab Name: LEMRON(LALAB1) Contract: 68-01-7409

Lab Code: LEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) SOIL Lab Sample ID: 1715065

Sample wt/vol: 30.0 (g/mL) G Lab File ID: XBSES397

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. 17 dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 01/17/88

GPC Cleanup: (Y/N) N pH: 8.6 Dilution Factor: 1.0

Number TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	8.54	4900	J
2.	UNKNOWN	28.24	300	J
3.	UNKNOWN	31.09	200	J
4.	UNKNOWN	37.49	350	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000855

EPA SAMPLE NO.

ES397

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES7[illegible]

Matrix: (soil/water) SOIL Lab Sample ID: 171[illegible]5

Sample wt/vol: [illegible] (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dry. 17 dry. ____ Date Extracted: 12/14/87

Extraction: (Sep/Cont/Sonc) SONC Date Analyzed: 12/21/87

GPC Performed: (Y/N) N pH: [illegible] Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/KG	Q
319-84-6	alpha-BHC	4[illegible]	U
319-85-7	beta-BHC	4[illegible]	U
319-86-8	delta-BHC	4[illegible]	U
58-89-9	gamma-BHC (Lindane)	4[illegible]	U
76-44-8	Heptachlor	14	J
309-00-2	Aldrin	4[illegible]	U
1024-57-3	Heptachlor epoxide	120	
959-98-8	Endosulfan I	4[illegible]	U
60-57-1	Dieldrin	4[illegible]	U
72-55-9	4,4'-DDE	15[illegible]	
72-20-8	Endrin	4[illegible]	U
33213-65-9	Endosulfan II	4[illegible]	U
72-54-8	4,4'-DDD	11[illegible]	
1031-07-8	Endosulfan sulfate	4[illegible]	U
50-29-3	4,4'-DDT	24[illegible]	
72-43-5	Methoxychlor	43[illegible]	U
53494-70-5	Endrin ketone	4[illegible]	U
5103-71-9	alpha-Chlordane	[illegible]	U
5103-74-2	gamma-Chlordane	[illegible]	U
8001-35-2	Toxaphene	[illegible]	U
12674-11-2	Aroclor-1016	4[illegible]	U
11104-28-2	Aroclor-1221	4[illegible]	U
11141-16-5	Aroclor-1232	4[illegible]	U
53469-21-9	Aroclor-1242	480	U
12672-29-6	Aroclor-1248	4[illegible]	
11097-69-1	Aroclor-1254	4[illegible]	U
11096-82-5	Aroclor-1260	4[illegible]	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

000081

EPA SAMPLE NO.

ES400

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) WATER Lab Sample ID: 1715067

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: XVES400

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. _____ Date Analyzed: 12/15/87

Column: (pack/cap) PaCl Dilution Factor: 1.00

CONCENTRATION UNITS: (ug/L or ug/kg) UG/L

CAS NO.	COMPOUND		C
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	U
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
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	10	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
----------	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000082

EPA SAMPLE NO.

ES400

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES352

Matrix: (soil/water) WATER Lab Sample ID: 1715067

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: XVES400

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. ____ Date Analyzed: 12/15/87

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: __

CONCENTRATION UNITS:
(ug/L or ug/kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000673

EPA SAMPLE NO.

ES400

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) WATER Lab Sample ID: 1715066

Sample wt/vol: 1000 (g/mL) ML Lab File ID: XBGES400

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. ____ dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 8.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000676

EPA SAMPLE NO.

ES400

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) WATER Lab Sample ID: 1715066

Sample wt/vol: 1000 (g/mL) ML Lab File ID: XBSES400

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. ____ dec. ____ Date Extracted: 12/14/87

Extraction: (SonF/Cont/Sonc) CONT Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 3.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-16-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	60	B
117-84-0	Di-n-Octyl Phthalate	2	J
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

000677

EPA SAMPLE NO.

ES400

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) WATER Lab Sample ID: 1715066

Sample wt/vol: 1000 (g/mL) ML Lab File ID: XBSES400

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. _____ dec. _____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 8.4 Dilution Factor: 1.00

Number TICs found: 2

CONCENTRATION UNITS: (ug/L or ug/kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKOWN	11.10	12	J
2. 4337-65-9	HEXANEDIOIC ACID, MONO(2-ETH	32.25	20	BJ

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000358

EPA SAMPLE No.

ES400

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES232

Matrix: (soil/water) WATER Lab Sample ID: 1715066

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. _____ dec. _____ Date Extracted: 12/16/87

Extraction: (Sep/Cont/Sonc) SEPF Date Analyzed: 12/27/87

GPC Cleanup: (Y/N) Y pH: 8.1 Dilution Factor: 1.0

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

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L
319-84-6	alpha-BHC	0.050U
319-85-7	beta-BHC	0.050U
319-86-8	delta-BHC	0.050U
58-89-9	gamma-BHC (Lindane)	0.050U
76-44-8	Heptachlor	0.050U
309-00-2	Aldrin	0.050U
1024-57-3	Heptachlor epoxide	0.050U
959-98-8	Endosulfan I	0.050U
60-57-1	Dieldrin	0.10U
72-55-9	4,4'-DDE	0.10U
72-20-8	Endrin	0.10U
33213-65-9	Endosulfan II	0.10U
72-54-8	4,4'-DDD	0.10U
1031-07-8	Endosulfan sulfate	0.10U
50-29-3	4,4'-DDT	0.10U
72-43-5	Methoxychlor	0.50U
53494-70-5	Endrin ketone	0.10U
5103-71-9	alpha-Chlordane	0.50U
5103-74-2	gamma-Chlordane	0.50U
8001-35-2	Toxaphene	1.0U
12674-11-2	Aroclor-1016	0.50U
11104-28-2	Aroclor-1221	0.50U
11141-16-5	Aroclor-1232	0.50U
53469-21-9	Aroclor-1242	0.50U
12672-29-6	Aroclor-1248	0.50U
11097-69-1	Aroclor-1254	1.0U
11096-82-5	Aroclor-1260	1.0U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

000088

EPA SAMPLE NO.

ES405

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES792

Matrix: (soil/water) WATER Lab Sample ID: 1715089

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: XVES405

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. ____ Date Analyzed: 12/15/87

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	2	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
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	10	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
----------	Total Xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000089

EPA SAMPLE NO.

ES405

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) WATER Lab Sample ID: 1715068

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: XVE5405

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. ____ Date Analyzed: 12/15/87

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

000696

ES405

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) WATER Lab Sample ID: 1715067

Sample wt/vol: 1000 (g/mL) ML Lab File ID: XBSES405

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. ____ dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/kg) UG/L

CAS No.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

000697

EPA SAMPLE NO.

ES405

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) WATER Lab Sample ID: 1715067

Sample wt/vol: 1000 (g/mL) ML Lab File ID: XBSES405

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. _____ dec. _____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 01/11/88

GPC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	15	B
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

000698

EPA SAMPLE NO.

ES405

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: B680 SAS No.: _____ SDG No.: ES392

Matrix: (soil/water) WATER Lab Sample ID: 1715067

Sample wt/vol: 1000 (g/mL) ML Lab File ID: XBSES405

Level: (low/med) LOW Date Received: 12/11/87

% Moisture: not dec. ____ dec. ____ Date Extracted: 12/14/87

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 01/11/88

Concentration: (Y/N) N pH: 6.4 Dilution Factor: 1.00

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	11.10	64	JB

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

000861

EPA SAMPLE NO.

ES405

Lab Name: KEMRON(LALAB1) Contract: 68-01-7409

Lab Code: KEMRON Case No.: 8680 SAS No.: _____ SDG No.: [illegible]

Matrix: (soil/water) WATER Lab Sample ID: 1715067

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 12/11/8[illegible]

% Moisture: not dry. ____ dry. ____ Date Extracted: [illegible]

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: [illegible]

GPC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-54-8	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

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

Date Received for Review: 3/31/87 Date Review Completed: 4/1/87

TO: John Geiger

FROM: Zena Gold-Kaufman ZGK

SUBJECT: Anderson Municipal Landfill
FM1055051
FOS-8702-153

Sample Description: Case # 6935 - 7 inorganics
drinking water

Project Data Status: incomplete - awaiting - organics
drinking water - CAL

FIT Date Review Findings:
Estimated data:
Cd
Ag
Fe
Na

MEI 987, 988, 989, 990 - estimate for Sb, S
991 - Se - estimated

see reviewers comments

Additional Comments:

see Evaluation Sheet

Book No. 6
Page No. 18

recycled paper

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 3-30-87

RECEIVED MAR 31 1987

SUBJ: Review of Region V CLP Data
Received for Review on March 25, 1987

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory Jay Thatcher

TO: Data User: FIT

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

SITE NAME: Anderson Municipal L.F. SMO Case No. SAS 2786E

EPA Data Set No. SF 3815 No. of Samples: 7 D.U./Activity Numbers Y9051 C72100

CRL No. 87FG01R13 — 87FG01D90

SMO Traffic No. MEI-968 — MEI 991

CLP Laboratory: Century Hrs. Required for Review: 8

Following are our findings. This review covers analysis of seven drinking H_2O samples for total metals and CN^-. Duplicates and spiked by ICP were run on a field blank. Spike recovery is low for Cd (68%) and Ag (70%) flagging data as estimated. Both may have a low biased detection limit. All Sb data on Forms I are reported to ICP limits, while analysis by MSA on furnace is included. A continuing verification for Sb after samples MEI 987, 988, 989 + 990 has high recovery of 145%. No rerun was performed. These samples are estimated for Sb and Se which also showed a CCV of 130% after these four. Se also had a 4[illegible]% CCV later after the MEI 991 sample flagging it also. Pb reports an IDL of 1 ppb on Form VI but reports 24 on Forms I. Two elements, As and Ag, could not meet the SAS IDL but present no problem. Spikes on Ni, CN^-, and Hg are below SAS limits, and LCS of Pb, Fe, Ni, K, Na, Al, + V are out of the SAS range. Furnace duplicates were performed on a sample from the second case run with this one. Se requires no asterick for RPD. Fe and Na are estimated for exceeding serial dilution. All furnace-run elements, analyzed by MSA, do not need a separate spike. Ignore "N" flags for most of them. No furnace detection is present in any Sb in samples. 3-27-87 DM

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

cc: Dr. Alfred Haeberer/Joan Fisk/Gary Ward, EPA Support Services
Ross K. Robeson, EMSL-Las Vegas
Don Trees, CLP/Sample Management Office

FORM 1320-4 (REV 3-78)

COMPOUND	CRDL	3-5x CRDL	988 smpl	989 smpl	987 smpl	988 smpl	989 smpl	990 smpl	991 smpl	smpl	smpl	smpl	HT.
Iron *													
Selenium			4	12									
Arsenic				7	3	4							
Zinc				89	61		34	628	94				
Barium						285							

* Iron
Calcium
Mg
Mn
Potassium
Na

I don't record these on this sheet

QC EXCEPTION SUMMARY REPORT

CASE # SAS 2786 E
DATA SET # SF 3815
LAB Q.C. # 019
DATE: March 27, 1987

SITE Anderson Municipal L.F.
LAB Century
REVIEWED BY Dorothy M. May

MATRIX: drinking H_2O
CONC. : low

WATER SAMPLE SPK. MEI 968
WATER SAMPLE DUP. MEI 968
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	Mid Calver	Contin Calver	Prep Blk AQ	Prep Blk SOL	ICS %R	LCS % AQ	LCS % SOL	Sol Dup RPD	Sol Spk. %R	AQ Dup RPD	AQ Spk %R	Ser Dilu AQ	Ser Dilu SOL	GFAA Dup	GFAA Spike	Blank	Dup RPD	Spike %R	Blind Blank	Blind Spike %R	Split Sample RPD	
Aluminum																								
Antimony				145%																				
Arsenic																								
Barium																								
Beryllium																								
Cadmium													68%											
Calcium																								
Chromium																								
Cobalt																								
Copper																								
Iron														24										
Lead																								
Magnesium																								
Manganese																								
Mercury													<SAS											
Nickel													<SAS											
Potassium																								
Selenium				130%																				
Silver													70%											
Sodium														27										
Thallium																								
Tin																								
Vanadium																								
Zinc																								
Cyanide													<SAS											

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

SF 3815

RECEIVED MAR 31 1987

Date 3/24/87

COVER PAGE
INORGANIC ANALYSES DATA PACKAGE

Lab Name CENTURY LABORATORIES

Case No. 6935

SOW No. 7M

Q.C. Report No. 019

Lab Receipt Date 3/11/87

Sample Numbers

EPA No.	Lab ID No.	EPA No.	Lab ID No.
ME1-964	0022-01		
-969	-02		
-987	-03		
-988	-04		
-989	-05		
-990	-06		
-991	-07		

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U.S. EPA CENTRAL REGIONAL LAB

Comments:

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.

