Site Team Evaluation Prioritization

L1218020006 - Marion
Prior Landfill
ILD 980 989 206
SF/HRS

EPA Region 5 Records Ctr.
391022

CERCLA Report

Illinois Environmental Protection Agency

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STEP INSPECTION REPORT

PRIOR LANDFILL
ILD 980 989 206

Prepared by Illinois Environmental Protection Agency

July 19, 1996

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1.0 INTRODUCTION

Prior Landfill was added to CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System) in December 1983 as a result of citizen complaints of blowing litter, late night dumping, and trucks carrying mud and debris off site. The Illinois Environmental Protection Agency (IEPA) proceeded to evaluate the site in the form of a CERCLA Preliminary Assessment in 1985. The investigation continued in 1987 when a CERCLA Screening Site Inspection was conducted. In 1995 Focused Site Inspection Prioritization (FSIP) activities were conducted to update the scoring of the previous site inspection, since it was performed prior to the implementation of the revised Hazard Ranking System (HRS). This evaluation was performed by Ecology & Environment, Technical Assistance Team of the USEPA. Because the FSIP evaluation did not include the conjoined landfill directly north, known as the Prior-Blackwell Landfill, the IEPA was tasked by USEPA to conduct Site Team Evaluation Prioritization (STEP) activities at the Prior Landfill and the Prior-Blackwell Landfill.

The field investigation portion of the STEP inspection was conducted on November 15, 1995. During this inspection, personnel from the IEPA collected seven surface soil samples and six sediment samples.

2.0 SITE BACKGROUND

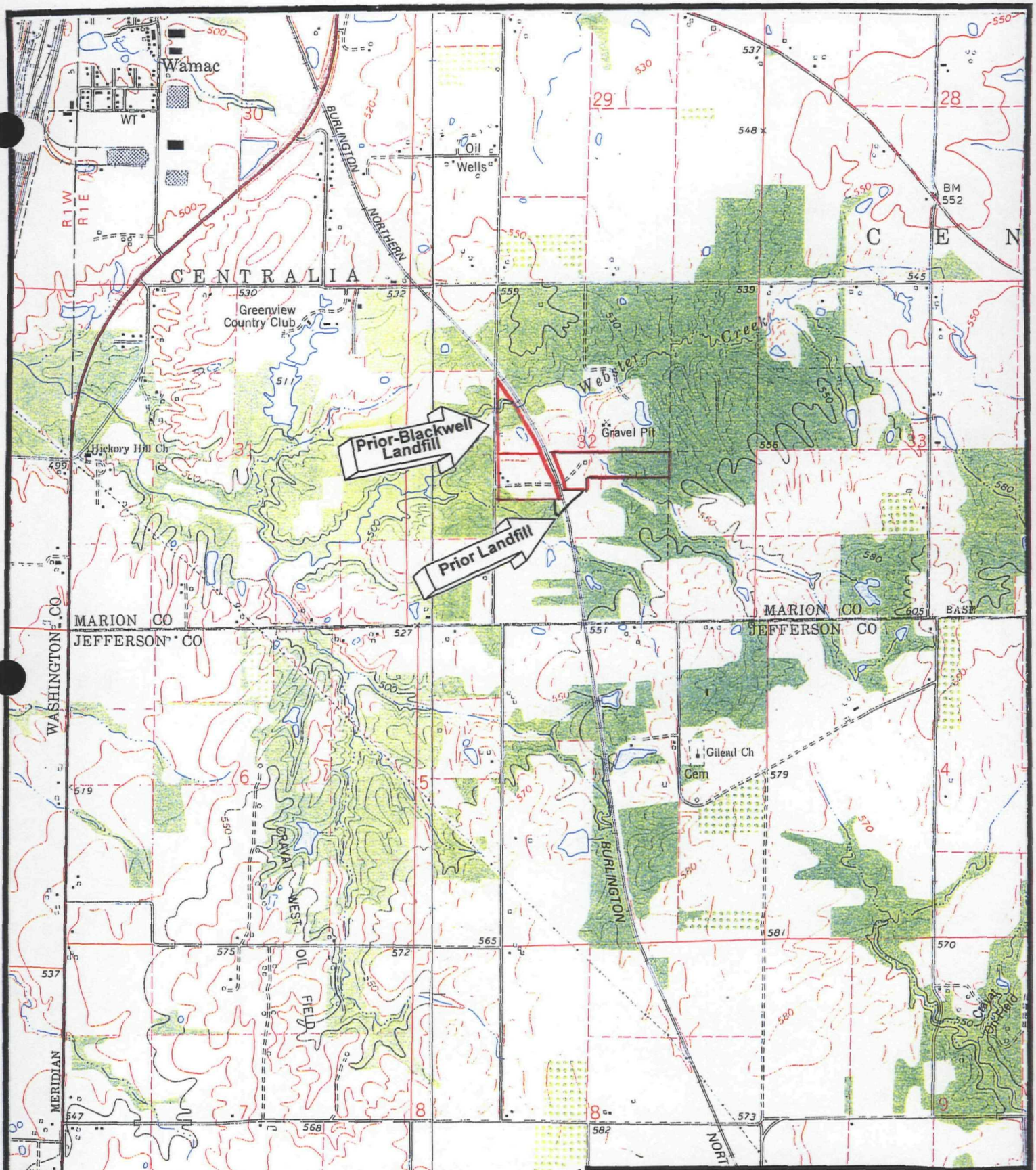
2.1 SITE DESCRIPTION

The site consists of two adjacent landfills located in a rural area approximately 2 miles south of Centralia in Marion County Illinois. The site is bordered to the west by Perrine Street, with woodland beyond. To the northeast is a former city dump (exact location unknown) and woodland. Centralia Environmental Services, Inc. (CESI), another landfill, is located to the south and southeast. A few private residences are located south of the site. To the northeast of the site is woodland, and another landfill, Industrial Salvage, Inc. is located to the southeast. Refer to Figure 2-2.

The Prior portion of the site (Prior) is approximately 29 acres, and for permitting purposes is divided into four areas (Areas 1 - 4). Railroad tracks run north to south through Prior, bisecting the landfill, with Areas 1 and 4 to the east of the tracks and Areas 2 and 3 to the west (refer to Figure 1-2). This property is currently owned by John Prior. Joining Prior on the north is the Prior-Blackwell landfill, which is approximately 7.75 acres. According to Marion County Land Atlas & Plat Book, this property is currently owned by Winifred Blackwell. Webster Creek, which originates to the east of the site, flows east to west, and forms the northern border of Prior-Blackwell. Another stream originates southeast of the landfills and continues north-northwest, through CESI and the western portion of Prior Area 4, finally merging with Webster Creek approximately 0.25 mile upstream of Prior-Blackwell. As depicted on USGS topographic maps, Webster creek originates as an intermittent stream, but expands into a perennial stream as it merges with the unnamed stream. Refer to Figure 2-3.

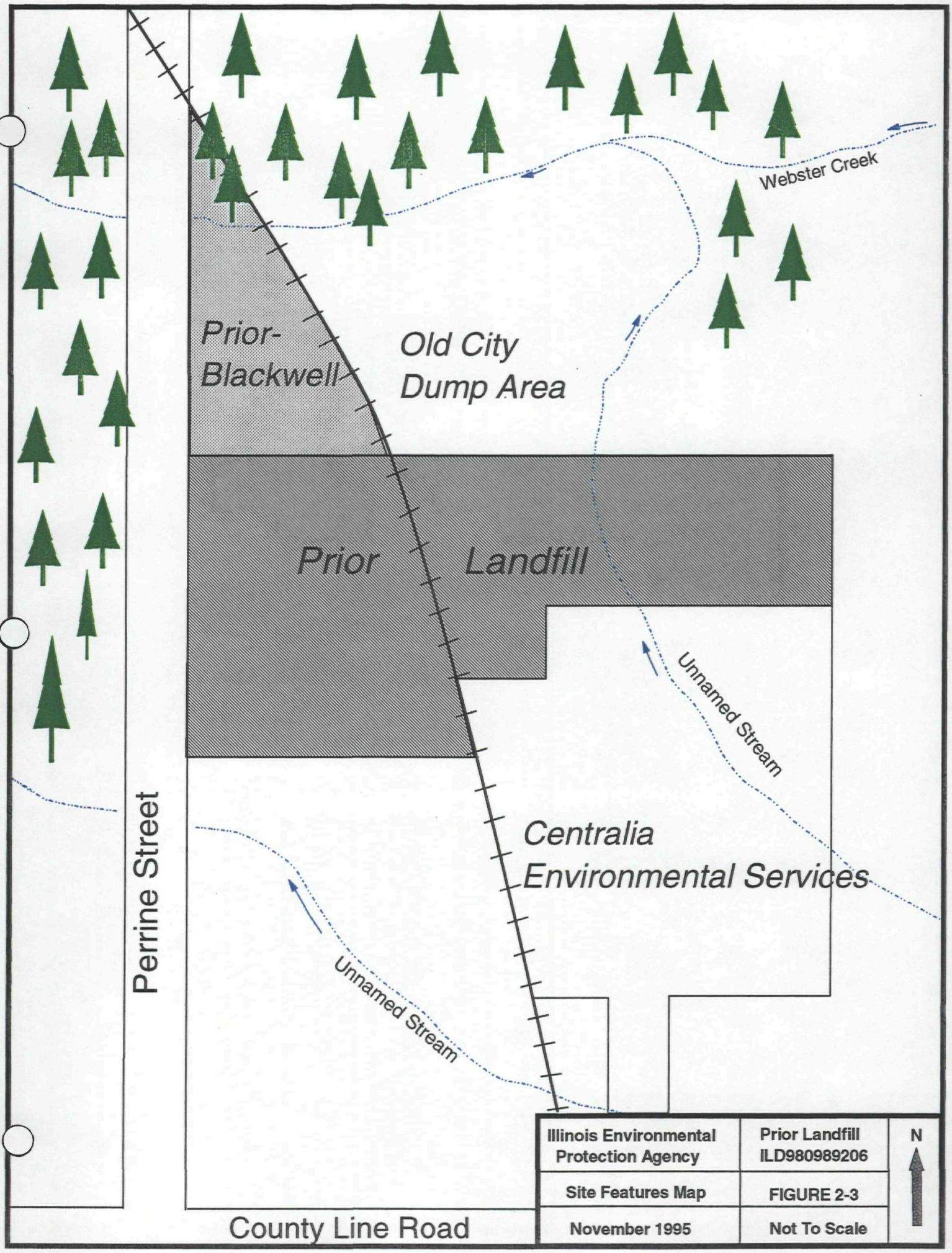
Illinois Environmental Protection Agency	Prior Landfill ILD980989206	N
Site Location Within the State	FIGURE 2-1	
Date: January 1995	Not To Scale	

Illinois Environmental Protection Agency	Prior Landfill ILD980989206	N
Site Location Within the State	FIGURE 2-1	
Date: January 1995	Not To Scale	



Illinois Environmental Protection Agency	Prior Landfill ILD980989206	N
Site Vicinity Map	FIGURE 2-2	
Date: January 1995	1" = 2000'	

Base Map: USGS Topographic Maps, Irvington IL & Walnut Hill IL Quadrangles


Webster Creek
Prior-
Blackwell
Old City
Dump Area
Prior
Landfill
Unnamed Stream
Centralia
Environmental Services
Unnamed Stream
Perrine Street
County Line Road
Illinois Environmental Protection Agency
Prior Landfill
ILD980989206
Site Features Map
FIGURE 2-3
November 1995
Not To Scale
N

The site is not enclosed by a fence, but two locked gates prevent vehicular access. These gates are located along Perrine Road near the north boundary of Prior-Blackwell and on Area 3 of Prior.

2.2 SITE HISTORY

According to IEPA records, agency involvement with the site began as early as 1971 when unpermitted dumping and exposed refuse were problems at the Prior-Blackwell site. During the early 1970s exposed refuse and refuse allowed to enter a stream continued to be problems. Then in 1975, when the old city dump to the northeast was closing, Mr. Prior applied for and received operating permits for Prior Landfill Areas 1 - 4. In 1975, Permit 1975-37-OP was granted. The permit was for parcels of 6 acres (Area 1), and 8 acres (Area 4) east of the railroad tracks, and parcels of 8 acres (Area 2), and 7 acres (Area 3) west of the railroad. File information indicates that Areas 1, 2, 3, and a small portion of Area 4 were filled. Wastes accepted in these areas include household/municipal wastes, and several special wastes (including liquid wastes) such as various industrial sludges, paint booth solids, and soil contaminated with diesel fuel. A 1986 permit granted the transfer of operating responsibilities to Jackson County Landfill. Area 1 closed in the late 1970's, while Areas 2 and 3 stopped accepting wastes in 1987. It is currently unknown when Area 4 stopped accepting waste. In September 1987 permit 1986-222-SP was granted, and this permit contains the current groundwater requirements. IEPA site inspections performed by the Field Operations Section noted various operating and permit violations at the Prior site. These violations included leachate seeps, steep slopes, and subsided cover. The site currently is covered but not certified closed.

In October 1981 the IEPA granted Prior-Blackwell an operating permit for 7.75 acres. The

Prior-Blackwell landfill was basically an extension of the Prior landfill. Prior-Blackwell is directly north of Prior Area 2. (Refer to Figure 2-3.) A clay barrier was to have been constructed from elevations 510 feet to 525 feet. This barrier was to prevent leachate from infiltrating groundwater. Wastes accepted included household and municipal wastes, and various special wastes such as various industrial sludges, solvent-contaminated soil, waste hydraulic oil and solids, and waste water and oil. This landfill closed in 1986, and IEPA personnel certified the final cover in June 1987. However, no Closure Certification application was received from this facility, so it is not yet certified closed. 1993 inspections revealed areas of subsidence with ponding, areas void of vegetation, steep slopes, and ravines with leachate and exposed refuse.

2.2.1 PREVIOUS INVESTIGATIONS

In 1985 a CERCLA Screening Site Inspection was performed by IEPA on the Prior site. At this time three on-site monitoring wells were sampled and analyzed for Target Compound List inorganics. No contamination of groundwater was detected at that time.

In 1994 during the IEPA groundwater investigation, two monitoring wells located on Prior and three monitoring wells on Prior-Blackwell were sampled. Parameters detected at concentrations exceeding standards are summarized in the table below.

Parameter	Concentration	Standard Exceeded
G106 (Prior)		
total chloride	248 mg/l	Title 35 IAC 620 Groundwater Standards
total manganese	299 ug/l	Title 35 IAC 620 Groundwater Standards
total sulfate	1310 mg/l	Title 35 IAC 620 Groundwater Standards
phenol (misc.)	13 ug/l	No Standard
bis(2-ethylhexyl)-phthalate	160 ug/l	No Standard
other organics	33 ug/l	No Standard
total organic carbon	10.4 ug/l	No Standard
G118 (Prior)		
total manganese	780 ug/l	Title 35 IAC 620 Groundwater Standards
total sulfate	1480 mg/l	Title 35 IAC 620 Groundwater Standards
carbon disulfide	5.5 ug/l	Permitted Quantitation Limit (PQL)
aliphatic ketones	8.5 ug/l	No Standard
other organics	69 ug/l	No Standard
G113 (Prior-Blackwell)		
acetone	64 ug/l	No Standard
G115 (Prior-Blackwell)		
total manganese	4300 ug/l	Title 35 IAC 620 Groundwater Standards
carbon disulfide	48 ug/l	PQL
total organic carbon	7.6 ug/l	No Standard
other organics	180 ug/l	No Standard
G116 (Prior-Blackwell)		
total arsenic	68.7 ug/l	Title 35 IAC 620 Groundwater Standards
total chloride	630 mg/l	Title 35 IAC 620 Groundwater Standards
total iron	15,000 ug/l	Title 35 IAC 620 Groundwater Standards
total manganese	3500 ug/l	Title 35 IAC 620 Groundwater Standards
total nickel	135 ug/l	Title 35 IAC 620 Groundwater Standards
carbon disulfide	7 ug/l	PQL
chloroethane	10 ug/l	PQL
total organic carbon	52.6 ug/l	No Standard
bis(2-ethylhexyl)-phthalate	16 ug/l	No Standard
aliphatic acid	5.4 ug/l	No Standard
aliphatic ketones	8.5 ug/l	No Standard
ethyl ether	19 ug/l	No Standard
other organics	630 ug/l	No Standard

2.3 SITE REGULATORY STATUS

According to IEPA file information, the Prior Landfill is considered covered, but due to permit violations the site is not certified closed. The Prior-Blackwell Landfill closed in 1986. The IEPA certified the top cover in 1987. However, no Closure Certification application was received from the facility, so that it is not yet certified closed.

3.0 FIELD ACTIVITIES AND ANALYTICAL RESULTS

3.1 INTRODUCTION

During the 1995 STEP field activities a total of 13 samples was collected - seven surface soil samples and six sediment samples. The sampling was conducted in accordance with the previously prepared work plan, which was reviewed by USEPA Region 5. One modification to the work plan was made during sampling. An additional soil sample was collected at the request of Connie Letsky of the IEPA's Collinsville Regional Office.

3.2 RECONNAISSANCE ACTIVITIES

A site reconnaissance was conducted by Judy Triller of the IEPA CERCLA Site Assessment Unit on November 1, 1995. Connie Letsky was also present. During this visit, the site was walked, concentrating on the Prior-Blackwell portion, since the Prior portion was addressed during the 1995 FSIP. Potential sample locations were investigated. Likely runoff paths into Webster Creek were examined, and Webster Creek was walked to find the point where an unnamed tributary enters the creek upstream of the Prior-Blackwell site.

In general, the site was found to be covered with grass. In some areas, however, shallow ravines formed by erosion were noted, and exposed refuse was present in some of the ravines. Ms. Letsky pointed out a ravine where leachate often flows into Webster Creek. Near the top of Prior an area of subsidence containing water, was noted. Hunting is apparently common in the areas surrounding the site, as tree stands and expelled shell cartridges were seen in the woodlands near the site. Illegal dumping has occurred in Webster Creek, as evidenced by the presence of various items such as a television, a deer carcass, and other debris. Also, during the November 1995 site sampling activities, a bag

was seen being thrown into the creek from a passing train. (This occurred upstream of the Prior-Blackwell site.)

3.3 REPRESENTATIVE INTERVIEW

On October 23, 1995 a letter was sent to John Prior, the site owner, as notification of the upcoming sampling event. During a subsequent telephone conversation with Mr. Prior, the purpose of the investigation was explained and he was informed of the sample date, number and type of samples to be collected, and was informed of the opportunity to split samples. The IEPA was not contacted in reply to this opportunity, and no site representative was present during the sampling.

3.4 SAMPLING ACTIVITIES

Sampling activities occurred November 15, 1995. A total of seven surface soil samples and six sediment samples were collected. For the purposes of this investigation, sediment samples are considered to be any soil sample collected from the bed of a perennial stream, or wetland, while soil samples collected from an intermittent stream are considered to be soil samples. Figure 3-1 shows sample locations and Table 3-1 describes the samples.

Samples were collected using stainless steel trowels. A different trowel was used at each sample location eliminating the need to decontaminate equipment in the field. Sample material was transferred directly from the trowel into sample jars. The duplicate sample material was mixed in a stainless steel pan prior to placement into sample jars (except for the volatile sample, which was transferred from the sample point directly into sample jars). The samples were shipped to USEPA Contract Laboratories, the organic analyses being performed by American Analytical and Technical Services of Broken Arrow, Oklahoma, and

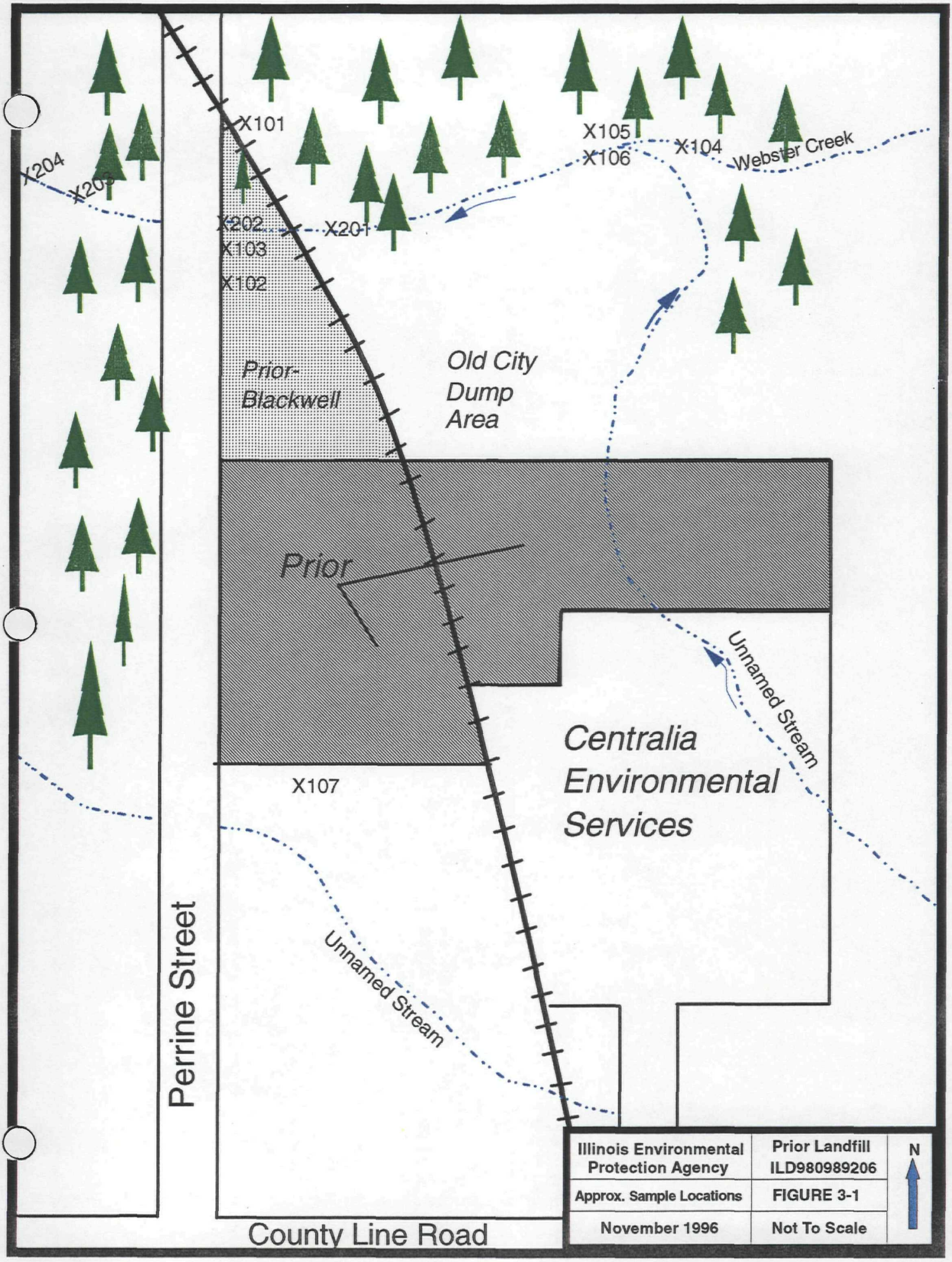

X101
X105
X106
X104
Webster Creek
X204
X203
X202
X201
X103
X102
Prior-
Blackwell
Old City
Dump
Area
Prior
Unnamed Stream
Centralia
Environmental
Services
X107
Unnamed Stream
Perrine Street
County Line Road
Illinois Environmental Protection Agency
Prior Landfill ILD980989206
Approx. Sample Locations
FIGURE 3-1
November 1996
Not To Scale
N

TABLE 3-1

SAMPLE LOCATIONS AND DESCRIPTIONS

IEPA SAMPLE ID	DEPTH	SAMPLE LOCATION	SAMPLE DESCRIPTION
X101	0" - 4"	N of both Webster Creek and Prior-Blackwell Approx. 100' N of RR and 87' E of Perrine St.	Dark brown loam material with some clay. Slightly moist.
X102	0" - 3"	West side of Prior-Blackwell, within erosion/ leachate channel. Approx. 91' S ("upstream") of X103.	Silty clay soil, light brown with slight reddish tint.
X103	0" - 3"	West side of Prior-Blackwell, within erosion/ leachate channel. Approx. 50' S of monitoring well G113 and 52' E of Perrine Street.	Light brown silty clay soil.
X104	1" - 3"	East of Prior-Blackwell, approx. 74' upstream of confluence of Webster Creek and its tributary.	Light and dark clayey loam material underlying 1" of sand. (Sand was removed prior to sample collection.)
X105/X106	4"	Approx. 52' downstream of confluence of Webster Creek and its unnamed tributary.	Light brown clayey silt material underlying 4 of sand. (Sand was removed prior to sample location.)
X107	0" - 4"	Marshy area near south edge of Prior Landfill, approx. 100' E of Perrine Street.	Brown fine clay with slight oil sheen.

TABLE 3-1 (Continued)

SAMPLE LOCATIONS AND DESCRIPTIONS

IEPA SAMPLE ID	DEPTH	SAMPLE LOCATION	SAMPLE DESCRIPTION
X201	0" - 4"	Webster Creek, approx. 56' upstream of landfill road.	Light brown clayey silt loam with a small amount of sand.
X202	2" - 4"	Webster Creek, just upstream of Perrine Street bridge.	Light brown sandy loam with some gravel underlying 1" sand and gravel.
X203	2" - 4"	Webster Creek, approx. 100' downstream of Perrine Street.	Light brown clayey material with some gravel underlying approx. 2" of sand. (Sand removed prior to sample collection.)
X204	2" - 5"	Webster Creek, approx. 0.1 - 0.2 mile downstream of Perrine Street.	Medium brown clay and sandy material with some gravel underlying approx . 2" of sand.

the inorganic analyses being performed by Analytical Resources, Inc. of Seattle, Washington. All samples were analyzed for the entire Target Compound List, which can be found in Appendix C.

3.4.1 SOIL SAMPLING

A total of seven soil samples was collected. Two surface soil samples (X102 and X103) were collected from the northern slope of Prior-Blackwell from a shallow trench created by runoff and flowing leachate. These samples were to determine what, if any, contaminants are present at the landfill surface and are available to migrate to nearby surface water. One surface soil sample (X107) was collected from a marshy area near the south face of the Prior Landfill. An additional three surface soil samples (X104 - X106) were collected from the upstream, intermittent portion of Webster Creek. Sample X104 was collected upstream of the confluence of the unnamed tributary and Webster Creek; and samples X105 and X106 (which were duplicate samples) were collected at this confluence. These samples were to determine if contaminants are entering Webster Creek upstream of the Prior-Blackwell site. The final soil sample (X101) was collected from the wooded area just north of Prior-Blackwell approximately 100 feet north of the railroad tracks in an area where no filling or dumping is known to have occurred. This sample served as the background sample to show naturally occurring levels of soil constituents.

3.4.2 SEDIMENT SAMPLING

Four sediment samples were collected from the perennial portion of Webster Creek. Sample X201 was collected upstream of the Prior-Blackwell site, sediment sample X202 was collected adjacent to Prior-Blackwell, at the point where the primary leachate seep enters the stream. These samples were to determine if contaminated runoff or leachate from Prior-

Blackwell is entering Webster Creek. The two remaining sediment samples were collected downstream of Prior-Blackwell, X203 collected approximately 104 feet downstream of Perrine Road, and X204 being collected approximately 600 feet farther downstream. These two downstream samples were collected within a wetland area, as designated by National Wetland Inventory Maps.

3.5 ANALYTICAL RESULTS

Laboratory analyses of the samples collected from the landfill itself, revealed low concentrations of di-n-butylphthalate, diethylphthalate, butylbenzylphthalate, chlordane, and various inorganic analytes. Concentrations of calcium, cyanide, silver, sodium, and zinc were elevated compared to the background concentrations. Samples collected from the intermittent portion of Webster Creek revealed di-n-butylphthalate and slightly elevated concentrations of silver. Sediment samples collected from Webster Creek contained numerous semivolatile organic compounds, endrin, and inorganic analytes. Endrin, 2-methylnaphthalene, arsenic, lead, and silver were detected at elevated concentrations compared to background concentrations. The analytical results are summarized in Table 3-2 through Table 3-5, with data qualifiers following, and the laboratory data package can be found in Appendix G.

In general, concentrations of inorganics changed only slightly from X104 (upstream of unnamed tributary) to X105/X106 (downstream of tributary). Refer to Figure 3-1 for relative position of sample points, streams and landfills. The changes that did occur were mostly a decrease in concentrations except for arsenic and lead, which increased slightly downstream. From X105/X106 to X201 there was a general slight increase in concentration of inorganics, except for arsenic, silver, and sodium, which decreased. From X201

(upstream of Prior-Blackwell) to sample points X202, X203, and X204 (adjacent to or downstream of Prior-Blackwell) there was a general increase in semivolatiles proceeding downstream, with increased presence and concentrations farther downstream. Inorganic concentrations vary in this creek segment, some increasing, others decreasing in concentration downstream.

3.6 KEY SAMPLES

Key samples are those samples with concentrations significantly above background concentrations (three times greater than background concentration, or at levels greater than or equal to the background sample detection limit for those compounds not detected in background samples). Some portion of the increase must be attributable to sources at the site.

Table 3-6 (KEY SAMPLES) identifies those samples collected during the CERCLA STEP that meet these criteria. Surface soil samples X102 and X103 collected from the Prior-Blackwell landfill identify alpha-chlordane, calcium, cyanide, silver, sodium, and zinc as being present in the landfill at concentrations significantly above background. In Webster Creek sediment sample X202, which was collected adjacent to the landfill, endrin was the only compound detected at concentrations significantly above background. Farther downstream, 2-methylnaphthalene, endrin, arsenic, lead, and silver were detected in samples X203 and X204 at levels significantly above background. (Although the STEP sampling event did not detect elevated levels of arsenic, lead, 2-methylnaphthalene, or endrin in landfill soils, during previous investigations, arsenic was detected in a leachate sample, lead was detected in groundwater and sediment samples, and organics were found to be in the groundwater.) Since X202 is a key sample for endrin only, it is difficult to attribute the contaminants in samples X203 and X204 to surface runoff from the landfill.

TABLE 3-2
SAMPLE SUMMARY
PRIOR LANDFILL ILD 980 989 206

IEPA Sample Number *CLP Sample No. (inorg.)* *CLP Sample No. (org.)*	IEPA CLEANUP OBJECTIVE	X101 MEADQ9 EARG1 Landfill Soil Background	X102 MEADR0 EARG2 Landfill Soil	X103 MEADR1 EARG3 Landfill Soil	X107 MEAFB6 EARH1 Landfill Soil	X104 MEADR2 EARG4 Intermittent Soil Background	X105 MEADR3 EARG5 Intermittent Soil	X106 MEADR4 EARG6 Dup. of X105	X201 MEAFB2 EARG7 Sediment Background	X202 MEAFB3 EARG8 Sediment	X203 MEAFB4 EARG9 Sediment	X204 MEAFB5 EARH0 Sediment
VOLATILES												
ug/kg												
Acetone	8000.00	12.00 U	--	--	4.00 J	14.00 U	--	--	14.00 U	--	--	--
Chlorobenzene	600.00	12.00 U	--	--	4.00 J	14.00 U	--	--	14.00 U	--	--	--
SEMIVOLATILES												
ug/kg												
Naphthalene	30000.00	400.00 U	--	--	--	470.00 U	--	--	480.00 U	--	--	300.00 J
2-Methylnaphthalene	NA	400.00 U	--	--	--	470.00 U	--	--	480.00 U	84.00 J	--	620.00
Dibenzofuran	NA	400.00 U	--	--	--	470.00 U	--	--	480.00 U	24.00 J	--	200.00 J
Diethylphthalate	110000.00	400.00 U	23.00 J	--	--	470.00 U	--	--	480.00 U	--	--	--
Phenanthrene	NA	24.00 J	--	--	--	470.00 U	--	--	480.00 U	68.00 J	26.00 J	350.00 J
Anthracene	4300000.00	400.00 U	--	--	--	470.00 U	--	--	480.00 U	--	--	41.00 J
Di-n-Butylphthalate	100000.00	400.00 U	--	21.00 J	--	470.00 U	--	28.00 J	480.00 U	--	34.00 J	--
Fluoranthene	980000.00	160.00 J	--	--	--	470.00 U	--	--	480.00 U	--	--	300.00 J
Pyrene	1400000.00	150.00 J	--	--	--	470.00 U	--	--	480.00 U	--	59.00 J	390.00 J
Butylbenzylphthalate	68000.00	400.00 U	59.00 J	--	--	470.00 U	--	--	480.00 U	--	--	--
Benzo(a)anthracene	700.00	73.00 J	--	--	--	470.00 U	--	--	480.00 U	--	--	180.00 J
Chrysene	1000.00	70.00 J	--	--	--	470.00 U	--	--	480.00 U	--	--	180.00 J
Benzo(b)fluoranthene	4000.00	66.00 J	--	--	--	470.00 U	--	--	480.00 U	--	--	150.00 J
Benzo(k)fluoranthene	4000.00	36.00 J	--	--	--	470.00 U	--	--	480.00 U	--	--	100.00 J
Benzo(a)pyrene	800.00	400.00 U	--	--	--	470.00 U	--	--	480.00 U	--	--	130.00 J
PESTICIDES												
ug/kg												
Endrin	400.00	11.00 P	--	--	--	4.70 U	--	--	4.80 U	5.30 P	--	31.00
alpha-Chlordane	Total chlor-	2.00 U	--	2.20	--	2.40 U	--	--	4.80 U	--	--	--
gamma-Chlordane	dane 2000	2.00 U	--	1.90 P	--	2.40 U	--	--	4.80 U	--	--	--
INORGANICS												
mg/kg												
Aluminum	*	6070.00	11500.00	8270.00	4310.00	10400.00	8270.00	9320.00	11900.00	6100.00	6270.00	5090.00
Antimony	*	11.70 UN	13.30 UN	12.10 UN	11.00 UN	14.30 UN	12.20 UN	12.40 UN	13.40 UN	12.80 UN	14.20 UN	12.50 UN
Arsenic	*	8.90 *	10.50 *	10.30 *	3.60 *	3.70 S*	6.50 *	6.20 *	3.70 *	9.70 *	17.90 *	16.20 *
Barium	*	94.50	117.00	157.00	87.30	158.00	146.00	153.00	160.00	113.00	116.00	78.20
Beryllium	*	0.63 B	0.60 B	0.71 B	0.41 B	0.94 B	0.88 B	0.86 B	0.94 B	0.74 B	0.88 B	0.97 B
Cadmium	*	0.47 U	0.53 U	0.48 U	0.44 U	0.57 U	0.49 U	0.50 U	0.53 U	0.51 B	0.57 U	0.50 U
Calcium	*	810.00 B	2870.00	3960.00	5990.00	2220.00	2900.00	2000.00	3070.00	1740.00	3120.00	2650.00
Chromium	*	12.10	13.80	13.70	7.40	16.50	15.90	14.50	17.20	11.70	13.50	12.20
Cobalt	*	9.60 B	5.70 B	10.30 B	7.00 B	9.60 B	10.20 B	9.60 B	10.10 B	11.80 B	13.50 B	6.00 B
Copper	*	8.00	14.60	13.90	6.10	15.90	14.00	14.00	17.20	43.80	20.20	13.40
Iron	*	14000.00	28300.00	27700.00	12500.00	25300.00	23600.00	22200.00	24500.00	20800.00	29500.00	25000.00
Lead	*	24.60	24.60	23.30	8.70	15.20	16.80	16.00	18.60	35.80	29.80	59.90
Magnesium	*	832.00 B	2190.00	1960.00	1350.00	2860.00	2170.00	2350.00	2800.00	1430.00	1820.00	1170.00 B
Manganese	*	950.00	256.00	1060.00	846.00	395.00	359.00	317.00	509.00	272.00	550.00	362.00
Mercury	*	0.07 B	0.06 B	0.06 B	0.06 U	0.07 B	0.06 U	0.06 U	0.07 B	0.08 B	0.06 U	0.06 B
Nickel	*	11.10	13.60	16.80	10.10	21.70	20.30	19.60	24.20	20.60	17.90	13.30
Potassium	*	498.00 B	820.00 B	733.00 B	390.00 B	1020.00 B	834.00 B	841.00 B	1090.00 B	639.00 B	570.00 B	492.00 B
Selenium	*	0.54 B	0.55 BW	0.72 BW	0.21 UN	0.29 BN	0.26 BW	0.32 BW	0.29 UW	0.33 BW	0.43 BW	0.91 BS
Silver	*	0.70 U	0.82 B	0.95 B	0.66 U	0.86 U	0.76 B	0.94 B	0.80 U	0.77 U	0.93 B	0.87 B
Sodium	*	19.10 B	122.00 B	72.90 B	281.00 B	289.00 B	117.00 B	129.00 B	113.00 B	72.50 B	53.70 B	78.00 B
Thallium	*	0.52 BW	0.41 BW	0.30 BW	0.21 UN	1.40 U	0.29 BW	0.27 BW	0.31 BW	0.26 UW	1.30 U	1.20 U
Vanadium	*	22.40	30.20	30.90	13.60	26.90	27.00	25.60	28.50	22.70	32.10	27.30
Zinc	*	32.30	116.00	74.70	21.50	60.80	56.30	50.40	78.50	98.90	98.40	42.60
Cyanide	*	0.27 U	0.33 U	0.51	0.24 U	0.52 B	0.32 U	0.28 U	0.35 U	0.27 U	0.32 U	0.18 U

All samples collected 11/15/95

IEPA Bureau of Land Pollution Control soil cleanup objectives are taken from Tiered Approach To Cleanup Objectives (TACO), proposed Part 742 rules (35 Ill. Adm. Code), Appendix B, Table B .
* Due to variation of objectives with pH, refer to proposed Part 742 rules, Appendix B, Table C.
Data qualifiers can be found on pages 23 & 24.

TABLE 3-3
LANDFILL SOIL SAMPLE SUMMARY
PRIOR LANDFILL ILD 980 989 206

IEPA Sample Number *CLP Sample No. (inorg.)* *CLP Sample No. (org.)*	IEPA CLEANUP OBJECTIVE	X101 MEADQ9 EARG1 Background	X102 MEADR0 EARG2 Landfill Soil	X103 MEADR1 EARG3 Landfill Soil	X107 MEAFB6 EARH1 Landfill Soil
VOLATILES		pH 5.4	pH 5.9	pH 6.9	pH 7.9
ug/kg					
Acetone	8000.00	12.00 U	--	--	4.00 J
Chlorobenzene	600.00	12.00 U	--	--	4.00 J
SEMIVOLATILES					
ug/kg					
Diethylphthalate	110000.00	400.00 U	23.00 J	--	--
Di-n-Butylphthalate	100000.00	400.00 U	--	21.00 J	--
Butylbenzylphthalate	68000.00	400.00 U	59.00 J	--	--
Benzo(a)anthracene	700.00	73.00 J	--	--	--
PESTICIDES					
ug/kg					
alpha-Chlordane	Total chlor-	2.00 U	--	2.20	--
gamma-Chlordane	dane 2000	2.00 U	--	1.90 P	--
INORGANICS					
mg/kg					
Aluminum	NA	6070.00	11500.00	8270.00	4310.00
Antimony	NA	11.70 UN	13.30 UN	12.10 UN	11.00 UN
Arsenic	*	8.90 *	10.50 *	10.30 *	3.60 *
Barium	*	**94.50**	**117.00**	**157.00**	87.30
Beryllium	*	0.63 B	0.60 B	0.71 B	0.41 B
Cadmium	*	0.47 U	0.53 U	0.48 U	0.44 U
Calcium	NA	810.00 B	2870.00	3960.00	5990.00
Chromium	*	12.10	13.80	13.70	7.40
Cobalt	NA	9.60 B	5.70 B	10.30 B	7.00 B
Copper	*	8.00	14.60	13.90	6.10
Iron	NA	14000.00	28300.00	27700.00	12500.00
Lead	NA	24.60	24.60	23.30	8.70
Magnesium	NA	832.00 B	2190.00	1960.00	1350.00
Manganese	NA	950.00	256.00	1060.00	846.00
Mercury	*	**0.07 B**	0.06 B	0.06 B	0.06 U
Nickel	*	**11.10**	**13.60**	16.80	10.10
Potassium	NA	498.00 B	820.00 B	733.00 B	390.00 B
Selenium	*	0.54 B	0.55 BW	0.72 BW	0.21 UN
Silver	NA	0.70 U	0.82 B	0.95 B	0.66 U
Sodium	NA	19.10 B	122.00 B	72.90 B	281.00 B
Thallium	*	**0.52 BW**	**0.41 BW**	0.30 BW	0.21 UN
Vanadium	NA	22.40	30.20	30.90	13.60
Zinc	*	32.30	116.00	74.70	21.50
Cyanide	NA	0.27 U	0.33 U	0.51	0.24 U

All samples collected 11/15/96

IEPA Bureau of Land Pollution Control soil cleanup objectives are taken from the Tiered Approach to Cleanup Objectives (TACO), draft Part 742 rules (Ill. Adm. Code), Appendix B, Table B.

Values shown in red/bold are concentrations above the IEPA soil cleanup objective.

* Due to variation of objectives with pH, refer to draft Part 742 rules, Appendix B, Table C.

NA = Not Available

Data qualifiers can be found on pages 23 & 24.

TABLE 3-4
INTERMITTENT STREAM SAMPLE SUMMARY
PRIOR LANDFILL ILD 980 989 206

IEPA Sample Number *CLP Sample No. (inorg.)* *CLP Sample No. (org.)*	IEPA CLEANUP OBJECTIVE	X104 MEADR2 EARG4 Background	X105 MEADR3 EARG5 Soil	X106 MEADR4 EARG6 Dup. of X105
		pH 5.6	pH 7.0	pH 7.0
SEMIVOLATILES				
ug/kg				
Di-n-Butylphthalate	100000.00	470.00 U	--	28.00 J
INORGANICS				
mg/kg				
Aluminum	*	10400.00	8270.00	9320.00
Antimony	*	14.30 UN	12.20 UN	12.40 UN
Arsenic	*	3.70 S*	6.50 *	6.20 *
Barium	*	**158.00**	**146.00**	**153.00**
Beryllium	*	**0.94 B**	0.88 B	0.86 B
Cadmium	*	0.57 U	0.49 U	0.50 U
Calcium	*	2220.00	2900.00	2000.00
Chromium	*	16.50	15.90	14.50
Cobalt	*	9.60 B	10.20 B	9.60 B
Copper	*	15.90	14.00	14.00
Iron	*	25300.00	23600.00	22200.00
Lead	*	15.20	16.80	16.00
Magnesium	*	2860.00	2170.00	2350.00
Manganese	*	395.00	359.00	317.00
Mercury	*	**0.07 B**	0.06 U	0.06 U
Nickel	*	**21.70**	20.30	19.60
Potassium	*	1020.00 B	834.00 B	841.00 B
Selenium	*	0.29 BN	0.26 BW	0.32 BW
Silver	*	0.86 U	0.76 B	0.94 B
Sodium	*	289.00 B	117.00 B	129.00 B
Thallium	*	1.40 U	0.29 BW	0.27 BW
Vanadium	*	26.90	27.00	25.60
Zinc	*	60.80	56.30	50.40
Cyanide	*	0.52 B	0.32 U	0.28 U

All samples collected 11/15/96

IEPA Bureau of Land Pollution Control soil cleanup objectives are taken from the Tiered Approach to Cleanup Objectives (TACO), proposed Part 742 rules (35 Ill. Adm. Code), Appendix B, Table B.

* Due to variation of objectives with pH, refer to proposed part 742 rules, Appendix B, Table C.

Values shown in red /bold are concentrations above the IEPA soil cleanup objective.

Data qualifiers can be found on pages 23 & 24.

TABLE 3-5
SEDIMENT SAMPLE SUMMARY
PRIOR LANDFILL
ILD 980 989 206

IEPA Sample Number *CLP Sample No. (inorg.)* *CLP Sample No. (org.)*	X201 MEAFB2 EARG7 Sed. Backgrd.	USEPA SEDIMENT QUALITY BENCHMARKS	PROVINCIAL SEDIMENT GUIDELINES LEL	X202 MEAFB3 EARG8 Sediment	X203 MEAFB4 EARG9 Sediment	X204 MEAFB5 EARH0 Sediment
SEMIVOLATILES						
ug/kg						
Naphthalene	480.00 U	480 SQB	NA	--	--	300.00 J
2-Methylnaphthalene	480.00 U	NA	NA	84.00 J	--	620.00
Dibenzofuran	480.00 U	2000 SQB	NA	24.00 J	--	200.00 J
Phenanthrene	480.00 U	NA	NA	68.00 J	26.00 J	350.00 J
Anthracene	480.00 U	NA	NA	--	--	41.00 J
Di-n-Butylphthalate	480.00 U	11000 SQB	NA	--	34.00 J	--
Fluoranthene	480.00 U	NA	NA	--	--	300.00 J
Pyrene	480.00 U	NA	NA	--	59.00 J	390.00 J
Benzo(a)anthracene	480.00 U	NA	NA	--	--	180.00 J
Chrysene	480.00 U	NA	NA	--	--	180.00 J
Benzo(b)fluoranthene	480.00 U	NA	NA	--	--	150.00 J
Benzo(k)fluoranthene	480.00 U	NA	NA	--	--	100.00 J
Benzo(a)pyrene	480.00 U	NA	NA	--	--	130.00 J
PESTICIDES						
ug/kg						
Endrin	4.80 U	NA	3.0	**5.30 P**	--	**31.00**
INORGANICS						
mg/kg						
Aluminum	11900.00	NA	NA	6100.00	6270.00	5090.00
Antimony	13.40 UN	NA	NA	12.80 UN	14.20 UN	12.50 UN
Arsenic	3.70 *	8.2 ERL	6.0	**9.70 ***	**17.90 ***	**16.20 ***
Barium	160.00	NA	NA	113.00	116.00	78.20
Beryllium	0.94 B	NA	NA	0.74 B	0.88 B	0.97 B
Cadmium	0.53 U	1.2 ERL	0.6	0.51 B	0.57 U	0.50 U
Calcium	3070.00	NA	NA	1740.00	3120.00	2650.00
Chromium	17.20	81 ERL	26.0	11.70	13.50	12.20
Cobalt	10.10 B	NA	NA	11.80 B	13.50 B	6.00 B
Copper	17.20	34 ERL	16.0	**43.80**	**20.20**	13.40
Iron	24500.00	NA	2 (%)	**20800.00**	**29500.00**	**25000.00**
Lead	18.60	47 ERL	31.0	**35.80**	29.80	**59.90**
Magnesium	2800.00	NA	NA	1430.00	1820.00	1170.00 B
Manganese	509.00	NA	460.0	272.00	**550.00**	362.00
Mercury	0.07 B	0.15 ERL	0.2	0.08 B	0.06 U	0.06 B
Nickel	24.20	21 ERL	16.0	**20.60**	**17.90**	13.30
Potassium	1090.00 B	NA	NA	639.00 B	570.00 B	492.00
Selenium	0.29 UW	NA	NA	0.33 BW	0.43 BW	0.91 BS
Silver	0.80 U	NA	NA	0.77 U	0.93 B	0.87 B
Sodium	113.00 B	NA	NA	72.50 B	53.70 B	78.00 B
Thallium	0.31 BW	NA	NA	0.26 UW	1.30 U	1.20 U
Vanadium	28.50	NA	NA	22.70	32.10	27.30
Zinc	78.50	150 ERL	120.0	98.90	98.40	42.60
Cyanide	0.35 U	NA	NA	0.27 U	0.32 U	0.18 U

All samples collected 11/15/95

USEPA sediment benchmarks are taken from U.S. EPA Surface Water and Sediment Ecological Benchmarks, Jan. 1996.

Values shown in red/bold are concentrations above one or both sediment benchmarks.

Provincial Sediment Guidelines are taken from Guidelines For The Protection And Management Of Aquatic Sediment Quality In Ontario.

NA = Not Available

SQB = Sediment Quality Benchmark

ERL = Effects Range - Low

LEL = Lowest Effect Level

Data qualifiers can be found on pages 23 & 24.

TABLE 3-6

KEY SAMPLES

PRIOR LANDFILL

ILD 980 989 206

	SEDIMENT SAMPLES				LANDFILL SOIL SAMPLES				INTERMITTENT STREAM SOIL SAMPLES		
IEPA Sample Number	X201	X202	X203	X204	X101	X102	X103	X107	X104	X105	X106
CLP Sample No. (inorg.)	MEAFB2	MEAFB3	MEAFB4	MEAFB5	MEADQ9	MEADR0	MEADR1	MEAFB6	MEADR2	MEADR3	MEADR4
CLP Sample No. (org.)	EARG7	EARG8	EARG9	EARH0	EARG1	EARG2	EARG3	EARH1	EARG4	EARG5	EARG6
	Sed. Bckgrnd.	Sediment	Sediment	Sediment	Background	Landfill Soil	Landfill Soil	Landfill Soil	Background	Soil	Soil
SEMIVOLATILES											
ug/kg											
2-Methylnaphthalene	480.00 U	--	--	620.00	400.00 U	--	--	--	470.00 U	--	--
PESTICIDES											
ug/kg											
Endrin	4.80 U	5.30 P	--	31.00	11.00 P	--	--	--	4.70 U	--	--
alpha-Chlordane	4.80 U	--	--	--	2.00 U	--	2.20	--	2.40 U	--	--
INORGANICS											
mg/kg											
Arsenic	3.70 *	--	17.90 *	16.20 *	8.90 *	--	--	--	3.70 S*	--	--
Calcium	3070.00	--	--	--	810.00 B	2870.00	3960.00	5990.00	2220.00	--	--
Cyanide	0.35 U	--	--	--	0.27 U	--	0.51	--	0.52 B	--	--
Lead	18.60	--	--	59.90	24.60	--	--	--	15.20	--	--
Silver	0.80 U	--	0.93 B	0.87 B	0.70 U	0.82 B	0.95 B	--	0.86 U	--	0.94 B
Sodium	113.00 B	--	--	--	19.10 B	122.00 B	72.90 B	281.00 B	289.00 B	--	--
Zinc	78.50	--	--	--	32.30	116.00	--	--	60.80	--	--

Data qualifiers can be found on pages 23 & 24.

DATA QUALIFIERS

QUALIFIER	DEFINITION ORGANICS	DEFINITION INORGANICS
U	Compound was tested for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For soil samples subjected to GPC clean-up procedures, the CRQL is also multiplied by two, to account for the fact that only half of the extract is recovered.	Analyte was analyzed for but not detected.
J	Estimated value. Used when estimating a concentration for tentatively identified compounds (TICS) where a 1:1 response is assumed or when the mass spectral data indicate the presence of a compound that meets the identification criteria and the result is less than the sample quantitation limit but greater than zero. Used in data validation when the quality control data indicate that a value may not be accurate.	Estimated value. Used in data validation when the quality control data indicate that a value may not be accurate.
C	This flag applies to pesticide results where the identification is confirmed by GC/MS.	Method qualifier indicates analysis by the Manual Spectrophotometric method.
B	Analyte was 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.	The reported value is less than the CRDL but greater than the instrument detection limit (IDL).
D	Identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor as in the "E" flag, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and <u>all</u> concentration values are flagged with the "D" flag.	Not used.
E	Identifies compounds whose concentrations exceed the calibration range for that specific analysis. All extracts containing compounds exceeding the calibration range must be diluted and analyzed again. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses must be reported on separate Forms I. The Form I for the diluted sample must have the "DL" suffix appended to the sample number.	The reported value is estimated because of the presence of interference.
A	This flag indicates that a TIC is a suspected aldol concentration product formed by the reaction of the solvents used to process the sample in the laboratory.	Method qualifier indicates analysis by Flame Atomic Absorption (AA).
M	Not used.	Duplicate injection (a QC parameter not met).

N	Not used	Spiked sample (a QC parameter not met).
S	Not used.	The reported value was determined by the Method of Standard Additions (MSA).
W	Not used.	Post digestion spike for Furnace AA analysis (a QC parameter) is out of control limits of 85% to 115% recovery, while sample absorbance is less than 50% of spike absorbance.
*	Not used.	Duplicate analysis (a QC parameter not within control limits).
+	Not used.	Correlation coefficient for MSA (a QC parameter) is less than 0.995.
P	Not used.	Method qualifier indicates analysis by ICP (Inductively Coupled Plasma) Spectroscopy.
CV	Not used.	Method qualifier indicates analysis by Cold Vapor AA.
AV	Not used.	Method qualifier indicates analysis by Automated Cold Vapor AA.
AS	Not used.	Method qualifier indicates analysis by Semi-Automated Cold Spectrophotometry.
T	Not used.	Method qualifier indicates Titrimetric analysis.
NR	The analyte was not required to be analyzed.	The analyte was not required to be analyzed.
R	Rejected data. The QC parameters indicate that the data is not usable for any purpose.	Rejected data. The QC parameters indicate that the data is not usable for any purpose.

3.7 COMPARISON OF CONCENTRATIONS TO STANDARDS/BENCHMARKS

Soil sample concentrations found during the CERCLA STEP investigation were compared to IEPA Bureau of Land Pollution Control's soil cleanup objectives as established in the proposed Part 742 rules (35 Illinois Administrative Code) utilizing the industrial/commercial scenario. None of the organic compounds detected were above cleanup objectives. For the inorganic analytes, concentrations were compared to pH-based objectives. Although the soil samples did exceed cleanup objectives for some inorganic analytes, the background sample concentrations also exceeded the objectives, indicating that these inorganic concentrations may be natural in the area of the site. Landfill soil samples X102 and X103 had barium concentrations exceeding the Cleanup Objective. Sample X102 also had nickel and thallium concentrations exceeding the Cleanup Objective. The background sample, X101, exceeded these benchmarks also. None of these compounds, barium, nickel nor thallium, were at least three times the background concentrations. Intermittent stream samples X105 and X106 revealed barium concentrations exceeding the cleanup objective, as did the background sample X104. The barium concentrations of samples X105 and X106 are not significantly above the background concentration.

Sediment samples collected from Webster Creek were compared to both Provincial Sediment Quality Guidelines for Metals as established in the *Guidelines For The Protection And Management Of Aquatic Sediment Quality In* Ontario, and USEPA surface water and sediment ecological benchmarks. Ontario guidelines exist for the inorganics arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, zinc, and the organic pesticide endrin. These are biologically-based guidelines derived to protect those organisms that are directly impacted by contaminated sediment. Sediment sample X202 concentrations exceed the Lowest Effect Level (LEL) for endrin, arsenic, copper, iron, lead, and nickel.

Sample X203 concentrations exceed the LEL for arsenic, copper, iron, manganese, and nickel, while sample X204 concentrations exceed the LEL for endrin, arsenic, iron, and lead. The background sediment sample, X201, exceeded the LEL for copper, iron, manganese, and nickel. These concentrations indicate a level of sediment contamination that can be tolerated by the majority of benthic organisms. None of the sediment sample concentrations exceeded the Severe Effect Level (SEL).

Sediment sample X202 exceeded the USEPA sediment benchmark for arsenic and copper. Sample X203 exceeded the USEPA sediment benchmark for arsenic, and sample X204 exceeded the benchmark for arsenic and lead. The background sediment sample, X201 exceeded only the USEPA benchmark for nickel. For a list of chemicals for which these benchmarks exist, see Appendix D.

4.0 SOURCE CHARACTERIZATION

4.1 SOURCE DEFINITION

Two sources have been identified during the course of the CERCLA investigations - the Prior and Prior-Blackwell landfills. Operating permits reveal that approximately 36.75 acres have been filled, 29 acres of Prior, and 7.75 acres of Prior-Blackwell.

According to IEPA file information, the Prior Landfill operated for fourteen years (1973 to 1987). The IEPA certified the top cover, but the final side slopes on the west and south remain too steep. This site is considered closed, not covered. The Prior-Blackwell Landfill began operations in 1981 and closed in 1986. The IEPA certified the top cover in 1987, but the final western side slope remains too steep. This site is also considered closed, not covered.

No synthetic liners or leachate collection systems were installed at either of these sites.(IEPA Request for Enforcement Decision). However, according to the Prior-Blackwell 1981 operating permit, a clay barrier was to have been constructed from elevations 510 feet to 525 feet to prevent leachate from infiltrating groundwater.

The Prior areas 1-4 accepted household/municipal wastes, and were also permitted to accept various special wastes. The special wastes include various sludges, paint booth solids, carbon black with floor sweepings, and oil waste. The Prior-Blackwell area also accepted household/municipal wastes and were permitted to accept some special wastes. These special wastes consisted of waste water and oil, various sludges, oily soils and sediments, soil contaminated with solvents, and paint spray booth solids. For a complete list of permitted

special wastes, refer to Appendix E.

Specific contaminants found in relation to the landfills include various metals; inorganics such as arsenic, calcium, chloride, cyanide, and sodium; and organic compounds such as phenols, aliphatic acids and alcohols, and other non-specified compounds. These contaminants were determined from analyses of landfill soil, leachate, and groundwater. The only leachate sample data (from December 1993) found in the IEPA file information reveals: chloride at 136 mg/l, phenols at 157 ug/l, total arsenic at 1.3 ug/l, total magnesium at 34 mg/l, total barium at 390 ug/l, total chromium at 14 ug/l, total zinc at 680 ug/l, total manganese at 3800 ug/l, total silver at 3 ug/l, and 4-methylphenol at 390 ug/l. The leachate sample was also found to contain aliphatic acid(s) at 5600 ug/l, aliphatic alcohol(s) at 310 ug/l and other organic compounds that were not specified in the analysis. This leachate sample was collected from the southern face of Prior.

Compounds found in groundwater samples collected from the site also indicate the possible presence of various inorganic and some organic compounds attributable, at least in part to the landfills.

5.0 MIGRATION PATHWAYS

5.1 INTRODUCTION

The CERCLA Site Assessment Program identifies three migration pathways and one exposure pathway by which hazardous substances may pose a threat to human health and/or the environment. Consequently, sites are evaluated on their known or potential impact to these four pathways. The pathways evaluated are groundwater migration, surface water migration, soil exposure, and air migration.

This section presents and discusses information collected during the CERCLA Site Team Evaluation Prioritization of the Prior Landfill site. This information, together with information documented in other sources, will be utilized in analyzing the site's impact on the four pathways and the various human and environmental targets within the established target distance limits.

Discussions of the pathways will include pathway descriptions; contaminant sources; and targets, such as human populations, fisheries, endangered species, wetlands and other sensitive environments.

5.2 GROUNDWATER

According to the IEPA Groundwater Inspection Report dated April 1995, original site conditions likely consisted of silty loams and their subsoils, with total thicknesses reaching 5 to 6 feet. Undisturbed subsoils rested above Illinoisan glacial drift, which varied in thickness from 10 feet to 45 feet. The drift materials consist of an unsorted mixture of clay, sand, silt, and gravels. Occasional bands of sandy mixtures containing clays and pebbles have been

documented west of the railroad track. Underlying the unconsolidated deposits is bedrock of the Pennsylvanian System, consisting primarily of shale, sandstone, and coal. Groundwater flow in the vicinity of the site is believed to be generally northwest toward Webster Creek.

No groundwater samples were collected during the STEP inspection. However, an extensive groundwater study was conducted on the three local landfills (Prior-Blackwell, Prior, and Centralia Environmental Landfill) by the IEPA Marion Regional Office in 1994-1995. Elevated (above Class I and/or Class II standards or exceeding permit quantitation limit) parameters detected during this investigation are: arsenic, chloride, iron, manganese, nickel, sulfate, phenol (misc.), carbon disulfide, chloroethane, total organic carbon, and bis(2-ethylhexyl)phthalate. Other organic compounds that were not specified were also detected.

No municipal wells are known to exist within 4 miles of the site. Surface water supply systems distribute drinking water to the majority of the population within the target distance limit, including residences in the vicinity of the site. It is estimated that 40 persons within 3 miles of the site utilize groundwater for drinking. (The populations utilizing private wells within the target distance limit were estimated using U.S. Geological Survey (USGS) topographic maps and information obtained from local water operators.)

5.3 SURFACE WATER

Surface water runoff from the site enters one of three streams. Webster Creek, a stream flowing from east to west borders the Prior-Blackwell Landfill on the north. According to USGS topographic maps, Webster Creek is considered a perennial stream at a point approximately 0.25 mile upstream of Prior-Blackwell. However, visual observations of the stream indicate that it does not always contain water. During the reconnaissance visit and

sampling activities, the stream consisted of pockets of water with dry areas between. IEPA personnel from the Collinsville regional office consider the stream to be intermittent. An intermittent stream flows through the eastern side of the Prior site in a northwesterly direction and enters Webster Creek approximately 0.25 mile upstream of Prior-Blackwell. Another intermittent stream is located on the southern border of the Prior landfill west of the railroad tracks, and flows to the west-northwest entering Webster Creek approximately 0.25 mile west of the site. See Figure 2-23. For the purposes of this report, the probable point of entry will be considered to be the point where the topographic map depicts Webster Creek as a perennial stream. (This is also the point where the intermittent stream drains into Webster, upstream of Prior-Blackwell.) Webster Creek flows west for approximately 6.25 miles until it converges with Sewer Creek. Sewer Creek flows for 0.5 mile until it converges with Grand Point Creek. Grand Point Creek flows north for 3.5 miles until it drains into Crooked Creek. The remaining 4.75 miles of the target distance limit are within Crooked Creek.

Various inspection reports prepared by the IEPA field office staff note leachate seeps entering both intermittent streams and Webster Creek. The only leachate sample data (from December 1993) found in the file information reveals: total chloride at 136 mg/l, phenols at 157 ug/l, total arsenic at 1.3 ug/l, total magnesium at 34 mg/l, barium at 390 ug/l, chromium at 14 ug/l, zinc at 680 ug/l, manganese at 3800 ug/l and silver at 3 ug/l, 4-methylphenol at 390 ug/l. The leachate sample was also found to contain aliphatic acid(s) at 5600 ug/l, aliphatic alcohol(s) at 310 ug/l and "other organic compounds".

Forested wetlands are located along Webster Creek, as indicated on U.S. Department Of The Interior National Wetland Inventory maps. Along the southern border of the site, west of the

railroad tracks, wetland-type plants grow in a low, wet area (where X107 was collected). IEPA personnel from the Collinsville regional office are not aware of use of the stream for fishing or recreation, although it has been indicated that fish are available in the portions of the stream with water. According to a map prepared by the Federal Insurance Administration, the site is not located in a "special flood hazard" area, however, the site is believed to be located inside the 500-year floodplain of Webster Creek. No engineered controls for surface water exist at the site. No drinking water intakes are known to exist along Webster Creek. Other than wetlands, no other sensitive environments are known to exist along the surface water pathway.

5.3 SOIL EXPOSURE PATHWAY

Both Prior and Prior-Blackwell are considered to be "covered". However, due to erosion, some areas have developed ditches and refuse has become exposed. Leachate has also been sighted flowing from erosion ditches. Access to the site is not fully restricted. A fence with locked gates exists along the western border. The site is located in a rural area, with the nearest residence located approximately 0.1 mile south of the site. Approximately 227 persons live within 1 mile of the site. Since the landfills are no longer operating, no workers are present on site. According to the FSIP report, bicycle trails exist on the Prior site.

5.4 AIR PATHWAY

A release of hazardous substances to the air has not been documented. During the STEP inspection, no Toxic Vapor Analyzer (TVA) readings above background were recorded. Although there are some exposed areas scattered around the site, the landfills are generally well vegetated, limiting the possibility of air-blown contaminants leaving the site. Both landfills are considered to contain final cover. The site is located in a rural area with

approximately 227 persons within 1 mile. Numerous small wetland areas exist within 1 mile of the site.

6.0 BIBLIOGRAPHY

Federal Emergency Management Agency. Flood Insurance Rate Map, Marion County. November 19, 1987.

Illinois Environmental Protection Agency, Bureau of Land Pollution Control file for Centralia/Prior-Blackwell (L1218020002).

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Letsky, Connie of Illinois Environmental Protection Agency. Personal telephone conversations.

Ontario Ministry of the Environment. *Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario.*

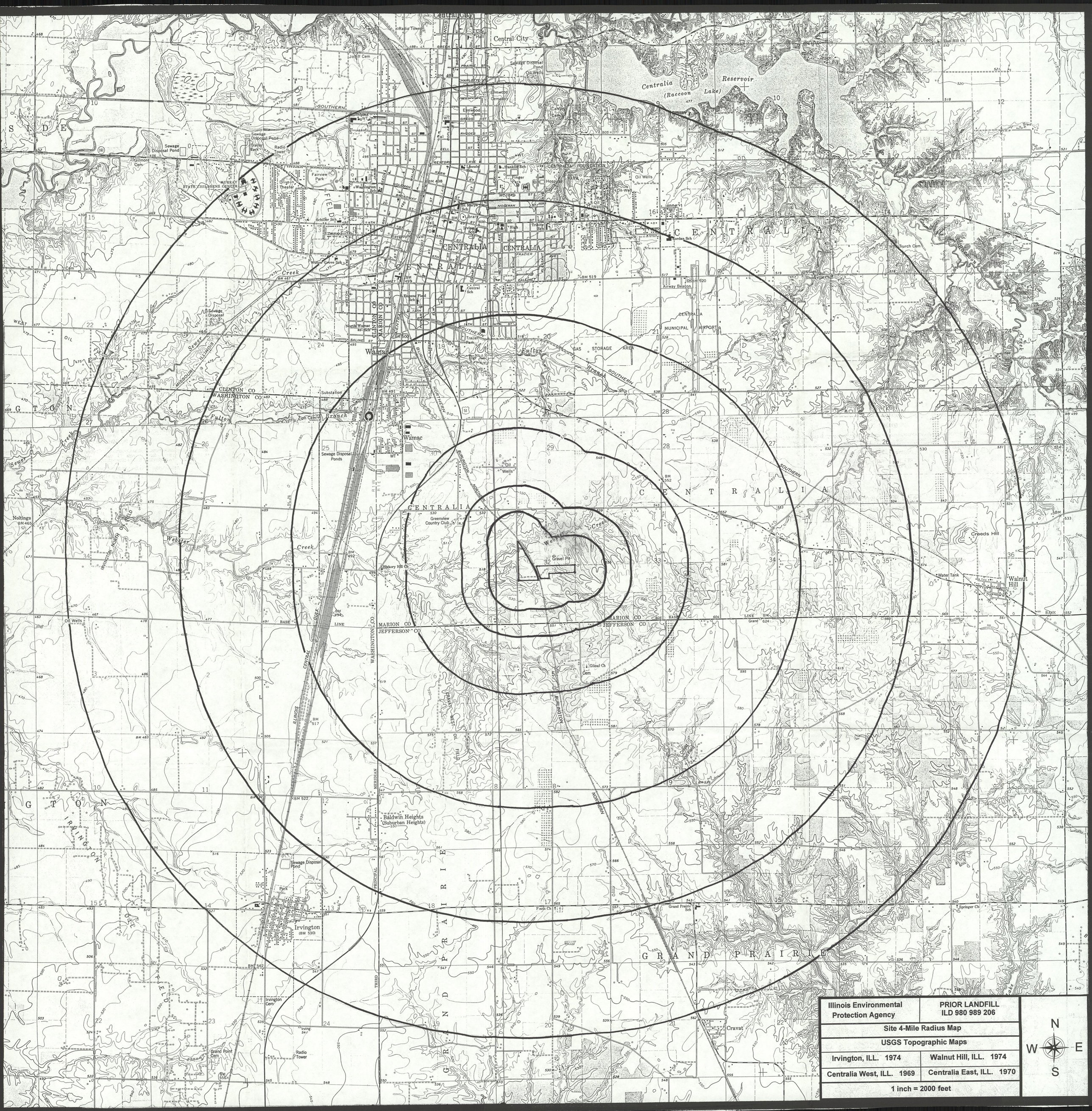
United States Department of the Interior, Fish and Wildlife Service. National Wetland Inventory maps: Walnut Hill, Irvington, Centralia West, and Carlyle Illinois quadrangles.