000002

Form I

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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.
ME1-96F

Date 3-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 6935

SOW NO. 785

LAB SAMPLE ID. NO. 0022-01 QC REPORT NO. 019

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1. Aluminum	20uP		13. Magnesium	100uP	
2. Antimony	30uPN		14. Manganese	5.0uP	
3. Arsenic	2.0uSFN		15. Mercury	0.2u	
4. Barium	10uP		16. Nickel	20uP	
5. Beryllium	5.0uP		17. Potassium	[1030]P	500uP
6. Cadmium	2.0uPN	UJ	18. Selenium	4.0FsN*	
7. Calcium	100uP		19. Silver	10uPN	UJ
8. Chromium	10uP		20. Sodium	[1030]P	E
9. Cobalt	10uP		21. Thallium	2.0uFS	
10. Copper	6.0uP		22. Vanadium	10uP	
11. Iron	50uPE		23. Zinc	[19]P	
12. Lead	2.0uFSN		Percent Solids (%)	NA	
Cyanide	5.0u		SN	20uFs	

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: E = SER DIL OUT OF SPEC

Lab Manager: Kenneth Bond

000003

Form I

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87FG01590

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. ME1-967

Date 3-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 6935

SOW NO. 785

LAB SAMPLE ID. NO. 0022-02 QC REPORT NO. 019

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	20uP	13.	Magnesium	29,600P
2.	Antimony	30uPN	14.	Manganese	5.0uP
3.	Arsenic	7.0FsN	15.	Mercury	0.2u
4.	Barium	[193]P	16.	Nickel	20uP
5.	Beryllium	5.0uP	17.	Potassium	[1,650]P
6.	Cadmium	2.0uPN UJ	18.	Selenium	12Fs*N
7.	Calcium	70,100P	19.	Silver	10uPN UJ
8.	Chromium	10uP	20.	Sodium	11,000P E
9.	Cobalt	10uP	21.	Thallium	2.0uFs
10.	Copper	6.0uP	22.	Vanadium	10uP
11.	Iron	1,500PE	23.	Zinc	89P
12.	Lead	2.0uFsN		Percent Solids (%)	NA
	Cyanide	5.0u		SN	20uFs

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: ____

Lab Manager: Kenneth Bond

000004

Form I

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87FG01S91

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. MEI-987

Date 3-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 6935

SOW NO. 785

LAB SAMPLE ID. NO. 8022-03 QC REPORT NO. 019

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	20uP	13.	Magnesium	31,400P
2.	Antimony	30uPN J	14.	Manganese	16P
3.	Arsenic	3.0FsN	15.	Mercury	0.2u
4.	Barium	[172]P	16.	Nickel	20uP
5.	Beryllium	5.0uP	17.	Potassium	[1,730]P
6.	Cadmium	2.0uPN UJ	18.	Selenium	7.0Fs*N J
7.	Calcium	51,900P	19.	Silver	10uPN UJ
8.	Chromium	10uP	20.	Sodium	9,770P E
9.	Cobalt	10uP	21.	Thallium	2.0uFs
10.	Copper	6.0uP	22.	Vanadium	10uP
11.	Iron	2,720PE	23.	Zinc	61P
12.	Lead	2.0uFsN		Percent Solids (%)	NA
	Cyanide	5.0u		5N	20uFs

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: ____

Lab Manager: Kenneth Bond

000000

Form I

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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. ME1-9H

Date 3-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 6955

SOW NO. 785

LAB SAMPLE ID. NO. 0022-04 QC REPORT NO. 019

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	20UP	13.	Magnesium	22,300P
2.	Antimony	30UPN UJ	14.	Manganese	15P
3.	Arsenic	4.0FsN	15.	Mercury	0.2U
4.	Barium	215P	16.	Nickel	20UP
5.	Beryllium	5.0UP	17.	Potassium	[1,430] P
6.	Cadmium	2.0UPN UJ	18.	Selenium	4.0FS*N (J)
7.	Calcium	42,600P	19.	Silver	10UPN UJ
8.	Chromium	10UP	20.	Sodium	14,300P E
9.	Cobalt	10UP	21.	Thallium	2.0UFS
10.	Copper	6.0UP	22.	Vanadium	10UP
11.	Iron	1,620PE	23.	Zinc	30P
12.	Lead	2.0UFSN		Percent Solids (%)	NA
	Cyanide	5.0U			20UFS

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: ____

Lab Manager: Kenneth Bond

000006

Form I RECEIVED MAR 3 1 1987 87FG01594

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. MEI-990

Date 3-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 6955

SOW NO. 785

LAB SAMPLE ID. NO. 0022-06 QC REPORT NO. 019

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	20uP	13.	Magnesium	23,300P
2.	Antimony	30uPN J	14.	Manganese	37P
3.	Arsenic	2.0uFsN	15.	Mercury	0.2u
4.	Barium	[147]P	16.	Nickel	20uP
5.	Beryllium	5.0uP	17.	Potassium	[1220]P
6.	Cadmium	2.0uPN UJ	18.	Selenium	2.0uFs+N J
7.	Calcium	83,700P	19.	Silver	10uPN UJ
8.	Chromium	10uP	20.	Sodium	6,910P E
9.	Cobalt	10uP	21.	Thallium	2.0uFs
10.	Copper	6.0uP	22.	Vanadium	10uP
11.	Iron	4,710PE	23.	Zinc	628P
12.	Lead	2.0uFsN		Percent Solids (%)	NA
	Cyanide	5.0u			20uFs

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: ____

Lab Manager: Kenneth Bond

000008

Form I

RECEIVED MAR 31 1987

87FG01D90

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.
ME1-991

Date 3-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 6935

SOW NO. 785

LAB SAMPLE ID. NO. ~~ME1-9~~ 0021-07 QC REPORT NO. 019

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1. Aluminum	20UP		13. Magnesium	29,800P	
2. Antimony	30UPN		14. Manganese	5.1P	
3. Arsenic	7.0UFSN		15. Mercury	0.2U	
4. Barium	[195]P		16. Nickel	20UP	
5. Beryllium	5.0UP		17. Potassium	[1690]P	
6. Cadmium	2.0UPN	UJ	18. Selenium	7.0FS*N	J
7. Calcium	70,600P		19. Silver	10UPN	UJ
8. Chromium	10UP		20. Sodium	11,040P	E
9. Cobalt	10UP		21. Thallium	2.0UFS	
10. Copper	6.0UP		22. Vanadium	10UP	
11. Iron	1,450PE		23. Zinc	94P	
12. Lead	2.0UFSN		Percent Solids (%)	NA	
Cyanide	5.0U			20UFS	

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: ____

Lab Manager: Kenneth Bond

000009

Form III -1

Q. C. Report No. 019 RECEIVED MAR 31 1987

BLANKS

LAB NAME CENTURY LABORATORIES CASE NO. 6935

DATE 3-24-87 UNITS ug/l

Matrix WATER

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank Matrix: WATER 1	Matrix: 2
Metals:							
1. Aluminum	20u	20u	20u			20u	
2. Antimony	~~30u~~ 2.0u	~~30u~~ 2.0u	~~30u~~ 2.0u	2.0u	2.0u	~~30u~~ 2.0u	
3. Arsenic	2.0u	2.0u	2.0u	2.0u	2.0u	2.0u	
4. Barium	10u	10u	10u			10u	
5. Beryllium	5.0u	5.0u	5.0u			5.0u	
6. Cadmium	2.0u	2.0u	2.0u			2.0u	
7. Calcium	100u	100u	100u			100u	
8. Chromium	10u	10u	10u			10u	
9. Cobalt	10u	10u	10u			10u	
10. Copper	6.0u	6.0u	6.0u			6.0u	
11. Iron	80u	80u	80u			80u	
12. Lead	2.0u	2.0u	2.0u	2.0u	2.0u	2.0u	
13. Magnesium	100u	100u	100u			100u	
14. Manganese	5.0u	5.0u	5.0u			5.0u	
15. Mercury	0.2u	0.2u	0.2u	0.2u		0.2u	
16. Nickel	20u	20u	20u			20u	
17. Potassium	500u	500u	500u			500u	
18. Selenium	2.0u	~~2.0u~~ 4.0	~~2.0u~~ 3.0	2.0	2.0u	~~2.0u~~ 5.0	
19. Silver	10u	10u	10u			10u	
20. Sodium	[883]	[877]	[872]			[1,040]	
21. Thallium	2.0u	2.0u	2.0u	2.0u	2.0u	2.0u	
22. Vanadium	10u	10u	10u			10u	
23. Zinc	[8.0]	[7]	[7]			[15]	
Other: Sb	20u	20u	20u	20u	20u	20u	
Cyanide	~~10u~~ 5.0u	~~10u~~ 5.0u	~~10u~~ 5.0u	~~10u~~ 5.0u		~~10u~~ 5.0u	

000013

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

RECEIVED MAR 31 1987

EPA Sample No.
ME1-949

Date 3-24-87

RECEIVED MAR 31 1987

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 6935

SOW NO. 785

LAB SAMPLE ID. NO. 0022-05 QC REPORT NO. 019

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	20uP	13.	Magnesium	25000P
2.	Antimony	30uP N J	14.	Manganese	125P
3.	Arsenic	2.0uFs N	15.	Mercury	0.2u
4.	Barium	(45) P	16.	Nickel	20uP
5.	Beryllium	5.0uP	17.	Potassium	[2,160] P
6.	Cadmium	2.0uPN UJ	18.	Selenium	2.0uFs *N J
7.	Calcium	93,100 P	19.	Silver	4.6P N UJ
8.	Chromium	10uP	20.	Sodium	[4,230]P E
9.	Cobalt	~~6.0u~~ 10uP	21.	Thallium	2.0uFs
10.	Copper	[8.5] P	22.	Vanadium	10uP
11.	Iron	4,050PE	23.	Zinc	34P
12.	Lead	2.0uFsN		Percent Solids (%)	
	Cyanide	5.0u			20uFs

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: ____

Lab Manager Kenneth Bond

000007

Form III-2

Q. C. Report No. 019 RECEIVED MAR 31 1987

BLANKS

LAB NAME CENTURY LABORATORIES CASE NO. 6935

DATE 3-24-87 UNITS ug/l

Matrix WATER

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank Matrix: 1	Matrix: 2
Metals:							
1. Aluminum							
2. Antimony		2.0U					
3. Arsenic		2.0U					
4. Barium							
5. Beryllium							
6. Cadmium							
7. Calcium							
8. Chromium							
9. Cobalt							
10. Copper							
11. Iron							
12. Lead		2.0U					
13. Magnesium							
14. Manganese							
15. Mercury							
16. Nickel							
17. Potassium							
18. Selenium		2.0					
19. Silver							
20. Sodium							
21. Thallium		2.0U					
22. Vanadium							
23. Zinc							
Other: SN		20U					
Cyanide							

000014

Form V-1

RECEIVED MAR 31 1987

Q. C. Report No. ~~04~~ 019

SPIKE SAMPLE RECOVERY

LAB NAME CENTURY LABORATORIES

DATE 3-24-87

CASE NO. 6935

EPA Sample No. ~~00~~ ME1-SL1

Lab Sample ID No. 0022-01

Units ug/l

Matrix WATER

Compound	Control Limit %R	Spiked Sample Result (SSR)	Sample Result (SR)	Spiked Added (SA)	%R[1]
Metals:					
1. Aluminum	75-125	1830	20u	2000	91
2. Antimony	-	~~184~~	~~30u~~	~~500~~	~~37~~
3. Arsenic	-				
4. Barium	-	1900	10u	2000	95
5. Beryllium	-	46	5.0u	50	92
6. Cadmium	-	34	2.0u	50	68N
7. Calcium	-		100u	NR	
8. Chromium	-	173	10u	200	86
9. Cobalt	-	455	10u	500	91
10. Copper	-	236	6.0u	250	94
11. Iron	-	894	80u	1000	89
12. Lead	-				
13. Magnesium	-		100u	NR	
14. Manganese	-	181	5.0u	200	90
15. Mercury	-				
16. Nickel	-	331	20u	400	83
17. Potassium	-		500u	NR	
18. Selenium	-				
19. Silver	-	35	10u	50	70N
20. Sodium	-		[1030] ~~5000~~	NR	
21. Thallium	-		~~10~~		
22. Vanadium	-	432	10u	500	86
23. Zinc	-	225	6.0u	200	112
Other: ~~Sn~~		~~50~~	~~20u~~	~~50~~	10
Cyanide	-	82	~~100~~ 5.0u	100	82

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

"N" - out of control

"NR" - Not required

Comments:

000016

Form VI - 1

Q. C. Report No. 019 RECEIVED MAR 31 1987

DUPLICATES

LAB NAME CENTURY LABORATORIES

DATE 3-27-87

CASE NO. 6935

EPA Sample No. HE1-968

Lab Sample ID No. 0022-01

Units ug/l

Matrix WATER

Compound	Control Limit[1]	Sample(S)	Duplicate(D)	RPD[2]
Metals:				
1. Aluminum		20u	20u	NC
2. Antimony		30u	30u	NC
3. Arsenic				
4. Barium		10u	10u	NC
5. Beryllium		5.0u	5.0u	NC
6. Cadmium		2.0u	2.0u	NC
7. Calcium		100u	[853]	NC
8. Chromium		10u	10u	NC
9. Cobalt		10u	10u	NC
10. Copper		6.0u	6.0u	NC
11. Iron		80u	80u	NC
12. Lead				
13. Magnesium		100u	100u	NC
14. Manganese		5.0u	5.0u	NC
15. Mercury				
16. Nickel		20u	20u	NC
17. Potassium		500u	500u	NC
18. Selenium				
19. Silver		10u	10u	NC
20. Sodium		[1030]	[1150]	NC
21. Thallium				
22. Vanadium		10u	10u	NC
23. Zinc		6.0u	[18]	NC
Other:				
Cyanide				

* 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 VI-2

Q. C. Report No. 019

DUPLICATES

RECEIVED MAR 31 1987

LAB NAME CENTURY LABORATORIES

DATE 3-24-87

CASE NO. 6935

EPA Sample No. HE1-996

Lab Sample ID No. 0023-05

Units ug/l

Matrix WATER

Compound	Control Limit[1]	Sample(S)	Duplicate(D)	RPD[2]
Metals:				
1. Aluminum				
2. Antimony		2.0U	2.0U	NC
3. Arsenic		.013	.013	0
4. Barium				
5. Beryllium				
6. Cadmium				
7. Calcium				
8. Chromium				
9. Cobalt				
10. Copper				
11. Iron				
12. Lead		9.0	9.0	0
13. Magnesium				
14. Manganese				
15. Mercury		~~0.20U~~	~~0.20U~~	~~0~~
16. Nickel				
17. Potassium				
18. Selenium		5.0	8.0	46 *
19. Silver				
20. Sodium				
21. Thallium		2.0U	2.0U	NC
22. Vanadium				
23. Zinc				
Other: Sn		20U	20U	NC
Cyanide				

* 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

000020

CENTRAL REGIONAL LABORATORY SAMPLE DATA REPORT
ORGANICS/INORGANICS

SAMPLE DATE: 3/10/87
LOG IN DATE: 3/17/87
DUE DATE: 3/31/87

SUPERFUND 3815

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

CASE NUMBER/SAS No. 6935/2786E SITE NAME Anderson Mun. Landfill 06 LABORATORY CAL/Century 22 DATE SHIPPED 3/10/87

SUPERFUND DU NUMBER Y905 EPA RPM or OSC (S.M.S.)/(CES) _____ CERCLIS NUMBER MID980678528 PAGE 1 OF 1

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				
87FG01R13	ES940	MEI968	✓	✓	✓	✓	✓	✓																		
87FG01S90	ES941	MEI969	✓	✓	✓	✓	✓	✓																		
87FG01S91	ES959	MEI987	✓	✓	✓	✓	✓	✓																		
87FG01S92	ES960	MEI988	✓	✓	✓	✓	✓	✓																		
87FG01S93	ES961	MEI989	✓	✓	✓	✓	✓	✓																		
87FG01S94	ES962	MEI990	✓	✓	✓	✓	✓	✓																		
87FG01D90	ES963	MEI991	✓	✓	✓	✓	✓	✓																		

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

Date Received for Review: 6/13 Date Review Completed: 5/14

TO: John Geiger

FROM: Zena Gold-Kaufman

SUBJECT: Anderson Municipal Lndfl
M1055d

Sample Description: Case # 6935/SAS2286E

Project Data Status: complete

FIT Date Review Findings:
Estimated data
Se
Sb

Additional Comments:

re-analysis for Se only

Book No. 6
Page No. 18

Re Analysis

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

RECEIVED MAY 13 1987

5-11-87

Review of Region V CLP Data
Received for Review on 4/28/87

Curtis Ross, Director (5SCRL)
Central Regional Laboratory Jay Thakkar

Data User: Fit

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

SITE NAME: Anderson Man. Landfill SMO Case No. 6435 SAS 2786 E

EPA Data Set No. SF 3815 No. of Samples: 7 D.U./Activity Numbers 4905 / C72100

CRL No. 87FG01590 - 87FG01594

SMO Traffic No. MEI968 - MEI991

CLP Laboratory: Century Hrs. Required for Review: 1/2

Following are our findings.