United States Environmental Protection Agency. *Surface Water and Sediment Ecological Benchmarks.*

United States Geological Society. Topographic maps: Walnut Hill (1974), Irvington (1974), Centralia East (1970), and Centralia West (1969), Illinois quadrangles.

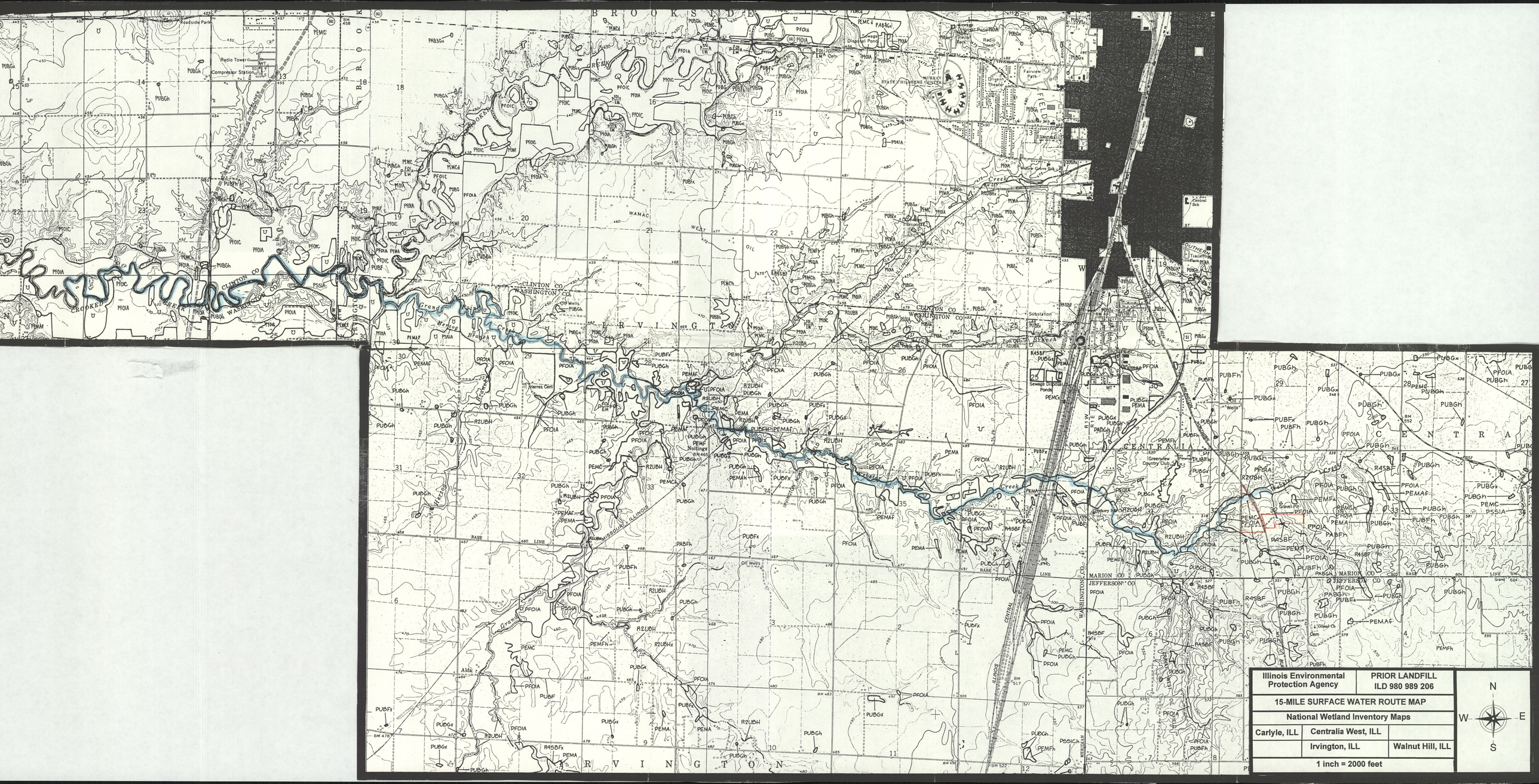
APPENDIX A

4 - MILE RADIUS MAP


Central City
Centralia Reservoir
(Raccoon Lake)
CENTRALIA
Wamac
Irvington
(BM 530)
Baldwin Heights
(Suburban Heights)
Walnut Hill
Creeds Hill
Cravat
Noltings
Gravel Pit
Greenview Country Club
Sewage Disposal Ponds
Sewage Disposal Pond
Airway Beacon
CENTRALIA MUNICIPAL AIRPORT
GAS STORAGE AREA
CLINTON CO
WASHINGTON CO
MARION CO
JEFFERSON CO
GRAND PRAIRIE
Illinois Environmental Protection Agency
PRIOR LANDFILL
ILD 980 989 206
Site 4-Mile Radius Map
USGS Topographic Maps
Irvington, ILL. 1974
Walnut Hill, ILL. 1974
Centralia West, ILL. 1969
Centralia East, ILL. 1970
1 inch = 2000 feet
N
W
E
S

APPENDIX B

15 - MILE SURFACE WATER ROUTE MAP



BROOKSIDE
IRVINGTON
CENTRALIA
CLINTON CO
WASHINGTON CO
MARION CO
JEFFERSON CO
Illinois Environmental Protection Agency
PRIOR LANDFILL
ILD 980 989 206
15-MILE SURFACE WATER ROUTE MAP
National Wetland Inventory Maps
Carlyle, ILL
Centralia West, ILL
Irvington, ILL
Walnut Hill, ILL
1 inch = 2000 feet
N
W
E
S

APPENDIX C

TARGET COMPOUND LIST

TARGET COMPOUND LIST

Volatile Target Compounds

Chloromethane
Bromomethane
Vinyl Chloride
Chloroethane
Methylene Chloride
Acetone
Carbon Disulfide
1,1-Dichloroethene
1,1-Dichloroethane
1,2-Dichloroethene (total)
Chloroform
1,2-Dichloroethane
2-Butanone
1,1,1-Trichloroethane
Carbon Tetrachloride
Vinyl Acetate
Bromodichloromethane
1,2-Dichloropropane
cis-1,3-Dichloropropene
Trichloroethene
Dibromochloromethane
1,1,2-Trichloroethane
Benzene
trans-1,3-Dichloropropene
Bromoform
4-Methyl-2-pentanone
2-Hexanone
Tetrachloroethene
1,1,2,2-Tetrachloroethane
Toluene
Chlorobenzene
Ethylbenzene
Styrene
Xylenes (total)

Base/Neutral Target Compounds

Hexachloroethane
bis(2-Chloroethyl)Ether
Benzyl Alcohol
bis(2-Chloroisopropyl)Ether
N-Nitroso-Di-n-Propylamine
Nitrobenzene
Hexachlorobutadiene
2-Methylnaphthalene
1,2,4-Trichlorobenzene
Isophorone
Naphthalene
4-Chloroaniline
bis(2-chloroethoxy)Methane
Hexachlorocyclopentadiene
2-Chloronaphthalene
2-Nitroaniline
Acenaphthylene
3-Nitroaniline
Acenaphthene
Dibenzofuran
Dimethyl Phthalate
2,6-Dinitrotoluene
Fluorene
4-Nitroaniline
4-Chlorophenyl-phenylether
2,4-Dinitrotoluene
Diethylphthalate
N-Nitrosodiphenylamine
Hexachlorobenzene
Phenanthrene
4-Bromophenyl-phenylether
Anthracene
Di-n-Butylphthalate
Fluoranthene
Pyrene
Butylbenzylphthalate
bis(2-Ethylhexyl)Phthalate
Chrysene
Benzo(a)Anthracene
3,3'-Dichlorobenzidene
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
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene

Acid Target Compounds

Benzoic Acid
Phenol
2-Chlorophenol
2-Nitrophenol
2-Methylphenol
2,4-Dimethylphenol
4-Methylphenol
2,4-Dichlorophenol
2,4,6-Trichlorophenol
2,4,5-Trichlorophenol
4-Chloro-3-methylphenol
2,4-Dinitrophenol
2-Methyl-4,6-dinitrophenol
Pentachlorophenol
4-Nitrophenol

Pesticide/PCB Target Compounds

alpha-BHC
beta-BHC
delta-BHC
gamma-BHC (Lindane)
Heptachlor
Aldrin
Heptachlor epoxide
Endosulfan I
4,4'-DDE
Dieldrin
Endrin
4,4'-DDD
Endosulfan II
4,4'-DDT
Endrin Ketone
Endosulfan Sulfate
Methoxychlor
alpha-Chlorodane
gamma-Chlorodane
Toxaphene
Aroclor-1016
Aroclor-1221
Aroclor-1232
Aroclor-1242
Aroclor-1248
Aroclor-1254
Aroclor-1260

Inorganic Target Compounds

Aluminum
Antimony
Arsenic
Barium
Beryllium
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Mercury
Nickel
Potassium
Selenium
Silver
Sodium
Thallium
Vanadium
Zinc
Cyanide
Sulfide
Sulfate

APPENDIX D

USEPA SEDIMENT BENCHMARKS

U.S. EPA Surface Water & Sediment
Ecological Benchmarks
Jan. 1996

Table 2: Ecotox Thresholds for 67 Chemicals Commonly Found At Superfund Sites

CAS Number	Chemical	Surface Water (ug/L)			Sediment (mg/kg)			
		Freshwater		Marine	EPA SQC[3]		EPA SQB[4]	ERL[5]
		AWQC or FCV[1]	Tier II[2]	AWQC or FCV[1]	Fresh-water	Marine		
	Metals (20)							
22569728	Arsenic III	190		36				8.2 t
17428410	Arsenic V		8.1 •					
7440393	Barium		3.9 •					
7440417	Beryllium		5.1 •					
7440439	Cadmium	1.0 h		9.3				1.2
1308141	Chromium III	180 h						81 t
18540299	Chromium VI	10		50				
7440484	Cobalt		3.0 •					
7440508	Copper	11 h		2.4				34
7439896	Iron	1000						
7439921	Lead	2.5 h		8.1				47
7439965	Manganese		80 •					
7439976	Mercury, inorganic	1.3		1.1				0.15 t
22967926	Mercury, methyl		0.003 •					
7439987	Molybdenum		240 •					
7440020	Nickel	160 h		8.2				21
7782492	Selenium	5.0		71				
7440622	Vanadium		19 •					
7440666	Zinc	100 h		81				150
57125	Cyanide	5.2		1.0				
	Organic Compounds (47)							
83329	Acenaphthene	23 S		40 S	0.62	1.1		0.016
71432	Benzene		46 •				0.057	—
50328	Benzo(a)pyrene		0.014 •					0.43
92524	Biphenyl		14 #				1.1	
117817	Bis(2-ethylhexyl)phthalate		32 •					

Table 2 (continued)								
		Surface Water (ug/L)			Sediment (mg/kg)			
		Freshwater		Marine	EPA SQC[3]			
CAS Number	Chemical	AWQC or FCV[1]	Tier II[2]	AWQC or FCV[1]	Fresh-water	Marine	EPA SQB[4]	ERL[5]
101553	Bromophenyl phenyl ether, 4-		1.5 #				1.3	
85687	Butylbenzyl phthalate		19 #				11	
108907	Chlorobenzene		130 •				0.82	
50293	DDT		0.013 +					0.0016
333415	Diazinon	0.043 F					0.0019	
132649	Dibenzofuran		20 •				2.0	
95501	Dichlorobenzene, 1,2-		14 #				0.34	
541731	Dichlorobenzene, 1,3-		71 #				1.7	
106467	Dichlorobenzene, 1,4-		15 #				0.35	
75343	Dichloroethane, 1,1-		47 •					
60571	Dieldrin	0.062 S		0.11 S	0.052	0.095		
84662	Diethyl phthalate		220 •				0.63	
84742	Di-n-butyl phthalate		33 •				11	
115297	Endosulfan, mixed isomers		0.051 #				0.0054	
959988	Endosulfan, alpha		0.051 #				0.0029	
33213659	Endosulfan, beta		0.051 #				0.014	
72208	Endrin	0.061 S		0.01 S	0.02	0.0035		
100414	Ethylbenzene		290 •				3.6	
206440	Fluoranthene	8.1 S		11 S	2.9	1.4		0.6
86737	Fluorene		3.9 #				0.54	
76448	Heptachlor		0.0069 +					
67721	Hexachloroethane		12 #				1.0	
58899	Lindane/Hexachlorocyclohexane	0.08					0.0037	
121755	Malathion		0.097				0.00067	
72435	Methoxychlor		0.019 #				0.019	
91203	Naphthalene		24 •				0.48	0.16
608935	Pentachlorobenzene		0.47 #				0.69	
87865	Pentachlorophenol	13 pH		7.9				

820

Table 2 (continued)								
		Surface Water (ug/L)			Sediment (mg/kg)			
		Freshwater		Marine	EPA SQC[3]			
CAS Number	Chemical	AWQC or FCV[1]	Tier II[2]	AWQC or FCV[1]	Fresh-water	Marine	EPA SQB[4]	ERL[5]
1000	Polynuclear aromatic hydrocarbons							4.0
11096825	Polychlorinated biphenyls		0.19 *					0.023
85018	Phenanthrene	6.3 S		8.3 S	0.85	1.1		0.24
129000	Pyrene							0.66
79345	Tetrachloroethane, 1,1,2,2-		420 *				0.94	
127184	Tetrachloroethylene		120 *				0.53	
56235	Tetrachloromethane		240 #				1.2	
108883	Toluene		130 *				0.67	
8001352	Toxaphene		0.011	0.21			0.028	
75252	Tribromomethane		320 #				0.65	
120821	Trichlorobenzene, 1,2,4-		110 #				9.2	
71556	Trichloroethane, 1,1,1-		62 *				0.17	
79016	Trichloroethylene		350 *				1.6	
108383	Xylene, m-		1.8 #				0.025	

[1]USEPA chronic ambient water quality criteria (AWQC) or EPA-derived final chronic values (FCVs) (USEPA, 1986a, 1986b, 1987). Metals concentrations are for total dissolved chemical.
[2]Values calculated using Great Lakes Water Quality Initiative Tier II methodology (40 CFR 9 et al.).
[3]USEPA Sediment Quality Criteria (SQC). Assumes 1 percent organic carbon (USEPA, 1993g). Values are lower limit of 95 percent confidence interval.
[4]Sediment quality benchmarks (SQBs) by equilibrium partitioning. Assumes 1 percent organic carbon. (USEPA, 1995b).
[5]ERL = Effects Range – Low (Long et al., 1995).

Notes:
ug/L = micrograms per liter.
mg/kg = micrograms per kilogram.
h = hardness-dependent ambient water quality criterion (100 mg/L as $CaCO_3$ used).
pH = pH-dependent ambient water quality criterion (7.8 pH used).
S = final chronic value derived for EPA Sediment Quality Criteria documents (EPA, 1993a, b, c, d, e).
F = final chronic value calculated using Great Lakes Water Quality Initiative Tier I methodology.
t = value is for total of all chemical forms.
* = value as calculated in Suter and Mabrey, 1994.
+ = value with EPA support documents.
# = value calculated for this project.

APPENDIX E

LIST OF PERMITTED SPECIAL WASTES

PERMITTED SPECIAL WASTE STREAMS

Prior

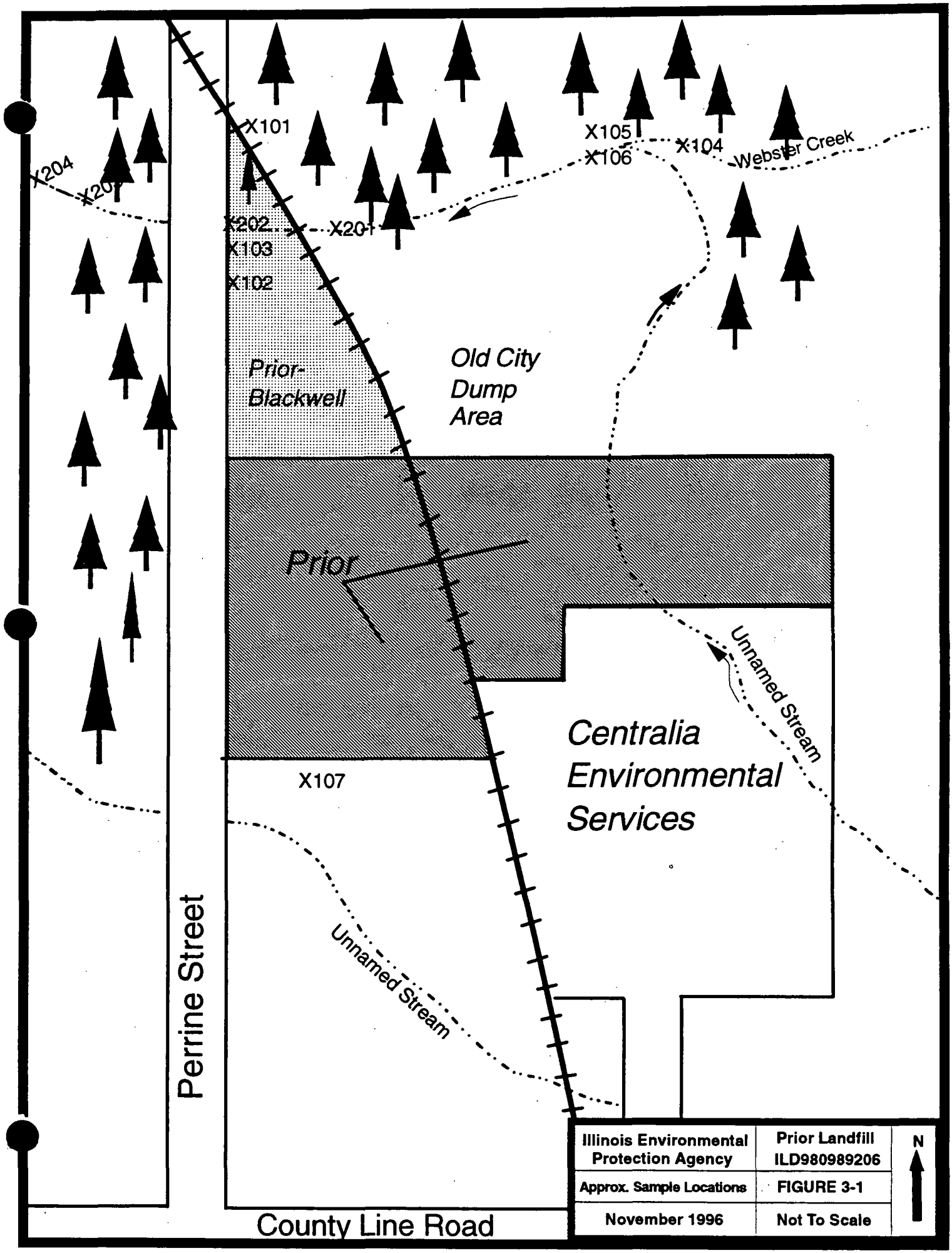
digested wastewater sludge
paint booth solids
carbon black with floor sweepings
waste lubricating oil
clay with triacetin
soil with diesel fuel
explosive waste ash
off-spec. soda barbiturate
paint booth sludge & water
off-spec. food items
sheet molding paste
waste hydraulic oil
waste urethane bond
sewage sludge
vibratory finishing sludge
digested, activated sludge
used hydraulic & transmission oil
waste bonded insulation
oily soap
offset printing ink
machining waste
settling pit sludge
pickle pit sludge
porcelain enamel frit waste
zinc phosphate sludge
epoxy paint overspray waste
iron filter waste
Parts washer sludge
used paint
waste cutting oils & rust inhibitor
waste fired smoke candles
asbestos containing waste material
liquid poultry sludge
fiberglass resin gel coat

Prior-Blackwell

compound area floor sweepings
waste water and oil
ash/debris from explosive wastes
debris-containing triacetin
debris-containing diesel fuel
wastewater treatment sludge
paint spray booth solids
waste hydraulic oil & solids
spray booth sludge
sewage sludge
digested activated sludge
waste urethane bond
vibratory finishing sludge
oily soils and sediments
offset printing ink
contaminated soil
oil-contaminated soil
straw & #2 fuel oil

APPENDIX F

STEP PHOTOGRAPHS


X101
X105
X104
X106
Webster Creek
X204
X201
X202
X201
X103
X102
Prior-
Blackwell
Old City
Dump
Area
Prior
Unnamed Stream
Centralia
Environmental
Services
X107
Perrine Street
Unnamed Stream
County Line Road
Illinois Environmental Protection Agency
Prior Landfill
ILD980989206
Approx. Sample Locations
FIGURE 3-1
November 1996
Not To Scale
N

Site Team Evaluation Prioritization Photos

DATE: 11-15-95	SITE ILD#: 980989206 COUNTY: Marion
TIME: 10:00 am	SITE NAME: Prior Landfill

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: North

Sample point X103, (Photo Board isn't correct.)Erosion/ leachate channel on Prior-Blackwell

DATE: 11-15-95	
TIME: 10:00 am	

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: Southwest

Sample point X103. Erosion/leachate channel on Prior-Blackwell Landfill

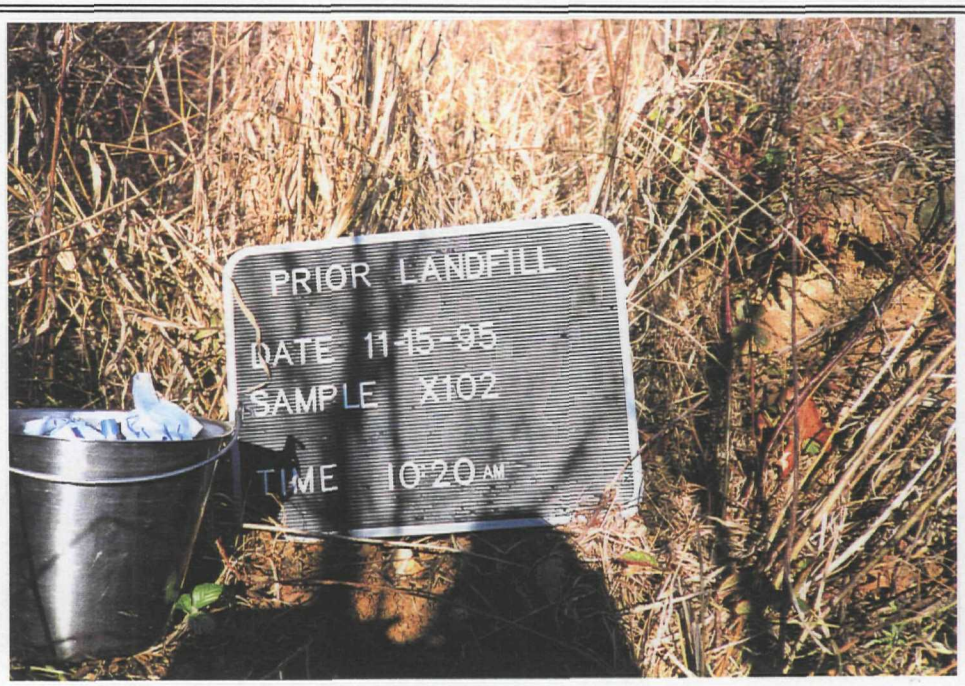
Site Team Evaluation Prioritization Photos

DATE: 11-15-95	SITE ILD#: 980989206 COUNTY: Marion
TIME: 10:20 am	SITE NAME: Prior Landfill

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: North

Sample point X102 taken from same erosion/leachate channel as X103, but "upstream".



DATE: 11-15-95

TIME: 10:20 am

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: West

Sample point X102 collected from same erosion/ leachate channel as X103, but "up-stream".

Site Team Evaluation Prioritization Photos

DATE: 11-15-95	SITE ILD#: 980989206 COUNTY: Marion
TIME: 10:45 am	SITE NAME: Prior Landfill

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: South

Sample point X104 collected from streambed, upstream of confluence of Webster & unnamed stream.

DATE: 11-15-95

TIME: 10:45 am

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: Southeast

Sample point X104 collected from streambed upstream of confluence of Webster & unnamed stream.

Site Team Evaluation Prioritization Photos

DATE: 11-15-95	SITE ILD#: 980989206 COUNTY: Marion
TIME: 11:00 am	SITE NAME: Prior Landfill

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: Northwest

Duplicate samples X105 & X106 taken from Webster Creek downstream of X104.

DATE: 11-15-95

TIME: 11:00 am

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: Southeast

Duplicate samples X105 & X106 taken from Webster Creek downstream of X104.

Site Team Evaluation Prioritization Photos

DATE: 11-15-95	SITE ILD#: 980989206 COUNTY: Marion
TIME: 11:35 am	SITE NAME: Prior Landfill

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: Southeast

Sample X201 taken from Webster Creek upstream of Prior-Blackwell.

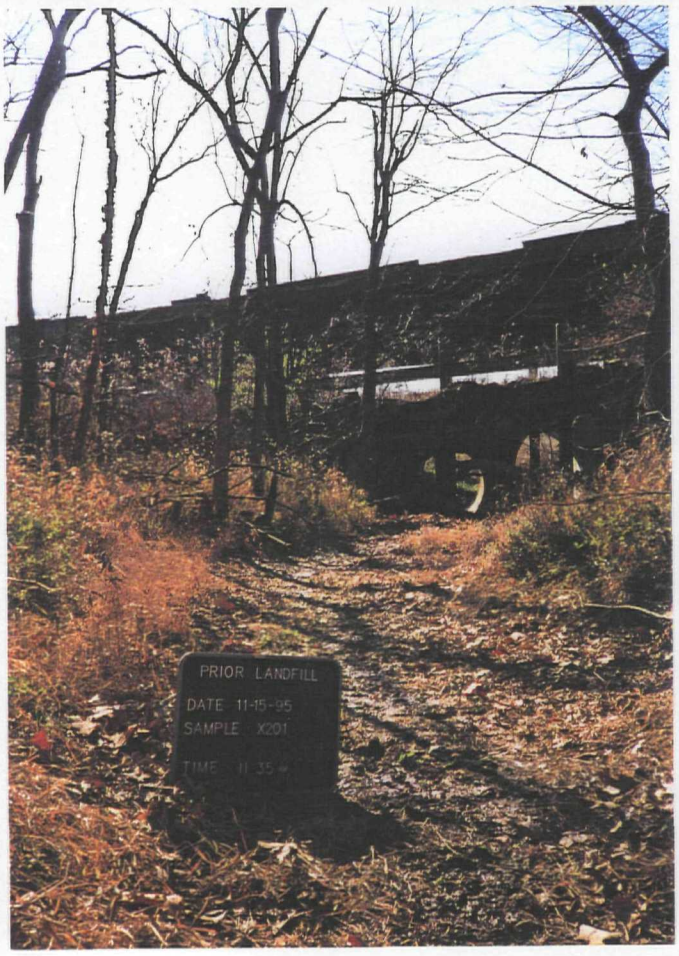
DATE: 11-15-95

TIME: 11:35 am

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: West

Sample X201 taken from Webster Creek upstream of Prior-Blackwell.



Site Team Evaluation Prioritization Photos

DATE: 11-15-95	SITE ILD#: 980989206 COUNTY: Marion
TIME: 12:45 pm	SITE NAME: Prior Landfill

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: South-Southwest

Sample X101, background soil taken from north of Webster Creek and Prior-Blackwell.

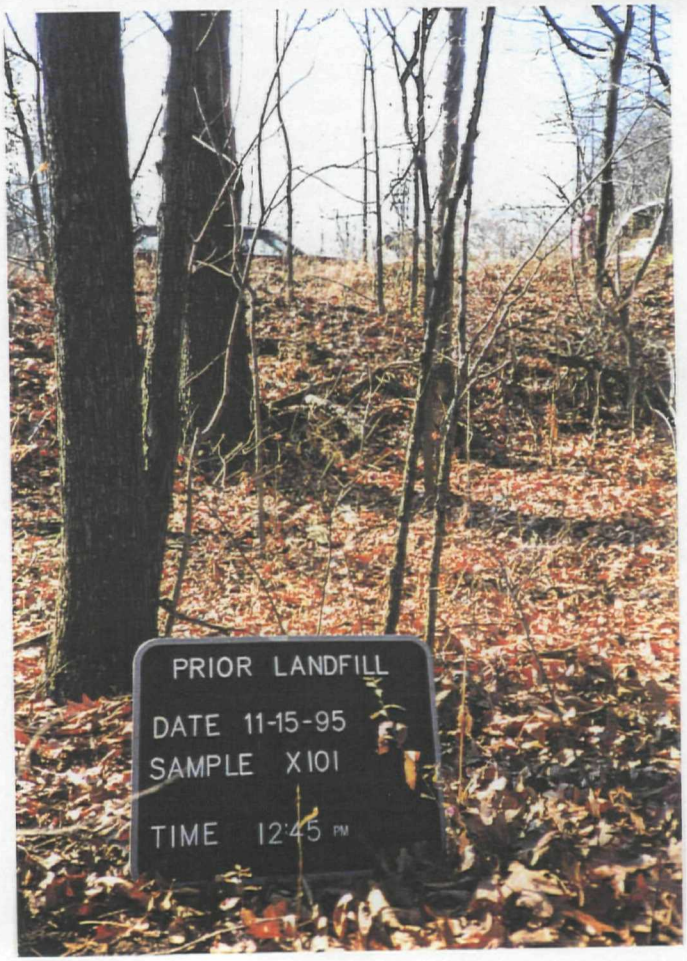
DATE: 11-15-95

TIME: 12:45 pm

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: North-Northeast

Background soil sample X101 taken from north of Webster Creek and Prior-Blackwell.



Site Team Evaluation Prioritization Photos

DATE: 11-15-95	SITE ILD#: 980989206 COUNTY: Marion
TIME: 1:05 pm	SITE NAME: Prior Landfill

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: North

Sample point X202

taken from Webster

Creek, just up-

stream of Perrine

Street bridge.

DATE: 11-15-95

TIME: 1:05 pm

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: Southwest

Sample point X202

taken from Webster

Creek just up-

stream of Perrine

Street bridge.

Site Team Evaluation Prioritization Photos

DATE: 11-15-95	SITE ILD#: 980989206 COUNTY: Marion
TIME: 1:45 pm	SITE NAME: Prior Landfill

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: East

Sample point X203 collected from Webster Creek approx. 100 feet downstream of Perrine Street.

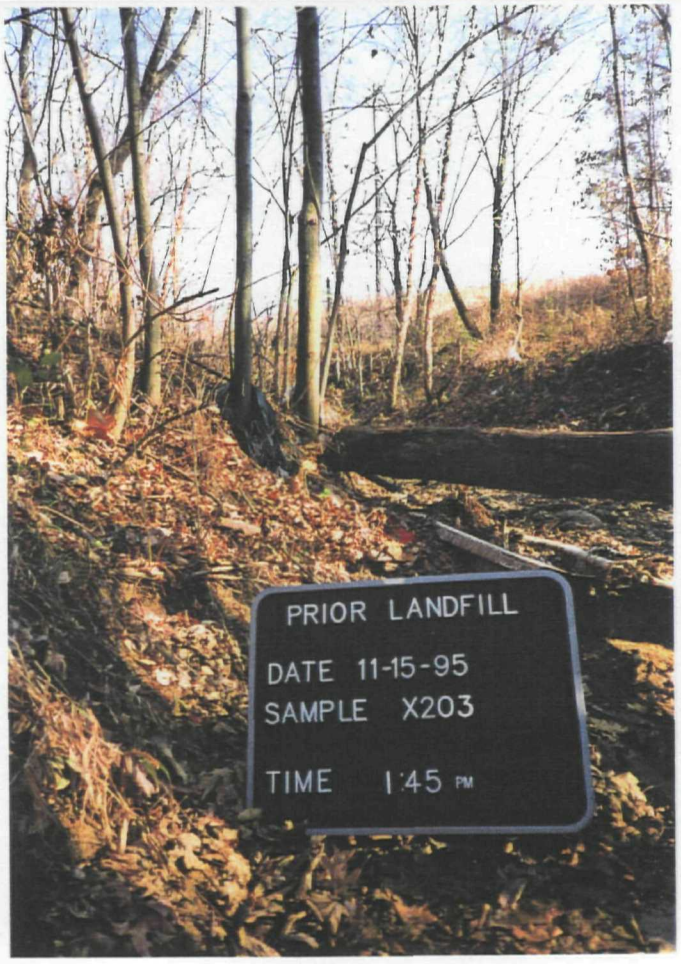
DATE: 11-15-95

TIME: 1:45 pm

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: West

Sample point X203 collected from Webster Creek approx. 100 feet downstream of Perrine Street.



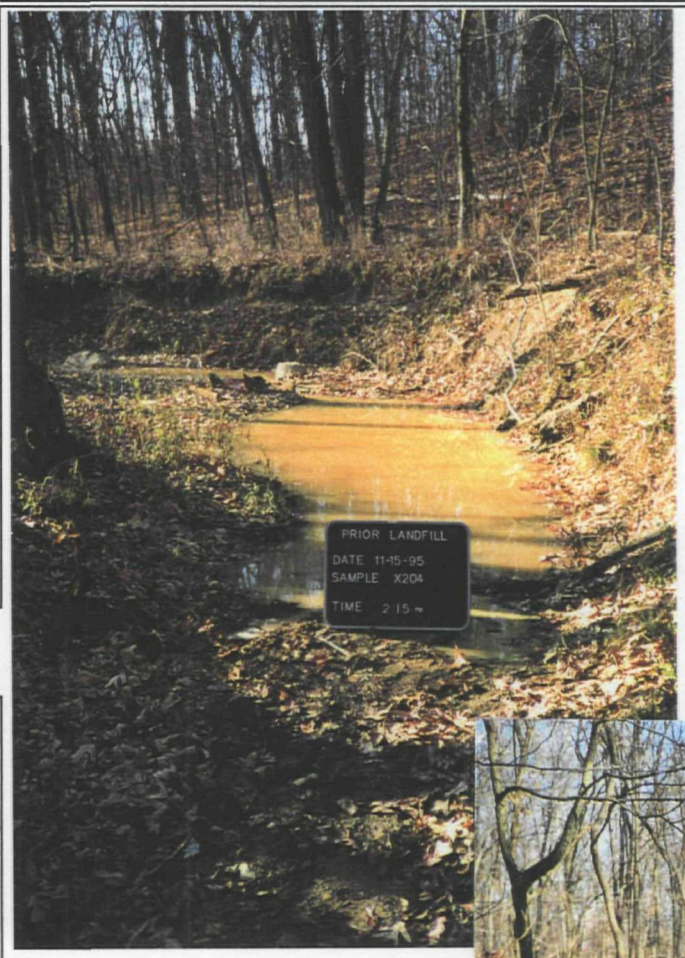
Site Team Evaluation Prioritization Photos

DATE: 11-15-95	SITE ILD#: 980989206 COUNTY: Marion
TIME: 2:15 pm	SITE NAME: Prior Landfill

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: West

Sample X204 taken from Webster Creek approx. 0.1 - 0.2 mile downstream of Perrine Street.



DATE: 11-15-95

TIME: 2:15 pm

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: Northeast

Sample X204 taken from Webster Creek approx. 0.1 - 0.2 mile downstream of Perrine Street.

Site Team Evaluation Prioritization Photos

DATE: 11-15-95	SITE ILD#: 980989206 COUNTY: Marion
TIME: 2:20 pm	SITE NAME: Prior Landfill

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: West

Photo showing the area south of Prior Landfill from which sample X107 was taken.

DATE: 11-15-95

TIME: 2:25 pm

PHOTOGRAPH TAKEN BY: J. Triller

COMMENTS: Picture taken toward: Northeast

Sample point X107 collected from area near south face of Prior Landfill.

APPENDIX G

STEP ANALYTICAL DATA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Region V CLP Data
Received for Review on 12-21-95

FROM: Stephen L. Ostrodka, Chief (HSRL-5J)
Superfund Technical Support Section

TO: Data User: IEPA Patricia J Scott for Steve Ostrodka 01/08/96

We have reviewed the data for the following case:

SITE NAME: Prior Lt (IL)

CASE NUMBER: 24211 SDG NUMBER: EARG1

Number and Type of Samples: 11 (Soil)

Sample Numbers: EARG1-9 EARH0-1

Laboratory: AATS Hrs. for Review: 14 hrs
2.5
16.5 ah

Following are our findings:

The data are acceptable and usable with the qualifications described in the attached narrative.

Patricia J Scott

RECEIVED
JAN 17 1996
IEPA/DLPC

cc: Regional TPO
Brian Freeman
HSMC-5J

NARRATIVE

LABORATORY: AATSLA
CASE: 24211
SDG: EARG1
SITE: Prior LF (IL)

The samples (EARG1-EARG9, EARH0, EARH1) were collected on 11/15/95. The laboratory received eleven (11) soil samples on 11/16/95 in good condition for the full list of organic analysis following the SOW OLM03.0.

Sample EARG9 was used as the low level matrix spike/spike duplicates for the VOA fraction. Sample EARG3 was used as the low level matrix spike/spike duplicates for the SVOA and Pest/PCB fractions.

None of the samples in this case were identified as the field duplicate and field blanks.

The VOA samples were analyzed within the holding time of fourteen (14) days for the soil samples. The SVOA and Pest/PCB samples were extracted within the holding time of fourteen (14) days for the soil samples. The extracts were analyzed within forty (40) days following the extraction.

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

Reviewed by: Steffanie N. Tobin__Lockheed/ESAT
Date:__December 27th, 1995__

NARRATIVE

LABORATORY: AATSLA
CASE: 24211
SDG: EARG1
SITE: Prior LF (IL)

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

1.HOLDING TIME

The laboratory received eleven (11) soil samples (EARG1-EARG9, EARH0, EARH1) on 11/16/95 in good condition for the full list of organic analysis following the SOW OLM03.0. The VOA samples were analyzed within the holding time of fourteen (14) days for soil samples; therefore, the results are acceptable. The SVOA and Pest/PCB samples were extracted within the holding time of fourteen (14) days. The extracts were analyzed within forty (40) days following the extraction; therefore, the SVOA and Pest/PCB results are acceptable.

2.GC/MS TUNING PERFORMANCE

GC/MS tuning complied with the mass list and ion abundance criteria for BFB and DFTPP. All samples were analyzed within the twelve (12) hour periods for instrument performance checks.

The GC Resolution Check Mix met the 60% resolution criteria. DDT and Endrin degradation checks using Performance Evaluation Mix of DB-17 and DB-1701 columns were acceptable (<20%); therefore, the results are acceptable.

The Florisil Cartridge and GPC Calibration Checks met the QC criteria; therefore, the results are acceptable.

3.CALIBRATION

Initial and continuing calibration standards of VOA, SVOA and Pest/PCB were evaluated for the Target Compounds List (TCLs) and outliers were recorded on the outlier forms included as a part of this narrative.

4.METHOD BLANK

For the VOA fraction, VBLK1 is the method blank. VHBLK1 is the storage blank. Both blanks are clean.

Reviewed by: Steffanie N. Tobin__Lockheed/ESAT
Date:__December 27th, 1995__

For the SVOA fraction, SBLK1 is the method blank. It contains bis(2ethyhexyl)phthalate at 34 µg/Kg and 8 TICs. Bis(2-ethylhexyl)phthalate is common laboratory contaminant. The presence of bis(2-ethylhexyl)phthalate in the SVOA samples is flagged as non-detected (U) when the sample results are less than 10X the blank results. The presence of the TICs in the SVOA samples is flagged as non-detected (U) when the sample results are less than 5X the blank results.

PBLKSA is the method blank for the Pest/PCB fraction. it contains no Pest/PCB residues.

5.SYSTEM MONITORING COMPOUND AND SURROGATE RECOVERY

The system monitoring compound recoveries for the VOA fraction were within the QC limits; therefore, the results are acceptable.

The surrogate recoveries of for the SVOA and Pest/PCB fractions were within the QC limits; therefore, the results are acceptable.

6.MATRIX SPIKE/SPIKE DUPLICATES

Sample EARG9 was used as the low level matrix spike/spike duplicates for the VOA fraction. Sample EARG3 was used as the low level matrix spike/spike duplicates for the SVOA and Pest/PCB fractions.

The spike recoveries and RPDs for the VOA and SVOA fractions were within the QC limits; therefore, the results are acceptable.

For the Pest/PCB fraction, the recovery of DDT for both EARG3MS and EARG3MSD was above the QC limit. The positive result for DDT in the unspiked sample (EARG3) is flagged as estimated (J).

7.FIELD BLANK AND FIELD DUPLICATE

None of the samples in this case were identified as the field duplicates or field blanks.

Reviewed by: Steffanie N. Tobin__Lockheed/ESAT
Date:__December 27th, 1995__

8.INTERNAL STANDARDS

The internal standard retention times and area counts for the SVOA fraction were within the QC limits; therefore, the results are acceptable.

For the SVOA fraction, the recovery of IS5 (chrysene-d_{12}) for EARG3 was below the QC limit. The recovery of IS6 (perylene-d_{12}) for EARG2, EARG2RE, EARG3, EARG3MS, EARG3MSD, EARG9, EARG9RE was below the QC limit. The positive results for the target compounds which are associated with the above IS for the above samples are flagged as estimated (J) and non-detected (UJ). Please refer to Table 4 for the list of associated compounds for the above IS. The results for EARG2 and EARG9 should be used since the reanalysis did not improve the outstanding QC.

9.COMPOUND IDENTIFICATION

The target compounds and TICs for the VOA, SVOA and Pest/PCB fractions were properly identified.

10.COMPOUND QUANTITATION AND REPORTED DETECTION LIMITS

The VOA, SVOA and Pest/PCB Target Compounds (TCLs) and Tentative Identified Compounds (TICs) were properly quantitated; therefore, the data are acceptable. The CRQLs were adjusted to reflect all sample dilutions and percent moisture.

For the Pest/PCB samples that have congested chromatogram, the positive results for the pesticide target compounds are flagged as non-detected (U) when the concentration from the two columns differ by more than a factor of three or the area of the compound on the primary column is less than 2000.

11.SYSTEM PERFORMANCE

GC/MS baseline indicated acceptable performance.

The baseline for the Pest/PCB analysis indicated acceptable performance.

Reviewed by: Steffanie N. Tobin__Lockheed/ESAT
Date:__December 27th, 1995__

12.ADDITIONAL INFORMATION

None

Reviewed by: Steffanie N. Tobin__Lockheed/ESAT
Date:__December 27th, 1995__

CALIBRATION OUTLIER
Volatile TCL
(Page 1 of 1)

CASE/SAS #: 24211
COLUMN: DB-624
PURGED PURGE (Y/N) Y

LABORATORY: SWL - TULSA
SITE NAME: Troy LF (II)

Instrument ID: L		Initial Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
Date: 09/11/95		09/11/95			11/20/95								
Time: 1219		1219			1621								
	#	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane	0.010												
Bromomethane	0.100												
Vinyl Chloride	0.100												
Chloroethane	0.010	096			1.24	300	J						
Methylene Chloride	0.010	384	850	J	1.44	630	J						
Acetone	0.010	045	91.9	J									
Carbon Disulfide	0.010												
1,1-Dichloroethene	0.100												
1,1-Dichloroethane	0.200												
1,2-Dichloroethene (total)	0.010												
Chloroform	0.200												
1,2-Dichloroethane	0.100												
2-Butanone	0.010	071	32.2	J									
1,1,1-Trichloroethane	0.100												
Carbon Tetrachloride	0.100												
Bromodichloromethane	0.200												
1,2-Dichloropropane	0.010												
cis-1,3-Dichloropropene	0.200												
Trichloroethene	0.300												
Dibromochloromethane	0.100												
1,1,2-Trichloroethane	0.100												
Benzene	0.500												
trans-1,3-Dichloropropene	0.100												
Bromoform	0.100												
4-Methyl-2-Pentanone	0.010												
2-Hexanone	0.010												
Tetrachloroethene	0.200												
1,1,2,2-Tetrachloroethane	0.300												
Toluene	0.400												
Chlorobenzene	0.500												
Ethylbenzene	0.100												
Styrene	0.300												
Xylene (total)	0.300												
Toluene-d_8	0.010												
Bromofluorobenzene	0.200												
1,2-Dichloroethane-d_4	0.010												

Affected Samples:

	VBIK1		
	EARG1-9		
	EARH1 0-1		
	VHBIK1		

Minimum Relative Response Factor.
* These flags should be applied to the analytes on the sample data sheets.
J/R = All positive results are estimated, "J" and non-detected results are unusable "R".

Reviewer's Init/Date: BT 12/26/95

CALIBRATION OUTLIER
Semivolatile TCL
(Page 1 of 2)

CASE/SAS #: 24211
COLUMN:

LABORATORY: SWL - TULSA
SITE NAME: Prior LF (II)

Instrument ID: V		Initial Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			
Date: 11/14/95		11/14/95			11/28/95			12/5/95			12/5/95			12/6/95
Time: 7:11		7:11			16:11			7:45			21:07			11:47
	#	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	
Phenol	0.800													
bis(2-Chloroethyl)ether	0.700													
2-Chlorophenol	0.800													
1,3-Dichlorobenzene	0.600													
1,4-Dichlorobenzene	0.500													
1,2-Dichlorobenzene	0.400													
2-Methylphenol	0.700													
2,2-oxybis(1-Chloropropane)	0.010													
4-Methylphenol	0.600													
N-Nitroso-di-n-propylamine	0.500													
Hexachloroethane	0.300													
Nitrobenzene	0.200													
Isophorone	0.400													
2-Nitrophenol	0.100													
2,4-Dimethylphenol	0.200													
bis(2-Chloroethoxy)methane	0.300													
2,4-Dichlorophenol	0.200													
1,2,4-Trichlorobenzene	0.200													
Naphthalene	0.700													
4-Chloroaniline	0.010													
Hexachlorobutadiene	0.010	0.31			0.42	34.6	J							
4-Chloro-3-methylphenol	0.200													
2-Methylnaphthalene	0.400													
Hexachlorocyclopentadiene	0.010	0.52			0.66	28.3	J	0.25	51.5	J	0.46	27.1	J	0.24/44.5
2,4,6-Trichlorophenol	0.200													
2,4,5-Trichlorophenol	0.200													
2-Chloronaphthalene	0.800													
2-Nitroaniline	0.010													
Dimethylphthalate	0.010													
Acenaphthylene	0.900													
2,6-Dinitrotoluene	0.200													
3-Nitroaniline	0.010													
Acenaphthene	0.900													
2,4-Dinitrophenol	0.010	0.18						0.11	41.5	J				

Affected Samples:

SBIK.1

		EARG2	EARG1
		EARG3	EARG2RE
		EARG3MS	EARG4-7
		EARG3MSD	EARG9

EARH
EARH1
EARG
EARG1

Minimum Relative Response Factor.
* These flags should be applied to the analytes on the sample data sheets.
J/R = All positive results are estimated "J" and non-detected results are unusable "R".

Reviewer's Init/Date: SJ 12/26/95

CALIBRATION OUTLIER
Semivolatile TCL
(Page 2 of 2)

CASE/SAS #: 24211
COLUMN:

LABORATORY: SWL - TULSA
SITE NAME: Prior LF (II)

Instrument ID: V		Initial Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			
Date:		11/14/95			11/28/95			12/5/95			12/5/95			12/6/95
Time:		7:11			16:11			7:45			21:07			11:47
	#	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	
4-Nitrophenol	0.010	0.25			0.35	41.5	J	~~0.35~~	~~43.8~~	~~J~~ 5 12/26/95	0.35	43.8	J	0.33/35.6/J
Dibenzofuran	0.800													
2,4-Dinitrotoluene	0.200													
Diethylphthalate	0.010													
4-Chlorophenyl-phenylether	0.400													
Fluorene	0.900													
4-Nitroaniline	0.010													
4,6-Dinitro-2-methylphenol	0.010													
N-nitrosodiphenylamine	0.010													
4-Bromophenyl-phenylether	0.100	0.24						~~0.31~~	~~27.2~~	~~J~~	0.31	27.2	J	
Hexachlorobenzene	0.100	0.26						~~0.47~~	~~32.9~~	~~J~~	0.47	32.9	J	
Pentachlorophenol	0.050													
Phenanthrene	0.700													
Anthracene	0.700													
Carbazole	0.010													
Di-n-butylphthalate	0.010													
Fluoranthene	0.600													
Pyrene	0.600	1.93												1.42/26.4/J
Butylbenzylphthalate	0.010	1.11			0.82	25.9	J							
3-3'-Dichlorobenzidine	0.010													
Benzo(a)anthracene	0.800													
Chrysene	0.700													
bis(2-Ethylhexyl)phthalate	0.010													
Di-n-octylphthalate	0.010													
Benzo(b)fluoranthene	0.700													
Benzo(k)fluoranthene	0.700													
Benzo(a)pyrene	0.700													
Indeno(1,2,3-cd)pyrene	0.500													1.31/29.1/J
Dibenz(a,h)anthracene	0.400													
Benzo(g,h,i)perylene	0.500													
Nitrobenzene-d_5	0.200													
2-Flurobiphenyl	0.700													
Terphenyl-d_{14}	0.500													
Phenol-d_5	0.800													
2-Fluorophenol	0.600													
2,4,6-Tribromophenol	0.010	0.18						0.27	49.6	J				
2-Chlorophenol-d_4	0.800													
1,2-Dichlorobenzene-d_4	0.400													

Minimum Relative Response Factor.
* These flags should be applied to the analytes on the sample data sheets.
J/R = All positive results are estimated "J" and non-detected results are unusable "R".

Reviewer's Init/Date: ST 12/26/95

CALIBRATION OUTLIER
Pesticide/PCB TCL
(Page 1 of 1)

CASE/SAS #: 24211
COLUMN: DB-1701

LABORATORY: SWL - TULSA
SITE NAME: Prior LF (II)

Instrument Number	Initial Cal.		Cont. Cal.		Cont. Cal.		Cont. Cal.		Cont. Cal.	
Date 11/25/95	11/25/95		11/26/95		11/27/95					
Time 13:43	13 43		18:54		11:37					
	%RSD	*	%D	*	%D	*	%D	*	%D	*
alpha-BHC										
beta-BHC										
delta-BHC										
gamma-BHC										
Heptachlor										
Aldrin										
Heptachlor Epoxide										
Endosulfan I										
Dieldrin										
4,4'-DDE										
Endrin										
Endosulfan II										
4,4'-DDD										
Endosulfan Sulfate										
4,4'-DDT										
Methoxychlor										
Endrin Ketone										
Endrin Aldehyde										
alpha-Chlordane										
gamma-Chlordane										
Aroicor 1016										
Aroclor 1221										
Aroclor 1232										
Aroicor 1242										
Aroclor 1248										
Aroclor 1254										
Aroclor 1260										

Affected Samples:

	PBILSA			
	EARG1-9			
	EARH0-1			
	EARG3MS			
	EARG3MSD			

* These flags should be applied to the analytes on the sample data sheets.
J/R = All positive results are estimated "J" and non-detected results are unusable "R".

Reviewer's Init/Date: ST 10/26/95

CALIBRATION OUTLIER
Pesticide/PCB TCL
(Page 1 of 1)

CASE #: 24211
COLUMN: DB-17

LABORATORY: EWL-TULSA
SITE NAME: Prior LF (II)

Instrument Number	Initial Cal.		Cont. Cal.		Cont. Cal.		Cont. Cal.		Cont. Cal.	
Date 11/25/95	11/25/95		11/26/95		11/27/95					
Time 13:43	13:43		18:54		11:37					
	%RSD	*	%D	*	%D	*	%D	*	%D	*
alpha-BHC										
beta-BHC										
delta-BHC										
gamma-BHC										
Hepachlor										
Aldrin										
Heptachlor Epoxide										
Endosulfan I										
Dieldrin										
4,4'-DDE										
Endrin										
Endosulfan II										
4,4'-DDD										
Endosulfan Sulfate										
4,4'-DDT										
Methoxychlor										
Endrin Ketone										
Endrin Aldehyde										
alpha-Chlordane										
gamma-Chlordane										
Aroicor 1016										
Aroclor 1221										
Aroclor 1232										
Aroicor 1242										
Aroclor 1248										
Aroclor 1254										
Aroclor 1260										

Affected Samples:

	PB11LSA			
	EARG1-9			
	EARG3MS			
	EARG3MSD			
	EAIRHC-1			

* These flags should be applied to the analytes on the sample data sheets.
J/R = All positive results are estimated "J" and non-detected results are unusable "R".

Reviewer's Init/Date: ST 12/26/95

ORGANIC DATA QUALIFIER DEFINITIONS

For the purpose of defining the flagging nomenclature utinized in this document, the following code letters and associated definitions are provide:

VALUE-if the results is a value greater than or equal to the Contract Required Quantitation Limit (CRQL).

U Indicates that the compound was analyzed for, but not detected. The sample quantitation limit corrected for dilution and percent moisture is reported.

J Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of a compound but the result is less than the sample quantitation limit, but greater than zero. The flag is also used to indicate a reported result having an associated QC problem.

R Indicates the data are unusable. (Note: The analyte may or may not be present.)

N Indicates presumptive evidence of a compound. This flag is only used for a tentatively identified compound, where the identification is based on a mass spectral library search.

P Indicates a pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between the two GC columns. The lower of the two results is reported.

C Indicates pesticide results that have been confirmed by GC/MS.

B Indicates the analyte is detected in the associated blank as well as the sample.

E Indicates compounds whose concentrations exceed the calibration range of the instrument.

D Indicates an identified compound in an analysis has been diluted. This flag alerts the data user to any differences between the concentrations reported in the two analysis.

A Indicates tentatively identified compounds that are suspected to be aldol condensation products.

G Indicates the TCLP Matrix Spike Recovery was greater than the upper limit of the analytical method.

L Indicates the TCLP Matrix Spike Recovery was less than the lower limit of the analytical method.

T Indicates the analyte is found in the associated TCLP extraction blank as well as in the sample.

X, Y, Z are reserved for laboratory defined flags.

TABI 1

VOLATILE INTERNAL STANDARDS WITH CORRESPONING TCL ANALYTES ASSIGNED FOR QUANTITATION

Bromochloromethane	1,4 Difluorobenzene	Chlorobenzene-d_5
Chloromethane	Bromoform	2-Hexanone
Bromomethane	1,1,1-Trichloroethane	4-Methyl-2-pentanone
Vinyl chloride	Carbon tetrachloride	Tetrachloroethene
Chloroethane	Bromodichloromethane	1,1,2 2-Tetrachloroethane
Methylene chloride	1,2-Dichloropropane	Toluene
Acetone	trans-1,3-Dichloropropene	Chlorobenzene
Carbon disulfide	Trichloroethene	Ethyll enzene
1,1-Dichloroethene	Dibromochloromethane	Styrene
1,1-Dichloroethane	1,1,2-Trichloroethane	Xylene(total)
1,2-Dichloroethene(total)	Benzene	Bromofluorobenzene(surr,smc)
Chloroform	cis-1,3-Dichloropropene	Toluene-d_8(surr,smc)
1,2-Dichloroethane		
1,2-Dichloroethane-d_4(surr,smc)		
2-Butanone		

SEMIVOLATILE INTERNAL STANDARDS WITH CORRESPONING TCL ANALYTES ASSIGNED FOR QUANTITATION

1,4-Dichlorobenzene-d_4	Naphthalene-d_8	Acenaphthene-d_{10}	Phenanthrene-d_{10}	Chrysene-d_{12}	Perylene-d_{12}
Phenol	Nitrobenzene	Hexachlorocyclopentadiene	4,6-Dinitro-2-methylphenol	✓Pyrene	Di-n-octyl phthalate
bis(2-chloroethyl)ether	Isophorone	2,4,6-Trichlorophenol	N-nitroso-di-phenylamine	✓butylbenzyl phthalate	✓Benzo(b)fluoranthene
2-Chlorophenol	2-Nitrophenol	2,4,5-Trichlorophenol	Carbazole	3,3'-Dichlorobenzidine	✓Benzo(k)fluoranthene
1,3-Dichlorobenzene	2,4-Dimethylphenol	2-Chloronaphthalene	4-Bromophenyl phenyl ether	✓Benzo(a)anthracene	✓Benzo(a)pyrene
1,4-Dichlorobenzene	✓Naphthalene	2-Nitroaniline	Hexachlorobenzene	bis(2-Ethylhexyl)phthalate	Indeno(1,2,3-cd)pyrene
2,2'-Oxybis-(1-chloropropane)	bis(2-Chloroethoxy)methane	Dimethylphthalate	Pentachlorophenol	✓Chrysene	Dibenzo(a,h)anthracene
1,2-Dichlorobenzene	2,4-Dichlorophenol	Acenaphthylene	✓Phenanthrene	Terphenyl-d_{14}(surr)	Benzo(g,h,i)perylene
2-Methylphenol	1,2,4-Trichlorobenzene	3-Nitroaniline	✓Anthracene		
bis(2-Chloroisopropyl)ether	4-Chloroaniline	Acenaphthene	✓Di-n-butyl phthalate		
4-Methylphenol	Hexachlorobutadiene	2,4-Dinitrophenol	✓Fluoranthene		
N-nitroso-di-n-propylamine	4-Chloro-3-methylphenol	4-Nitrophenol			
Hexachloroethane	✓2-Methylnaphthalene	✓Dibenzofuran			
2-Fluorophenol(surr)	Nitrobenzene-d_5(surr)	2,4-Dinitrotoluene			
Phenol-d_6(surr)		2,6-Dinitrotoluene			
2-Chlorobenzene-d_4(surr)		✓Diethyl phthalate			
1,2-Dichlorobenzene-d_4(surr)		4-Chlorophenyl phenyl ether			
		Fluorene			
		4-Nitroaniline			
		2-Fluorobiphenyl(surr)			
		2,4,6-Tribromophenol(surr)			

(surr) - surrogate
(smc) - system monitoring compound

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Data Set No: _____ CERCLIS No: IL

Case No: 24211 Site Name Location: Prior LF

Contractor or EPA Lab: AATS Data User: IEPA

No. of Samples: 11 Date Sampled or Data Received: 12-21-95

Have Chain-of-Custody records been received? Yes ✓ No____
Have traffic reports or packing lists been received? Yes ✓ No____
If no, are traffic report or packing list numbers written on the chain-of-custody record? Yes ✓ No____
If no, which traffic report or packing list numbers are missing?

_____ _____ _____ _____

_____ _____ _____ _____

Are basic data forms in? Yes ✓ No____
No of samples claimed: 11 No. of samples received: 11

Received by: Lynette Burnett Date: 12-21-95

Received by LSSS: _____ Date: _____

Review started: 12-26-95 Reviewer Signature: Stephanie N Tobin

Total time spent on review: 14 hrs Date review completed: 12-27-95

Copied by: Lynette Burnett Date: 1-11-96

Mailed to user by: Lynette Burnett Date: 1-11-96

DATA USER:
Please fill in the blanks below and return this form to:
Sylvia Griffen, Data mgmt. Coordinator, Region V, 5SCRL

Data received by: _____ Date: _____

Data review received by: _____ Date: _____

Inorganic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK
Organic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK
Dioxin Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK
SAS Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK

PROBLEMS: Please indicate reasons why data are not suitable for your uses.

_____

_____

Received by Data Mgmt. Coordinator for Files. Data: _____

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SAS No. (if applicable):
Case No: 24-11

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. Oil (High only)
7. Waste (High only)
8. Other (Specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. Other (Specify in Column D)
N. Not preserved

2. Region No.: V
Sampling Co.: EPA
4. Date Shipped: 11-15-95
Carrier: Fed Ex
6. Date Received -- Received by: [signature] 11-16-95
Laboratory Contract Number:
Unit Price:
Sampler (Name): Brad Taylor
Airbill Number: 4957237-10
Sampler Signature: Brad Taylor
5. Ship To: American Analytical + Technical Services, 1700 West Albany Suite A, Broken Arrow, OK 74012, ATTN: [illegible]
7. Transfer to:
Date Received:
Received by:
Contract Number:
Price:

3. Purpose*
Lead: SF, PRP, ST, FED
Early Action: CLEM, PA, REM, RI, [X] SI, ESI
Long-Term Action: FS, RD, RA, O&M, NPLD

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis VOA	BNA	Pest/PCB	High only ARO/TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K High Phases Solids	Water-Miscible Liq.	Water-Immis. Liq.
EARG1	5	L	G	5	X				5-189162-63	X101	11-15-95 1245	MEADQ9	BT			
EARG1	5	L	G	5		X	X		5-189164	X101	11-15-95 1245	MEADQ9	BT			
EARG2	5	L	G	5	X				5-189165-66	X102	11-15-95 1000	MEADR0	BT			
EARG2	5	L	G	5		X	X		5-189167	X102	11-15-95 1000	MEADR0	BT			
EARG3	5	L	G	5	X				5-189168-69	X103	11-15-95 1030	MEADR1	BT			
EARG3	5	L	G	5		X	X		5-189170	X103	11-15-95 1030	MEADR1	BT			
EARG4	5	L	G	5	X				5-189171-72	X104	11-15-95 1045	MEADR2	BT			
EARG4	5	L	G	5		X	X		5-189173	X104	11-15-95 1045	MEADR2	BT			
EARG5	5	L	G	5	X				5-189174-75	X105	11-15-95 1100	MEADR3	BT			
EARG5	5	L	G	5		X	X		5-189176	X105	11-15-95 1100	MEADR3	BT			

Shipment for Case Complete? (Y/N): Y
Page: 1 of 13
Sample(s) to be Used for Laboratory QC:
Additional Sampler Signatures:
Chain of Custody Seal Number(s): 41851 / 41852

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Brad Taylor	11-15-95 1800				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) [signature]	Date / Time 11/16/95 1000	Remarks: Is custody seal intact? Y/N/none INTACT	

DISTRIBUTION: Blue - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return to SMO

EPA Form 9110-2

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

A21-012-4 REV. 3/93

EARG1

358938

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SAS No. (if applicable):
Case No: 24211

1. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (Specify in Column A)

2. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. Other (Specify in Column D) N. Not preserved

2. Region No.: V
Sampling Co.: IEPA
4. Date Shipped: 11-15-95
Carrier: Fed Ex
6. Date Received -- Received by: [signature] 11-16-95
Sampler (Name): Brad Taylor
Airbill Number: 4957337210
Laboratory Contract Number:
Unit Price:
Sampler Signature: Brad Taylor
5. Ship To: American Analytical + Technical Services, 1700 West Albany Suite A, Broken Arrow OK 74012
ATTN: Harry Borg
7. Transfer to:
Date Received:
Received by:
Contract Number:
Price:

3. Purpose*: Lead: SF, PRP, ST, FED; Early Action: CLEM, PA, REM, RI, [X] SI, ESI; Long-Term Action: FS, RD, RA, O&M, NPLD

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis: VOA	BNA	Pest/PCB	High only ARO/TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K High Phases: Solids	Water-Miscible Liq.	Water-Immis. Liq.
EARG6	5	L	G	5	X				5-189177-78	X106	11-15-95-1100	MEADR4	B.T.			
EARG6	5	L	G	5		X	X		5-189179	X106	11-15-95-1100	MEADR4	B.T.			
EARG7	5	L	G	5	X				5-189180-81	X201	11-15-95-1135	MEAFB2	B.T.			
EARG7	5	L	G	5		X	X		5-189182	X201	11-15-95-1135	MEAFB2	B.T.			
EARG8	5	L	G	5	X				5-189183-84	X202	11-15-95-1305	MEAFB3	B.T.			
EARG8	5	L	G	5		X	X		5-189185	X202	11-15-95-1305	MEAFB3	B.T.			
EARG9	5	L	G	5	X				5-189186-87	X203	11-15-95-1345	MEAFB4	B.T.			
EARG9	5	L	G	5		X	X		5-189188	X203	11-15-95-1345	MEAFB4	B.T.			
EARH6	5	L	G	5	X				5-189189-90	X204	11-15-95-1415	MEAFB5	B.T.			
EARH6	5	L	G	5		X	X		5-189191	X204	11-15-95-1415	MEAFB5	B.T.			

Shipment for Case Complete? (Y/N): Y
Page: 2 of 3
Sample(s) to be Used for Laboratory QC:
Additional Sampler Signatures:
Chain of Custody Seal Number(s): 41851 / 41852

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Brad Taylor	11-15-95 1800				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) [signature]	Date / Time 11/16/95 1000	Remarks Is custody seal intact? Y/N/none: intact	

DISTRIBUTION: Blue - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return to SMO

EPA Form 9110-2

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITION

A21-012-4 REV. 3/93

FARG1

362831

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SAS No. (if applicable):
Case No: 21211

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. Oil (High only)
7. Waste (High only)
8. Other (Specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. Other (Specify in Column D)
N. Not preserved

2. Region No.: V
Sampling Co.: I-AF
4. Date Shipped: 11-15-95
Carrier: Fed Ex
6. Date Received -- Received by: [signature] 11-16-95
Sampler (Name): Brad Taylor
Airbill Number: 4957337210
Laboratory Contract Number:
Unit Price:
Sampler Signature: Brad Taylor
3. Purpose*
Lead: SF, PRP, ST, FED
Early Action: CLEM, PA, REM, RI, SI, ESI
Long-Term Action: FS, RD, RA, O&M, NPLD
5. Ship To: Amer. Analytical & Tech Services, 1700 W Albany, Broken Arrow
ATTN: Harry Bug
7. Transfer to:
Date Received:
Received by:
Contract Number:
Price:

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other	B Conc.: Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other	E RAS Analysis VOA	BNA	Pest/PCB	High only ARO/TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K High Phases Solids	Water-Miscible Liq	Water-Immis. Liq.
* EARH2	5	L	G	5	X				5-189192-93	X1067	11-15-95 1425	MEAEB6	BT			
EARH1	5	L	G	5		X	X		5-189194	X1067	11-15-95-1425	MEAEB6	BT			

Shipment for Case Complete? (Y/N): Y
Page: 3 of 3
Sample(s) to be Used for Laboratory QC:
Additional Sampler Signatures:
Chain of Custody Seal Number(s): 41851 / 41852

*SDE Final Sample

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Brad Taylor	11-15-95 1800				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) [signature]	Date / Time 11/16/95 1000	Remarks Is custody seal intact? Y/N/none intact	

DISTRIBUTION: Blue - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return to SMO

EPA Form 9110-2

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*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

A21-012-4 REV. 3/93

EARH1

362811

22

AMERICAN ANALYTICAL TECHNICAL SERVICES
1700 West Albany, Suite A / Broken Arrow, OK 74012
918-251-2858

RECEIVED
DEC 21 1995
US EPA CENTRAL REGIONAL LAB.
536 S. CLARK ST.
CHICAGO, ILLINOIS 60605

SDG NARRATIVE
December 18, 1995

CONTRACT NO.: 68-D5-0022

CASE NO.: 24211

SAMPLE NOS.: EARG1, EARG2, EARG3, EARG4, EARG5, EARG6, EARG7, EARG8, EARG9, EARH0, EARH1.