This review covers re-analysis of seven drinking H_2O samples for total metals by ICP on a qualified sample for duplication and spiking. Se by GFAA was also re-analyzed. Se data is estimated for exceeding duplicate RPD limits of SAS. Ag data is alright despite spike of (134%) exceeding limits, but no detection was found in sample A low biased detection limit results in Sb spike falling low (42%), flagging the data as estimated. Corrections on mis-reported data were made by the Contractor, in addition to resubmitals requested in Contract Correction Screening by SMO.

5-11-87
DM

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

cc: Dr. Alfred Haeberer/Joan Fisk/Gary Ward, EPA Support Services
Ross K. Robeson, EMSL-Las Vegas
Don Trees, CLP/Sample Management Office

FORM 1320-4 REV 3-78

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. MEI-96V

Date 4/24/87

INORGANIC ANALYSIS DATA SHEET

LAB NAME CENTURY LABORATORIES CASE NO. 6935

SOW NO. 7/85

LAB SAMPLE ID. NO. 0022-01 QC REPORT NO. 019

Elements Identified and Measured

RECEIVED APR 24 1987 U.S. EPA CENTRAL REGIONAL LAB. 536 S. CLARK STREET CHICAGO, ILLINOIS 60605

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	13.	Magnesium
2.	Antimony	14.	Manganese
3.	Arsenic	15.	Mercury
4.	Barium	16.	Nickel
5.	Beryllium	17.	Potassium
6.	Cadmium	18.	Selenium 8.0 µFs A J
7.	Calcium	19.	Silver
8.	Chromium	20.	Sodium
9.	Cobalt	21.	Thallium
10.	Copper	22.	Vanadium
11.	Iron	23.	Zinc
12.	Lead		Percent Solids (%) N/A

Cyanide ____

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: Clear liquid

Lab Manager Kenneth Bond

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. MEI-969

Date 4/24/87

RECEIVED MAY 13 1987

INORGANIC ANALYSIS DATA SHEET

LAB NAME CENTURY LABORATORIES CASE NO. 6935

SOW NO. 785

LAB SAMPLE ID. NO. 0022-02 QC REPORT NO. 019

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	13.	Magnesium
2.	Antimony	14.	Manganese
3.	Arsenic	15.	Mercury
4.	Barium	16.	Nickel
5.	Beryllium	17.	Potassium
6.	Cadmium	18.	Selenium 4.0 FS + J
7.	Calcium	19.	Silver
8.	Chromium	20.	Sodium
9.	Cobalt	21.	Thallium
10.	Copper	22.	Vanadium
11.	Iron	23.	Zinc
12.	Lead		Precent Solids (%) N/A
	Cyanide		

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: Clear liquid

Lab Manager Kenneth Bond

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. MEI-9F7

Date 4/24/87

RECEIVED MAY 13 1987

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories CASE NO. 6935

SOW NO. 785

LAB SAMPLE ID. NO. 0022-03 QC REPORT NO. 019

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	13.	Magnesium
2.	Antimony	14.	Manganese
3.	Arsenic	15.	Mercury
4.	Barium	16.	Nickel
5.	Beryllium	17.	Potassium
6.	Cadmium	18.	Selenium 4.0 Fs * J
7.	Calcium	19.	Silver
8.	Chromium	20.	Sodium
9.	Cobalt	21.	Thallium
10.	Copper	22.	Vanadium
11.	Iron	23.	Zinc
12.	Lead		Percent Solids (%) N/A

Cyanide ____

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: Clear liquid

Lab Manager: Kenneth Bond

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. MEI-9 [illegible]

Date 4/24/87

RECEIVED [illegible]

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories CASE NO. 6935

SOW NO. 785

LAB SAMPLE ID. NO. 0022-04 QC REPORT NO. 019

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	13.	Magnesium
2.	Antimony	14.	Manganese
3.	Arsenic	15.	Mercury
4.	Barium	16.	Nickel
5.	Beryllium	17.	Potassium
6.	Cadmium	18.	Selenium 3.0 U ~~X~~ U Fe * J DM
7.	Calcium	19.	Silver
8.	Chromium	20.	Sodium
9.	Cobalt	21.	Thallium
10.	Copper	22.	Vanadium
11.	Iron	23.	Zinc
12.	Lead		Precent Solids (%) N/A
	Cyanide		

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: Clear liquid

Lab Manager Kenneth Bond

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. MEI-949

Date 4/24/87

RECEIVED MAY 13 1987

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories CASE NO. 6935

SOW NO. 7/8

LAB SAMPLE ID. NO. 0022-05 QC REPORT NO. 019

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	13.	Magnesium
2.	Antimony	14.	Manganese
3.	Arsenic	15.	Mercury
4.	Barium	16.	Nickel
5.	Beryllium	17.	Potassium
6.	Cadmium	18.	Selenium 4.0 FS * J
7.	Calcium	19.	Silver
8.	Chromium	20.	Sodium
9.	Cobalt	21.	Thallium
10.	Copper	22.	Vanadium
11.	Iron	23.	Zinc
12.	Lead		Percent Solids (%) N/A

Cyanide ____

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: Clear liquid

Lab Manager: Kenneth Bond

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.
MC1-990

Date 4/24/87

RECEIVED MAY 13 1987

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories CASE NO. 6935

SOW NO. 785

LAB SAMPLE ID. NO. 0072-06 QC REPORT NO. 019

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	13.	Magnesium
2.	Antimony	14.	Manganese
3.	Arsenic	15.	Mercury
4.	Barium	16.	Nickel
5.	Beryllium	17.	Potassium
6.	Cadmium	18.	Selenium 3-0 Fs * J
7.	Calcium	19.	Silver
8.	Chromium	20.	Sodium
9.	Cobalt	21.	Thallium
10.	Copper	22.	Vanadium
11.	Iron	23.	Zinc
12.	Lead		Percent Solids (%) N/A

Cyanide ____

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: Clear liquid

Lab Manager: Kenneth Bond

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.
MEI-991

Date 4/24/87

RECEIVED MAY 13 1987

INORGANIC ANALYSIS DATA SHEET

LAB NAME CENTURY LABORATORIES CASE NO. 6935

SOW NO. 785

LAB SAMPLE ID. NO. 0022-07 QC REPORT NO. 019

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	13.	Magnesium
2.	Antimony	14.	Manganese
3.	Arsenic	15.	Mercury
4.	Barium	16.	Nickel
5.	Beryllium	17.	Potassium
6.	Cadmium	18.	Selenium F.O.F.S * J
7.	Calcium	19.	Silver
8.	Chromium	20.	Sodium
9.	Cobalt	21.	Thallium
10.	Copper	22.	Vanadium
11.	Iron	23.	Zinc
12.	Lead		Percent Solids (%) N/A

Cyanide ____

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: Clear liquid

Lab Manager: Kenneth Bond

Form III -1

Q. C. Report No. 019

BLANKS

RECEIVED MAY 13 1987

LAB NAME CENTURY LABORATORIES CASE NO. 643

DATE 3-24-87 UNITS ug/l

Matrix WATER

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank Matrix: WATER 1	Matrix: 2
Metals:							
1. Aluminum	20u	20u	20u			20u	
2. Antimony	~~5.0u~~ 2.0u	~~2.0u~~ 2.0u	~~3.0u~~ 2.0u	2.0u	2.0u	~~2.0u~~ 2.0u	
3. Arsenic	2.0u	2.0u	2.0u	2.0u	2.0u	2.0u	
4. Barium	10u	10u	10u			10u	
5. Beryllium	5.0u	5.0u	5.0u			5.0u	
6. Cadmium	2.0u	2.0u	2.0u			2.0u	
7. Calcium	100u	100u	100u			100u	
8. Chromium	10u	10u	10u			10u	
9. Cobalt	10u	10u	10u			10u	
10. Copper	6.0u	6.0u	6.0u			6.0u	
11. Iron	40u	40u	40u			40u	
12. Lead	2.0u	2.0u	2.0u	2.0u	2.0u	2.0u	
13. Magnesium	100u	100u	100u			100u	
14. Manganese	5.0u	5.0u	5.0u			5.0u	
15. Mercury	0.2u	0.2u	0.2u	0.2u		0.2u	
16. Nickel	20u	20u	20u			20u	
17. Potassium	500u	500u	500u			500u	
18. Selenium	2.0u	~~2.0u~~ 4.0	~~2.0u~~ 3.0	2.0	2.0u	~~2.0u~~ 5.0	
19. Silver	10u	10u	10u			10u	
20. Sodium	[883]	[877]	[872]			[1,040]	
21. Thallium	2.0u	2.0u	2.0u	2.0u	2.0u	2.0u	
22. Vanadium	10u	10u	10u			10u	
23. Zinc	[~~8.0~~] ~~8.0u~~	[~~7~~] 7.0u	[~~7~~] 7.0u			[15]	
Other: SSN	20u	20u	20u	20u	20u	20u	
Cyanide	~~10u~~ 5.0u	~~5.0u~~ ~~10u~~	~~5.0u~~ ~~10u~~	~~5.0u~~ ~~10u~~		~~10u~~ 5.0u	

000013

Form V-1

Q. C. Report No. ~~01~~ 019

RECEIVED MAY 13 1987

SPIKE SAMPLE RECOVERY

LAB NAME CENTURY LABORATORIES

DATE 3-24-87

CASE NO. 6935

EPA Sample No. ~~00~~ MEI-9L1

Lab Sample ID No. 0022-01

Units ug/l

Matrix WATER

Compound	Control Limit %R	Spiked Sample Result (SSR)	Sample Result (SR)	Spiked Added (SA)	%R[1]
Metals:					
1. Aluminum	75-125	1130	20u	2000	~~91~~ 92
2. Antimony	-	~~184~~	~~30u~~	~~500~~	~~37~~
3. Arsenic	-				
4. Barium	-	1900	10u	2000	95
5. Beryllium	-	46	5.0u	50	92
6. Cadmium	-	34	2.0u	50	68N
7. Calcium	-		100u	NR	
8. Chromium	-	173	10u	200	86
9. Cobalt	-	455	10u	500	91
10. Copper	-	236	6.0u	250	94
11. Iron	-	89	50u	1000	89
12. Lead	-				
13. Magnesium	-		100u	NR	
14. Manganese	-	181	5.0u	200	90
15. Mercury	-				
16. Nickel	-	331	20u	1400	83
17. Potassium	-		500u	NR	
18. Selenium	-				
19. Silver	-	35	10u	50	70N
20. Sodium	-		[1030] ~~5000~~	NR	
21. Thallium	-		~~10~~		
22. Vanadium	-	432	10u	500	86
23. Zinc	-	225	6.0u	200	112
Other: ~~Sn~~		~~50~~	~~20u~~	~~50~~	10
Cyanide	-	82	~~40u~~ 5.0u	100	82

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

"N" - out of control

"NR" - Not required

Comments:

000016

RECEIVED MAY 13 1987

Form VI-2

Q. C. Report No. 019

DUPLICATES

LAB NAME CENTURY LABORATORIES

DATE 3-24-87

CASE NO. 6935

EPA Sample No. HE1-994

Lab Sample ID No. 0073-01

Units ug/l

Matrix WATER

Compound	Control Limit[1]	Sample(S)	Duplicate(D)	RPD[2]
Metals:				
1. Aluminum				
2. Antimony		2.0U	2.0U	NC
3. Arsenic		.013	.013	0
4. Barium				
5. Beryllium				
6. Cadmium				
7. Calcium				
8. Chromium				
9. Cobalt				
10. Copper				
11. Iron				
12. Lead		9.0	9.0	0
13. Magnesium				
14. Manganese				
15. Mercury		~~0.2U~~	~~0.2U~~	~~0~~
16. Nickel				
17. Potassium				
18. Selenium	±2.0	5.0	8.0	46 *
19. Silver				
20. Sodium				
21. Thallium		2.0U	2.0U	NC
22. Vanadium				
23. Zinc				
Other: Sn		20U	20U	NC
Cyanide				

* 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.

000020

Form V

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Q. C. Report No. 019

SPIKE SAMPLE RECOVERY

LAB NAME Century Laboratories

DATE 4/24/87

CASE NO. 6935

EPA Sample No. MC1-9AA

Lab Sample ID No. 0022-04

Units ug/L

Matrix WATER

Compound	Control Limit % R	Spiked Sample Result (SSR)	Sample Result (SR)	Spiked Added (SA)	% R[1]
Metals:					
1. Aluminum	75-125	1980	20u	2000 ~~1980~~	99
2. Antimony	-	209	30u	500	41N
3. Arsenic	-				
4. Barium	-	2330	299	2000	107
5. Beryllium	-	50	5.0u	50	100
6. Cadmium	-	44	2.0u ~~4.0u~~	50	88
7. Calcium	-	NR	44,200		
8. Chromium	-	206	10u	200	103
9. Cobalt	-	508	10u	500	102
10. Copper	-	259	6.0u	250	104
11. Iron	-	2120	1730	1000	109
12. Lead	-				
13. Magnesium	-	NR	23,100		
14. Manganese	-	226	18	200	104
15. Mercury	-				
16. Nickel	-	389	20u	400	97
17. Potassium	-	NR	<1540>		
18. Selenium	-				
19. Silver	-	67	10u	50	134N
20. Sodium	-	NR ~~21,200~~	19000		
21. Thallium	-				
22. Vanadium	-	478	10u	500	96
23. Zinc	-	212	10u	200	106
Others:					
Overide					

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

N - out of control

NR - Not required

Comments:

Form VI

Q. C. Report No. 019

DUPLICATES

LAB NAME CENTURY LABORATORIES

DATE 4/29/87

CASE NO. 6935

EPA Sample No. MEI-91F

Lab Sample ID No. 0022-07

Units

Matrix WATER

Compound	Control Limit[1]	Sample(S)	Duplicate(D)	RPD[2]
Metals:				
1. Aluminum		20u	20u	NC
2. Antimony		30u	30u	NC
3. Arsenic				
4. Barium		299	301	3.0
5. Beryllium		5.0u	5.0u	NC
6. Cadmium		2.0u	2.0u	NC
7. Calcium		44,200	45,300.	
8. Chromium		10u	10u	NC
9. Cobalt		10u	10u	NC
10. Copper		6.0u	6.0u	NC
11. Iron		1730	1760	1.7
12. Lead				
13. Magnesium		23,100	23,700	2.6
14. Manganese		18	18	0
15. Mercury				
16. Nickel		20u	20u	
17. Potassium		<1520>	<1620>	NC
18. Selenium				
19. Silver		10u	10u	NC
20. Sodium		19000	19,800	4.1
21. Thallium				
22. Vanadium		10u	10u	NC
23. Zinc		10u	10u	NC
Other:				
Cyanide				

* 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

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Form VI

Q. C. Report No. 019

DUPLICATES

LAB NAME CENTURY LABORATORIES

DATE 4/24/87

CASE NO. 6935

EPA Sample No. ME1-990

Lab Sample ID No. 0022-00

Units ug/l

Matrix WATER

Compound	Control Limit[1]	Sample(S)	Duplicate(D)	RPD[2]
Metals:				
1. Aluminum				
2. Antimony				
3. Arsenic				
4. Barium				
5. Beryllium				
6. Cadmium				
7. Calcium				
8. Chromium				
9. Cobalt				
10. Copper				
11. Iron				
12. Lead				
13. Magnesium				
14. Manganese				
15. Mercury				
16. Nickel				
17. Potassium				
18. Selenium	±2.0	3.0	6.0	67*
19. Silver				
20. Sodium				
21. Thallium				
22. Vanadium				
23. Zinc				
Other:				
Cyanide				

* 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.