SDG NO.: EARG1

VOLATILE FRACTION

Eleven plus MS/MSD soil samples were submitted for Volatile Organic Analysis . The samples were analyzed by GC/MS following the OLM3 2 CLP Statement of Work

Alternate columns used for the analysis of volatile compounds by Method OLM03 2 are the Restek XTI-5 (bonded 5% phenyl-95% dimethyl polysiloxane), 30m, 0 25mm ID, 1um film thickness (Restek #12253) and the DB624, 75m, 0.53mmID Megabore, 3um film thickness (J&W 125-1374)

An alternate trap used for the analysis of volatile compounds by method OLM03 2 is the Vocarb 3000 (Carbopack B/Carboxen 1000 & 1001 Tekmar #2-1066).

No major problems occurred during the analyses of these samples

Blanks: No problems.

Surrogates. No problems

Matrix Spikes: No problems

Internal Standards: No problems

SEMIVOLATILE FRACTION

Eleven soil samples were submitted for Semivolatile Organic Analysis The samples were analyzed by GC/MS following the OLM03.2 CLP Organic Statement of Work

The following column is used for the semivolatile analysis: Restek XT1-5 (bonded 5% phenyl-95% dimethyl polysilaoxane), 30m, 0 25mm ID, 0.25um film thickness (Restek #12223)

The following samples in this SDG (labeled with a "RE") are considered billable since re-analysis was performed to verify internal standard area recoveries: EARG2, EARG2RE, EARG9 and EAGR9RE.

No major problems occurred during the analyses of these samples..

The following samples had alkanes reported and the reports are included at the end of the SDG narrative EARG1, EARG2, EARG2RE, EARG3, EARG4, EARG5, EARG6, EARG7. EARG8. EARG9. EARG9RE and EARH0

Blanks: SBLK1 had low-level phthalate contamination below CRQL.

Surrogates: No problems.

Matrix Spikes: No problems.

Internal Standards: The following samples had internal standard area's outside of QC limits. EARG2, EARG3, EARG3MS, EARG3MSD, EARG2RE, EARG9 and EARG9RE

NOTE. All manual integrations in this data package for GC/MS Volatiles/Semivolatiles have been performed for one of the following reasons

a. Data system missed peak during acquisition.
b. Data system improperly integrated peak.

If volatile water samples are contained in this case, their pH data is included on the page accompanying this SDG narrative.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager, or his designee, as verified by the following signature.

Harry M. Borg

Harry M. Borg
Organic Program Manager

December 18, 1995

SDG Narrative
December 4, 1995

Case: 24211
SDG: EARG1
Contract: 68-D5-0022
Samples: EARG1, EARG2, EARG3, EARG4, EARG5, EARG6, EARG7, EARG8, EARG9, EARH0, EARH1.
Fraction: Pesticide/PCB

SDG EARG1 consisted of 11 soil samples which were analyzed for pesticide/PCBs. All samples, blanks and spikes were extracted and analyzed according to EPA SOW OLM03.2. The samples were analyzed on J&W Scientific dual analytical columns (30m x 0.32mm ID, 0.25µm film thickness, DB-17 and DB-1701). The DB-17 phase consists of (50%-Phenyl) Methylpolysiloxane and the DB-1701 phase consists of (14%-Cyanopropylphenyl) Methylpolysiloxane. These columns were specifically designed for pesticide/PCB separation as required by the EPA's SOW. All applicable manufacturer's instructions were followed for the analysis of pesticides/PCBs. Manufacturer provided information concerning the performance characteristics of the column are kept on site.

All surrogate recoveries were within advisory limits. The matrix spike recoveries for 4,4'-DDT was above the upper limit.

The following tables list the total nanograms injected on column for each calibration standard based upon amount injected on column, 1µL or 2µL:

RESOLUTION CHECK

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
gamma-Chlordane	0.01	0.02
Endosulfan I	0.01	0.02
4,4'-DDE	0.02	0.04
Dieldrin	0.02	0.04
Endosulfan Sulfate	0.02	0.04
Endrin Ketone	0.02	0.04
Methoxychlor	0.1	0.2
Tetrachloro-m-xylene	0.02	0.04
Decachlorobiphenyl	0.02	0.04

PERFORMANCE EVALUATION

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
gamma-BHC	0.01	0.02
alpha-BHC	0.01	0.02
4,4'-DDT	0.1	.02
beta-BHC	0.01	0.02

Endrin	0.05	0.1
Methoxychlor	0.25	0.5
Tetrachloro-m-xylene	0.02	0.04
Decachlorobiphenyl	0.02	0.04

INDIVIDUAL STANDARD MIXTURE A -- LOW

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
alpha-BHC	0.005	0.01
Heptachlor	0.005	0.01
gamma-BHC	0.005	0.01
Endosulfan I	0.005	0.01
Dieldrin	0.01	0.02
Endrin	0.01	0.02
4,4'-DDD	0.01	0.02
4,4'-DDT	0.01	0.02
Methoxychlor	0.05	0.1
Tetrachloro-m-xylene	0.005	0.01
Decachlorobiphenyl	0.01	0.02

INDIVIDUAL STANDARD MIXTURE B -- LOW

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
beta-BHC	0.005	0.01
delta-BHC	0.005	0.01
Aldrin	0.005	0.01
Heptachlor epoxide	0.005	0.01
alpha-Chlordane	0.005	0.01
gamma-Chlordane	0.005	0.01
4,4'-DDE	0.01	0.02
Endosulfan sulfate	0.01	0.02
Endrin aldehyde	0.01	0.02
Endrin ketone	0.01	0.02
Endosulfan II	0.01	0.02
Tetrachloro-m-xylene	0.005	0.01
Decachlorobiphenyl	0.01	0.02

INDIVIDUAL STANDARD MIXTURE A -- MEDIUM

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
alpha-BHC	0.02	0.04
Heptachlor	0.02	0.04
gamma-BHC	0.02	0.04
Endosulfan I	0.02	0.04
Dieldrin	0.04	0.08
Endrin	0.04	0.08

4,4'-DDD	0.04	0.08
4,4'-DDT	0.04	0.08
Methoxychlor	0.2	0.4
Tetrachloro-m-xylene	0.02	0.04
Decachlorobiphenyl	0.04	0.08

INDIVIDUAL STANDARD MIXTURE B -- MEDIUM

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
beta-BHC	0.02	0.04
delta-BHC	0.02	0.04
Aldrin	0.02	0.04
Heptachlor epoxide	0.02	0.04
alpha-Chlordane	0.02	0.04
gamma-Chlordane	0.02	0.04
4,4'-DDE	0.04	0.08
Endosulfan sulfate	0.04	0.08
Endrin aldehyde	0.04	0.08
Endrin ketone	0.04	0.08
Endosulfan II	0.04	0.08
Tetrachloro-m-xylene	0.02	0.04
Decachlorobiphenyl	0.04	0.08

INDIVIDUAL STANDARD MIXTURE A -- HIGH

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
alpha-BHC	0.08	0.16
Heptachlor	0.08	0.16
gamma-BHC	0.08	0.16
Endosulfan I	0.08	0.16
Dieldrin	0.16	0.32
Endrin	0.16	0.32
4,4'-DDD	0.16	0.32
4,4'-DDT	0.16	0.32
Methoxychlor	0.8	1.6
Tetrachloro-m-xylene	0.08	0.16
Decachlorobiphenyl	0.16	0.32

INDIVIDUAL STANDARD MIXTURE B -- HIGH

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
beta-BHC	0.08	0.16
delta-BHC	0.08	0.16
Aldrin	0.08	0.16
Heptachlor epoxide	0.08	0.16
alpha-Chlordane	0.08	0.16
gamma-Chlordane	0.08	0.16

4,4'-DDE	0.16	0.32
Endosulfan sulfate	0.16	0.32
Endrin aldehyde	0.16	0.32
Endrin ketone	0.16	0.32
Endosulfan II	0.16	0.32
Tetrachloro-m-xylene	0.08	0.16
Decachlorobiphenyl	0.16	0.32

MULTI-RESPONSE STANDARD MIXTURES

Compounds	Total nanograms (1μL)	Total nanograms (2μL)
Aroclor-1016	0.1	0.2
Aroclor-1221	0.2	0.4
Aroclor-1232	0.1	0.2
Aroclor-1242	0.1	0.2
Aroclor-1248	0.1	0.2
Aroclor-1254	0.1	0.2
Aroclor-1260	0.1	0.2
Toxaphene	0.5	1.0

All manual integrations in this data package for GC/EC have been performed for one of the following reasons:

a. Data system missed a peak during processing.
b. Data system improperly integrated a peak.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Vicki L. Hall

Vicki L. Hall
GC Group Leader

2B
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Level:(low/med) LOW

	EPA SAMPLE NO.	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
01	VBLK1	101	98	92		0
02	EARG1	109	104	100		0
03	EARG2	106	102	98		0
04	EARG3	111	94	96		0
05	EARG4	108	97	97		0
06	EARG5	98	95	88		0
07	EARG6	102	92	91		0
08	EARG7	114	93	96		0
09	EARG8	105	87	90		0
10	EARG9	94	85	84		0
11	EARH0	98	81	83		0
12	EARH1	103	96	94		0
13	EARG9MS	115	97	99		0
14	EARG9MSD	112	84	94		0
15	VHBLK1	109	98	98		0
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(84-138)
SMC2 (BFB)	= Bromofluorobenzene	(59-113)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix Spike - EPA Sample No.: EARG9 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	70	0	74	106	59-172
Trichloroethene	70	0	63	90	62-137
Benzene	70	0	70	100	66-142
Toluene	70	0	74	106	59-139
Chlorobenzene	70	0	68	97	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
1,1-Dichloroethene	70	60	86	21	22	59-172
Trichloroethene	70	52	74	20	24	62-137
Benzene	70	61	87	14	21	66-142
Toluene	70	64	91	15	21	59-139
Chlorobenzene	70	57	81	18	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: _____

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK1

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Lab File ID: L18568.D Lab Sample ID: L951120A

Date Analyzed: 11/20/95 Time Analyzed: 1716

GC Column:DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Instrument ID: L

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EARG1	24068.01	L18569.D	1750
02	EARG2	24068.02	L18570.D	1815
03	EARG3	24068.03	L18571.D	1841
04	EARG4	24068.04	L18572.D	1908
05	EARG5	24068.05	L18573.D	1935
06	EARG6	24068.06	L18574.D	2001
07	EARG7	24068.07	L18575.D	2027
08	EARG8	24068.08	L18576.D	2053
09	EARG9	24068.09	L18577.D	2119
10	EARH0	24068.10	L18578.D	2146
11	EARH1	24068.11	L18579.D	2213
12	EARG9MS	24068.09MS	L18582.D	2331
13	EARG9MSD	24068.09MSD	L18583.D	2357
14	VHBLK1	VHBLK1	L18585.D	0048
15				
16				
17				
18				
19				
20				
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23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

page 01 of 01

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK1

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: L951120A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18568.D

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

% Moisture: not dec. 0 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	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	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (Total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK1

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: L951120A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18568.D

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

% Moisture: not dec. 0 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG1

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.01

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18569.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 17 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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	12	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (Total)	12	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG1

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.01

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18569.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 17 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG2

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.02

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18570.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 27 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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	14	U
67-64-1	Acetone	14	U
75-15-0	Carbon Disulfide	14	U
75-35-4	1,1-Dichloroethene	14	U
75-34-3	1,1-Dichloroethane	14	U
540-59-0	1,2-Dichloroethene (total)	14	U
67-66-3	Chloroform	14	U
107-06-2	1,2-Dichloroethane	14	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	14	U
56-23-5	Carbon Tetrachloride	14	U
75-27-4	Bromodichloromethane	14	U
78-87-5	1,2-Dichloropropane	14	U
10061-01-5	cis-1,3-Dichloropropene	14	U
79-01-6	Trichloroethene	14	U
124-48-1	Dibromochloromethane	14	U
79-00-5	1,1,2-Trichloroethane	14	U
71-43-2	Benzene	14	U
10061-02-6	trans-1,3-Dichloropropene	14	U
75-25-2	Bromoform	14	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	14	U
79-34-5	1,1,2,2-Tetrachloroethane	14	U
108-88-3	Toluene	14	U
108-90-7	Chlorobenzene	14	U
100-41-4	Ethylbenzene	14	U
100-42-5	Styrene	14	U
1330-20-7	Xylene (Total)	14	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG2

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.02

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18570.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 27 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG3

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.03

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18571.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 8 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG3

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.03

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18571.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 8 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG4

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.04

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18572.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 30 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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	14	U
67-64-1	Acetone	14	U
75-15-0	Carbon Disulfide	14	U
75-35-4	1,1-Dichloroethene	14	U
75-34-3	1,1-Dichloroethane	14	U
540-59-0	1,2-Dichloroethene (total)	14	U
67-66-3	Chloroform	14	U
107-06-2	1,2-Dichloroethane	14	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	14	U
56-23-5	Carbon Tetrachloride	14	U
75-27-4	Bromodichloromethane	14	U
78-87-5	1,2-Dichloropropane	14	U
10061-01-5	cis-1,3-Dichloropropene	14	U
79-01-6	Trichloroethene	14	U
124-48-1	Dibromochloromethane	14	U
79-00-5	1,1,2-Trichloroethane	14	U
71-43-2	Benzene	14	U
10061-02-6	trans-1,3-Dichloropropene	14	U
75-25-2	Bromoform	14	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	14	U
79-34-5	1,1,2,2-Tetrachloroethane	14	U
108-88-3	Toluene	14	U
108-90-7	Chlorobenzene	14	U
100-41-4	Ethylbenzene	14	U
100-42-5	Styrene	14	U
1330-20-7	Xylene (Total)	14	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG4

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.04

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18572.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 30 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG5

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.05

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18573.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 20 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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	12	U
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (Total)	12	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG5

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.05

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18573.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 20 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG6

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.06

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18574.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 23 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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	13	U
67-64-1	Acetone	13	U
75-15-0	Carbon Disulfide	13	U
75-35-4	1,1-Dichloroethene	13	U
75-34-3	1,1-Dichloroethane	13	U
540-59-0	1,2-Dichloroethene (total)	13	U
67-66-3	Chloroform	13	U
107-06-2	1,2-Dichloroethane	13	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	13	U
56-23-5	Carbon Tetrachloride	13	U
75-27-4	Bromodichloromethane	13	U
78-87-5	1,2-Dichloropropane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
79-01-6	Trichloroethene	13	U
124-48-1	Dibromochloromethane	13	U
79-00-5	1,1,2-Trichloroethane	13	U
71-43-2	Benzene	13	U
10061-02-6	trans-1,3-Dichloropropene	13	U
75-25-2	Bromoform	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	13	U
79-34-5	1,1,2,2-Tetrachloroethane	13	U
108-88-3	Toluene	13	U
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	13	U
100-42-5	Styrene	13	U
1330-20-7	Xylene (Total)	13	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG6

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.06

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18574.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 23 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG7

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.07

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18575.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 31 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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	14	U
67-64-1	Acetone	14	U
75-15-0	Carbon Disulfide	14	U
75-35-4	1,1-Dichloroethene	14	U
75-34-3	1,1-Dichloroethane	14	U
540-59-0	1,2-Dichloroethene (total)	14	U
67-66-3	Chloroform	14	U
107-06-2	1,2-Dichloroethane	14	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	14	U
56-23-5	Carbon Tetrachloride	14	U
75-27-4	Bromodichloromethane	14	U
78-87-5	1,2-Dichloropropane	14	U
10061-01-5	cis-1,3-Dichloropropene	14	U
79-01-6	Trichloroethene	14	U
124-48-1	Dibromochloromethane	14	U
79-00-5	1,1,2-Trichloroethane	14	U
71-43-2	Benzene	14	U
10061-02-6	trans-1,3-Dichloropropene	14	U
75-25-2	Bromoform	14	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	14	U
79-34-5	1,1,2,2-Tetrachloroethane	14	U
108-88-3	Toluene	14	U
108-90-7	Chlorobenzene	14	U
100-41-4	Ethylbenzene	14	U
100-42-5	Styrene	14	U
1330-20-7	Xylene (Total)	14	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG7

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.07

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18575.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 31 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG8

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.08

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18576.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 30 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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	14	U
67-64-1	Acetone	14	U
75-15-0	Carbon Disulfide	14	U
75-35-4	1,1-Dichloroethene	14	U
75-34-3	1,1-Dichloroethane	14	U
540-59-0	1,2-Dichloroethene (total)	14	U
67-66-3	Chloroform	14	U
107-06-2	1,2-Dichloroethane	14	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	14	U
56-23-5	Carbon Tetrachloride	14	U
75-27-4	Bromodichloromethane	14	U
78-87-5	1,2-Dichloropropane	14	U
10061-01-5	cis-1,3-Dichloropropene	14	U
79-01-6	Trichloroethene	14	U
124-48-1	Dibromochloromethane	14	U
79-00-5	1,1,2-Trichloroethane	14	U
71-43-2	Benzene	14	U
10061-02-6	trans-1,3-Dichloropropene	14	U
75-25-2	Bromoform	14	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	14	U
79-34-5	1,1,2,2-Tetrachloroethane	14	U
108-88-3	Toluene	14	U
108-90-7	Chlorobenzene	14	U
100-41-4	Ethylbenzene	14	U
100-42-5	Styrene	14	U
1330-20-7	Xylene (Total)	14	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG8

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.08

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18576.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 30 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG9

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.09

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18577.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 29 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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	14	U
67-64-1	Acetone	14	U
75-15-0	Carbon Disulfide	14	U
75-35-4	1,1-Dichloroethene	14	U
75-34-3	1,1-Dichloroethane	14	U
540-59-0	1,2-Dichloroethene (total)	14	U
67-66-3	Chloroform	14	U
107-06-2	1,2-Dichloroethane	14	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	14	U
56-23-5	Carbon Tetrachloride	14	U
75-27-4	Bromodichloromethane	14	U
78-87-5	1,2-Dichloropropane	14	U
10061-01-5	cis-1,3-Dichloropropene	14	U
79-01-6	Trichloroethene	14	U
124-48-1	Dibromochloromethane	14	U
79-00-5	1,1,2-Trichloroethane	14	U
71-43-2	Benzene	14	U
10061-02-6	trans-1,3-Dichloropropene	14	U
75-25-2	Bromoform	14	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	14	U
79-34-5	1,1,2,2-Tetrachloroethane	14	U
108-88-3	Toluene	14	U
108-90-7	Chlorobenzene	14	U
100-41-4	Ethylbenzene	14	U
100-42-5	Styrene	14	U
1330-20-7	Xylene (Total)	14	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG9

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.09

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18577.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 29 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARH0

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.10

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18578.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 32 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARH0

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.10

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18578.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 32 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARH1

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.11

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18579.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 20 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

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	12	U
67-64-1	Acetone	4	J
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	4	J
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (Total)	12	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARH1

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.11

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L18579.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: not dec. 20 Date Analyzed: 11/20/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC OLM03.0

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 (2CP)#	S8 (DCB)#	TOT OUT
01	SBLK1	61	64	78	66	68	71	78	74	0
02	EARG2	62	66	100	61	58	76	65	55	0
03	EARG3	68	70	118	67	63	85	71	69	0
04	EARG3MS	62	68	125	77	53	79	75	61	0
05	EARG3MSD	61	66	116	70	48	78	67	57	0
06	EARG1	62	60	75	59	47	73	55	52	0
07	EARG2RE	63	63	76	54	52	73	59	59	0
08	EARG4	70	66	91	76	56	72	76	74	0
09	EARG5	79	72	88	60	54	69	60	63	0
10	EARG6	76	60	82	60	56	67	61	59	0
11	EARG7	69	62	85	63	49	70	63	54	0
12	EARG9	62	52	113	68	53	64	64	52	0
13	EARH0	60	70	87	58	55	86	73	59	0
14	EARH1	59	54	63	48	48	74	57	52	0
15	EARG8	64	64	82	50	48	86	64	53	0
16	EARG9RE	50	65	100	55	50	89	62	53	0
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		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(23-120)	
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)	
S3 (TPH)	= Terphenyl-d14	(18-137)	
S4 (PHL)	= Phenol-d5	(24-113)	
S5 (2FP)	= 2-Fluorophenol	(25-121)	
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)	
S7 (2CP)	= 2-Chlorophenol-d4	(20-130)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(20-130)	(advisory)

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

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

b Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix Spike - EPA Sample No.: EARG3 Level(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Phenol	2700	0	1800	67	26- 90
2-Chlorophenol	2700	0	1600	59	25-102
1,4-Dichlorobenzene	1800	0	950	53	28-104
N-Nitroso-di-n-prop.(1)	1800	0	990	55	41-126
1,2,4-Trichlorobenzene	1800	0	1000	56	38-107
4-Chloro-3-Methylphenol	2700	0	1800	67	26-103
Acenaphthene	1800	0	1100	61	31-137
4-Nitrophenol	2700	0	2100	78	11-114
2,4-Dinitrotoluene	1800	0	1100	61	28- 89
Pentachlorophenol	2700	0	1300	48	17-109
Pyrene	1800	0	1900	106	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	2700	1500	56	18	35	26- 90
2-Chlorophenol	2700	1500	56	5	50	25-102
1,4-Dichlorobenzene	1800	1000	56	6	27	28-104
N-Nitroso-di-n-prop.(1)	1800	990	55	0	38	41-126
1,2,4-Trichlorobenzene	1800	1100	61	8	23	38-107
4-Chloro-3-Methylphenol	2700	1800	67	0	33	26-103
Acenaphthene	1800	1100	61	0	19	31-137
4-Nitrophenol	2700	2000	74	5	50	11-114
2,4-Dinitrotoluene	1800	1200	67	9	47	28- 89
Pentachlorophenol	2700	1500	56	15	47	17-109
Pyrene	1800	2200	122	14	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: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

COMMENTS: _____

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK1

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Lab File ID: V11206.D Lab Sample ID: BL1116SE

Instrument ID: V Date Extracted: 11/16/95

Matrix: (soil/water) SOIL Date Analyzed: 11/28/95

Level:(low/med) LOW Time Analyzed: 2030

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EARG2	24068.02	V11295.D	12/05/95
02	EARG3	24068.03	V11296.D	12/05/95
03	EARG3MS	24068.03MS	V11297.D	12/05/95
04	EARG3MSD	24068.03MSD	V11298.D	12/05/95
05	EARG1	24068.01	V11305.D	12/05/95
06	EARG2RE	24068.02RA	V11306.D	12/05/95
07	EARG4	24068.04	V11308.D	12/05/95
08	EARG5	24068.05	V11309.D	12/06/95
09	EARG6	24068.06	V11310.D	12/06/95
10	EARG7	24068.07	V11311.D	12/06/95
11	EARG9	24068.09	V11318.D	12/06/95
12	EARH0	24068.10	V11321.D	12/06/95
13	EARH1	24068.11	V11322.D	12/06/95
14	EARG8	24068.08	V11323.D	12/06/95
15	EARG9RE	24068.09RA	V11324.D	12/06/95
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COMMENTS:

page 01 of 01

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK1

ㄅ Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: BL1116SE

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11206.D

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

% Moisture: 0 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 11/28/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

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
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	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
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	830	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	830	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene	330	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK1

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: BL1116SE

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11206.D

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

% Moisture: 0 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 11/28/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	830	U
100-02-7	4-Nitrophenol	830	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	830	U
534-52-1	4,6-Dinitro-2-methylphenol	830	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	830	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	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	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	34	J
117-84-0	Di-n-octylphthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK1

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: BL1116SE

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11206.D

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

% Moisture: 0 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 11/28/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

Number TICs found: 8

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	2.479	13000	NJA
2.		UNKNOWN ORGANIC ACID	7.645	170	J
3.		UNKNOWN AMIDE	10.691	110	J
4.		UNKNOWN AMIDE	12.112	170	J
5.		UNKNOWN AMIDE	12.252	330	J
6.		UNKNOWN AMIDE	13.554	4200	J
7.		UNKNOWN AMIDE	13.704	140	J
8.		UNKNOWN AMIDE	16.158	2300	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG1

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11305.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 17 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.4

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
95-50-1	1,2-Dichlorobenzene	400	U
95-48-7	2-Methylphenol	400	U
108-60-1	2,2'-oxybis(1-Chloropropane)	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
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	1000	U
91-58-7	2-Chloronaphthalene	400	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	400	U
208-96-8	Acenaphthylene	400	U
606-20-2	2,6-Dinitrotoluene	400	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	400	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG1

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11305.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 17 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	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
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	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	1000	U
85-01-8	Phenanthrene	24	J
120-12-7	Anthracene	400	U
86-74-8	Carbazole	400	U
84-74-2	Di-n-butylphthalate	400	U
206-44-0	Fluoranthene	160	J
129-00-0	Pyrene	150	J
85-68-7	Butylbenzylphthalate	400	U
91-94-1	3,3'-Dichlorobenzidine	400	U
56-55-3	Benzo(a)anthracene	73	J
218-01-9	Chrysene	70	J
117-81-7	bis(2-Ethylhexyl)phthalate	400 ~~98~~	JB U
117-84-0	Di-n-octylphthalate	400	U
205-99-2	Benzo(b)fluoranthene	66	J
207-08-9	Benzo(k)fluoranthene	36	J
50-32-8	Benzo(a)pyrene	400	U
193-39-5	Indeno(1,2,3-cd)pyrene	400	U
53-70-3	Dibenz(a,h)anthracene	400	U
191-24-2	Benzo(g,h,i)perylene	400	U

WLW 12/27/95

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM03.0

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG1

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.01

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11305.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 17 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.4

Number TICs found: 30

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	1.649	130	J
2. 123-42-2	2-Pentanone, 4-hydroxy-4-met	2.327	10000	NJA
3.	UNKNOWN ORGANIC ACID	7.430	160	J
4.	UNKNOWN ORGANIC ACID	10.358	170	J
5.	UNKNOWN AMIDE	10.454	130	J
6. 7704-34-9	Sulfur	11.014	300	NJ
7.	UNKNOWN AMIDE	11.865	310	[illegible]
8.	UNKNOWN AMIDE	12.005	330	J
9.	UNKNOWN AMIDE	13.318	4100	J
10.	UNKNOWN AMIDE	13.458	140	JB
11.	UNKNOWN HYDROCARBON	14.136	160	J
12.	UNKNOWN HYDROCARBON	15.395	840	J
13.	UNKNOWN AMIDE	15.912	2200	J
14.	UNKNOWN	17.581	130	J
15.	UNKNOWN	17.860	310	J
16.	UNKNOWN	18.216	120	J
17.	UNKNOWN	18.463	510	J
18.	UNKNOWN	18.603	190	J
19.	UNKNOWN	18.829	220	J
20.	UNKNOWN	18.926	700	J
21.	UNKNOWN	18.958	990	J
22.	UNKNOWN	19.023	220	J
23.	UNKNOWN	19.131	2100	J
24.	UNKNOWN	19.238	550	J
25.	UNKNOWN	19.744	260	J
26.	UNKNOWN	19.938	270	J
27.	UNKNOWN HYDROCARBON	20.401	19000	J
28.	UNKNOWN	20.605	420	J
29.	UNKNOWN	21.058	180	J
30.	UNKNOWN HYDROCARBON	21.747	1800	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG2

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11295.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 27 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	450	U
111-44-4	bis(2-Chloroethyl)Ether	450	U
95-57-8	2-Chlorophenol	450	U
541-73-1	1,3-Dichlorobenzene	450	U
106-46-7	1,4-Dichlorobenzene	450	U
95-50-1	1,2-Dichlorobenzene	450	U
95-48-7	2-Methylphenol	450	U
108-60-1	2,2'-oxybis(1-Chloropropane)	450	U
106-44-5	4-Methylphenol	450	U
621-64-7	N-Nitroso-di-n-propylamine	450	U
67-72-1	Hexachloroethane	450	U
98-95-3	Nitrobenzene	450	U
78-59-1	Isophorone	450	U
88-75-5	2-Nitrophenol	450	U
105-67-9	2,4-Dimethylphenol	450	U
111-91-1	bis(2-Chloroethoxy)methane	450	U
120-83-2	2,4-Dichlorophenol	450	U
120-82-1	1,2,4-Trichlorobenzene	450	U
91-20-3	Naphthalene	450	U
106-47-8	4-Chloroaniline	450	U
87-68-3	Hexachlorobutadiene	450	U
59-50-7	4-Chloro-3-Methylphenol	450	U
91-57-6	2-Methylnaphthalene	450	U
77-47-4	Hexachlorocyclopentadiene	450	U
88-06-2	2,4,6-Trichlorophenol	450	U
95-95-4	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	450	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	450	U
208-96-8	Acenaphthylene	450	U
606-20-2	2,6-Dinitrotoluene	450	U
99-09-2	3-Nitroaniline	1100	U
83-32-9	Acenaphthene	450	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG2

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11295.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 27 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1100	U
100-02-7	4-Nitrophenol	1100	U
132-64-9	Dibenzofuran	450	U
121-14-2	2,4-Dinitrotoluene	450	U
84-66-2	Diethylphthalate	23	J
7005-72-3	4-Chlorophenyl-phenylether	450	U
86-73-7	Fluorene	450	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	N-Nitrosodiphenylamine (1)	450	U
101-55-3	4-Bromophenyl-phenylether	450	U
118-74-1	Hexachlorobenzene	450	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	450	U
120-12-7	Anthracene	450	U
86-74-8	Carbazole	450	U
84-74-2	Di-n-butylphthalate	450	U
206-44-0	Fluoranthene	450	U
129-00-0	Pyrene	450	U
85-68-7	Butylbenzylphthalate	59	J
91-94-1	3,3'-Dichlorobenzidine	450	U
56-55-3	Benzo(a)anthracene	450	U
218-01-9	Chrysene	450	U
117-81-7	bis(2-Ethylhexyl)phthalate	450 ~~200~~	JB U
117-84-0	Di-n-octylphthalate	450	U
205-99-2	Benzo(b)fluoranthene	450	U
207-08-9	Benzo(k)fluoranthene	450	U
50-32-8	Benzo(a)pyrene	450	U
193-39-5	Indeno(1,2,3-cd)pyrene	450	U
53-70-3	Dibenz(a,h)anthracene	450	U
191-24-2	Benzo(g,h,i)perylene	450	U

wh 12/27/9

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM0

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG2

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11295.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 27 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.9

Number TICs found: 18

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	2.434	14000	NJAB u
2.		UNKNOWN ORGANIC ACID	7.504	220	J
3.		UNKNOWN	7.806	110	J
4.		UNKNOWN ORGANIC ACID	10.465	110	J
5.		UNKNOWN AMIDE	10.562	140	J ST 12/7
6.		UNKNOWN	11.810	120	J
7.		UNKNOWN AMIDE	11.972	450	J
8.		UNKNOWN AMIDE	12.112	780	JB u
9.		UNKNOWN	12.349	130	J
10.		UNKNOWN AMIDE	13.414	7200	J
11.		UNKNOWN AMIDE	13.565	230	JB u
12.		UNKNOWN AMIDE	14.749	110	J
13.		UNKNOWN AMIDE	16.009	5400	J
14.		UNKNOWN	18.581	500	J
15.		UNKNOWN	18.732	540	J
16.		UNKNOWN	19.066	1100	J
17.		UNKNOWN	19.895	640	J
18.		UNKNOWN	20.131	430	J
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG2RE

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.02RA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11306.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 27 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	450	U
111-44-4	bis(2-Chloroethyl)Ether	450	U
95-57-8	2-Chlorophenol	450	U
541-73-1	1,3-Dichlorobenzene	450	U
106-46-7	1,4-Dichlorobenzene	450	U
95-50-1	1,2-Dichlorobenzene	450	U
95-48-7	2-Methylphenol	450	U
108-60-1	2,2'-oxybis(1-Chloropropane)	450	U
106-44-5	4-Methylphenol	450	U
621-64-7	N-Nitroso-di-n-propylamine	450	U
67-72-1	Hexachloroethane	450	U
98-95-3	Nitrobenzene	450	U
78-59-1	Isophorone	450	U
88-75-5	2-Nitrophenol	450	U
105-67-9	2,4-Dimethylphenol	450	U
111-91-1	bis(2-Chloroethoxy)methane	450	U
120-83-2	2,4-Dichlorophenol	450	U
120-82-1	1,2,4-Trichlorobenzene	450	U
91-20-3	Naphthalene	450	U
106-47-8	4-Chloroaniline	450	U
87-68-3	Hexachlorobutadiene	450	U
59-50-7	4-Chloro-3-Methylphenol	450	U
91-57-6	2-Methylnaphthalene	450	U
77-47-4	Hexachlorocyclopentadiene	450	U
88-06-2	2,4,6-Trichlorophenol	450	U
95-95-4	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	450	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	450	U
208-96-8	Acenaphthylene	450	U
606-20-2	2,6-Dinitrotoluene	450	U
99-09-2	3-Nitroaniline	1100	U
83-32-9	Acenaphthene	450	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG2RE

b Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.02RA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11306.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 27 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1100	U
100-02-7	4-Nitrophenol	1100	U
132-64-9	Dibenzofuran	450	U
121-14-2	2,4-Dinitrotoluene	450	U
84-66-2	Diethylphthalate	450	U
7005-72-3	4-Chlorophenyl-phenylether	450	U
86-73-7	Fluorene	450	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	N-Nitrosodiphenylamine (1)	450	U
101-55-3	4-Bromophenyl-phenylether	450	U
118-74-1	Hexachlorobenzene	450	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	450	U
120-12-7	Anthracene	450	U
86-74-8	Carbazole	450	U
84-74-2	Di-n-butylphthalate	450	U
206-44-0	Fluoranthene	450	U
129-00-0	Pyrene	450	U
85-68-7	Butylbenzylphthalate	450	U
91-94-1	3,3'-Dichlorobenzidine	450	U
56-55-3	Benzo(a)anthracene	450	U
218-01-9	Chrysene	450	U
117-81-7	bis(2-Ethylhexyl)phthalate	450 ~~190~~	JB
117-84-0	Di-n-octylphthalate	450	U
205-99-2	Benzo(b)fluoranthene	450	U
207-08-9	Benzo(k)fluoranthene	450	U
50-32-8	Benzo(a)pyrene	450	U
193-39-5	Indeno(1,2,3-cd)pyrene	450	U
53-70-3	Dibenz(a,h)anthracene	450	U
191-24-2	Benzo(g,h,i)perylene	450	U

4 5 12/26/9

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM03.0

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG2RE

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.02RA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11306.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 27 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.9

Number TICs found: 23

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	2.339	13000	NJA
2.		UNKNOWN ORGANIC ACID	7.431	210	J
3.		UNKNOWN	7.710	110	J
4.		UNKNOWN ORGANIC ACID	10.348	120	J
5.		UNKNOWN AMIDE	10.445	140	J
6.		UNKNOWN AMIDE	11.866	280	J
7.		UNKNOWN AMIDE	12.005	440	J
8.		UNKNOWN AMIDE	13.308	4500	J
9.		UNKNOWN AMIDE	13.448	190	J
10.		UNKNOWN AMIDE	15.902	3100	J
11.		UNKNOWN	17.582	280	J
12.		UNKNOWN HYDROCARBON	17.614	200	J
13.		UNKNOWN	17.861	220	J
14.		UNKNOWN	18.453	330	J
15.		UNKNOWN	18.593	480	J
16.		UNKNOWN	18.863	160	J
17.		UNKNOWN	18.906	1100	J
18.		UNKNOWN	19.412	130	J
19.		UNKNOWN	19.724	630	J
20.		UNKNOWN	19.939	360	J
21.		UNKNOWN	20.079	180	J
22.		UNKNOWN	20.122	270	J
23.		UNKNOWN	20.305	540	J
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG3

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.03

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11296.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 8 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	360	U
111-44-4	bis(2-Chloroethyl)Ether	360	U
95-57-8	2-Chlorophenol	360	U
541-73-1	1,3-Dichlorobenzene	360	U
106-46-7	1,4-Dichlorobenzene	360	U
95-50-1	1,2-Dichlorobenzene	360	U
95-48-7	2-Methylphenol	360	U
108-60-1	2,2'-oxybis(1-Chloropropane)	360	U
106-44-5	4-Methylphenol	360	U
621-64-7	N-Nitroso-di-n-propylamine	360	U
67-72-1	Hexachloroethane	360	U
98-95-3	Nitrobenzene	360	U
78-59-1	Isophorone	360	U
88-75-5	2-Nitrophenol	360	U
105-67-9	2,4-Dimethylphenol	360	U
111-91-1	bis(2-Chloroethoxy)methane	360	U
120-83-2	2,4-Dichlorophenol	360	U
120-82-1	1,2,4-Trichlorobenzene	360	U
91-20-3	Naphthalene	360	U
106-47-8	4-Chloroaniline	360	U
87-68-3	Hexachlorobutadiene	360	U
59-50-7	4-Chloro-3-Methylphenol	360	U
91-57-6	2-Methylnaphthalene	360	U
77-47-4	Hexachlorocyclopentadiene	360	U
88-06-2	2,4,6-Trichlorophenol	360	U
95-95-4	2,4,5-Trichlorophenol	900	U
91-58-7	2-Chloronaphthalene	360	U
88-74-4	2-Nitroaniline	900	U
131-11-3	Dimethylphthalate	360	U
208-96-8	Acenaphthylene	360	U
606-20-2	2,6-Dinitrotoluene	360	U
99-09-2	3-Nitroaniline	900	U
83-32-9	Acenaphthene	360	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG3

b Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.03

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11296.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 8 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	900	U
100-02-7	4-Nitrophenol	900	U
132-64-9	Dibenzofuran	360	U
121-14-2	2,4-Dinitrotoluene	360	U
84-66-2	Diethylphthalate	360	U
7005-72-3	4-Chlorophenyl-phenylether	360	U
86-73-7	Fluorene	360	U
100-01-6	4-Nitroaniline	900	U
534-52-1	4,6-Dinitro-2-methylphenol	900	U
86-30-6	N-Nitrosodiphenylamine (1)	360	U
101-55-3	4-Bromophenyl-phenylether	360	U
118-74-1	Hexachlorobenzene	360	U
87-86-5	Pentachlorophenol	900	U
85-01-8	Phenanthrene	360	U
120-12-7	Anthracene	360	U
86-74-8	Carbazole	360	U
84-74-2	Di-n-butylphthalate	21	J
206-44-0	Fluoranthene	360	U
129-00-0	Pyrene	360	U
85-68-7	Butylbenzylphthalate	360	U
91-94-1	3,3'-Dichlorobenzidine	360	U
56-55-3	Benzo(a)anthracene	360	U
218-01-9	Chrysene	360	U
117-81-7	bis(2-Ethylhexyl)phthalate	360 ~~200~~	JB
117-84-0	Di-n-octylphthalate	360	U
205-99-2	Benzo(b)fluoranthene	360	U
207-08-9	Benzo(k)fluoranthene	360	U
50-32-8	Benzo(a)pyrene	360	U
193-39-5	Indeno(1,2,3-cd)pyrene	360	U
53-70-3	Dibenz(a,h)anthracene	360	U
191-24-2	Benzo(g,h,i)perylene	360	U

ST 12/26/95

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM03.0

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG3

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.03

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11296.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 8 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

Number TICs found: 18

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	60-35-5	Acetamide	1.840	120	NJ	
2.	123-42-2	2-Pentanone, 4-hydroxy-4-met	2.465	14000	NJAB	u
3.		UNKNOWN ALCOHOL	2.637	74	J	
4.		Benzene, trichloro-	4.445	74	J	
5.		UNKNOWN ORGANIC ACID	7.503	190		
6.		UNKNOWN ORGANIC ACID	10.312	99		
7.		UNKNOWN AMIDE	10.571	140	J	ST
8.	10544-50-0	Sulfur, mol. (S8)	11.173	110	NJ	124
9.		UNKNOWN	11.841	120	J	
10.		UNKNOWN AMIDE	11.981	440	J	
11.		UNKNOWN AMIDE	12.121	720	JB	u
12.		UNKNOWN AMIDE	12.659	100	J	
13.		UNKNOWN AMIDE	13.412	6700	J	
14.		UNKNOWN AMIDE	13.563	200	JB	u
15.		UNKNOWN AMIDE	14.747	140	J	
16.		UNKNOWN AMIDE	16.017	4700	J	
17.		UNKNOWN	18.009	280	J	
18.		UNKNOWN	19.085	450	J	
19.						
20.						
21.						
22.						
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG4

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11308.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 30 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	470	U
111-44-4	bis(2-Chloroethyl)Ether	470	U
95-57-8	2-Chlorophenol	470	U
541-73-1	1,3-Dichlorobenzene	470	U
106-46-7	1,4-Dichlorobenzene	470	U
95-50-1	1,2-Dichlorobenzene	470	U
95-48-7	2-Methylphenol	470	U
108-60-1	2,2'-oxybis(1-Chloropropane)	470	U
106-44-5	4-Methylphenol	470	U
621-64-7	N-Nitroso-di-n-propylamine	470	U
67-72-1	Hexachloroethane	470	U
98-95-3	Nitrobenzene	470	U
78-59-1	Isophorone	470	U
88-75-5	2-Nitrophenol	470	U
105-67-9	2,4-Dimethylphenol	470	U
111-91-1	bis(2-Chloroethoxy)methane	470	U
120-83-2	2,4-Dichlorophenol	470	U
120-82-1	1,2,4-Trichlorobenzene	470	U
91-20-3	Naphthalene	470	U
106-47-8	4-Chloroaniline	470	U
87-68-3	Hexachlorobutadiene	470	U
59-50-7	4-Chloro-3-Methylphenol	470	U
91-57-6	2-Methylnaphthalene	470	U
77-47-4	Hexachlorocyclopentadiene	470	U
88-06-2	2,4,6-Trichlorophenol	470	U
95-95-4	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	470	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	470	U
208-96-8	Acenaphthylene	470	U
606-20-2	2,6-Dinitrotoluene	470	U
99-09-2	3-Nitroaniline	1200	U
83-32-9	Acenaphthene	470	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG4

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11308.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 30 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1200	U
100-02-7	4-Nitrophenol	1200	U
132-64-9	Dibenzofuran	470	U
121-14-2	2,4-Dinitrotoluene	470	U
84-66-2	Diethylphthalate	470	U
7005-72-3	4-Chlorophenyl-phenylether	470	U
86-73-7	Fluorene	470	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	N-Nitrosodiphenylamine (1)	470	U
101-55-3	4-Bromophenyl-phenylether	470	U
118-74-1	Hexachlorobenzene	470	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	470	U
120-12-7	Anthracene	470	U
86-74-8	Carbazole	470	U
84-74-2	Di-n-butylphthalate	470	U
206-44-0	Fluoranthene	470	U
129-00-0	Pyrene	470	U
85-68-7	Butylbenzylphthalate	470	U
91-94-1	3,3'-Dichlorobenzidine	470	U
56-55-3	Benzo(a)anthracene	470	U
218-01-9	Chrysene	470	U
117-81-7	bis(2-Ethylhexyl)phthalate	470 ~~110~~	JB u SF 12/24/95
117-84-0	Di-n-octylphthalate	470	U
205-99-2	Benzo(b)fluoranthene	470	U
207-08-9	Benzo(k)fluoranthene	470	U
50-32-8	Benzo(a)pyrene	470	U
193-39-5	Indeno(1,2,3-cd)pyrene	470	U
53-70-3	Dibenz(a,h)anthracene	470	U
191-24-2	Benzo(g,h,i)perylene	470	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG4

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11308.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 30 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.6

Number TICs found: 34

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	2.368	17000	NJA
2.		UNKNOWN	6.975	210	J
3.		UNKNOWN ORGANIC ACID	7.427	240	J
4.		UNKNOWN	9.063	170	J
5.	10544-50-0	Sulfur, mol. (S8)	9.096	140	NJ
6.		UNKNOWN	10.204	120	J
7.		UNKNOWN	10.291	180	J
8.		UNKNOWN ORGANIC ACID	10.366	450	J
9.		UNKNOWN AMIDE	10.463	540	J
10.		UNKNOWN	10.581	290	J
11.	10544-50-0	Sulfur, mol. (S8)	10.635	390	NJ
12.		UNKNOWN	10.678	500	J
13.		UNKNOWN	10.786	500	J
14.		UNKNOWN	10.904	900	J
15.	7704-34-9	Sulfur	11.119	9100	NJ
16.		UNKNOWN AMIDE	11.862	250	J
17.		UNKNOWN AMIDE	12.002	440	J
18.		UNKNOWN AMIDE	13.305	3800	J
19.		UNKNOWN AMIDE	13.455	160	JB
20.		UNKNOWN	13.552	160	J
21.		UNKNOWN	13.628	650	J
22.		UNKNOWN	13.875	130	J
23.		UNKNOWN	14.069	140	J
24.		UNKNOWN ALCOHOL	14.134	320	J
25.		UNKNOWN	14.736	230	J
26.		UNKNOWN	15.145	130	J
27.		UNKNOWN AMIDE	15.910	4200	J
28.	83-47-6	.gamma.-Sitosterol	18.913	2100	NJ
29.		UNKNOWN	19.128	290	J
30.		UNKNOWN	19.720	720	J

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG4

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.04

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11308.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 30 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/05/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.6

Number TICs found: 34

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	20.323	2200	J
2.	UNKNOWN	20.592	600	J
3.	UNKNOWN	21.884	260	J
4.	UNKNOWN	22.142	360	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG5

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11309.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 21 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

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
95-50-1	1,2-Dichlorobenzene	420	U
95-48-7	2-Methylphenol	420	U
108-60-1	2,2'-oxybis(1-Chloropropane)	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
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	1000	U
91-58-7	2-Chloronaphthalene	420	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	420	U
208-96-8	Acenaphthylene	420	U
606-20-2	2,6-Dinitrotoluene	420	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	420	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG5

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11309.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 21 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	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	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	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	1000	U
85-01-8	Phenanthrene	420	U
120-12-7	Anthracene	420	U
86-74-8	Carbazole	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	420	U
56-55-3	Benzo(a)anthracene	420	U
218-01-9	Chrysene	420	U
117-81-7	bis(2-Ethylhexyl)phthalate	420 ~~170~~	JB u ST 12/26/95
117-84-0	Di-n-octylphthalate	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

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG5

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.05

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11309.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 21 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

Number TICs found: 14

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	2.389	17000	NJAB
2.		UNKNOWN ORGANIC ACID	7.427	220	J
3.		UNKNOWN AMIDE	10.452	110	J
4.	10544-50-0	Sulfur, mol. (S8)	11.022	510	NJ
5.		UNKNOWN AMIDE	11.862	230	J
6.		UNKNOWN AMIDE	12.002	320	J
7.		UNKNOWN AMIDE	13.304	4300	J
8.		UNKNOWN AMIDE	13.455	130	JB
9.		UNKNOWN AMIDE	14.639	88	J
10.		UNKNOWN AMIDE	15.909	2900	J
11.		UNKNOWN	18.848	270	J
12.		UNKNOWN	18.902	260	J
13.		UNKNOWN	19.709	110	J
14.		UNKNOWN	20.301	100	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG6

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11310.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 23 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	430	U
111-44-4	bis(2-Chloroethyl)Ether	430	U
95-57-8	2-Chlorophenol	430	U
541-73-1	1,3-Dichlorobenzene	430	U
106-46-7	1,4-Dichlorobenzene	430	U
95-50-1	1,2-Dichlorobenzene	430	U
95-48-7	2-Methylphenol	430	U
108-60-1	2,2'-oxybis(1-Chloropropane)	430	U
106-44-5	4-Methylphenol	430	U
621-64-7	N-Nitroso-di-n-propylamine	430	U
67-72-1	Hexachloroethane	430	U
98-95-3	Nitrobenzene	430	U
78-59-1	Isophorone	430	U
88-75-5	2-Nitrophenol	430	U
105-67-9	2,4-Dimethylphenol	430	U
111-91-1	bis(2-Chloroethoxy)methane	430	U
120-83-2	2,4-Dichlorophenol	430	U
120-82-1	1,2,4-Trichlorobenzene	430	U
91-20-3	Naphthalene	430	U
106-47-8	4-Chloroaniline	430	U
87-68-3	Hexachlorobutadiene	430	U
59-50-7	4-Chloro-3-Methylphenol	430	U
91-57-6	2-Methylnaphthalene	430	U
77-47-4	Hexachlorocyclopentadiene	430	U
88-06-2	2,4,6-Trichlorophenol	430	U
95-95-4	2,4,5-Trichlorophenol	1100	U
91-58-7	2-Chloronaphthalene	430	U
88-74-4	2-Nitroaniline	1100	U
131-11-3	Dimethylphthalate	430	U
208-96-8	Acenaphthylene	430	U
606-20-2	2,6-Dinitrotoluene	430	U
99-09-2	3-Nitroaniline	1100	U
83-32-9	Acenaphthene	430	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG6

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11310.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 23 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1100	U
100-02-7	4-Nitrophenol	1100	U
132-64-9	Dibenzofuran	430	U
121-14-2	2,4-Dinitrotoluene	430	U
84-66-2	Diethylphthalate	430	U
7005-72-3	4-Chlorophenyl-phenylether	430	U
86-73-7	Fluorene	430	U
100-01-6	4-Nitroaniline	1100	U
534-52-1	4,6-Dinitro-2-methylphenol	1100	U
86-30-6	N-Nitrosodiphenylamine (1)	430	U
101-55-3	4-Bromophenyl-phenylether	430	U
118-74-1	Hexachlorobenzene	430	U
87-86-5	Pentachlorophenol	1100	U
85-01-8	Phenanthrene	430	U
120-12-7	Anthracene	430	U
86-74-8	Carbazole	430	U
84-74-2	Di-n-butylphthalate	28	J
206-44-0	Fluoranthene	430	U
129-00-0	Pyrene	430	U
85-68-7	Butylbenzylphthalate	430	U
91-94-1	3,3'-Dichlorobenzidine	430	U
56-55-3	Benzo(a)anthracene	430	U
218-01-9	Chrysene	430	U
117-81-7	bis(2-Ethylhexyl)phthalate	430 ~~120~~	JB u 12/26/95
117-84-0	Di-n-octylphthalate	430	U
205-99-2	Benzo(b)fluoranthene	430	U
207-08-9	Benzo(k)fluoranthene	430	U
50-32-8	Benzo(a)pyrene	430	U
193-39-5	Indeno(1,2,3-cd)pyrene	430	U
53-70-3	Dibenz(a,h)anthracene	430	U
191-24-2	Benzo(g,h,i)perylene	430	U

(1) - Cannot be separated from Diphenylamine

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG6

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.06

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11310.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 23 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

Number TICs found: 15

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 123-42-2	2-Pentanone, 4-hydroxy-4-met	2.367	15000	NJA
2.	UNKNOWN ORGANIC ACID	7.427	200	J
3.	UNKNOWN AMIDE	10.452	130	J
4. 7704-34-9	Sulfur	11.033	400	NJ
5.	UNKNOWN AMIDE	11.862	260	J
6.	UNKNOWN AMIDE	12.012	380	J
7.	UNKNOWN AMIDE	13.315	4400	[illegible]
8.	UNKNOWN AMIDE	13.455	150	JB
9.	UNKNOWN AMIDE	14.639	100	J
10.	UNKNOWN AMIDE	15.920	3100	J
11.	UNKNOWN	18.902	270	J
12.	UNKNOWN	19.225	160	J
13.	UNKNOWN	19.709	180	J
14.	UNKNOWN	20.172	87	J
15.	UNKNOWN	20.312	250	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG7

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11311.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 31 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

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	480	U
95-50-1	1,2-Dichlorobenzene	480	U
95-48-7	2-Methylphenol	480	U
108-60-1	2,2'-oxybis(1-Chloropropane)	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
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	1200	U
91-58-7	2-Chloronaphthalene	480	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	480	U
208-96-8	Acenaphthylene	480	U
606-20-2	2,6-Dinitrotoluene	480	U
99-09-2	3-Nitroaniline	1200	U
83-32-9	Acenaphthene	480	U

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG7

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11311.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 31 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1200	U
100-02-7	4-Nitrophenol	1200	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	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	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	1200	U
85-01-8	Phenanthrene	480	U
120-12-7	Anthracene	480	U
86-74-8	Carbazole	480	U
84-74-2	Di-n-butylphthalate	480	U
206-44-0	Fluoranthene	480	U
129-00-0	Pyrene	480	U
85-68-7	Butylbenzylphthalate	480	U
91-94-1	3,3'-Dichlorobenzidine	480	U
56-55-3	Benzo(a)anthracene	480	U
218-01-9	Chrysene	480	U
117-81-7	bis(2-Ethylhexyl)phthalate	480 ~~250~~	JB u 12/26/95
117-84-0	Di-n-octylphthalate	480	U
205-99-2	Benzo(b)fluoranthene	480	U
207-08-9	Benzo(k)fluoranthene	480	U
50-32-8	Benzo(a)pyrene	480	U
193-39-5	Indeno(1,2,3-cd)pyrene	480	U
53-70-3	Dibenz(a,h)anthracene	480	U
191-24-2	Benzo(g,h,i)perylene	480	U

(1) - Cannot be separated from Diphenylamine

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG7

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11311.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 31 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

Number TICs found: 17 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	2.346	15000	NJA
2.		UNKNOWN ORGANIC ACID	7.427	240	J
3.		UNKNOWN ORGANIC ACID	10.355	140	J
4.		UNKNOWN AMIDE	10.451	130	J
5.	10544-50-0	Sulfur, mol. (S8)	11.022	230	NJ
6.		UNKNOWN AMIDE	11.862	280	J
7.		UNKNOWN AMIDE	12.012	380	JB u
8.		UNKNOWN AMIDE	13.315	4400	J
9.		UNKNOWN AMIDE	13.455	130	JB u
10.		UNKNOWN AMIDE	15.909	2500	J
11.		UNKNOWN	17.868	140	J
12.		UNKNOWN	18.912	580	J
13.		UNKNOWN	19.128	120	J
14.		UNKNOWN	19.214	250	J
15.		UNKNOWN	19.418	120	J
16.		UNKNOWN	19.720	240	J
17.		UNKNOWN	20.323	450	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG8

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11323.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 30 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	470	U
111-44-4	bis(2-Chloroethyl)Ether	470	U
95-57-8	2-Chlorophenol	470	U
541-73-1	1,3-Dichlorobenzene	470	U
106-46-7	1,4-Dichlorobenzene	470	U
95-50-1	1,2-Dichlorobenzene	470	U
95-48-7	2-Methylphenol	470	U
108-60-1	2,2'-oxybis(1-Chloropropane)	470	U
106-44-5	4-Methylphenol	470	U
621-64-7	N-Nitroso-di-n-propylamine	470	U
67-72-1	Hexachloroethane	470	U
98-95-3	Nitrobenzene	470	U
78-59-1	Isophorone	470	U
88-75-5	2-Nitrophenol	470	U
105-67-9	2,4-Dimethylphenol	470	U
111-91-1	bis(2-Chloroethoxy)methane	470	U
120-83-2	2,4-Dichlorophenol	470	U
120-82-1	1,2,4-Trichlorobenzene	470	U
91-20-3	Naphthalene	470	U
106-47-8	4-Chloroaniline	470	U
87-68-3	Hexachlorobutadiene	470	U
59-50-7	4-Chloro-3-Methylphenol	470	U
91-57-6	2-Methylnaphthalene	84	J
77-47-4	Hexachlorocyclopentadiene	470	U
88-06-2	2,4,6-Trichlorophenol	470	U
95-95-4	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	470	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	470	U
208-96-8	Acenaphthylene	470	U
606-20-2	2,6-Dinitrotoluene	470	U
99-09-2	3-Nitroaniline	1200	U
83-32-9	Acenaphthene	470	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG8

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11323.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 30 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1200	U
100-02-7	4-Nitrophenol	1200	U
132-64-9	Dibenzofuran	24	J
121-14-2	2,4-Dinitrotoluene	470	U
84-66-2	Diethylphthalate	470	U
7005-72-3	4-Chlorophenyl-phenylether	470	U
86-73-7	Fluorene	470	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	U
86-30-6	N-Nitrosodiphenylamine (1)	470	U
101-55-3	4-Bromophenyl-phenylether	470	U
118-74-1	Hexachlorobenzene	470	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	68	J
120-12-7	Anthracene	470	U
86-74-8	Carbazole	470	U
84-74-2	Di-n-butylphthalate	470	U
206-44-0	Fluoranthene	470	U
129-00-0	Pyrene	470	U
85-68-7	Butylbenzylphthalate	470	U
91-94-1	3,3'-Dichlorobenzidine	470	U
56-55-3	Benzo(a)anthracene	470	U
218-01-9	Chrysene	470	U
117-81-7	bis(2-Ethylhexyl)phthalate	470 ~~160~~	JB u 12/26/95
117-84-0	Di-n-octylphthalate	470	U
205-99-2	Benzo(b)fluoranthene	470	U
207-08-9	Benzo(k)fluoranthene	470	U
50-32-8	Benzo(a)pyrene	470	U
193-39-5	Indeno(1,2,3-cd)pyrene	470	U
53-70-3	Dibenz(a,h)anthracene	470	U
191-24-2	Benzo(g,h,i)perylene	470	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG8

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.08

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11323.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 30 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6

Number TICs found: 17

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	2.252	13000	NJA
2.		Benzene, trichloro-	4.351	110	J
3.		UNKNOWN	6.719	220	J
4.		UNKNOWN ORGANIC ACID	7.354	180	J
5.		UNKNOWN ORGANIC ACID	10.261	98	J
6.		UNKNOWN AMIDE	10.357	170	
7.	10544-50-0	Sulfur, mol. (S8)	10.949	3800	N
8.		UNKNOWN AMIDE	11.757	320	J
9.		UNKNOWN AMIDE	11.908	420	J
10.		UNKNOWN AMIDE	13.210	5800	J
11.		UNKNOWN AMIDE	13.350	200	J
12.		UNKNOWN AMIDE	15.804	2100	J
13.		UNKNOWN	18.818	270	J
14.		UNKNOWN	19.055	180	J
15.		UNKNOWN	19.561	160	J
16.		UNKNOWN	20.035	210	J
17.		UNKNOWN	20.132	760	J
18.					
19.					
20.					
21.					
22.					
23.					
24.					
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27.					
28.					
29.					
30.					

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG9

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.09

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11318.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 29 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

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	460	U
95-57-8	2-Chlorophenol	460	U
541-73-1	1,3-Dichlorobenzene	460	U
106-46-7	1,4-Dichlorobenzene	460	U
95-50-1	1,2-Dichlorobenzene	460	U
95-48-7	2-Methylphenol	460	U
108-60-1	2,2'-oxybis(1-Chloropropane)	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
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	1200	U
91-58-7	2-Chloronaphthalene	460	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	460	U
208-96-8	Acenaphthylene	460	U
606-20-2	2,6-Dinitrotoluene	460	U
99-09-2	3-Nitroaniline	1200	U
83-32-9	Acenaphthene	460	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG9

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.09

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11318.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 29 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1200	U
100-02-7	4-Nitrophenol	1200	U
132-64-9	Dibenzofuran	460	U
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	460	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	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	1200	U
85-01-8	Phenanthrene	26	J
120-12-7	Anthracene	460	U
86-74-8	Carbazole	460	U
84-74-2	Di-n-butylphthalate	34	J
206-44-0	Fluoranthene	460	U
129-00-0	Pyrene	59	J
85-68-7	Butylbenzylphthalate	460	U
91-94-1	3,3'-Dichlorobenzidine	460	U
56-55-3	Benzo(a)anthracene	460	U
218-01-9	Chrysene	460	U
117-81-7	bis(2-Ethylhexyl)phthalate	460 ~~300~~	JB u ST 12/26/19
117-84-0	Di-n-octylphthalate	460	U
205-99-2	Benzo(b)fluoranthene	460	U
207-08-9	Benzo(k)fluoranthene	460	U
50-32-8	Benzo(a)pyrene	460	U
193-39-5	Indeno(1,2,3-cd)pyrene	460	U
53-70-3	Dibenz(a,h)anthracene	460	U
191-24-2	Benzo(g,h,i)perylene	460	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG9

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.09

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11318.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 29 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	2.366	15000	NJA
2.		UNKNOWN	6.823	300	J
3.		UNKNOWN ORGANIC ACID	7.436	200	J
4.		UNKNOWN AMIDE	10.483	190	J
5.	10544-50-0	Sulfur, mol. (S8)	11.096	1900	NJ
6.		UNKNOWN AMIDE	11.893	560	J
7.		UNKNOWN AMIDE	12.033	730	JB
8.		UNKNOWN	12.603	120	J
9.		UNKNOWN AMIDE	13.346	6700	J
10.		UNKNOWN AMIDE	13.486	260	JB
11.		Methano-indene, octahydro-me	13.615	280	J
12.		UNKNOWN AMIDE	15.930	3200	J
13.		UNKNOWN	17.103	230	J
14.		UNKNOWN	17.523	430	J
15.		UNKNOWN	17.975	350	J
16.		UNKNOWN	18.987	270	J
17.		UNKNOWN	19.245	290	J
18.		UNKNOWN	19.493	330	J
19.		UNKNOWN	19.773	260	J
20.		UNKNOWN	20.386	380	J
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG9RE

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.09RA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11324.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 29 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

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	460	U
95-57-8	2-Chlorophenol	460	U
541-73-1	1,3-Dichlorobenzene	460	U
106-46-7	1,4-Dichlorobenzene	460	U
95-50-1	1,2-Dichlorobenzene	460	U
95-48-7	2-Methylphenol	460	U
108-60-1	2,2'-oxybis(1-Chloropropane)	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
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	1200	U
91-58-7	2-Chloronaphthalene	460	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	460	U
208-96-8	Acenaphthylene	460	U
606-20-2	2,6-Dinitrotoluene	460	U
99-09-2	3-Nitroaniline	1200	U
83-32-9	Acenaphthene	460	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG9RE

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.09RA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11324.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 29 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1200	U
100-02-7	4-Nitrophenol	1200	U
132-64-9	Dibenzofuran	460	U
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	460	U
100-01-6	4-Nitroaniline	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	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	1200	U
85-01-8	Phenanthrene	460	U
120-12-7	Anthracene	460	U
86-74-8	Carbazole	460	U
84-74-2	Di-n-butylphthalate	460	U
206-44-0	Fluoranthene	460	U
129-00-0	Pyrene	460	U
85-68-7	Butylbenzylphthalate	460	U
91-94-1	3,3'-Dichlorobenzidine	460	U
56-55-3	Benzo(a)anthracene	460	U
218-01-9	Chrysene	460	U
117-81-7	bis(2-Ethylhexyl)phthalate	460 ~~270~~	JB u
117-84-0	Di-n-octylphthalate	460	U
205-99-2	Benzo(b)fluoranthene	460	U
207-08-9	Benzo(k)fluoranthene	460	U
50-32-8	Benzo(a)pyrene	460	U
193-39-5	Indeno(1,2,3-cd)pyrene	460	U
53-70-3	Dibenz(a,h)anthracene	460	U
191-24-2	Benzo(g,h,i)perylene	460	U

BT 12/26/95

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM03.0

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARG9RE

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.09RA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11324.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 29 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

Number TICs found: 24

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	2.273	14000	NJA
2.		UNKNOWN	6.730	260	J
3.		UNKNOWN ORGANIC ACID	7.354	200	J
4.		UNKNOWN ORGANIC ACID	10.271	190	J
5.		UNKNOWN AMIDE	10.368	200	J
6.	10544-50-0	Sulfur, mol. (S8)	10.949	2300	N
7.		UNKNOWN AMIDE	11.768	540	
8.		UNKNOWN AMIDE	11.918	640	J
9.		UNKNOWN AMIDE	13.221	7400	J
10.		UNKNOWN AMIDE	13.361	280	J
11.		UNKNOWN	13.490	180	J
12.		UNKNOWN	13.522	130	J
13.		UNKNOWN AMIDE	14.534	100	J
14.		UNKNOWN	15.352	140	J
15.		UNKNOWN AMIDE	15.815	1900	J
16.		UNKNOWN	17.839	270	J
17.		UNKNOWN	18.355	170	J
18.		UNKNOWN	18.431	200	J
19.		UNKNOWN	18.538	270	J
20.		UNKNOWN	18.829	410	J
21.		UNKNOWN	18.883	130	J
22.		UNKNOWN	19.314	190	J
23.		UNKNOWN	19.583	190	J
24.		UNKNOWN	20.153	320	J
25.					
26.					
27.					
28.					
29.					
30.					