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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. ME1-96F

Date 3-24-87

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INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 6935

SOW NO. 785

LAB SAMPLE ID. NO. 0022-01 QC REPORT NO. 014

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	20uP	13.	Magnesium	100uP
2.	Antimony	~~30uPNF~~ 2.0uF	14.	Manganese	5.0uP
3.	Arsenic	2.0uSFN	15.	Mercury	0.2u
4.	Barium	10uP	16.	Nickel	20uP
5.	Beryllium	5.0uP	17.	Potassium	~~[1030]P~~ 500uP
6.	Cadmium	2.0uPN	18.	Selenium	4.0FSN*
7.	Calcium	100uP	19.	Silver	10uPN
8.	Chromium	10uP	20.	Sodium	[1030]P
9.	Cobalt	10uP	21.	Thallium	2.0uFS
10.	Copper	6.0uP	22.	Vanadium	10uP
11.	Iron	80uP	23.	Zinc	[19]P
12.	Lead	2.0uFSN		Percent Solids (%)	NA
	Cyanide	5.0u		SN	20uFS

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: E = SEN DIL OUT OF SPEC

Clear liquid

Lab Manager Kenneth Bond

000003

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.
ME1-967

Date 3-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 6935

SOW NO. 785

LAB SAMPLE ID. NO. 0022-02 QC REPORT NO. 019

RECEIVED MAY 13 1987

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	20uP	13.	Magnesium	29,600P
2.	Antimony 2.0uP	~~300P/NF~~	14.	Manganese	5.0uP
3.	Arsenic	7.0FsN	15.	Mercury	0.2U
4.	Barium	[193]P	16.	Nickel	20uP
5.	Beryllium	5.0uP	17.	Potassium	[1,650]P
6.	Cadmium	2.0uPN	18.	Selenium	12Fs*N
7.	Calcium	70,100P	19.	Silver	10uPN
8.	Chromium	10uP	20.	Sodium	11,000P
9.	Cobalt	10uP	21.	Thallium	2.0uFs
10.	Copper	6.0uP	22.	Vanadium	10uP
11.	Iron	1,500P	23.	Zinc	89P
12.	Lead	2.0uFSN		Percent Solids (%)	NA
	Cyanide	5.0U		SN	20uFs

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: Clear liquid

Lab Manager: Kenneth Bond

000004

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. MEI-917

Date 3-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 6935

SOW NO. 785

LAB SAMPLE ID. NO. 8822-03 QC REPORT NO. 01

RECEIVED MAY 13 1987

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	20uP	13.	Magnesium	31,400P
2.	Antimony	~~30uP~~ 2.0uF	14.	Manganese	16P
3.	Arsenic	3.0FsN	15.	Mercury	0.2u
4.	Barium	[17+]P	16.	Nickel	20uP
5.	Beryllium	5.0uP	17.	Potassium	[1,730]P
6.	Cadmium	2.0uPN	18.	Selenium	7.0Fs *N
7.	Calcium	51,900P	19.	Silver	10uPN
8.	Chromium	10uP	20.	Sodium	9,770P
9.	Cobalt	10uP	21.	Thallium	2.0uFs
10.	Copper	6.0uP	22.	Vanadium	10uP
11.	Iron	2,720P	23.	Zinc	61P
12.	Lead	2.0uFSN		Percent Solids (%)	NA
	Cyanide	5.0u		SN	20uFs

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: Clear liquid

Lab Manager: Kenneth Bond

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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. ME1-9H

Date 3-24-89

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 6955

SOW NO. 785

LAB SAMPLE ID. NO. 0022-04 QC REPORT NO. 019

RECEIVED MAY 1 [illegible]

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	20UP	13.	Magnesium	22,300P
2.	Antimony	~~30UPNF~~ 2.0UF	14.	Manganese	15P
3.	Arsenic	4.0FsN	15.	Mercury	0.2U
4.	Barium	285P	16.	Nickel	20UP
5.	Beryllium	5.0UP	17.	Potassium	[1,430]P
6.	Cadmium	2.0UPN	18.	Selenium	4.0Fs*N
7.	Calcium	42,600P	19.	Silver	10UPN
8.	Chromium	10UP	20.	Sodium	14,300P
9.	Cobalt	10UP	21.	Thallium	2.0UFS
10.	Copper	6.0UP	22.	Vanadium	10UP
11.	Iron	1,620P	23.	Zinc	30P
12.	Lead	2.0UFSN		Percent Solids (%)	NA
	Cyanide	5.0U			20UFS

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: liquid, clear

Lab Manager: Kenneth Bond

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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. ME1-989

Date 3-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc.

CASE NO. 6935

SOW NO. 785

LAB SAMPLE ID. NO. 0022-05

QC REPORT NO. 019

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Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	20uP	13.	Magnesium	25000P
2.	Antimony	~~30uP N~~ F 2.0uF	14.	Manganese	125P
3.	Arsenic	2.0uFs N	15.	Mercury	0.2u
4.	Barium	(45) P	16.	Nickel	20uP
5.	Beryllium	5.0uP	17.	Potassium	[2,160] P
6.	Cadmium	2.0uP N	18.	Selenium	2.0uFs * N
7.	Calcium	93,100P	19.	Silver	465P N
8.	Chromium	10uP	20.	Sodium	[4,230] P
9.	Cobalt	~~6.0uP~~ 10uP	21.	Thallium	2.0uFs
10.	Copper	[8.5] P	22.	Vanadium	10uP
11.	Iron	4,050P	23.	Zinc	34P
12.	Lead	2.0uFs N		Precent Solids (%)	
	Cyanide	5.0u			20uFs

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: Clear liquid

Lab Manager Kenneth Bond

000007

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. MFI-990

Date 3-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 6955

SOW NO. 785

LAB SAMPLE ID. NO. 0022-06 QC REPORT NO. 019

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Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	20uP	13.	Magnesium	23,300P
2.	Antimony	~~30uPNP~~ 2.0uF	14.	Manganese	37P
3.	Arsenic	2.0uFsN	15.	Mercury	0.2u
4.	Barium	[187]P	16.	Nickel	20uP
5.	Beryllium	5.0uP	17.	Potassium	[1220]P
6.	Cadmium	2.0uPN	18.	Selenium	2.0uFs+N
7.	Calcium	83,700P	19.	Silver	10uPN
8.	Chromium	10uP	20.	Sodium	6,910P
9.	Cobalt	10uP	21.	Thallium	2.0uFs
10.	Copper	6.0uP	22.	Vanadium	10uP
11.	Iron	4,710P	23.	Zinc	628P
12.	Lead	2.0uFsN		Precent Solids (%)	NA
	Cyanide	5.0u			20uFs

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: Clear liquid

Lab Manager Kenneth Bond

000008

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. HE1-991

Date 3-24-87

INORGANIC ANALYSIS DATA SHEET

LAB NAME Century Laboratories, Inc. CASE NO. 6935

SOW NO. 785

LAB SAMPLE ID. NO. ~~HE1-9~~ 0021-07 QC REPORT NO. 019

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	20UP	13.	Magnesium	29,800P
2.	Antimony	~~300UPF~~ 2.0UF	14.	Manganese	5.1P
3.	Arsenic	7.0UFSN	15.	Mercury	0.2U
4.	Barium	[195]P	16.	Nickel	20UP
5.	Beryllium	5.0UP	17.	Potassium	[1690]P
6.	Cadmium	2.0UPN	18.	Selenium	7.0FS*N
7.	Calcium	70,600P	19.	Silver	10UPN
8.	Chromium	10UP	20.	Sodium	11,040P
9.	Cobalt	10UP	21.	Thallium	2.0UFS
10.	Copper	6.0UP	22.	Vanadium	10UP
11.	Iron	1,450PE	23.	Zinc	94P
12.	Lead	2.0UFSN		Percent Solids (%)	NA
	Cyanide	5.0U			20UFS

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: Clear liquid

Lab Manager Kenneth Bond

000009

ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415

International Specialists in the Environment

Date Received for Review: 4/13 Date Review Completed: 4/14

TO: John Geiger

FROM: Zena Gold-Kaufman

SUBJECT: Anderson Municipal Landfill
FMI0550
F05-8702-153

Sample Description: Case # 6935 7 Low Waters

Project Data Status: complete

FIT Date Review Findings:

- no HSL compounds above CRDL usable for HRS)

Additional Comments:

none

Book No. 6

Page No. 19

recycled paper

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

Re-Analysis

ESD/Central Regional Laboratory
DATA TRACKING FORM FOR CONTRACT SAMPLES

RECEIVED APR 13 1987

CRL Data Set No. SF3815 CERCLIS No. MID980678528

SMO Case No. 6935SAS2776E Site Name and Location: Anderson Mun Landfill

Name of Contractor or EPA Laboratory: Cal Data User: Fit

No. of Samples: 7 Date Samples or Data Received: 4/6/87

1. Have chain-of-custody records been received? YES ✓ NO ___
2. Have Traffic Reports or packing lists been received? YES ✓ NO ___
3. If no, are Traffic Report or packing list numbers written on the chain-of-custody record? YES ✓ NO ___
4. If no, which Traffic report or packing list numbers are missing?

Are basic data forms in? YES ✓ NO ___

Number of samples claimed: 7 Number of samples received: 7

Checked by: Midia Feliciano Date: 4/6/87

Received by Contract Project Management Section: P. Chinillo Date: 4/6/87

Review Started: 4/7/87 Reviewer Signature: Zena Gold-Kaufman

Total time spent on review: 2 Date review completed: 4/7/87

Copied (xeroxed) by: Yvette Date: ___

Mailed to Data User by: Midia Feliciano Date: 4/9/87

DATA USERS:

Please fill in the blanks below and return this form to: Sylvia Griffin, Data Management Coordinator, Region V, 5SCRL

Data received by: ___ Date: ___

Q.A. review received by: ___ Date: ___

Inorganic Data Complete [ ], Suitable for Intended Purposes [ ] ✓ [ ] if acceptable.
Organic Data Complete [ ], Suitable for Intended Purposes [ ] List problems below.
Dioxin Data Complete [ ], Suitable for Intended Purposes [ ]
SAS Data Complete [ ], Suitable for Intended Purposes [ ]

See Attached "Missing Data Request Form" [ ]
PROBLEMS: Please indicate reasons (if any) why data are not suitable for your uses. Other problems.

Received by Data Management Coordinator, CRL for File: Date: ___

Signature: ___

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

RECEIVED APR 13 1987

DATE: 4/8/87

SUBJECT: Review of Region V CLP Data
Received for Review on March 25, 1987

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

TO: Date User: FIT

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

SITE NAME Anderson Municipal L.F. SMO Case No. 6935SAS2786E

EPA DATA SET NO. SF3815 No. OF SAMPLES 7 D.U./ACTIVITY NUMBERS Y905/C72100

CRL No.: 87FG01R13 - 87FG01D90

SMO Traffic No. EJ940 - EJ963

CLP Laboratory: CAL Hrs. Required for Review: 7

Following are our findings.

(1) Case Narrative:
The samples were analysed as low concentration water samples with low detection limits, 14 day turnaround.

VOAs - Many samples with surrogates VIS outside recovery windows. All samples will be reanalyzed

SV - Matrix Spike - recovery of surrogate.

Pesticide - Data incomplete because of instrument instability.

(2) Water Surrogate Percent Recovery Summary

Reanalyze - Volatiles	-	18 out of 30	outside
Acceptable SV	-	7 out of 6	QC
Acceptable Pest	-	0 out of 6	Limits

Reviewed by Edna Feldt-Kaufman 4/13/87

( ) Data are acceptable for use.
(✓) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by contractor lab.
( ) Data are unacceptable.

cc: Dr. Alfred Haeber/Joan Fisk/Gary Ward. EPA Support Services.
Ross K. Robeson, EMSL - LasVegas
Don Trees, CLP/Sample Management Office

(3) Water Matrix Spike/Matrix Spike Duplicate Recovery

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Recovery -		RPD	
VOA	6/10	VOA	- 0/5
B/N	5/12	B/N	3/6
Acid	3/10	Acid	0/5
Pest	0/12	Pest	0/6

VOAs will be re-analyzed all others are acceptable.

(4) Tuning

DFTPP & BFP - All tunes are acceptable
All samples run within 12 hours per ~~tunign~~ tuning sheet
All ~~#s~~ (numbers) from quant reports transcribed correctly
All spectra (RIC) acceptable

(5) Standards

For VOAs - per SAS request minimum RF values are 0.05. For initial calibration %RSD shall be no greater than 40%.

VOA Standards:

2 - Butanone - RF for initial calibration = 0.019
all values are qualified with R - unuseable

Semi - Volatiles

Hexachlorocyclopentadiene -
continuing calibration
3/21: %D = 27.9% all values are qualified with
3/23: %D = 25.7% J - estimated valued

Benzidine -
Initial calibration
3/21 RF = 0.015 - All values are qualified with an R - unuseable.

Continuing Calibration
3/23 RF = 0.014 - All values are qualified with an R - unuseable.