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARH0

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.10

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11321.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 32 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

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	480	U
95-50-1	1,2-Dichlorobenzene	480	U
95-48-7	2-Methylphenol	480	U
108-60-1	2,2'-oxybis(1-Chloropropane)	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
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	300	J
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	620	
77-47-4	Hexachlorocyclopentadiene	480	U
88-06-2	2,4,6-Trichlorophenol	480	U
95-95-4	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	480	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	480	U
208-96-8	Acenaphthylene	480	U
606-20-2	2,6-Dinitrotoluene	480	U
99-09-2	3-Nitroaniline	1200	U
83-32-9	Acenaphthene	480	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARH0

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.10

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11321.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 32 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1200	U
100-02-7	4-Nitrophenol	1200	U
132-64-9	Dibenzofuran	200	J
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	1200	U
534-52-1	4,6-Dinitro-2-methylphenol	1200	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	1200	U
85-01-8	Phenanthrene	350	J
120-12-7	Anthracene	41	J
86-74-8	Carbazole	480	U
84-74-2	Di-n-butylphthalate	480	U
206-44-0	Fluoranthene	300	J
129-00-0	Pyrene	390	J
85-68-7	Butylbenzylphthalate	480	U
91-94-1	3,3'-Dichlorobenzidine	480	U
56-55-3	Benzo(a)anthracene	180	J
218-01-9	Chrysene	180	J
117-81-7	bis(2-Ethylhexyl)phthalate	480 ~~160~~	JB
117-84-0	Di-n-octylphthalate	480	U
205-99-2	Benzo(b)fluoranthene	150	J
207-08-9	Benzo(k)fluoranthene	100	J
50-32-8	Benzo(a)pyrene	130	J
193-39-5	Indeno(1,2,3-cd)pyrene	480	U
53-70-3	Dibenz(a,h)anthracene	480	U
191-24-2	Benzo(g,h,i)perylene	480	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM0

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARH0

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.10

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11321.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 32 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

Number TICs found: 34

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	1.691	140	J
2. 123-42-2	2-Pentanone, 4-hydroxy-4-met	2.251	14000	NJA
3. 103-65-1	Benzene, propyl-	3.220	180	NJ
4.	Benzene, -ethyl-methyl-	3.274	200	J
5.	UNKNOWN	3.349	160	J
6.	Benzene, ethyl-methyl-	3.414	210	J
7.	Benzene, trimethyl-	3.511	530	J
8.	Benzene, trimethyl-	3.704	490	J
9.	Benzene, ethyl-dimethyl-	4.447	180	J
10.	Naphth[]oxirene, tetrahyd	4.953	170	J
11. 90-12-0	Naphthalene, 1-methyl-	5.373	300	NJ
12.	UNKNOWN	5.524	150	J
13.	Naphthalene, dimethyl-	5.900	230	J
14.	Naphthalene, dimethyl-	5.976	270	J
15.	Naphthalene, dimethyl-	6.083	700	J
16.	Naphthalene, dimethyl-	6.342	190	J
17.	Unknown	6.729	640	J
18.	Naphthalene, trimethyl-	6.902	170	J
19.	Naphthalene, trimethyl-	7.031	300	J
20.	Naphthalene, trimethyl-	7.160	240	J
21.	Naphthalene, trimethyl-	7.354	440	J
22.	Dibenzofuran, methyl-	7.612	170	J
23.	Dibenzofuran, methyl-	7.730	760	J
24.	Dibenzofuran, methyl-	7.817	200	J
25.	UNKNOWN PAH	8.527	470	J
26.	UNKNOWN	8.678	300	J
27.	UNKNOWN	9.464	250	J
28.	UNKNOWN	9.539	180	J
29.	UNKNOWN	10.271	490	J
30. 7704-34-9	Sulfur	11.003	14000	NJ

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARH0

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.10

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11321.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 32 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

Number TICs found: 34

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN AMIDE	11.907	420	J
2.		UNKNOWN	12.445	230	J
3.		UNKNOWN AMIDE	13.199	2600	J
4.		UNKNOWN AMIDE	15.804	2200	J
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARH1

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.11

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11322.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 20 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	410	U
111-44-4	bis(2-Chloroethyl)Ether	410	U
95-57-8	2-Chlorophenol	410	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U
95-48-7	2-Methylphenol	410	U
108-60-1	2,2'-oxybis(1-Chloropropane)	410	U
106-44-5	4-Methylphenol	410	U
621-64-7	N-Nitroso-di-n-propylamine	410	U
67-72-1	Hexachloroethane	410	U
98-95-3	Nitrobenzene	410	U
78-59-1	Isophorone	410	U
88-75-5	2-Nitrophenol	410	U
105-67-9	2,4-Dimethylphenol	410	U
111-91-1	bis(2-Chloroethoxy)methane	410	U
120-83-2	2,4-Dichlorophenol	410	U
120-82-1	1,2,4-Trichlorobenzene	410	U
91-20-3	Naphthalene	410	U
106-47-8	4-Chloroaniline	410	U
87-68-3	Hexachlorobutadiene	410	U
59-50-7	4-Chloro-3-Methylphenol	410	U
91-57-6	2-Methylnaphthalene	410	U
77-47-4	Hexachlorocyclopentadiene	410	U
88-06-2	2,4,6-Trichlorophenol	410	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	410	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	410	U
208-96-8	Acenaphthylene	410	U
606-20-2	2,6-Dinitrotoluene	410	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	410	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARH1

ab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.11

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11322.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 20 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	1000	U
100-02-7	4-Nitrophenol	1000	U
132-64-9	Dibenzofuran	410	U
121-14-2	2,4-Dinitrotoluene	410	U
84-66-2	Diethylphthalate	410	U
7005-72-3	4-Chlorophenyl-phenylether	410	U
86-73-7	Fluorene	410	U
100-01-6	4-Nitroaniline	1000	U
534-52-1	4,6-Dinitro-2-methylphenol	1000	U
86-30-6	N-Nitrosodiphenylamine (1)	410	U
101-55-3	4-Bromophenyl-phenylether	410	U
118-74-1	Hexachlorobenzene	410	U
87-86-5	Pentachlorophenol	1000	U
85-01-8	Phenanthrene	410	U
120-12-7	Anthracene	410	U
86-74-8	Carbazole	410	U
84-74-2	Di-n-butylphthalate	410	U
206-44-0	Fluoranthene	410	U
129-00-0	Pyrene	410	U
85-68-7	Butylbenzylphthalate	410	U
91-94-1	3,3'-Dichlorobenzidine	410	U
56-55-3	Benzo(a)anthracene	410	U
218-01-9	Chrysene	410	U
117-81-7	bis(2-Ethylhexyl)phthalate	410 ~~150~~	JB
117-84-0	Di-n-octylphthalate	410	U
205-99-2	Benzo(b)fluoranthene	410	U
207-08-9	Benzo(k)fluoranthene	410	U
50-32-8	Benzo(a)pyrene	410	U
193-39-5	Indeno(1,2,3-cd)pyrene	410	U
53-70-3	Dibenz(a,h)anthracene	410	U
191-24-2	Benzo(g,h,i)perylene	410	U

u ST 12/26/95

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EARH1

Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.11

Sample wt/vol: 30.0 (g/mL) G Lab File ID: V11322.D

Level: (low/med) LOW Date Received: 11/16/95

% Moisture: 20 decanted: (Y/N) N Date Extracted: 11/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 12/06/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.9

Number TICs found: 9

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	2.217	9400	NJA
2.		UNKNOWN ORGANIC ACID	7.352	140	J
3.		UNKNOWN AMIDE	10.345	89	J
4.	7704-34-9	Sulfur	10.904	250	NJ
5.		UNKNOWN AMIDE	11.755	130	J
6.		UNKNOWN AMIDE	11.895	220	J
7.		UNKNOWN AMIDE	13.187	3000	J
8.		UNKNOWN AMIDE	13.348	86	J
9.		UNKNOWN AMIDE	15.792	1800	J
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11.					
12.					
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2F
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

GC Column(1): DB-1701 ID: 0.32(mm) GC Column(2): DB-17 ID: 0.32(mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLKSA	79	60	74	83			0
02	EARG1	91	74	98	109			0
03	EARG2	77	60	80	86			0
04	EARG3	85	69	69	97			0
05	EARG3MS	74	57	69	82			0
06	EARG3MSD	71	56	73	81			0
07	EARG4	53	48	60	82			0
08	EARG5	75	61	67	82			0
09	EARG6	84	66	69	94			0
10	EARG7	78	64	67	90			0
11	EARG8	63	56	58	76			0
12	EARG9	74	64	68	76			0
13	EARH0	81	76	66	82			0
14	EARH1	64	54	69	77			0
15								
16								
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30								

QC LIMITS

TCX = Tetrachloro-m-xylene (30-150)
DCB = Decachlorobiphenyl (30-150)

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

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix Spike - EPA Sample NO.: EARG3

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
gamma-BHC(Lindane)	18.1	0	21.8	120	46-127
Heptachlor	18.1	0	19.5	108	35-130
Aldrin	18.1	0	19.6	108	34-132
Dieldrin	36.2	0	45.1	124	31-134
Endrin	36.2	0	48.9	135	42-139
4,4'-DDT	36.2	0	50.9	140 *	23-134

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC(Lindane)	18.1	22.4	124	3	50	46-127
Heptachlor	18.1	19.5	108	0	31	35-130
Aldrin	18.1	20.1	111	3	43	34-132
Dieldrin	36.2	46.0	127	2	38	31-134
Endrin	36.2	49.2	136	1	45	42-139
4,4'-DDT	36.2	51.2	141 *	1	50	23-134

Column to be used to flag recovery values

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 2 out of 12 outside limits

Comments: _____

4C
PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLKSA

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Lab Sample ID: PBLKSA Lab File ID: 3_002884

Matrix: (soil/water) SOIL Extraction: (SepF/Cont/Sonc) SONC

Sulfur Cleanup: (Y/N) Y Date Extracted: 11/16/95

Date Analyzed (1): 11/27/95 Date Analyzed (2): 11/27/95

Time Analyzed (1): 0003 Time Analyzed (2): 0003

Instrument ID (1): HP_03A Instrument ID (2): HP_03B

GC Column (1): DB-1701 ID: 0.32(mm) GC Column (2): DB-17 ID: 0.32(mm)

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EARG1	24068.01	11/27/95	11/27/95
02	EARG2	24068.02	11/27/95	11/27/95
03	EARG3	24068.03	11/27/95	11/27/95
04	EARG3MS	24068.03MS	11/27/95	11/27/95
05	EARG3MSD	24068.03MSD	11/27/95	11/27/95
06	EARG4	24068.04	11/27/95	11/27/95
07	EARG5	24068.05	11/27/95	11/27/95
08	EARG6	24068.06	11/27/95	11/27/95
09	EARG7	24068.07	11/27/95	11/27/95
10	EARG8	24068.08	11/27/95	11/27/95
11	EARG9	24068.09	11/27/95	11/27/95
12	EARH0	24068.10	11/27/95	11/27/95
13	EARH1	24068.11	11/27/95	11/27/95
14				
15				
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Comments:

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKSA

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

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

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

% Moisture: _____ decanted: (Y/N)___ Date Received: _____

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/16/95

Concentrated Extract Volume: 5000(uL) Date Analyzed: 11/27/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-93-4	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG1

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.01

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

% Moisture: 17 decanted: (Y/N) N Date Received: 11/16/95

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/16/95

Concentrated Extract Volume: 5000(uL) Date Analyzed: 11/27/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.4 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	2.0	U
76-44-8	Heptachlor	2.0	U
309-00-2	Aldrin	2.0	U
1024-57-3	Heptachlor epoxide	2.0	U
959-98-8	Endosulfan I	2.0	U
60-57-1	Dieldrin	4.0	U
72-55-9	4,4'-DDE	4.0	U
72-20-8	Endrin	11	P
33213-65-9	Endosulfan II	4.0	U
72-54-8	4,4'-DDD	4.3	P
1031-07-8	Endosulfan sulfate	4.0	U
50-29-3	4,4'-DDT	11	P
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	4.0	U
7421-93-4	Endrin aldehyde	16	
5103-71-9	alpha-Chlordane	2.0	U
5103-74-2	gamma-Chlordane	2.0	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	40	U
11104-28-2	Aroclor-1221	81	U
11141-16-5	Aroclor-1232	40	U
53469-21-9	Aroclor-1242	40	U
12672-29-6	Aroclor-1248	40	U
11097-69-1	Aroclor-1254	40	U
11096-82-5	Aroclor-1260	40	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG2

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.02

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

% Moisture: 27 decanted: (Y/N) N Date Received: 11/16/95

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/16/95

Concentrated Extract Volume: 5000(uL) Date Analyzed: 11/27/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.9 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.3	U
319-85-7	beta-BHC	2.3	U
319-86-8	delta-BHC	2.3	U
58-89-9	gamma-BHC (Lindane)	2.3	U
76-44-8	Heptachlor	2.3	U
309-00-2	Aldrin	2.3	U
1024-57-3	Heptachlor epoxide	2.3	U
959-98-8	Endosulfan I	2.3	U
60-57-1	Dieldrin	4.5	U
72-55-9	4,4'-DDE	4.5	U
72-20-8	Endrin	4.5	U
33213-65-9	Endosulfan II	4.5	U
72-54-8	4,4'-DDD	4.5	U
1031-07-8	Endosulfan sulfate	4.5	U
50-29-3	4,4'-DDT	4.5	U
72-43-5	Methoxychlor	23	U
53494-70-5	Endrin ketone	4.5	U
7421-93-4	Endrin aldehyde	4.5	U
5103-71-9	alpha-Chlordane	2.3	U
5103-74-2	gamma-Chlordane	2.3	U
8001-35-2	Toxaphene	230	U
12674-11-2	Aroclor-1016	45	U
11104-28-2	Aroclor-1221	92	U
11141-16-5	Aroclor-1232	45	U
53469-21-9	Aroclor-1242	45	U
12672-29-6	Aroclor-1248	45	U
11097-69-1	Aroclor-1254	45	U
11096-82-5	Aroclor-1260	45	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG3

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.03

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

% Moisture: 8 decanted: (Y/N) N Date Received: 11/16/95

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/16/95

Concentrated Extract Volume: 5000(uL) Date Analyzed: 11/27/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.8	U
319-85-7	beta-BHC	1.8	U
319-86-8	delta-BHC	1.8	U
58-89-9	gamma-BHC (Lindane)	1.8	U
76-44-8	Heptachlor	1.8	U
309-00-2	Aldrin	1.8	U
1024-57-3	Heptachlor epoxide	1.8	U
959-98-8	Endosulfan I	1.8	U
60-57-1	Dieldrin	3.6	U
72-55-9	4,4'-DDE	3.6	U
72-20-8	Endrin	3.6	U
33213-65-9	Endosulfan II	3.6	U
72-54-8	4,4'-DDD	3.6	U
1031-07-8	Endosulfan sulfate	3.6	U
50-29-3	4,4'-DDT	3.6	U
72-43-5	Methoxychlor	18	U
53494-70-5	Endrin ketone	3.6	U
7421-93-4	Endrin aldehyde	3.6	U
5103-71-9	alpha-Chlordane	2.2	
5103-74-2	gamma-Chlordane	1.9	P
8001-35-2	Toxaphene	180	U
12674-11-2	Aroclor-1016	36	U
11104-28-2	Aroclor-1221	73	U
11141-16-5	Aroclor-1232	36	U
53469-21-9	Aroclor-1242	36	U
12672-29-6	Aroclor-1248	36	U
11097-69-1	Aroclor-1254	36	U
11096-82-5	Aroclor-1260	36	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG4

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.04

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

% Moisture: 30 decanted: (Y/N) N Date Received: 11/16/95

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/16/95

Concentrated Extract Volume: 5000(uL) Date Analyzed: 11/27/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 5.6 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.4	U
319-85-7	beta-BHC	2.4	U
319-86-8	delta-BHC	2.4	U
58-89-9	gamma-BHC (Lindane)	2.4	U
76-44-8	Heptachlor	2.4	U
309-00-2	Aldrin	2.4	U
1024-57-3	Heptachlor epoxide	2.4	U
959-98-8	Endosulfan I	2.4	U
60-57-1	Dieldrin	4.7	U
72-55-9	4,4'-DDE	4.7	U
72-20-8	Endrin	4.7	U
33213-65-9	Endosulfan II	4.7	U
72-54-8	4,4'-DDD	4.7	U
1031-07-8	Endosulfan sulfate	4.7	U
50-29-3	4,4'-DDT	4.7	U
72-43-5	Methoxychlor	24	U
53494-70-5	Endrin ketone	4.7	U
7421-93-4	Endrin aldehyde	4.7	U
5103-71-9	alpha-Chlordane	2.4	U
5103-74-2	gamma-Chlordane	2.4	U
8001-35-2	Toxaphene	240	U
12674-11-2	Aroclor-1016	47	U
11104-28-2	Aroclor-1221	96	U
11141-16-5	Aroclor-1232	47	U
53469-21-9	Aroclor-1242	47	U
12672-29-6	Aroclor-1248	47	U
11097-69-1	Aroclor-1254	47	U
11096-82-5	Aroclor-1260	47	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG5

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.05

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

% Moisture: 20 decanted: (Y/N) N Date Received: 11/16/95

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/16/95

Concentrated Extract Volume: 5000(uL) Date Analyzed: 11/27/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.1	U
319-85-7	beta-BHC	2.1	U
319-86-8	delta-BHC	2.1	U
58-89-9	gamma-BHC (Lindane)	2.1	U
76-44-8	Heptachlor	2.1	U
309-00-2	Aldrin	2.1	U
1024-57-3	Heptachlor epoxide	2.1	U
959-98-8	Endosulfan I	2.1	U
60-57-1	Dieldrin	4.1	U
72-55-9	4,4'-DDE	4.1	U
72-20-8	Endrin	4.1	U
33213-65-9	Endosulfan II	4.1	U
72-54-8	4,4'-DDD	4.1	U
1031-07-8	Endosulfan sulfate	4.1	U
50-29-3	4,4'-DDT	4.1	U
72-43-5	Methoxychlor	21	U
53494-70-5	Endrin ketone	4.1	U
7421-93-4	Endrin aldehyde	4.1	U
5103-71-9	alpha-Chlordane	2.1	U
5103-74-2	gamma-Chlordane	2.1	U
8001-35-2	Toxaphene	210	U
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	84	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	U
11096-82-5	Aroclor-1260	41	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG6

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.06

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

% Moisture: 23 decanted: (Y/N) N Date Received: 11/16/95

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/16/95

Concentrated Extract Volume: 5000(uL) Date Analyzed: 11/27/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.2	U
319-85-7	beta-BHC	2.2	U
319-86-8	delta-BHC	2.2	U
58-89-9	gamma-BHC (Lindane)	2.2	U
76-44-8	Heptachlor	2.2	U
309-00-2	Aldrin	2.2	U
1024-57-3	Heptachlor epoxide	2.2	U
959-98-8	Endosulfan I	2.2	U
60-57-1	Dieldrin	4.3	U
72-55-9	4,4'-DDE	4.3	U
72-20-8	Endrin	4.3	U
33213-65-9	Endosulfan II	4.3	U
72-54-8	4,4'-DDD	4.3	U
1031-07-8	Endosulfan sulfate	4.3	U
50-29-3	4,4'-DDT	4.3	U
72-43-5	Methoxychlor	22	U
53494-70-5	Endrin ketone	4.3	U
7421-93-4	Endrin aldehyde	4.3	U
5103-71-9	alpha-Chlordane	2.2	U
5103-74-2	gamma-Chlordane	2.2	U
8001-35-2	Toxaphene	220	U
12674-11-2	Aroclor-1016	43	U
11104-28-2	Aroclor-1221	87	U
11141-16-5	Aroclor-1232	43	U
53469-21-9	Aroclor-1242	43	U
12672-29-6	Aroclor-1248	43	U
11097-69-1	Aroclor-1254	43	U
11096-82-5	Aroclor-1260	43	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG7

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.07

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

% Moisture: 31 decanted: (Y/N) N Date Received: 11/16/95

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/16/95

Concentrated Extract Volume: 5000(uL) Date Analyzed: 11/27/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.5	U
319-85-7	beta-BHC	2.5	U
319-86-8	delta-BHC	2.5	U
58-89-9	gamma-BHC (Lindane)	2.5	U
76-44-8	Heptachlor	2.5	U
309-00-2	Aldrin	2.5	U
1024-57-3	Heptachlor epoxide	2.5	U
959-98-8	Endosulfan I	2.5	U
60-57-1	Dieldrin	4.8	U
72-55-9	4,4'-DDE	4.8	U
72-20-8	Endrin	4.8	U
33213-65-9	Endosulfan II	4.8	U
72-54-8	4,4'-DDD	4.8	U
1031-07-8	Endosulfan sulfate	4.8	U
50-29-3	4,4'-DDT	4.8	U
72-43-5	Methoxychlor	25	U
53494-70-5	Endrin ketone	4.8	U
7421-93-4	Endrin aldehyde	4.8	U
5103-71-9	alpha-Chlordane	2.5	U
5103-74-2	gamma-Chlordane	2.5	U
8001-35-2	Toxaphene	250	U
12674-11-2	Aroclor-1016	48	U
11104-28-2	Aroclor-1221	97	U
11141-16-5	Aroclor-1232	48	U
53469-21-9	Aroclor-1242	48	U
12672-29-6	Aroclor-1248	48	U
11097-69-1	Aroclor-1254	48	U
11096-82-5	Aroclor-1260	48	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG8

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.08

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

% Moisture: 30 decanted: (Y/N) N Date Received: 11/16/95

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/16/95

Concentrated Extract Volume: 5000(uL) Date Analyzed: 11/27/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.4	U
319-85-7	beta-BHC	2.4	U
319-86-8	delta-BHC	2.4	U
58-89-9	gamma-BHC (Lindane)	2.4	U
76-44-8	Heptachlor	2.4	U
309-00-2	Aldrin	2.4	U
1024-57-3	Heptachlor epoxide	2.4	U
959-98-8	Endosulfan I	2.4	U
60-57-1	Dieldrin	4.7	U
72-55-9	4,4'-DDE	5.3	P
72-20-8	Endrin	4.7	U
33213-65-9	Endosulfan II	4.7	U
72-54-8	4,4'-DDD	4.7	U
1031-07-8	Endosulfan sulfate	4.7	U
50-29-3	4,4'-DDT	4.7	U
72-43-5	Methoxychlor	24	U
53494-70-5	Endrin ketone	4.7	U
7421-93-4	Endrin aldehyde	4.7	U
5103-71-9	alpha-Chlordane	2.4	U
5103-74-2	gamma-Chlordane	2.4	U
8001-35-2	Toxaphene	240	U
12674-11-2	Aroclor-1016	47	U
11104-28-2	Aroclor-1221	96	U
11141-16-5	Aroclor-1232	47	U
53469-21-9	Aroclor-1242	47	U
12672-29-6	Aroclor-1248	47	U
11097-69-1	Aroclor-1254	47	U
11096-82-5	Aroclor-1260	47	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARG9

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.09

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

% Moisture: 29 decanted: (Y/N) N Date Received: 11/16/95

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/16/95

Concentrated Extract Volume: 5000(uL) Date Analyzed: 11/27/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.4	U
319-85-7	beta-BHC	2.4	U
319-86-8	delta-BHC	2.4	U
58-89-9	gamma-BHC (Lindane)	2.4	U
76-44-8	Heptachlor	2.4	U
309-00-2	Aldrin	2.4	U
1024-57-3	Heptachlor epoxide	2.4	U
959-98-8	Endosulfan I	2.4	U
60-57-1	Dieldrin	4.6	U
72-55-9	4,4'-DDE	4.6	U
72-20-8	Endrin	4.6	U
33213-65-9	Endosulfan II	4.6	U
72-54-8	4,4'-DDD	4.6	U
1031-07-8	Endosulfan sulfate	4.6	U
50-29-3	4,4'-DDT	4.6	U
72-43-5	Methoxychlor	24	U
53494-70-5	Endrin ketone	4.6	U
7421-93-4	Endrin aldehyde	4.6	U
5103-71-9	alpha-Chlordane	2.4	U
5103-74-2	gamma-Chlordane	2.4	U
8001-35-2	Toxaphene	240	U
12674-11-2	Aroclor-1016	46	U
11104-28-2	Aroclor-1221	94	U
11141-16-5	Aroclor-1232	46	U
53469-21-9	Aroclor-1242	46	U
12672-29-6	Aroclor-1248	46	U
11097-69-1	Aroclor-1254	46	U
11096-82-5	Aroclor-1260	46	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARH0

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.10

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

% Moisture: 32 decanted: (Y/N) N Date Received: 11/16/95

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/16/95

Concentrated Extract Volume: 5000(uL) Date Analyzed: 11/27/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.5	U
319-85-7	beta-BHC	2.5	U
319-86-8	delta-BHC	2.5	U
58-89-9	gamma-BHC (Lindane)	2.5	U
76-44-8	Heptachlor	2.5	U
309-00-2	Aldrin	2.5	U
1024-57-3	Heptachlor epoxide	2.5	U
959-98-8	Endosulfan I	2.5	U
60-57-1	Dieldrin	4.8	U
72-55-9	4,4'-DDE	4.8	U
72-20-8	Endrin	31	
33213-65-9	Endosulfan II	4.8	U
72-54-8	4,4'-DDD	4.8	U
1031-07-8	Endosulfan sulfate	4.8	U
50-29-3	4,4'-DDT	4.8	U
72-43-5	Methoxychlor	25	U
53494-70-5	Endrin ketone	4.8	U
7421-93-4	Endrin aldehyde	4.8	U
5103-71-9	alpha-Chlordane	2.5	U
5103-74-2	gamma-Chlordane	2.5	U
8001-35-2	Toxaphene	250	U
12674-11-2	Aroclor-1016	48	U
11104-28-2	Aroclor-1221	98	U
11141-16-5	Aroclor-1232	48	U
53469-21-9	Aroclor-1242	48	U
12672-29-6	Aroclor-1248	48	U
11097-69-1	Aroclor-1254	48	U
11096-82-5	Aroclor-1260	48	U

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PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EARH1

Lab Name: SWL-TULSA Contract: 68-D5-0022

Lab Code: AATS Case No.: 24211 SAS No.: SDG No.: EARG1

Matrix: (soil/water) SOIL Lab Sample ID: 24068.11

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

% Moisture: 20 decanted: (Y/N) N Date Received: 11/16/95

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 11/16/95

Concentrated Extract Volume: 5000(uL) Date Analyzed: 11/27/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.9 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.1	U
319-85-7	beta-BHC	2.1	U
319-86-8	delta-BHC	2.1	U
58-89-9	gamma-BHC (Lindane)	2.1	U
76-44-8	Heptachlor	2.1	U
309-00-2	Aldrin	2.1	U
1024-57-3	Heptachlor epoxide	2.1	U
959-98-8	Endosulfan I	2.1	U
60-57-1	Dieldrin	4.1	U
72-55-9	4,4'-DDE	4.1	U
72-20-8	Endrin	4.1	U
33213-65-9	Endosulfan II	4.1	U
72-54-8	4,4'-DDD	4.1	U
1031-07-8	Endosulfan sulfate	4.1	U
50-29-3	4,4'-DDT	4.1	U
72-43-5	Methoxychlor	21	U
53494-70-5	Endrin ketone	4.1	U
7421-93-4	Endrin aldehyde	4.1	U
5103-71-9	alpha-Chlordane	2.1	U
5103-74-2	gamma-Chlordane	2.1	U
8001-35-2	Toxaphene	210	U
12674-11-2	Aroclor-1016	41	U
11104-28-2	Aroclor-1221	84	U
11141-16-5	Aroclor-1232	41	U
53469-21-9	Aroclor-1242	41	U
12672-29-6	Aroclor-1248	41	U
11097-69-1	Aroclor-1254	41	U
11096-82-5	Aroclor-1260	41	U

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 01-24-96

SUBJECT: Review of Region V CLP Data
Received for Review on Jan 16, 1996

FROM: Stephen L. Ostrodka, Chief (HSRL-5J)
Superfund Technical Support Section
L. Finkelberg for S. Ostrodka

TO: Data User: IEPA

We have reviewed the data for the following case:

SITE NAME: Prior LZ (IL)

CASE NUMBER: 24211 SDG NUMBER: MEAD 09

Number and Type of Samples: 11 (soil)

Sample Numbers: MEAD09 MEADR0-4 MEAFB2-6

Laboratory: ARI Hrs. for Review: 8.3
1.0 audit JK

Following are our findings:

The matrix spike recovery for Sb is out of control (<30%). All Sb data are unusable (R). The preparation blank and CCB contain contamination. All data (except Sb) are usable with the qualifications described in the attached narrative.

RECEIVED
JAN 30 1996
IEPA/DLPC

L. Finkelberg
01-24-96

cc: Regional TPO
Brian Freeman
HSMC-5J

NARRATIVE

SITE : Prior Landfill CASE: 24211
LABORATORY: ARI SDG : MEADQ9

The laboratory's portion of this case contains eleven low level soil samples analyzed for total metals and total cyanide. The following narrative lists the out of control audits and their possible effects on the results.

EVIDENTIAL AUDIT:

The DC-2 forms, the sample tags, the airbill, and the chain of custody forms are originals. All raw data and forms are original. All forms are present and in the order indicated on the DC-2 form(s)[inventory sheet].

SOIL SAMPLES (MEADQ9, MEADR0-MEADR4, and MEAFB2-MEAFB6)

ICP ANALYSES:

The matrix spike recovery of antimony (26.8%) is out of control. All antimony data are less than IDL and are unusable (R).

The matrix spike recoveries of iron (-902%), aluminum (-2.7%), and manganese (-122.5%) were not flagged by the laboratory since the sample results were greater than four times the spike concentrations. All iron, aluminum, and manganese data are not qualified on this basis and are acceptable.

GFAA ANALYSES:

The duplicate audit of arsenic (+/- CRDL) was flagged (*) by the laboratory; however, the technical criterion (+/- 2X CRDL) was not exceeded. Arsenic data are not qualified on this basis and are acceptable.

Selenium data for samples MEADR0 through MEADR4, MEAFB2 through MEAFB4, and MEAFB6 were flagged (W) by the laboratory indicating interference. The preparation blank was found to contain selenium (0.380 mg/kg). Selenium data for samples MEAFB2 and MEAFB6 are estimated (UJ) due to interference. Selenium data for samples MEADR0 through MEADR4, MEAFB3, and MEAFB4 are estimated (J) due to interference and contamination. Selenium data for sample MEAFB5 and MEADQ9 are estimated (J) due to contamination.

Reviewed by: M. Fletcher M. Fletcher
Date: 1/18/96

GFAA ANALYSES:

The duplicate audit of thallium (200 RPD) was not flagged (*) because the technical criterion of soils(+/- 2X CRDL) was not exceeded. Thallium data is not qualified on this basis. Thallium data for samples MEADR0, MEADQ9, MEADR1, MEADR3, MEADR4, MEAFB2, MEAFB3, and MEAFB6 were flagged (W) by the laboratory indicating interference. Thallium data for samples MEADQ9, MEADR0, MEADR1, MEADR3, MEAFB2, and MEADR4 are estimated (J) due to interference. Thallium data for sample MEAFB3 and MEAFB6 are estimated (UJ) due to interference.

OTHER ANALYSES:

All mercury and cyanide data are acceptable.

Reviewed by: M. Fletcher M. Fletcher
Date: 1/18/96

INORGANIC DATA QUALIFIER DEFINITIONS

For the purpose of defining the flagging nomenclature utinized in this document, the following code letters and associated definitions are provide:

U Indicates the material was analyzed, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

J Indicates the associated value is an estimated quantity.

R Indicates the data are unusable. (Note: The analyte may or may not be present.)

UJ Indicates the material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

E Indicates the reported value is estimated because of the presence of interferences. An explanatory note shall be included under Comments on the Cover Page (if the problem applies to all samples) or on the specific FORM I-IN (if it is an isolated problem).

M Indicates duplicate injection precision is not met.

N Indictaes the spike sample recovery is not within control limits.

S Indicates the reported value was determined by the Method of Standard Addition (MSA).

W Indicates the post-digestion spike for furnace AA analysis is out of control limits (85%-115%), while sample absorbance is less than 50% of the spike absorbance.

+ Indicates the correlation coefficient for the MSA is less than 0.995.

* Indicates the duplicate analysis is not within control limits.

Note: Entering "S", "W" or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field for an analyte.

QC EXCEPTION SUMMARY REPORT

CASE\SAS#: 24211
DATA SET: meadQ9
LAB QC #
DATE: 1/17/96

SITE: Prior LF
LAB: ARI
REVIEWED BY: M. Seefeker

MATRIX: Soil
CONC: low

WATER SAMPLE SPK:
WATER SAMPLE DUP:
SOIL SAMPLE SPK:
SOIL SAMPLE DUP:

FORM #		FORM 2	FORM 3	FORM 5	FORM 3	FORM 3	FORM 4	FORM 5	FORM 6	FORM 7	FORM 7	FORM 9	FORM 9 #	FORM 4	FORM 5	FIELD	FIELD	FIELD	FIELD		
ELEMENT	HOLD TIME	INITIAL CALIB	CONTI N CALIB	CALIB BLANK	PREP WATER BLANK	PREP SOIL BLANK	ICS %R	SOIL SPIKE %R	SOIL DUP RPD	LCS AQ	LCS SOIL	SERIAL DILUTION AQUEOUS	SERIAL DILUTION SOIL	AQ DUP RPD	AQ SPIKE %R	BLANK	DUP RPD	BLANK	DUP RPD	GFAA DUP	GFAA ANALYT SPIKE
ALUMINUM								0													
ANTIMONY								26.8													
ARSENIC																					
BARIUM																					
BERYLLIUM																					
CADMIUM																					
CALCIUM																					
CHROMIUM																					
COBALT																					
COPPER																					
IRON																					
LEAD																					
MAGNESIUM																					
MANGANESE																					
MERCURY																					
NICKEL																					
POTASSIUM																					
SELENIUM						.380															
SILVER																					
SODIUM																					
THALLIUM																					
TIN																					
VANADIUM																					
ZINC																					
CYANIDE																					

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Data Set No: _____ CERCLIS No: ILD980989206

Case No: 24211 Site Name Location: Prior LF

Contractor or EPA Lab: ARI Data User: IEPA

No. of Samples: 11 Date Sampled or Data Received: 1-16-96

Have Chain-of-Custody records been received? Yes ✓ No ✓
Have traffic reports or packing lists been received? Yes ✓ No _____
If no, are traffic report or packing list numbers written on the chain-of-custody record? Yes ✓ No _____
If no, which traffic report or packing list numbers are missing?

_____ _____ _____ _____

_____ _____ _____ _____

Are basic data forms in? Yes ✓ No _____
No of samples claimed: 11 No. of samples received: 11

Received by: Lynette Burnett Date: 1-16-96

Received by LSSS: Allison C Harvey Date: 1-16-96

Review started: 1/17/96 Reviewer Signature: M. Fletcher

Total time spent on review: 8.3 Date review completed: 1/18/96

Copied by: M. Fletcher Date: 1/26/96

Mailed to user by: M. Fletcher Date: 1/26/96

DATA USER:
Please fill in the blanks below and return this form to:
Sylvia Griffen, Data mgmt. Coordinator, Region V, 5SCRL

Data received by: _____ Date: _____

Data review received by: _____ Date: _____

Inorganic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK
Organic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK
Dioxin Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK
SAS Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if OK

PROBLEMS: Please indicate reasons why data are not suitable for your uses.