ZGK

USER INFORMATION SHEET

Samples

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(a) Blank - EJ940
VOA $MeCl_2$ - 53 ug/L
$CHCl_3$ - 2 ug/L

SV bis(2-ethylhexyl)phthalate (BEHP) - 1.3 ug/L B
PCB - None

(b) EJ941

A/B/N - BEHP 1.4 ug/L B
VOA None
Pest

(c) EJ959

VOAs - None
A/B/N BEHP 1.4 ug/L B
Pest None

(d) EJ960

VOAs - None
SV - BEHP - 1.1 ug/L
Pest - None

(e) EJ961

VOAs $MeCl_2$ - 14 ug/L
SV BEHP
Pest - None

(f) EJ962 MSD
VOA - $MeCl_2$ - 1J
A/B/N BEHP 1.3B
Pest - No sheet included

(g) EJ963

VOA - None
ABN - BEHP 1.3B
Pest - No sheet included

Subsequent data package

EJ962 Pesticides - None
EJ963 Pesticides - None

ZGK

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

CASE# 6935/2786E CONTRACTOR CAL

	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	3/19/87														
	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	0.019	21.911	R	0.02	37										
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate															
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform															
4-Methyl-2-Pentanone															
2-Hexanone															
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

ET940.
ET941.
EJ959.
EJ962.
ET963
EJ962MS
EJ962MS

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* 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# 6935/2786E CONTRACTOR CAL

	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	3/21/87			3/21 12:8			3/23 10:11								
	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				0.132	27.9	J	.136	25.7	J						
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:

EJ941	EJ961
EJ940	EJ962
EJ942	EJ962MS
EJ960	EJ962MSD
	EJ963
	EJ962RI

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* 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# 6935/2786E CONTRACTOR CAL

	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	3/21/87			3/21 12			3/22 1018								
	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															
Benzidine	0.015	3.45	R	0.014			0.014								

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SEE PAGE 1 FOR AFFECTED SAMPLES.

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

SF 3815

March 24, 1987

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

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MAR 25 1987
U.S. EPA CENTRAL
REGIONAL LAB

Enseco

RECEIVED APR 13 1987

Dear Joan Fisk:

Enclosed are data summary sheets and documentation for samples and QA/QC comprising Case 6935/2786E of Contract 68-01-7140. These samples were received 3/11/87 and logged in under the following CAL Lab numbers:

CAL Lab Number	Sample I.D.
S9048	EJ940
S9049	EJ941
S9050	EJ959
S9051	EJ960
S9052	EJ961
S9053	EJ962
S9054	EJ963

The samples were analyzed as low concentration water samples for low detection limits on a fourteen day turnaround. This case presented numerous problems to our analytical staff. The volatile analysis although done within the required holding time had many samples with the surrogates and internal standards outside the recovery windows. All of these samples will be re-analyzed and these results will follow shortly. The semivolatile analysis had only one problem which was the variation in recovery of surrogates for the matrix spike sample. This sample was analyzed three times and the results for the surrogates and internal standards varied from one analysis to the next. We would have re-analyzed the sample, but no sample was left. The pesticide data is incomplete because of instrument instability. All but the final two samples, spike and duplicate spike are included and these results will follow shortly.

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 W. Orbanosky
Director of GC/MS Services

Ben N. Buechler
Director of Chromatography Services

Michael S. Filigenzi
GC/MS Supervisor

Karin S. Yee
Data Specialist

2544 Industrial Boulevard
West Sacramento, California 95691
916/372-1393

Facsimile: 916/372-1059

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 4/8/87

SUBJECT: Review of Region V CLP Data
Received for Review on 4/6/87

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory

Patrick J. Chunks

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TO: Date User: FIT

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

SITE NAME Anderson Municipal Landfill SMO Case No. (00) 6935SAS2786E

EPA DATA SET NO. SF3815 No. OF SAMPLES 7 D.U./ACTIVITY NUMBERS Y905/C72100

CRL No.: 87FG01590 - 87FG01594
SMO
Traffic No. EJ940 - EJ963

CLP Laboratory: CAL Hrs. Required for Review: 2

Following are our findings.

Re-Analysis Package

(1) Case Narrative -
VOAs were reanalyzed due to low surrogate and internal standards.

(2) Water Surrogates % recoveries for VOAs only - data acceptable

(3) Method Blank
found: Acetone 2.1 ug/L
TIC

(4) Tuning - Data acceptable
m/z 176 for BFB is outside specifications
Lab reported value incorrectly as 100.9%. Value = 100.99% which rounds to 101.0%.

( ) Data are acceptable for use.
(✓) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by contractor lab.
( ) Data are unacceptable.

cc: Dr. Alfred Haeber/Joan Fisk/Gary Ward. EPA Support Services.
Ross K. Robeson, EMSL - LasVegas
Don Trees, CLP/Sample Management Office

reviewed by Lena Hold-Kaufman 4/8/87

(5) Times -

Due to reanalysis holding times were exceeded.

(6) Samples -

No VOAs detected.

Summary - Data is acceptable but, due to the long time required to receive the complete data, the lab should not be paid for fast turn around.

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ok

California Analytical Laboratory Enseco Incorporated

57376

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APR 06 1987
US EPA CENTRAL REGIONAL LAB.
536 S. CLARK STREET
CHICAGO, ILLINOIS 60605

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Enseco

April 3, 1987

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 6935/2786E of Contract 68-01-7140. These samples were received 3/11/87 and logged in under the following CAL Lab numbers:

CAL Lab Number	Sample I.D.
S9048	EJ940
S9049	EJ941
S9050	EJ959
S9051	EJ960
S9052	EJ961
S9053	EJ962
S9054	EJ963

These volatile samples were reanalyzed due to low surrogate and internal standards. (See the case narrative dated 3/24/87.) If you have any questions, please give us a call.

Sincerely,

Michael W. Orbanosky
Director of GC/MS Services

Michael S. Filigenzi
GC/MS Supervisor

Karin S. Yee
Data Specialist

2544 Industrial Boulevard
West Sacramento, California 95691
916/372-1393

Facsimile: 916/372-1059

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CASE 6935/2786E

Cal I.D.	Sample I.D.	ug/L (ppb) Found Acrolein	Acrylonitrile
S9048	EJ 940	100 U	50 U
S9049	EJ 941	100 U	50 U
S9050	EJ 959	100 U	50 U
S9051	EJ 960	100 U	50 U
S9052	EJ 961	100 U	50 U
S9053	EJ 962	100 U	50 U
S9054	EJ 963	100 U	50 U
S9053 MS	EJ 962 MS	100 U	50 U
S9053 MSD	EJ 962 MSD	100 U	50 U
VBK3870318	VOA BLANK	100 U	50 U

PREPARED BY: Kij

APPROVED BY: WWD 3/24/87

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CASE 6935/2786E

Cal I.D.	Sample I.D.	ug/L (ppb) Found - Aniline
S9048	EJ 940	10 U
S9049	EJ 941	10 U
S9050	EJ 959	10 U
S9051	EJ 960	10 U
S9052	EJ 961	10 U
S9053	EJ 962	10 U
S9054	EJ 963	10 U
S9054 MS	EJ 963 MS	10 U
S9054 MSD	EJ 963 MSD	10 U
S9048 MB	METHOD BLANK	10 U

PREPARED BY: APPROVED BY: 3/24/87

WATER SURROGATE PERCENT RECOVERY SUMMARY

CASE NO.: 6935/2786E CONTRACT LABORATORY: CALIFORNIA ANALYTICAL LABS CONTRACT NO.: 668-01-7140 DATA PREP/RELEASE BY: EV, [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 (36-114)	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)**
EJ 940	100	110	72*	85	95	95	45	68	93	115
EJ 941	83*	100	63*	100	105	100	43	63	95	121
EJ 959	73*	100	51*	105	105	105	45	65	93	104
EJ 960	75*	110	69*	100	105	100	40	58	95	114
EJ 961	66*	91	75*	105	105	105	43	60	98	77
EJ 962	60*	97	29*	105	100	105	45	63	93	
EJ 963	28*	44*	28*	100	100	110	48	68	108	
S9048MB	NR	NR	NR	85	75	90	43	60	80	123
EJ 962 MS	53*	88	130*	160*	140*	160*	45	65	127*	NR
EJ 962 MS RI	NR	NR	NR	130*	135*	135	47	65	112	NR
EJ 962 MSD	62*	94	150*	105	95	110	50	70	157*	NR
VBK3870318	90	110	80	NR	NR	NR	NR	NR	NR	NR

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* VALUES ARE OUTSIDE OF CONTRACT REQUIRED QC LIMITS

** ADVISORY LIMITS ONLY

VOLATILES: 18 OUT OF 30 : OUTSIDE OF QC LIMITS 60%
SEMI-VOLATILES: 7 OUT OF 66 : OUTSIDE OF QC LIMITS
PESTICIDES: 0 OUT OF 6 : OUTSIDE OF QC LIMITS

COMMENTS:

EV
lwo

WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

CASE NO.: 6935/2786E CONTRACTOR____CAL____ CONTRACT NO.68-01-7140

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	10.7	107	10.6	106	0.93	14	61-145
SMO	Trichloroethene	10	10	0	12.6	126 *	12.4	124 *	1.6	14	71-120
SAMPLE NO.	Chlorobenzene	10	10	0	8.23	82	8.38	84 *	2.4	13	75-130
	Toluene	10	10	0	5.02	50 *	4.89	49	2.0	13	76-125
EJ 962	Benzene	10	10	0	5.4	54 *	5.38	54 *	0	11	76-127
B/N	1,2,4-Trichlorobenzene	20	20	0	21.6	108 *	14.1	71	41 *	28	39-98
SMO	Acenaphthene	20	20	0	20.2	101	14.8	74	31	31	46-118
SAMPLE NO.	2,4-Dinitrotoluene	20	20	0	21.1	106 *	13.3	67	45 *	38	24-96
	Pyrene	20	20	0	20.9	104	16.3	81	23	31	26-127
	N-Nitrosodi-n-Propylamine	20	20	0	20.4	102	14.5	73	33	38	41-116
EJ 962	1,4-Dichlorobenzene	20	20	0	18.8	94	12.8	64	38 *	28	36-97
ACID	Pentachlorophenol	40	40	0	41.1	103	49.7	124 *	18	50	9-103
SMO	Phenol	40	40	0	17.3	43	18.4	46	6.7	42	12-89
SAMPLE NO.	2-Chlorophenol	40	40	0	43.6	109	44.7	112	1.8	40	27-123
	4-Chloro-3-Methylphenol	40	40	0	48.4	121 *	51.3	128 *	5.6	42	23-97
EJ 962	4-Nitrophenol	40	40	0	17.1	43	17.7	44	2.3	50	10-80
PEST	Lindane									15	56-123
SMO	Heptachlor									20	40-131
SAMPLE NO.	Aldrin									22	40-120
	Dieldrin									18	52-126
	Endrin									21	56-121
	4,4-DDT									27	38-127

* ASTERISKED VALUES ARE OUTSIDE QC LIMITS

RPD: VOAs Ø out of 5 ; outside QC limits
B/Ns 3 out of 6 ; outside QC limits
ACID Ø out of 5 ; outside QC limits
PEST — out of 6 ; outside QC limits

RECOVERY: VOAs 6 out of 10 ; outside QC limits
B/Ns 5 out of 12 ; outside QC limits
ACID 3 out of 10 ; outside QC limits
PEST — out of 12 ; outside QC limits

Comments:

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EV

METHOD BLANK SUMMARY

CASE NO. 6935/2786E REGION: 5 CONTRACTOR: CALIFORNIA ANALYTCAL LABORATORIES,INC CONTRACT NO. 68-01-7140

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	CONC. LEVEL	INST. ID	CAS NUMBER	COMPOUND (HSL.TIC OR UNKNOWN)	CONC.	UNITS	CRDL
S9048MB	3/21/87	ABN	WATER	LOW	F12	117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	1.2	UG/L	1
						507-45-9	BUTANE,2,3-DICHLORO-2-METHYL	1.2	UG/L	-
						25144-05-2	CYCLOPENTANOL,2-METHYL-,CIS	0.8	UG/L	-
						2341-86-8	BENZENAMINE, N-[(PENTAFLUOROPH	2.5	UG/L	-
						18406-56-9	PHOSPHONIC ACID (PHENYLMETHYL	5.3	UG/L	-
VBK3870318	3/18/87	VOA	WATER	LOW	F4	67-64-1	ACETONE	3.2	UG/L	10
						124-38-9	CARBONE DIOXIDE (ACN)	51	UG/L	-
						1779-19-7	1,3,6-TRIOXOCANE	94	UG/L	-
S8048MB	3/24/87	PEST	WATER	LOW	GC6	-	NO PESTICIDES FOUND	-	-	-

COMMENTS:

FORM IV 7/85

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6

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CASE 6935/2786E

Cal I.D.	Sample I.D.	Acrolein	ug/L (ppb) Found Acrylonitrile
S9048 RE	EJ 940 RE	100 U	50 U
S9049 RE	EJ 941 RE	100 U	50 U
S9050 RE	EJ 959 RE	100 U	50 U
S9051 RE	EJ 960 RE	100 U	50 U
S9052 RE	EJ 961 RE	100 U	50 U
S9053 RE	EJ 962 RE	100 U	50 U
S9054 RE	EJ 963 RE	100 U	50 U
S9053 MS RE	EJ 962 MS RE	100 U	50 U
S9053 MSD RE	EJ 962 MSD RE	100 U	50 U
VBK4870327	VOA BLANK	100 U	50 U

PREPARED BY: Hy APPROVED BY: MJR

87FG01R13

Sample Number
EJ 940

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: California Analytical Laboratories, Inc.
Case No: 6935/2786E
Lab Sample ID No: S9048
QC Report No: 2786E
Sample Matrix: WATER
Contract No: 68-01-7029
Data Release Authorized By:
Date Sample Received: 3/11/87

RECEIVED APR 13 1987

Volatile Compounds

Concentration: Low
Date Extracted/Prepared: 3/18/87
Date Analyzed: 3/18/87
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	53
67-64-1	Acetone	9 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	2
107-06-2	1,2-Dichloroethane	1 U
78-93-3	2-Butanone	10 U R 25K
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.

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:6935/2786E

Sample Number
EJ 940

Organics Analysis Data Sheet
(Page 2)

RECEIVED APR 1 3 1987

Semivolatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/13/87

Date Analyzed: 3/21/87

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 J 60K
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	1.3 B
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

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:6935/2786E

Sample Number
EJ 940

RECEIVED APR 1 3 1987

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: LOW

Date Extracted/Prepared: 3/13/87

Date Analyzed: 3/24/87

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	0.005 U
319-86-8	Delta-BHC	0.005 U
58-89-9	Gamma-BHC (Lindane)	0.005 U
76-44-8	Heptachlor	0.030 U
309-00-2	Aldrin	0.005 U
1024-57-3	Heptachlor Epoxide	0.005 U
959-98-8	Endosulfan I	0.010 U
60-57-1	Dieldrin	0.010 U
72-55-9	4,4'-DDE	0.005 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	0.50 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 =2000 or W_s =NR V_t = 5000 V_i = 5

ORGANICS ANALYSIS DATA SHEET
Page 4
TENTATIVELY IDENTIFIED COMPOUNDS

RECEIVED APR 13 1987

Lab Name: CAL Case No. 6935/2786E Sample No. EJ 940

QC Report No. 2786E Lab Sample No. S904801AB

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

87FG01S90

Sample Number
EJ 941

Organics Analysis Data Sheet
(Page 1)

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Laboratory Name: California Analytical Laboratories, Inc.
Lab Sample ID No: S9049
Sample Matrix: WATER
Data Release Authorized By:

Case No: 6935/2786E
QC Report No: 2786E
Contract No: 68-01-7140
Date Sample Received: 3/11/87

Volatile Compounds

Concentration: Low
Date Extracted/Prepared: 3/18/87
Date Analyzed: 3/18/87
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 RGK
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.

Prepared by: EV

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:6935/2786E

Sample Number
EJ 941

RECEIVED APR 13 1987

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/13/87

Date Analyzed: 3/21/87

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 JBK
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	1.4 B
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

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Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:6935/2786E

Sample Number
EJ 941

Organics Analysis Data Sheet
(Page 3)

RECEIVED APR 13 1987

Pesticide/PCBs

Concentration: LOW

Date Extracted/Prepared: 3/13/87

Date Analyzed: 3/24/87

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	0.005 U
319-86-8	Delta-BHC	0.005 U
58-89-9	Gamma-BHC (Lindane)	0.005 U
76-44-8	Heptachlor	0.030 U
309-00-2	Aldrin	0.005 U
1024-57-3	Heptachlor Epoxide	0.005 U
959-98-8	Endosulfan I	0.010 U
60-57-1	Dieldrin	0.010 U
72-55-9	4,4'-DDE	0.005 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	0.50 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 =2000 or W_s =NR V_t = 5000 V_i = 5

87FG01S91

Sample Number
EJ 959

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: California Analytical Laboratories, Inc.

Case No: 6935/2786E

Lab Sample ID No: S9050

QC Report No: 2786E

Sample Matrix: WATER

Contract No: 68-01-7140

Data Release Authorized By:

Date Sample Received: 3/11/87

RECEIVED APR 13 1987

Volatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/18/87

Date Analyzed: 3/18/87

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	1 J
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 Rej
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.

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Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:6935/2786E

Sample Number
EJ 959

Organics Analysis Data Sheet
(Page 2)

RECEIVED APR 13 1987

Semivolatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/13/87

Date Analyzed: 3/21/87

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	1.4 B
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

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:6935/2786E

Sample Number
EJ 959

Organics Analysis Data Sheet
(Page 3)

RECEIVED APR 13 1987

Pesticide/PCBs

Concentration: LOW

Date Extracted/Prepared: 3/13/87

Date Analyzed: 3/24/87

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	0.005 U
319-86-8	Delta-BHC	0.005 U
58-89-9	Gamma-BHC (Lindane)	0.005 U
76-44-8	Heptachlor	0.030 U
309-00-2	Aldrin	0.005 U
1024-57-3	Heptachlor Epoxide	0.005 U
959-98-8	Endosulfan I	0.010 U
60-57-1	Dieldrin	0.010 U
72-55-9	4,4'-DDE	0.005 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	0.50 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 =2000 or W_s =NR V_t = 5000 V_i = 5

ORGANICS ANALYSIS DATA SHEET
Page 4
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CAL Case No. 6935/2786E Sample No. EJ 959

QC Report No. 2786E Lab Sample No. S905001AB

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

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

No volatile compounds

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FORM 1, PART B

87FG01592

Sample Number
EJ 960

Organics Analysis Data Sheet
(Page 1)

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Laboratory Name: California Analytical Laboratories, Inc.
Case No: 6935/2786E
Lab Sample ID No: S9051
QC Report No: 2786E
Sample Matrix: WATER
Contract No: 68-01-7140
Data Release Authorized By:
Date Sample Received: 3/11/87

Volatile Compounds

Concentration: Low
Date Extracted/Prepared: 3/18/87
Date Analyzed: 3/18/87
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	1 J
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 RBK
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.

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:6935/2786E

Sample Number
EJ 960

Organics Analysis Data Sheet
(Page 2)

RECEIVED APR 13 1987

Semivolatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/13/87

Date Analyzed: 3/21/87

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 J
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	1.1 B
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

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:6935/2786E

Sample Number
EJ 960

Organics Analysis Data Sheet
(Page 3)

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Pesticide/PCBs

Concentration: LOW

Date Extracted/Prepared: 3/13/87

Date Analyzed: 3/24/87

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	0.005 U
319-86-8	Delta-BHC	0.005 U
58-89-9	Gamma-BHC (Lindane)	0.005 U
76-44-8	Heptachlor	0.030 U
309-00-2	Aldrin	0.005 U
1024-57-3	Heptachlor Epoxide	0.005 U
959-98-8	Endosulfan I	0.010 U
60-57-1	Dieldrin	0.010 U
72-55-9	4,4'-DDE	0.005 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	0.50 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 =2000 or W_s =NR V_t = 5000 V_i = 5

ORGANICS ANALYSIS DATA SHEET
Page 4
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CAL Case No. 6935/2786E Sample No. EJ 960

QC Report No. 2786E Lab Sample No. 87E101AB

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.	13941-61-8	PHENANTHRO[3,2-B]FURAN-4-CARBO	A/BN	1624	390	3.1 UG/L
2.	25346-95-6	BENZENE, 1,1'-(1-PHENYL-1,2-ET	A/BN	1632	393	2.7 UG/L

COMPOUND NAME	PROBABILITY	COMMENTS
1. PHENANTHRO[3,2-B]FURAN-4-CARBO	1. C	1.
2. BENZENE, 1,1'-(1-PHENYL-1,2-ET	2. C	2.

m

No volatile compounds

FORM 1, PART B

87FG01593

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Sample Number
EJ 961

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: California Analytical Laboratories, Inc.

Case No: 6935/2786E

Lab Sample ID No: S9052

QC Report No: 2786E

Sample Matrix: WATER

Contract No: 68-01-7140

Data Release Authorized By:

Date Sample Received: 3/11/87

Volatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/18/87

Date Analyzed: 3/18/87

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 ZK
75-00-3	Chloroethane	1 U
75-09-2	Methylene Chloride	14 ← found in Blank
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 RZK
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.

tory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Id 935/2786E

Sample Number
EJ 961

RECEIVED APR 1 3 1987

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

en tion: Low

Extracted/Prepared: 3/13/87

An yzed: 3/23/87

Dil Factor: 1

GPC Cleanup: NO

Separatory Funnel Extraction: YES

Continuous Liquid - Liquid Extraction: NO

S ib		ug/L
5-2	Phenol	1.0 U
4-4	bis(-2-Chloroethyl)Ether	1.0 U
-8	2-Chlorophenol	1.0 U
3-1	1,3-Dichlorobenzene	1.0 U
6-7	1,4-Dichlorobenzene	1.0 U
1-6	Benzyl Alcohol	1.0 U
-1	1,2-Dichlorobenzene	1.0 U
-7	2-Methylphenol	1.0 U
1-3	bis(2-chloroisopropyl)Ether	1.0 U
4-5	4-Methylphenol	1.0 U
4-7	N-Nitroso-Di-n-Propylamine	1.0 U
-1	Hexachloroethane	1.0 U
-3	Nitrobenzene	1.0 U
-1	Isophorone	1.0 U
-5	2-Nitrophenol	1.0 U
7-9	2,4-Dimethylphenol	1.0 U
-0	Benzoic Acid	20 U
1-1	bis(-2-Chloroethoxy)Methane	1.0 U
3-2	2,4-Dichlorophenol	1.0 U
2-1	1,2,4-Trichlorobenzene	1.0 U
3	Naphthalene	1.0 U
7-8	4-Chloroaniline	1.0 U
3	Hexachlorobutadiene	1.0 U
7	4-Chloro-3-Methylphenol	1.0 U
6	2-Methylnaphthalene	1.0 U
4	Hexachlorocyclopentadiene	1.0 U
2	2,4,6-Trichlorophenol	1.0 U
4	2,4,5-Trichlorophenol	1.0 U
7	2-Chloronaphthalene	1.0 U
4	2-Nitroaniline	5.0 U
-3	Dimethyl Phthalate	1.0 U
-8	Acenaphthylene	1.0 U
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	1.4 B
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

X/1 5 Form I Prepared by: 7/85

ORGANICS ANALYSIS DATA SHEET
Page 4
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CAL Case No. 6935/2786E Sample No. EJ 961

QC Report No. 2786E Lab Sample No. S905201AB

RECEIVED APR 13 1987

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

	CAS#	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	Estimated CONC. J VALUE
1.	10544-50-0	SULFUR, MOL. (S8)	A/BN	1401	941	34.4 UG/L
2.	5074-71-5	PHOSPHINE, BIS(PENTAFLUOROPHEN	A/BN	1461	480	13.0 UG/L
3.	15406-56-9	PHOSPHONIC ACID, (PHENYLMETHYL	A/BN	1624	370	1.7 UG/L
4.	15406-56-9	PHOSPHONIC ACID, (PHENYLMETHYL	A/BN	1632	417	1.8 UG/L

COMPOUND NAME	PROBABILITY	COMMENTS
1. SULFUR, MOL. (S8)	1. A	1.
2. PHOSPHINE, BIS(PENTAFLUOROPHEN	2. C	2. DFTPP Breakdown
3. PHOSPHONIC ACID, (PHENYLMETHYL	3. C	3.
4. PHOSPHONIC ACID, (PHENYLMETHYL	4. C	4.

No volatile compounds

FORM 1, PART B

87FG01S94

Sample Number
EJ 962

Organics Analysis Data Sheet
(Page 1)

RECEIVED APR 13 1987

Laboratory Name: California Analytical Laboratories, Inc.
Case No: 6935/2786E
Lab Sample ID No: S9053
QC Report No: 2786E
Sample Matrix: WATER
Contract No: 68-01-7140
Data Release Authorized By:
Date Sample Received: 3/11/87

Volatile Compounds

Concentration: Low
Date Extracted/Prepared: 3/18/87
Date Analyzed: 3/18/87
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	1 J
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 RZGK
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.

EV

189

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:6935/2786E

Sample Number
EJ 962

RECEIVED APR 13 1987

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/13/87

Date Analyzed: 3/23/87

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 JZK
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	1.3 B
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

Lab Name: CAL Case No. 6935/27866 Sample No. EJ 962

SDG Report No. 27866 Lab Sample No. S9053[illegible]

RECEIVED APR 1 5 1987

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

	CAS #	COMPOUND NAME	FRACTION	SCAN NUMBER	PURITY	Estimated Conc. J VALUE
..	5074-71-5	PHOSPHINE, BIS(PENTAFLUOROPHEN	A/BN	1460	493	6.2 UG/L

COMPOUND NAME	PROBABILITY	COMMENTS
1. PHOSPHINE, BIS(PENTAFLUOROPHEN	1. C	1. DMPP Breakdown

No volatile compounds

FORM I, Part B

RECEIVED APR 13 1987 87FG01594

Sample Number
EJ 962

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: California Analytical Laboratories, Inc.

Case No: 6935/2786E

Lab Sample ID No: S9053

QC Report No: 2786E

Sample Matrix: WATER

Contract No: 68-01-7140

Data Release Authorized By:

Date Sample Received: 3/11/87

Volatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/18/87

Date Analyzed: 3/18/87

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	1 J
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.

Prepared by: EV

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:6935/2786E

Sample Number
EJ 962

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Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/13/87

Date Analyzed: 3/23/87

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	1.3 B
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

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:6935/2786E

Sample Number
EJ 962

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Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: LOW

Date Extracted/Prepared: 3/13/87

Date Analyzed: 3/24/87

Conc/Dil Factor: 2.5

GPC Cleanup: NO

Separatory Funnel Extraction: YES

Continuous Liquid - Liquid Extraction: NO

CAS Number		ug/L
319-84-6	Alpha-BHC	0.025 U
319-85-7	Beta-BHC	0.013 U
319-86-8	Delta-BHC	0.013 U
58-89-9	Gamma-BHC (Lindane)	0.013 U
76-44-8	Heptachlor	0.075 U
309-00-2	Aldrin	0.013 U
1024-57-3	Heptachlor Epoxide	0.013 U
959-98-8	Endosulfan I	0.010 U
60-57-1	Dieldrin	0.010 U
72-55-9	4,4'-DDE	0.005 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	0.50 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	0.25 U
11104-28-2	Aroclor-1221	0.25 U
11141-16-5	Aroclor-1232	0.25 U
53469-21-9	Aroclor-1242	0.25 U
12672-29-6	Aroclor-1248	0.25 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 =2000 or W_s =NR V_t = 13000 V_i = 5

ORGANICS ANALYSIS DATA SHEET
Page 4
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CAL Case No. 6935/2786E Sample No. EJ 962

QC Report No. 2786E Lab Sample No. S905301AB

RECEIVED APR 1 3 1987

Probability that Indentification 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.	5074-71-5	PHOSPHINE, BIS(PENTAFLUOROPHEN	A/BN	1460	493	6.2 UG/L

COMPOUND NAME	PROBABILITY	COMMENTS
1. PHOSPHINE, BIS(PENTAFLUOROPHEN	1. C	1. DMPP Breakdown

No volatile compounds

FORM I, Part B

87FG01090

Sample Number
EJ 963

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: California Analytical Laboratories, Inc.
Lab Sample ID No: S9054
Sample Matrix: WATER
Data Release Authorized By:

Case No: 6935/2786E
QC Report No: 2786E
Contract No: 68-01-7140
Date Sample Received: 3/11/87

RECEIVED APR 13 1987

Volatile Compounds

Concentration: Low
Date Extracted/Prepared: 3/18/87
Date Analyzed: 3/18/87
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.

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Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:6935/2786E

Sample Number
EJ 963

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/13/87

Date Analyzed: 3/23/87

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	1.3 B
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

Laboratory Name: CALIFORNIA ANALYTICAL LABORATORIES, INC.
Case No:6935/2786E

Sample Number
EJ 963

Organics Analysis Data Sheet
(Page 3)

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Pesticide/PCBs

Concentration: LOW

Date Extracted/Prepared: 3/13/87

Date Analyzed: 3/24/87

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	0.005 U
319-86-8	Delta-BHC	0.005 U
58-89-9	Gamma-BHC (Lindane)	0.005 U
76-44-8	Heptachlor	0.030 U
309-00-2	Aldrin	0.005 U
1024-57-3	Heptachlor Epoxide	0.005 U
959-98-8	Endosulfan I	0.010 U
60-57-1	Dieldrin	0.010 U
72-55-9	4,4'-DDE	0.005 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	0.50 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 =2000 or W_s =NR V_t = 5000 V_i = 5

ORGANICS ANALYSIS DATA SHEET
Page 4
TENTATIVELY IDENTIFIED COMPOUNDS

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Lab Name: CAL Case No. 6935/2786E Sample No. EJ963

QC Report No. 2786E Lab Sample No. S905401AB

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.	2341-86-8	BENZENAMINE, N-[(PENTAFLUOROPH	A/BN	1426	215	1.0 UG/L
2.	32101-58-9	BENZENE, 1-[2-(1,1-DIMETHYLETH	A/BN	1624	419	2.1 UG/L

COMPOUND NAME	PROBABILITY	COMMENTS
1. BENZENAMINE, N-[(PENTAFLUOROPH	1. C	1.
2. BENZENE, 1-[2-(1,1-DIMETHYLETH	2. C	2.

No volatile Compounds

FORM 1, PART B

WATER SURROGATE PERCENT RECOVERY SUMMARY

CASE NO.: 6935/2786E CONTRACT LABORATORY: CALIFORNIA ANALYTICAL LABS CONTRACT NO.: 68-01-7140 DATA PREP/RELEASE BY: KY, (M)

SMO TRAFFIC NO.	VOLATILE: TOLUENE D8 (88-110)	BFB (86-115)	1,2 DICHLORO ETHANE D4 (76-114)	SEMI-VOLATILE: NITRO-BENZENE D5 (36-114)	2-FLUORO BIPHENYL (43-116)	TERPHENYL D14 (33-141)	PHENOL-D5 (10-94)	2-FLUORO-PHENOL (21-100)	2,4,6 TRIBROMO-PHENOL (10-123)	PESTICIDE: DIBUTYL-CHLORENDATE (24-154)**
EJ 940 RE	110	110	100	NR	NR	NR	NR	NR	NR	NR
EJ 941 RE	105	99	100	NR	NR	NR	NR	NR	NR	NR
EJ 959 RE	102	103	100	NR	NR	NR	NR	NR	NR	NR
EJ 960 RE	97	102	100	NR	NR	NR	NR	NR	NR	NR
EJ 961 RE	99	96	100	NR	NR	NR	NR	NR	NR	NR
EJ 962 RE	107	106	100	NR	NR	NR	NR	NR	NR	NR
EJ 963 RE	100	105	100	NR	NR	NR	NR	NR	NR	NR
EJ 962 MS RI	100	105	100	NR	NR	NR	NR	NR	NR	NR
EJ 962 MSD RI	107	105	100	NR	NR	NR	NR	NR	NR	NR
VBK4870327	105	105	100	NR	NR	NR	NR	NR	NR	NR

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* VALUES ARE OUTSIDE OF CONTRACT REQUIRED QC LIMITS

** ADVISORY LIMITS ONLY

VOLATILES: 0 OUT OF 30 : OUTSIDE OF QC LIMITS
SEMI-VOLATILES: ____ OUT OF ____ : OUTSIDE OF QC LIMITS
PESTICIDES: ____ OUT OF ____ : OUTSIDE OF QC LIMITS

✓ 26K

COMMENTS:

WATER MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

CASE NO.: 6935/2786E CONTRACTOR____CAL____ CONTRACT NO.68-01-7140

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	8.93	89	9.69	97	8.6	14	61-145
SMO	Trichloroethene	10	10	0	11.3	113	11.1	111	1.8	14	71-120
SAMPLE NO.	Chlorobenzene	10	10	0	10.8	108	11.2	112	3.6	13	75-130
	Toluene	10	10	0	10.1	101	10.5	105	4.9	13	76-125
EJ 962 RI	Benzene	10	10	0	11.0	110	10.8	108	1.8	11	76-127
B/N	1,2,4-Trichlorobenzene									28	39-98
SMO	Acenaphthene									31	46-118
SAMPLE NO.	2,4-Dinitrotoluene									38	24-96
	Pyrene									31	26-127
	N-Nitrosodi-n-Propylamine									38	41-116
	1,4-Dichlorobenzene									28	36-97
ACID	Pentachlorophenol									50	9-103
SMO	Phenol									42	12-89
SAMPLE NO.	2-Chlorophenol									40	27-123
	4-Chloro-3-Methylphenol									42	23-97
	4-Nitrophenol									50	10-80
PEST	Lindane									15	56-123
SMO	Heptachlor									20	40-131
SAMPLE NO.	Aldrin									22	40-120
	Dieldrin									18	52-126
	Endrin									21	56-121
	4,4-DDT									27	38-127

* ASTERISKED VALUES ARE OUTSIDE QC LIMITS

RPD: VOAs 0 out of 5 ; outside QC limits
B/Ns____out of 6 ; outside QC limits
ACID____out of 5 ; outside QC limits
PEST____out of 6 ; outside QC limits

RECOVERY: VOAs 0 out of 10 ; outside QC limits
B/Ns____out of 12 ; outside QC limits
ACID____out of 10 ; outside QC limits
PEST____out of 12 ; outside QC limits

Comments:

FORM III

7/85

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METHOD BLANK SUMMARY

CASE NO. 6935/2786E REGION: 5 CONTRACTOR: CALIFORNIA ANALYTCAL LABORATORIES,INC CONTRACT NO. 68-01-7140

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	CONC. LEVEL	INST. ID	CAS NUMBER	COMPOUND (HSL.TIC OR UNKNOWN)	CONC.	UNITS	CRDL
VBK4870327	3/27/87	VOA	WATER	LOW	F4	67-64-1	ACETONE	2.1	UG/L	10
						1779-19-7	1,2,3-TRIOXOCANE	42	UG/L	-

COMMENTS:

FORM IV 7/85

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87FG01R13

Sample Number
EJ 940 RE

Organics Analysis Data Sheet

RECEIVED APR 3 1987

Laboratory Name: California Analytical Laboratories, Inc.

Case No: 6935/2786E

Lab Sample ID No: S9048 RE

QC Report No: 2786E

Sample Matrix: WATER

Contract No: 68-01-7140

Data Release Authorized By:

Date Sample Received: 3/11/87

Volatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/27/87

Date Analyzed: 3/27/87

Conc/Dil Factor: 1 pH: NR

Percent Moisture: NR

Percent Moisture (Decanted): NR

CAS Number		ug/L
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	35
67-64-1	Acetone	3 JB
75-15-0	Carbon Disulfide	5 U
75-35-4	1,1-Dichloroethene	5 U
75-34-3	1,1-Dichloroethane	5 U
156-60-5	Trans-1,2-Dichloroethene	5 U
67-66-3	Chloroform	3 J
107-06-2	1,2-Dichloroethane	5 U
78-93-3	2-Butanone	10 U
71-55-6	1,1,1-Trichloroethane	5 U
56-23-5	Carbon Tetrachloride	5 U
108-05-4	Vinyl Acetate	10 U
75-27-4	Bromodichloromethane	5 U

CAS Number		ug/L
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
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
108-10-1	4-Methyl-2-Pentanone	10 U
591-78-6	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	5 U
108-88-3	Toluene	5 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 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.

Laboratory Name Cal Labs

Case No 6935/2786E

Sample Number EJ940 RL

Organics Analysis Data Sheet

(Page 4) RECEIVED APR 1 3 1987

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
	No volatile compounds found			
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				

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87FG01590

Sample Number
EJ 941 RE

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: California Analytical Laboratories, Inc.

Case No: 6935/2786E

Lab Sample ID No: S9049 RE

QC Report No: 2786E

Sample Matrix: WATER

Contract No: 68-01-7140

Data Release Authorized By: MJ

Date Sample Received: 3/11/87

Volatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/27/87

Date Analyzed: 3/27/87

Conc/Dil Factor: 1 pH: NR

Percent Moisture: NR

Percent Moisture (Decanted): NR

CAS Number		ug/L
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	5 JB
75-15-0	Carbon Disulfide	5 U
75-35-4	1,1-Dichloroethene	5 U
75-34-3	1,1-Dichloroethane	5 U
156-60-5	Trans-1,2-Dichloroethene	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

CAS Number		ug/L
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
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
108-10-1	4-Methyl-2-Pentanone	10 U
591-78-6	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	5 U
108-88-3	Toluene	5 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 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.

Laboratory Name Cal Labs

Case No 6435/2786E

Sample Number EJ941RU

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Organics Analysis Data Sheet

(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	No volatile compounds found			
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				

87FG01591

Sample Number
EJ 959 RE

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Organics Analysis Data Sheet
(Page 1)

Laboratory Name: California Analytical Laboratories, Inc.

Case No: 6935/2786E

Lab Sample ID No: S9050 RE

QC Report No: 2786E

Sample Matrix: WATER

Contract No: 68-01-7140

Data Release Authorized By: (W)

Date Sample Received: 3/11/87

Volatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/27/87

Date Analyzed: 3/27/87

Conc/Dil Factor: 1 pH: NR

Percent Moisture: NR

Percent Moisture (Decanted): NR

CAS Number		ug/L
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	2 JB
75-15-0	Carbon Disulfide	5 U
75-35-4	1,1-Dichloroethene	5 U
75-34-3	1,1-Dichloroethane	5 U
156-60-5	Trans-1,2-Dichloroethene	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

CAS Number		ug/L
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
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
108-10-1	4-Methyl-2-Pentanone	10 U
591-78-6	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	5 U
108-88-3	Toluene	5 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 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.

Laboratory Name Cal Labs

Case No 6435/2786E

RECEIVED APR 1 3 1987

Sample Number EJ959 RE

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	No volatile compounds found			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
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87FG01592

Sample Number
EJ 960 RE

Organics Analysis Data Sheet
(Page 1)

RECEIVED APR 13 1987

Laboratory Name: California Analytical Laboratories, Inc.

Case No: 6935/2786E

Lab Sample ID No: S9051 RE

QC Report No: 2786E

Sample Matrix: WATER

Contract No: 68-01-7140

Data Release Authorized By:

Date Sample Received: 3/11/87

Volatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/27/87

Date Analyzed: 3/27/87

Conc/Dil Factor: 1 pH: NR

Percent Moisture: NR

Percent Moisture (Decanted): NR

CAS Number		ug/L
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 U
75-15-0	Carbon Disulfide	5 U
75-35-4	1,1-Dichloroethene	5 U
75-34-3	1,1-Dichloroethane	5 U
156-60-5	Trans-1,2-Dichloroethene	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

CAS Number		ug/L
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
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
108-10-1	4-Methyl-2-Pentanone	10 U
591-78-6	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	5 U
108-88-3	Toluene	5 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 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.

Laboratory Name Cal Labs

Case No 6435/2716E

Sample Number EJ960 Re

RECEIVED APR 13 1987

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	No volatile compounds found			
2.				
3.				
4.				
5.				
6.				
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87F601593

Sample Number
EJ 961 RE

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: California Analytical Laboratories, Inc.
Case No: 6935/27865
Lab Sample ID No: S9052 RE
QC Report No: 2786E
Sample Matrix: WATER
Contract No: 68-01-7140
Data Release Authorized By: M
Date Sample Received: 3/11/87

RECEIVED APR 13 1987

Volatile Compounds

Concentration: Low
Date Extracted/Prepared: 3/27/87
Date Analyzed: 3/27/87
Conc/Dil Factor: 1 pH: NR
Percent Moisture: NR
Percent Moisture (Decanted): NR

CAS Number		ug/L
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	9
67-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	5 U
75-35-4	1,1-Dichloroethene	5 U
75-34-3	1,1-Dichloroethane	5 U
156-60-5	Trans-1,2-Dichloroethene	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

CAS Number		ug/L
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
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
108-10-1	4-Methyl-2-Pentanone	10 U
591-78-6	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	5 U
108-88-3	Toluene	5 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 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.

Laboratory Name Cal Labs

Case No 6435/2786E

RECEIVED APR 1 3 1987

Sample Number
EJ961 Re

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	No volatile compounds found			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
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20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

87F601594

Sample Number
EJ 962 RE

Organics Analysis Data Sheet

RECEIVED APR 13 1987

Laboratory Name: California Analytical Laboratories, Inc.

Case No: 6935/2786E

Lab Sample ID No: S9053 RE

QC Report No: 2786E

Sample Matrix: WATER

Contract No: 68-01-7140

Data Release Authorized By:

Date Sample Received: 3/11/87

Volatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/27/87

Date Analyzed: 3/27/87

Conc/Dil Factor: 1 pH: NR

Percent Moisture: NR

Percent Moisture (Decanted): NR

CAS Number		ug/L
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	5 JB
75-15-0	Carbon Disulfide	5 U
75-35-4	1,1-Dichloroethene	5 U
75-34-3	1,1-Dichloroethane	5 U
156-60-5	Trans-1,2-Dichloroethene	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

CAS Number		ug/L
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
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
108-10-1	4-Methyl-2-Pentanone	10 U
591-78-6	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	5 U
108-88-3	Toluene	5 U
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 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.

Laboratory Name Cal Labs

Case No 6935/2786E

Sample Number EJ962 RE

Organics Analysis Data Sheet

RECEIVED APR 13 1987

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	No volatile compounds found			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
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87FG01090

Sample Number
EJ 963 RE

RECEIVED APR 6 1987

Organics Analysis Data Sheet
(Page 1)

Laboratory Name: California Analytical Laboratories, Inc.

Case No: 6935/2786E

Lab Sample ID No: S9054 RE

QC Report No: 2786E

Sample Matrix: WATER

Contract No: 68-01-7140

Data Release Authorized By: (W)

Date Sample Received: 3/11/87

Volatile Compounds

Concentration: Low

Date Extracted/Prepared: 3/27/87

Date Analyzed: 3/27/87

Conc/Dil Factor: 1 pH: NR

Percent Moisture: NR

Percent Moisture (Decanted): NR

CAS Number		ug/L
74-87-3	Chloromethane	10 U
74-83-9	Bromomethane	10 U
75-01-4	Vinyl Chloride	10 U
75-00-3	Chloroethane	10 U
75-09-2	Methylene Chloride	13
67-64-1	Acetone	12 B
75-15-0	Carbon Disulfide	5 U
75-35-4	1,1-Dichloroethene	5 U
75-34-3	1,1-Dichloroethane	5 U
156-60-5	Trans-1,2-Dichloroethene	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

CAS Number		ug/L
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
110-75-8	2-Chloroethylvinylether	10 U
75-25-2	Bromoform	5 U
108-10-1	4-Methyl-2-Pentanone	10 U
591-78-6	2-Hexanone	10 U
127-18-4	Tetrachloroethene	5 U
79-34-5	1,1,2,2-Tetrachloroethane	5 U
108-88-3	Toluene	2 J
108-90-7	Chlorobenzene	5 U
100-41-4	Ethylbenzene	5 U
100-42-5	Styrene	5 U
	Total Xylenes	5 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.

Laboratory Name Cal Labs

Case No 6935/2786E

RECEIVED APR 1 3 1987

Sample Number EJ963Re

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	No volatile compounds found			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
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APPENDIX F

WELL LOGS OF THE AREA OF THE SITE

GEOLOGICAL SURVEY SAMPLE No.

SEP 2 8 1979

WATER WELL RECORD

ACT 294 PA 1965 NONE

MICHIGAN DEPARTMENT OF PUBLIC HEALTH #1

1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
Washtenaw	Salem	~~NE~~ ¼ ¼ ¼	2	1 S.	7 E

NON-RESPONSIVE

[redacted]

2 FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Top. Soil	1	1
Clay & Sand	5	6
gravel & Sand	16	22
Clay	15	37
gravel & Blue Clay	27	64
Blue Clay	26	90
Gravel Wet	12	102
Sand Gravel Wet	13	115

ADDED INFO BY DRILLER, ITEM NO.
*CORRECTED BY
**ADDITION BY
ELEVATION d/c
DEPTH TO ROCK

USE A 2ND SHEET IF NEEDED

7 in. to 111 ft. Depth | Weight 11 lbs./ft.
___ in. to ___ ft. Depth | Drive Shoe? Yes ☒ No ☐

8 SCREEN:
Type: S. S Dia.: 4
Slot/Gauze 25 Length 4'
Set between 111 ft. and 115 ft.
Fittings: K. Packer

9 STATIC WATER LEVEL
90 ft. below land surface

10 PUMPING LEVEL below land surface
100 ft. after ___ hrs. pumping 12 g.p.m.
110 ft. after ___ hrs. pumping ___ g.p.m.

11 WATER QUALITY in Parts Per Million:
Iron (Fe) ___ Chlorides (Cl) ___
Hardness ___ Other ___

12 WELL HEAD COMPLETION: ☐ In Approved Pit
☒ Pitless Adapter ☒ 12" Above Grade

13 Well Grouted? ☐ Yes ☒ No
☐ Neat Cement ☐ Bentonite ☐ ___
Depth: From ___ ft. to ___ ft.

14 Nearest Source of possible contamination
150 feet S Direction Septic Type
Well disinfected upon completion ☒ Yes ☐ No

15 PUMP: ☐ Not installed
Manufacturer's Name Red Jacket
Model Number 12BC HP 3/4 Volts 230
Length of Drop Pipe 110 ft. capacity 12 G.P.M.
Type: ☒ Submersible
☐ Jet ☐ Reciprocating

16 Remarks, elevation, source of data, etc.

RECEIVED
Mich. Dept. of Public Health
OCT 10 1978
Bureau of Environmental and Occupational Health

17 WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Clyde Pr 1199
REGISTERED BUSINESS NAME REGISTRATION NO.

Address 18241 Myron Livonia

Signed William Gage Date March 78
AUTHORIZED REPRESENTATIVE

WATER WELL RECORD
ACT 294 PA 1965

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

#2

WASHTENAW

1 LOCATION OF WELL

County	Twp.	Fraction	Section No.	Town	Range
[illegible]	Salem	NW SW NW	1	1 N/S.	7 E/

NON-RESPONSIVE

2 FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Sand + Gravel	48	48
Sand + Mud	5	55
Hard Pan	15	68
Course Water Sand	4	72

4 WELL DEPTH (completed) 72 ft. Date of Completion

5 ☒ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Jetted ☐ Bored ☐ ___

6 USE: ☒ Domestic ☐ Public Supply ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☐ Test Well ☐ ___

7 CASING Diam. Threaded ☐ Welded ☐
4 in. to 72 ft. Depth
___ in. to ___ ft. Depth
Height: Above/Below surface ___ ft.
Weight ___ lbs/ft.
Drive Shoe? Yes ☒ No ☐

8 SCREEN:
Type: Slotted Dia.: 5" ID
Slot/Gauze 16 Length 4'
Set between 68 ft. and 72 ft.
Fittings: Packer, bottom connecting 5" nipple

9 STATIC WATER LEVEL
15 ft. below land surface

10 PUMPING LEVEL below land surface
68 ft. after 6 hrs. pumping 10 g.p.m.
___ ft. after ___ hrs. pumping ___ g.p.m.

11 WATER QUALITY in Parts Per Million:
Iron (Fe) ___ Chlorides (Cl) ___
Hardness ___

12 WELL HEAD COMPLETION: ☐ In Approved Pit ☐ Pitless Adapter ☐ 12" Above Grade

13 GROUTING:
Well Grouted? ☐ Yes ☐ No
Material: ☐ Neat Cement ☐ ___
Depth: From ___ ft. to ___ ft.

14 SANITARY:
Nearest Source of possible contamination
___ feet ___ Direction ___ Type
Well disinfected upon completion ☐ Yes ☐ No

15 PUMP:
Manufacturer's Name ___
Model Number ___ HP ___
Length of Drop Pipe ___ ft. capacity ___ G.P.M.
Type: ☐ Submersible ☐ ___ ☐ Jet ☐ Reciprocating

16 Remarks, elevation, source of data, etc.

[illegible] INFO. [illegible]

[illegible]RECTED [illegible]

[illegible]

17 WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Roberts Drilling Co. #[illegible]
REGISTERED BUSINESS NAME REGISTRATION NO.

Address 21725 Ruth Farm.

Signed [illegible] Date 5-30-67
AUTHORIZED REPRESENTATIVE

D67D 100M 6-66

GEOLOGICAL SURVEY SAMPLE No.

MAY 31 1978

WATER WELL RECORD

ACT 294 PA 1965

MICHIGAN DEPARTMENT OF PUBLIC HEALTH #3

NON-RESPONSIVE

[redacted]

2 FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Yellow Clay	12	12
Gray Clay	57	69
Coarse Sand	4	73

4 in. to 73 ft. Depth | Weight 11 lbs./ft.
in. to ft. Depth | Drive Shoe? Yes ☒ No ☐

8 SCREEN:
Type: Stainless Dia.: 4"
Slot Gauge 25 Length 4'
Set between 69 ft. and 73 ft.
Fittings: Lead Packer

9 STATIC WATER LEVEL
46 ft. below land surface

10 PUMPING LEVEL below land surface
50 ft. after 2 hrs. pumping 15 g.p.m.
ft. after hrs. pumping g.p.m.

11 WATER QUALITY in Parts Per Million:
Iron (Fe) Chlorides (Cl) UNKNOWN
Hardness Other

12 WELL HEAD COMPLETION: ☐ In Approved Pit
☒ Pitless Adapter ☐ 12" Above Grade

13 Well Grouted? ☐ Yes ☒ No
☐ Neat Cement ☐ Bentonite ☐
Depth: From ft. to ft.

14 Nearest Source of possible contamination
95 feet N.E. Direction Septic Type
Well disinfected upon completion ☒ Yes ☐ No

15 PUMP: ☐ Not installed
Manufacturer's Name Myers
Model Number 526772B HP 3/4 Volts 230
Length of Drop Pipe 57 ft. capacity 12 G.P.M.
Type: ☒ Submersible
☐ Jet ☐ Reciprocating

USE A 2ND SHEET IF NEEDED

16 Remarks, elevation, source of data, etc.

WELL NO.

DEPTH TO ROCK

17 WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Earl Neiman 64
REGISTERED BUSINESS NAME REGISTRATION NO.

Address 8430 Canton Center, Canton

Earl Neiman Date 5-17-78
SIGNATURE OF PERSON OF BUSINESS NAME

D673

GEOLOGICAL SURVEY SAMPLE No.

WATER WELL RECORD

ACT 294 PA 1965

MICHIGAN DEPARTMENT OF #4

NON-RESPONSIVE

[redacted]

2 FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
Top soil	1	1
Gravel clay	4	5
Gravel Dry	50	55
Blue clay Gravel	20	75
Coarse water Gravel	9	84

USE A 2ND SHEET IF NEEDED

4 in. to 80 ft. Depth
___ in. to ___ ft. Depth

Surface ___ ft.
Weight 11 lbs./ft.
Drive Shoe? Yes [X] No [ ]

8 SCREEN:
Type: Red Brass Dia.: 4"
Slot Gauze 18 Length 4"
Set between 80 ft. and 84 ft.
Fittings: Hemp Packer Plug 1' Blank

9 STATIC WATER LEVEL
40 ft. below land surface

10 PUMPING LEVEL below land surface
75 ft. after 2 hrs. pumping 8 g.p.m.
___ ft. after ___ hrs. pumping ___ g.p.m.

11 WATER QUALITY in Parts Per Million:
Iron (Fe) ___ Chlorides (Cl) ___
Hardness ___ Other ___

12 WELL HEAD COMPLETION: [ ] In Approved Pit
[X] Pitless Adapter [ ] 12" Above Grade

13 Well Grouted? [X] Yes [ ] No
[ ] Neat Cement [X] Bentonite [ ] ___
Depth: From ___ ft. to ___ ft.

14 Nearest Source of possible contamination
60 feet S Direction Septic Type
Well disinfected upon completion [X] Yes [ ] No

15 PUMP: [ ] Not installed
Manufacturer's Name [illegible]
Model Number UFH HP 1/2 Volts 230
Length of Drop Pipe 76 ft. capacity ___ G.P.M.
Type: [X] Submersible
[ ] Jet [ ] Reciprocating

16 Remarks, elevation, source of data, etc.

17 WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

[illegible] [illegible]
REGISTERED BUSINESS NAME REGISTRATION NO.

Address 715 [illegible] [illegible]

Signed [illegible] Date [illegible]
AUTHORIZED REPRESENTATIVE

D67c [illegible] (Rev. 12-6)

GEOLOGICAL SURVEY SAMPLE No.

WATER WELL RECORD

ACT 294 PA 1965

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

#5

NON-RESPONSIVE

[illegible]	62	62
[illegible]	10	72

5 ☒ Cable tool ☐ Rotary ☐ Driven ☐ Dug ☐ Hollow rod ☐ Jetted ☐ Bored ☐ ___

6 USE: ☒ Domestic ☐ Public Supply ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☐ Test Well ☐ ___

7 CASING: Diam. Threaded ☐ Welded ☐
4 in. to 68 ft. Depth
___ in. to ___ ft. Depth
Height: Above/Below surface 1 ft.
Weight 11 lbs/ft.
Drive Shoe? Yes ☒ No ☐

8 SCREEN:
Type: W W Cook Dia.: 3 3/4
Slot/Gauze 30 Length 4'
Set between 64 ft. and 72 ft.
Fittings: Packer & Plug

9 STATIC WATER LEVEL
45 ft. below land surface

10 PUMPING LEVEL below land surface
54 ft. after 2 hrs. pumping 10 g.p.m.
___ ft. after ___ hrs. pumping ___ g.p.m.

11 WATER QUALITY in Parts Per Million:
Iron (Fe) ___ Chlorides (Cl) ___
Hardness ___

12 WELL HEAD COMPLETION: ☐ In Approved Pit ☒ Pitless Adapter ☐ 12" Above Grade

13 GROUTING:
Well Grouted? ☒ Yes ☐ No
Material: ☐ Neat Cement ☐ Gel
Depth: From ___ ft. to ___ ft.

14 SANITARY:
Nearest Source of possible contamination
100 feet N Direction Septic Type
Well disinfected upon completion ☒ Yes ☐ No

15 PUMP:
Manufacturer's Name Reda
Model Number 7D9P031 HP ___
Length of Drop Pipe 63 ft. capacity ___ G.P.M.
Type: ☒ Submersible ☐ ___ ☐ Jet ☐ Reciprocating

16 Remarks, elevation, source of data, etc.
Washtenaw County Health
Form E SA 16-68

17 WATER WELL CONTRACTOR'S CERTIFICATION
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

[illegible] REGISTERED BUSINESS NAME [illegible] REGISTRATION NO.

Address [illegible]

Signed [illegible] AUTHORIZED REPRESENTATIVE Date [illegible]

100M 6-66

Gas field (23)
TD 4660 in Black River (53
Facility

=6

7-1S-8E
Northville Twp. (Wayne Co.)

Consumers Power Company

Consumers Power Company No. 213 Permit No. 25724

Drilling Contractor: Calvert Eastern Drilling Company (Rotary)

Location: Approximately Center, W½ NW¼ Section 7, T.1S, R.8E
1287 feet from South and 650 feet from West line of quarter section.

Elevation: 953.3 feet above sea level (rot. bush.)

Record by: B. L. Champion from sample log and core descriptions submitted by the company and company formation tops from Schlumberger Gamma Ray-Neutron Log. (Sj)

	Thickness (feet)	Depth (feet)
PLEISTOCENE:		
Drift:		
Gravel	322	322
MISSISSIPPIAN - DEVONIAN:		
Antrim:		
Shale, dark brown to black. (straight hole survey = 3/4° deviation at 362')	94	416
DEVONIAN:		
Traverse Formation:		
Dolomite, greyish green, highly argillaceous.	47	463
Traverse Limestone:		
Dolomite, tan to buff white, abundant white, opaque chert.	21	484
Limestone, grey, finely crystalline, very fossiliferous and very shaly.	27	511
Mostly grey soft, calcareous, fossiliferous shale with scattered thin stringers of grey fossiliferous, shaly limestone.	160	671
	(208)	
Dundee:		
Limestone, buff to tan, coarse granular to bioclastic.	92	763
Limestone, greyish buff, medium granular text. Good porosity.	56	819
	(148)	
Detroit River:		
Dolomite, light brown to buff, sucrosic, porous.	25	844
Dolomite, brown to grey, fine sucrosic, numerous thin anhydrite beds.	201	1045
Dolomite, grey buff, fine sucrosic, sandy.	86	1131
	(312)	
Sylvania:		
Sandstone, grey to white, fine to medium grained, rounded and frosted, slightly dolomitic in part, good porosity.	213	1344
Bois Blanc:		
Dolomite, grey to tan, fine sucrosic, sandy in part, abundant grey white, opaque chert throughout.	46	1390