_____

_____

Received by Data Mgmt. Coordinator for Files. Data: _____

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

L Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211 SAS No.: _____ SDG No.:MEADQ9

SOW No.: ILM04.0

EPA Sample No.		Lab Sample ID
MEADQ9	X101	5330A
MEADR0	X102	5330B
MEADR1	X103	5330C
MEADR2	X104	5330D
MEADR3	X105	5330E
MEADR4	X106	5330F
MEAFB2	X201	5330G
MEAFB3	X202	5330H
MEAFB4	X203	5330I
MEAFB5	X203	5330J
MEAFB6	X107	5330K
MEADQ9S		5330ASPK
MEADQ9D		5330ADUP

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JAN 16 1996
US EPA CENTRAL REGIONAL LAB.
536 S. CLARK ST.
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:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: PAUL_JAY_KUHN_____

Date: 1/10/96 Title: INORGANICS_LAB_MANAGER__

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEADQ9

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

Matrix (soil/water): SOIL_ Lab Sample ID: 5330A

Level (low/med): LOW__ Date Received: 11/16/95

% Solids: _83.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	6070	_		P_
7440-36-0	Antimony_	11.7	U	N	P_
7440-38-2	Arsenic__	8.9	_	*	F_
7440-39-3	Barium___	94.5	_		P_
7440-41-7	Beryllium	0.63	B		P_
7440-43-9	Cadmium__	0.47	U		P_
7440-70-2	Calcium__	810	B		P_
7440-47-3	Chromium_	12.1	_		P_
7440-48-4	Cobalt___	9.6	B		P_
7440-50-8	Copper___	8.0	_		P_
7439-89-6	Iron____	14000	_		P_
7439-92-1	Lead____	24.6	_		F_
7439-95-4	Magnesium	832	B		P_
7439-96-5	Manganese	950			P_
7439-97-6	Mercury__	0.07	B		CV
7440-02-0	Nickel___	11.1			P_
7440-09-7	Potassium	498	B		P_
7782-49-2	Selenium_	0.54	B		F_
7440-22-4	Silver___	0.70	U		P_
7440-23-5	Sodium___	19.1	B		P_
7440-28-0	Thallium_	0.52	B	W	F_
7440-62-2	Vanadium_	22.4	_		P_
7440-66-6	Zinc____	32.3	_		P_
5955-70-0	Cyanide__	0.27	U		C_

Color Before: BROWN____ Clarity Before: _____ Texture: COARSE

Color After: ORANGE___ Clarity After: CLOUDY Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEADR0

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

Matrix (soil/water): SOIL_ Lab Sample ID: 5330B

Level (low/med): LOW__ Date Received: 11/16/95

% Solids: _71.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11500			P
7440-36-0	Antimony	13.3	U	N	P
7440-38-2	Arsenic	10.5		*	F
7440-39-3	Barium	117			P
7440-41-7	Beryllium	0.60	B		P
7440-43-9	Cadmium	0.53	U		P
7440-70-2	Calcium	2870			P
7440-47-3	Chromium	13.8			P
7440-48-4	Cobalt	5.7	B		P
7440-50-8	Copper	14.6			P
7439-89-6	Iron	28300			P
7439-92-1	Lead	24.6			F
7439-95-4	Magnesium	2190			P
7439-96-5	Manganese	256			P
7439-97-6	Mercury	0.06	B		CV
7440-02-0	Nickel	13.6			P
7440-09-7	Potassium	820	B		P
7782-49-2	Selenium	0.55	B	W	F
7440-22-4	Silver	0.82	B		P
7440-23-5	Sodium	122	B		P
7440-28-0	Thallium	0.41	B	W	F
7440-62-2	Vanadium	30.2			P
7440-66-6	Zinc	116			P
5955-70-0	Cyanide	0.33	U		C

Color Before: BROWN____ Clarity Before: _____ Texture: COARSE

Color After: ORANGE___ Clarity After: CLOUDY Artifacts: _____

Comments:

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEADR1

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

Matrix (soil/water): SOIL_ Lab Sample ID: 5330C

Level (low/med): LOW__ Date Received: 11/16/95

% Solids: _77.1

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	8270			P
7440-36-0	Antimony_	12.1	U	N	P
7440-38-2	Arsenic__	10.3		*	F
7440-39-3	Barium__	157			P
7440-41-7	Beryllium	0.71	B		P
7440-43-9	Cadmium__	0.48	U		P
7440-70-2	Calcium__	3960			P
7440-47-3	Chromium_	13.7			P
7440-48-4	Cobalt___	10.3	B		P
7440-50-8	Copper___	13.9			P
7439-89-6	Iron____	27700			P
7439-92-1	Lead____	23.3			F
7439-95-4	Magnesium	1960			P
7439-96-5	Manganese	1060			P
7439-97-6	Mercury__	0.06	B		CV
7440-02-0	Nickel___	16.8			P
7440-09-7	Potassium	733	B		P
7782-49-2	Selenium_	0.72	B	W	F
7440-22-4	Silver___	0.95	B		P
7440-23-5	Sodium___	72.9	B		P
7440-28-0	Thallium_	0.30	B	W	F
7440-62-2	Vanadium_	30.9			P
7440-66-6	Zinc____	74.7			P
5955-70-0	Cyanide__	0.51			C

Color Before: BROWN____ Clarity Before: _____ Texture: COARSE

Color After: ORANGE___ Clarity After: CLOUDY Artifacts: _____

Comments:

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1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEADR2

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

Matrix (soil/water): SOIL_ Lab Sample ID: 5330D

Level (low/med): LOW__ Date Received: 11/16/95

% Solids: _66.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10400			P
7440-36-0	Antimony	14.3	U	N	P
7440-38-2	Arsenic	3.7		S*	F
7440-39-3	Barium	158			P
7440-41-7	Beryllium	0.94	B		P
7440-43-9	Cadmium	0.57	U		P
7440-70-2	Calcium	2220			P
7440-47-3	Chromium	16.5			P
7440-48-4	Cobalt	9.6	B		P
7440-50-8	Copper	15.9			P
7439-89-6	Iron	25300			P
7439-92-1	Lead	15.2			F
7439-95-4	Magnesium	2860			P
7439-96-5	Manganese	395			P
7439-97-6	Mercury	0.07	B		CV
7440-02-0	Nickel	21.7			P
7440-09-7	Potassium	1020	B		P
7782-49-2	Selenium	0.29	B	W	F
7440-22-4	Silver	0.86	U		P
7440-23-5	Sodium	289	B		P
7440-28-0	Thallium	1.4	U		F
7440-62-2	Vanadium	26.9			P
7440-66-6	Zinc	60.8			P
5955-70-0	Cyanide	0.52	B		C

Color Before: BROWN____ Clarity Before: _____ Texture: COARSE

Color After: ORANGE___ Clarity After: CLOUDY Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEADR3

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

Matrix (soil/water): SOIL_ Lab Sample ID: 5330E

Level (low/med): LOW__ Date Received: 11/16/95

% Solids: _77.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	8270			P
7440-36-0	Antimony_	12.2	U	N	P
7440-38-2	Arsenic__	6.5		*	F
7440-39-3	Barium__	146			P
7440-41-7	Beryllium	0.88	B		P
7440-43-9	Cadmium__	0.49	U		P
7440-70-2	Calcium__	2900			P
7440-47-3	Chromium_	15.9			P
7440-48-4	Cobalt___	10.2	B		P
7440-50-8	Copper___	14.0			P
7439-89-6	Iron____	23600			P
7439-92-1	Lead____	16.8			F
7439-95-4	Magnesium	2170			P
7439-96-5	Manganese	359			P
7439-97-6	Mercury__	0.06	U		CV
7440-02-0	Nickel___	20.3			P
7440-09-7	Potassium	834	B		P
7782-49-2	Selenium_	0.26	B	W	F
7440-22-4	Silver___	0.76	B		P
7440-23-5	Sodium___	117	B		P
7440-28-0	Thallium_	0.29	B	W	F
7440-62-2	Vanadium_	27.0			P
7440-66-6	Zinc____	56.3			P
5955-70-0	Cyanide__	0.32	U		C

Color Before: BROWN____ Clarity Before: _____ Texture: COARSE

Color After: ORANGE___ Clarity After: CLOUDY Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEADR4

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

Matrix (soil/water): SOIL_ Lab Sample ID: 5330F

Level (low/med): LOW__ Date Received: 11/16/95

% Solids: _78.4

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	9320	_		P_
7440-36-0	Antimony_	12.4	U	N	P_
7440-38-2	Arsenic__	6.2	_	*	F_
7440-39-3	Barium___	153	_		P_
7440-41-7	Beryllium	0.86	B		P_
7440-43-9	Cadmium__	0.50	U		P_
7440-70-2	Calcium__	2000	_		P_
7440-47-3	Chromium_	14.5	_		P_
7440-48-4	Cobalt___	9.6	B		P_
7440-50-8	Copper___	14.0	_		P_
7439-89-6	Iron____	22200	_		P_
7439-92-1	Lead____	16.0	_		F_
7439-95-4	Magnesium	2350	_		P_
7439-96-5	Manganese	317	_		P_
7439-97-6	Mercury__	0.06	U		CV
7440-02-0	Nickel___	19.6			P_
7440-09-7	Potassium	841	B		P_
7782-49-2	Selenium_	0.32	B	W	F_
7440-22-4	Silver___	0.94	B		P_
7440-23-5	Sodium___	129	B		P_
7440-28-0	Thallium_	0.27	B	W	F_
7440-62-2	Vanadium_	25.6	_		P_
7440-66-6	Zinc____	50.4	_		P_
5955-70-0	Cyanide__	0.28	U		C_

Color Before: BROWN____ Clarity Before: _____ Texture: COARSE

Color After: ORANGE___ Clarity After: CLOUDY Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEAFB2

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

Matrix (soil/water): SOIL_ Lab Sample ID: 5330G

Level (low/med): LOW__ Date Received: 11/16/95

% Solids: _70.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	11900			P
7440-36-0	Antimony_	13.4	U	N	P
7440-38-2	Arsenic__	3.7		*	F
7440-39-3	Barium___	160			P
7440-41-7	Beryllium	0.94	B		P
7440-43-9	Cadmium__	0.53	U		P
7440-70-2	Calcium__	3070			P
7440-47-3	Chromium_	17.2			P
7440-48-4	Cobalt___	10.1	B		P
7440-50-8	Copper___	17.2			P
7439-89-6	Iron____	24500			P
7439-92-1	Lead____	18.6			F
7439-95-4	Magnesium	2800			P
7439-96-5	Manganese	509			P
7439-97-6	Mercury__	0.07	B		CV
7440-02-0	Nickel___	24.2			P
7440-09-7	Potassium	1090	B		P
7782-49-2	Selenium_	0.29	U	W	F
7440-22-4	Silver___	0.80	U		P
7440-23-5	Sodium___	113	B		P
7440-28-0	Thallium_	0.31	B	W	F
7440-62-2	Vanadium_	28.5			P
7440-66-6	Zinc____	78.5			P
5955-70-0	Cyanide__	0.35	U		C

Color Before: BROWN____ Clarity Before: _____ Texture: COARSE

Color After: ORANGE___ Clarity After: CLOUDY Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEAFB3

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

Matrix (soil/water): SOIL_ Lab Sample ID: 5330H

Level (low/med): LOW__ Date Received: 11/16/95

% Solids: _71.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6100			P
7440-36-0	Antimony	12.8	U	N	P
7440-38-2	Arsenic	9.7		*	F
7440-39-3	Barium	113			P
7440-41-7	Beryllium	0.74	B		P
7440-43-9	Cadmium	0.51	B		P
7440-70-2	Calcium	1740			P
7440-47-3	Chromium	11.7			P
7440-48-4	Cobalt	11.8	B		P
7440-50-8	Copper	43.8			P
7439-89-6	Iron	20800			P
7439-92-1	Lead	35.8			F
7439-95-4	Magnesium	1430			P
7439-96-5	Manganese	272			P
7439-97-6	Mercury	0.08	B		CV
7440-02-0	Nickel	20.6			P
7440-09-7	Potassium	639	B		P
7782-49-2	Selenium	0.33	B	W	F
7440-22-4	Silver	0.77	U		P
7440-23-5	Sodium	72.5	B		P
7440-28-0	Thallium	0.26	U	W	F
7440-62-2	Vanadium	22.7			P
7440-66-6	Zinc	98.9			P
5955-70-0	Cyanide	0.27	U		C

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: ORANGE___ Clarity After: CLOUDY Artifacts: _____

Comments:

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U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEAFB4

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

Matrix (soil/water): SOIL_ Lab Sample ID: 5330I

Level (low/med): LOW__ Date Received: 11/16/95

% Solids: _69.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6270			P
7440-36-0	Antimony	14.2	U	N	P
7440-38-2	Arsenic	17.9		*	F
7440-39-3	Barium	116			P
7440-41-7	Beryllium	0.88	B		P
7440-43-9	Cadmium	0.57	U		P
7440-70-2	Calcium	3120			P
7440-47-3	Chromium	13.5			P
7440-48-4	Cobalt	13.5	B		P
7440-50-8	Copper	20.2			P
7439-89-6	Iron	29500			P
7439-92-1	Lead	29.8			F
7439-95-4	Magnesium	1820			P
7439-96-5	Manganese	550			P
7439-97-6	Mercury	0.06	U		CV
7440-02-0	Nickel	17.9			P
7440-09-7	Potassium	570	B		P
7782-49-2	Selenium	0.43	B	W	F
7440-22-4	Silver	0.93	B		P
7440-23-5	Sodium	53.7	B		P
7440-28-0	Thallium	1.3	U		F
7440-62-2	Vanadium	32.1			P
7440-66-6	Zinc	98.4			P
5955-70-0	Cyanide	0.32	U		C

Color Before: BROWN____ Clarity Before: _____ Texture: COARSE

Color After: ORANGE___ Clarity After: CLOUDY Artifacts: _____

Comments:

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1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEAFB5

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

Matrix (soil/water): SOIL_ Lab Sample ID: 5330J

Level (low/med): LOW__ Date Received: 11/16/95

% Solids: _79.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	5090			P
7440-36-0	Antimony_	12.5	U	N	P
7440-38-2	Arsenic__	16.2		*	F
7440-39-3	Barium__	78.2			P
7440-41-7	Beryllium	0.97	B		P
7440-43-9	Cadmium__	0.50	U		P
7440-70-2	Calcium__	2650			P
7440-47-3	Chromium_	12.2			P
7440-48-4	Cobalt___	6.0	B		P
7440-50-8	Copper___	13.4			P
7439-89-6	Iron____	25000			P
7439-92-1	Lead____	59.9			F
7439-95-4	Magnesium	1170	B		P
7439-96-5	Manganese	362			P
7439-97-6	Mercury__	0.06	B		CV
7440-02-0	Nickel___	13.3			P
7440-09-7	Potassium	492	B		P
7782-49-2	Selenium_	0.91	B	S	F
7440-22-4	Silver___	0.87	B		P
7440-23-5	Sodium___	78.0	B		P
7440-28-0	Thallium_	1.2	U		F
7440-62-2	Vanadium_	27.3			P
7440-66-6	Zinc____	42.6			P
5955-70-0	Cyanide__	0.18	U		C

Color Before: BROWN____ Clarity Before: _____ Texture: COARSE

Color After: ORANGE___ Clarity After: CLOUDY Artifacts: _____

Comments:

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MEAFB6

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

Matrix (soil/water): SOIL_ Lab Sample ID: 5330K

Level (low/med): LOW__ Date Received: 11/16/95

% Solids: _80.5

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	4310			P
7440-36-0	Antimony_	11.0	U	N	P
7440-38-2	Arsenic__	3.6		*	F
7440-39-3	Barium__	87.3			P
7440-41-7	Beryllium	0.41	B		P
7440-43-9	Cadmium__	0.44	U		P
7440-70-2	Calcium__	5990			P
7440-47-3	Chromium_	7.4			P
7440-48-4	Cobalt___	7.0	B		P
7440-50-8	Copper___	6.1			P
7439-89-6	Iron____	12500			P
7439-92-1	Lead____	8.7			F
7439-95-4	Magnesium	1350			P
7439-96-5	Manganese	846			P
7439-97-6	Mercury__	0.06	U		CV
7440-02-0	Nickel___	10.1			P
7440-09-7	Potassium	390	B		P
7782-49-2	Selenium_	0.21	U	W	F
7440-22-4	Silver___	0.66	U		P
7440-23-5	Sodium___	281	B		P
7440-28-0	Thallium_	0.21	U	W	F
7440-62-2	Vanadium_	13.6			P
7440-66-6	Zinc____	21.5			P
5955-70-0	Cyanide__	0.24	U		C

Color Before: BROWN____ Clarity Before: _____ Texture: COARSE

Color After: ORANGE___ Clarity After: CLOUDY Artifacts: _____

Comments:

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3
BLANKS

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

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	4.000	U	P
Antimony	50.0	U	50.0	U	50.0	U	50.0	U	10.000	U	P
Arsenic	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	F
Barium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cadmium	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Calcium	20.0	U	20.0	U	20.0	U	20.0	U	4.000	U	P
Chromium	5.0	U	5.0	U	5.0	U	5.0	U	1.000	U	P
Cobalt	3.0	U	3.0	U	3.0	U	3.0	U	0.600	U	P
Copper	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Iron	10.0	U	10.0	U	10.0	U	-13.2	B	-2.444	B	P
Lead	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	F
Magnesium	20.0	U	20.0	U	20.0	U	20.0	U	4.000	U	P
Manganese	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Mercury	0.1	U	0.1	U	0.1	U	0.1	U	0.050	U	CV
Nickel	10.0	U	10.0	U	10.0	U	10.0	U	2.000	U	P
Potassium	400.0	U	400.0	U	400.0	U	400.0	U	80.000	U	P
Selenium	1.0	U	1.0	U	1.0	U	1.0	U	0.380	B	F
Silver	3.0	U	3.0	U	3.0	U	3.0	U	0.600	U	P
Sodium	50.0	U	50.0	U	50.0	U	50.0	U	10.000	U	P
Thallium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	F
Vanadium	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Zinc	4.0	U	4.0	U	4.0	U	4.0	U	0.800	U	P
Cyanide	5.0	U	5.0	U	5.0	U	5.0	U	0.250	U	C

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3
BLANKS

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

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					P
Antimony			50.0	U	50.0	U					P
Arsenic			1.0	U	1.0	U	1.0	U			F
Barium			1.0	U	1.0	U					P
Beryllium			1.0	U	1.0	U					P
Cadmium			2.0	U	2.0	U					P
Calcium			20.0	U	20.0	U					P
Chromium			5.0	U	5.0	U					
Cobalt			3.0	U	3.0	U					P
Copper			2.0	U	2.0	U					P
Iron			-13.8	B	-10.7	B					P
Lead			1.0	U	1.0	U	1.0	U			F
Magnesium			20.0	U	20.0	U					P
Manganese			1.0	U	1.0	U					P
Mercury			0.1	U	0.1	U					CV
Nickel			10.0	U	10.0	U					P
Potassium			400.0	U	400.0	U					P
Selenium			1.3	B	1.0	U	1.6	B			F
Silver			3.0	U	3.0	U					P
Sodium			50.0	U	50.0	U					P
Thallium			1.0	U	1.0	U	1.0	U			F
Vanadium			2.0	U	2.0	U					P
Zinc			4.0	U	4.0	U					P
Cyanide			5.0	U	5.0	U			0.250	U	C

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3
BLANKS

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or 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											NR
Antimony											NR
Arsenic			1.0	U	1.0	U					F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead			1.0	U							F
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium			1.0	U	1.0	U					F
Silver											NR
Sodium											NR
Thallium			1.0	U							F
Vanadium											NR
Zinc											NR
Cyanide											NR

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5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEADQ9S

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134

Lab Code: ARI Case No.: 24211 SAS No.: SDG No.: MEADQ9

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

% Solids for Sample: 83.8

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		6053.5846		6066.1332		467.97	-2.7		P
Antimony	75-125	31.4006		11.6992	U	116.99	26.8	N	P
Arsenic	75-125	16.5410		8.9322		9.45	80.5		F
Barium	75-125	567.4879		94.5061		467.97	101.1		P
Beryllium	75-125	11.9730		0.6318	B	11.70	96.9		P
Cadmium	75-125	11.7226		0.4680	U	11.70	100.2		P
Calcium									NR
Chromium	75-125	57.9788		12.0548		46.80	98.1		P
Cobalt	75-125	126.9339		9.6191	B	116.99	100.3		P
Copper	75-125	67.0223		7.9671		58.50	100.9		P
Iron		11872.0740		13982.6150		233.98	-902.0		P
ad		28.3561		24.5752		4.73	79.9		F
gnesium									
Manganese		806.8440		950.1731		116.99	-122.5		P
Mercury	75-125	0.5501		0.0722	B	0.60	79.6		CV
Nickel	75-125	130.7782		11.1259		116.99	102.3		P
Potassium									NR
Selenium	75-125	2.5757		0.5435	B	2.36	86.1		F
Silver	75-125	12.1601		0.7020	U	11.70	103.9		P
Sodium									NR
Thallium	75-125	10.9643		0.5199	B	11.82	88.4		F
Vanadium	75-125	135.9703		22.4390		116.99	97.0		P
Zinc	75-125	146.3873		32.2617		116.99	97.6		P
Cyanide	75-125	5.5287		0.2712	U	5.18	106.7		C

Comments:

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5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEADQ9A

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

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	Added (SA)	%R	Q	M
Aluminum									NR
Antimony		114.41		50.00	U	120.0	95.3		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									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

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6
DUPLICATES

EPA SAMPLE NO.

MEADQ9D

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

Matrix (soil/water): SOIL_ Level (low/med): _LOW__

% Solids for Sample: _83.8 % Solids for Duplicate: __83.9

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		6066.1332		5923.2042		2.4		P
Antimony		11.6992	U	11.6992	U			P
Arsenic	2.4	8.9322		4.8205		59.8	*	F
Barium	46.8	94.5061		95.4584		1.0		P
Beryllium		0.6318	B	0.6318	B	0.0		P
Cadmium		0.4680	U	0.4680	U			P
Calcium		810.3678	B	822.7947	B	1.5		P
Chromium	2.3	12.0548		10.7796		11.2		P
Cobalt		9.6191	B	8.5568	B	11.7		P
Copper	5.8	7.9671		8.0397		0.9		P
Iron		13982.6150		12956.1678		7.6		P
Lead		24.5752		22.5667		8.5		F
Magnesium		831.7352	B	810.7937	B	2.5		P
Manganese		950.1731		855.2529		10.5		P
Mercury		0.0722	B	0.0817	B	12.3		CV
Nickel	9.4	11.1259		9.6682		14.0		P
Potassium		497.8778	B	456.3878	B	8.7		P
Selenium		0.5435	B	0.5199	B	4.4		F
Silver		0.7020	U	0.7020	U			P
Sodium		19.1188	B	19.0907	B	0.1		P
Thallium		0.5199	B	0.2363	U	200.0		F
Vanadium	11.7	22.4390		20.8222		7.5		P
Zinc		32.2617		32.0207		0.7		P
Cyanide		0.2712	U	0.2664	U			C

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10
Instrument Detection Limits (Quarterly)

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

ICP ID Number: TJA_ICP_61__ Date: 10/10/95

Flame AA ID Number : _____

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200	20.0	P
Antimony	206.84		60	50.0	P
Arsenic			10		NR
Barium	455.50		200	1.0	P
Beryllium	313.04		5	1.0	P
Cadmium	228.80		5	2.0	P
Calcium	317.93		5000	20.0	P
Chromium	267.72		10	5.0	P
Cobalt	228.62		50	3.0	P
Copper	324.75		25	2.0	P
Iron	259.94		100	10.0	P
Lead			3		NR
Magnesium	279.08		5000	20.0	P
Manganese	257.61		15	1.0	P
Mercury			0.2		NR
Nickel	231.60		40	10.0	P
Potassium	766.49		5000	400.0	P
Selenium			5		NR
Silver	328.07		10	3.0	P
Sodium	589.00		5000	50.0	P
Thallium			10		NR
Vanadium	292.40		50	2.0	P
Zinc	213.86		20	4.0	P
Cyanide			10		NR

Comments:

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10
Instrument Detection Limits (Quarterly)

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

ICP ID Number: _____ Date: 10/09/95

Flame AA ID Number : _____

Furnace AA ID Number : TJA_SH11_GFA

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead		BS	3	1.0	F
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR
Cyanide			10		NR

Comments:

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10

Instrument Detection Limits (Quarterly)

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

ICP ID Number: _____ Date: 10/10/95

Flame AA ID Number : _____

Furnace AA ID Number : VARIAN1_300_

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic		BZ	10	1.0	F
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium		BZ	5	1.0	F
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR
Cyanide			10		NR

Comments:

FORM X - IN ILM04.0

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10
Instrument Detection Limits (Quarterly)

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

ICP ID Number: _____ Date: 10/11/95

Flame AA ID Number : BUCK_MERCURY

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2	0.1	CV
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR
Cyanide			10		NR

Comments:

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Instrument Detection Limits (Quarterly)

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.: MEADQ9

ICP ID Number: _____ Date: 10/10/95

Flame AA ID Number : _____

Furnace AA ID Number : VARIAN2_300_

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		NR
Antimony			60		NR
Arsenic			10		NR
Barium			200		NR
Beryllium			5		NR
Cadmium			5		NR
Calcium			5000		NR
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron			100		NR
Lead			3		NR
Magnesium			5000		NR
Manganese			15		NR
Mercury			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium		BZ	10	1.0	F
Vanadium			50		NR
Zinc			20		NR
Cyanide			10		NR

Comments:

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ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: TJA ICP 61___ Method: P_

Start Date: 12/02/95 End Date: 12/02/95

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1253		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	_
S1	1.00	1259					X	_	X	X	X	X	X				X	_							X		_
S4	1.00	1304		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_
S3	1.00	1308		_	X	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
S2	1.00	1313		X	_	X	_	X	_	_	_	_	_	X	X	X	_	_	X	_	X	X	X	X	_	X	_
ICV	1.00	1339		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
ICB	1.00	1343		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
CCV	1.00	1348		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
CCB	1.00	1353		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
CRI	1.00	1357			X	_		X	X		X	X	X		_		X	_	X		_	X		_	X	X	_
ICSA	1.00	1404		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
ICSAB	1.00	1410		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
[illegible]	1.00	1417		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X		_
[illegible]B	1.00	1422		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X		_
LCSS	1.00	1426		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
MEADQ9D	1.00	1433		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
MEADQ9	1.00	1438		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
MEADQ9S	1.00	1442		X	X	_	X	X	X		X	X	X	X	_		X	_	X		_	X		_	X	X	_
MEADR0	1.00	1449		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
MEADR1	1.00	1453		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
MEADR2	1.00	1458		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
MEADR3	1.00	1503		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
MEADR4	1.00	1507		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
PBS	1.00	1516		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
CCV	1.00	1521		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
CCB	1.00	1525		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
MEADQ9A	1.00	1530		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
MEAFB2	1.00	1535		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
MEAFB3	1.00	1539		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
MEAFB4	1.00	1544		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
MEAFB5	1.00	1549		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
MEAFB6	1.00	1553		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_

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ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: TJA ICP 61___ Method: P_

Start Date: 12/02/95 End Date: 12/02/95

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
MEAFB6L	5.00	1600		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
CCV	1.00	1605		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
CCB	1.00	1609		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
CRI	1.00	1614			X	_		X	X		X	X	X		_		X	_	X		_	X		_	X	X	_
ICSA	1.00	1621		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
ICSAB	1.00	1627		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
CCV	1.00	1634		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_
CCB	1.00	1638		X	X	_	X	X	X	X	X	X	X	X	_	X	X	_	X	X	_	X	X	_	X	X	_

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ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: VARIAN1 300 _ Method: F_

Start Date: 12/27/95 End Date: 12/27/95

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1001				X																					
S10	1.00	1006				X																					
S0	1.00	1012				X																					
S10	1.00	1018				X																					
S20	1.00	1024				X																					
S50	1.00	1030				X																					
ICV	1.00	1035				X																					
ICB	1.00	1039				X																					
CCV	1.00	1044				X																					
CCB	1.00	1048				X																					
S0	1.00	1053				X																					
CCV	1.00	1057				X																					
3	1.00	1102				X																					
CRA	1.00	1107				X																					
CRAA	1.00	1111	96.5			X																					
ZZZZZZ	5.00	1116																									
ZZZZZZA	5.00	1120	100.5																								
PBS	1.00	1125				X																					
PBSA	1.00	1130	100.0			X																					
LCSS	100.00	1134				X																					
LCSSA	100.00	1139	101.0			X																					
MEADQ9	1.00	1143																									
MEADQ9A	1.00	1148	-182.5																								
CCV	1.00	1153				X																					
CCB	1.00	1157				X																					
MEADQ9D	1.00	1202				X																					
MEADQ9DA	1.00	1206	95.5			X																					
MEADQ9S	5.00	1211				X																					
MEADQ9SA	5.00	1215	99.5			X																					
MEADR0	1.00	1220																									
MEADR0A	1.00	1225	91.0																								
MEADR1	2.00	1229				X																					

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ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: VARIAN1 300 _ Method: F_

Start Date: 12/27/95 End Date: 12/27/95

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
MEADR1A_	2.00	1234	97.5			X																					
MEADR2__	1.00	1238																									
MEADR2A_	1.00	1243	83.0																								
CCV_____	1.00	1248				X																					
CCB_____	1.00	1252				X																					
MEADR3__	2.00	1257				X																					
MEADR3A_	2.00	1301	95.0			X																					
MEADR4__	1.00	1306				X																					
MEADR4A_	1.00	1311	87.0			X																					
MEAFB2__	1.00	1315				X																					
MEAFB2A_	1.00	1320	91.0			X																					
MEAFB3__	1.00	1324																									
\FB3A_	1.00	1329	-185.5																								
AFB4__	1.00	1333																									
MEAFB4A_	1.00	1338	0.0																								
CCV_____	1.00	1343				X																					
CCB_____	1.00	1347				X																					
S0_____	1.00	1352				X																					
CCV_____	1.00	1356				X																					
CCB_____	1.00	1401				X																					
MEAFB5__	1.00	1406																									
MEAFB5A_	1.00	1410	0.0																								
MEAFB6__	1.00	1415				X																					
MEAFB6A_	1.00	1419	94.0			X																					
MEADQ9__	2.00	1424																									
MEADQ9A_	2.00	1429	45.5																								
MEADR0__	2.00	1433				X																					
MEADR0A_	2.00	1438	99.0			X																					
MEAFB3__	2.00	1442				X																					
MEAFB3A_	2.00	1447	102.5			X																					
CCV_____	1.00	1452				X																					
CCB_____	1.00	1456				X																					

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ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: VARIAN1 300 _ Method: F_

Start Date: 12/27/95 End Date: 12/27/95

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
MEAFB4	5.00	1459				X																					
MEAFB4A	5.00	1503	99.5			X																					
MEAFB5	5.00	1507				X																					
MEAFB5A	5.00	1511	96.0			X																					
MEADQ9	2.00	1515				X																					
MEADQ9A	2.00	1519	103.0			X																					
MEADR20	1.00	1523				X																					
MEADR21	1.00	1527				X																					
MEADR22	1.00	1531				X																					
MEADR23	1.00	1535				X																					
CCV	1.00	1539				X																					
CCB	1.00	1543				X																					

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ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: TJA SH11 GFA_ Method: F_

Start Date: 12/27/95 End Date: 12/27/95

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1142													X												
S50	1.00	1146													X												
S3	1.00	1151													X												
S10	1.00	1155													X												
S20	1.00	1200													X												
S75	1.00	1204													X												
S50	1.00	1209													X												
ICV	1.00	1212													X												
ICB	1.00	1216													X												
CCV	1.00	1220													X												
CCB	1.00	1224													X												
S0	1.00	1228													X												
[illegible]	1.00	1233													X												
CCV	1.00	1237													X												
CCB	1.00	1241													X												
CRA	1.00	1245													X												
CRAA	1.00	1249	92.5												X												
ZZZZZZ	5.00	1254																									
ZZZZZZA	5.00	1258	98.5																								
MEADQ9	5.00	1302													X												
MEADQ9A	5.00	1306	108.5												X												
MEADQ9D	5.00	1311													X												
MEADQ9DA	5.00	1315	103.5												X												
MEADQ9S	10.00	1319													X												
MEADQ9SA	10.00	1323	99.0												X												
CCV	1.00	1327													X												
CCB	1.00	1332													X												
PBS	1.00	1336													X												
PBSA	1.00	1340	96.5												X												
LCSS	10.00	1344													X												
LCSSA	10.00	1348	109.5												X												
MEADR0	5.00	1353													X												

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ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: TJA SH11 GFA_ Method: F_

Start Date: 12/27/95 End Date: 12/27/95

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
MEADR0A	5.00	1357	106.0												X												
MEADR1	5.00	1401													X												
MEADR1A	5.00	1405	110.5												X												
MEADR2	5.00	1410																									
MEADR2A	5.00	1414	104.5																								
CCV	1.00	1418													X												
CCB	1.00	1422													X												
S50	1.00	1426													X												
CCV	1.00	1431													X												
CCB	1.00	1435													X												
MEADR3	5.00	1439													X												
MEADR3A	5.00	1443	106.5												X												
ADR4	5.00	1447													X												
MEADR4A	5.00	1452	110.0												X												
MEAFB2	5.00	1456													X												
MEAFB2A	5.00	1500	111.5												X												
MEAFB3	20.00	1504																									
MEAFB3A	20.00	1509	93.5																								
MEAFB4	10.00	1513													X												
MEAFB4A	10.00	1517	101.5												X												
CCV	1.00	1521													X												
CCB	1.00	1525													X												
MEAFB5	10.00	1530													X												
MEAFB5A	10.00	1534	109.5												X												
MEAFB6	2.00	1538													X												
MEAFB6A	2.00	1542	100.5												X												
MEADR2	2.00	1546													X												
MEADR2A	2.00	1551	101.0												X												
MEAFB3	10.00	1555													X												
MEAFB3A	10.00	1559	103.0												X												
CCV	1.00	1603													X												
CCB	1.00	1608													X												

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ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: VARIAN1 300 _ Method: F_

Start Date: 12/29/95 End Date: 12/29/95

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1228		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
S5	1.00	1232		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
S10	1.00	1236		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
S20	1.00	1240		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
S50	1.00	1245		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
ICV	1.00	1250		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
ICB	1.00	1254		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCV	1.00	1259		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB	1.00	1303		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
S0	1.00	1308		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCV	1.00	1312		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB	1.00	1317		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
[illegible]	1.00	1322		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CRAA	1.00	1326	102.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
ZZZZZZ	5.00	1331		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZA	5.00	1335	86.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
PBS	1.00	1340		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
PBSA	1.00	1345	92.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LCSS	50.00	1349		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
LCSSA	50.00	1354	80.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MEADQ9	1.00	1358		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEADQ9A	1.00	1403	87.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCV	1.00	1407		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB	1.00	1412		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEADQ9D	1.00	1417		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEADQ9DA	1.00	1421	84.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEADQ9S	1.00	1426		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEADQ9SA	1.00	1430	77.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEADR0	1.00	1435		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEADR0A	1.00	1440	70.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEADR1	1.00	1444		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEADR1A	1.00	1449	73.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-

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ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: VARIAN1 300 _ Method: F_

Start Date: 12/29/95 End Date: 12/29/95

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
MEADR2	1.00	1453		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEADR2A	1.00	1458	53.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCV	1.00	1502		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB	1.00	1507		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
S0	1.00	1512		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCV	1.00	1518		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB	1.00	1524		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
S0	1.00	1529		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
S20	1.00	1535		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCV	1.00	1541		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB	1.00	1545		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEADR3	1.00	1549		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
ADR3A	1.00	1554	72.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
ADR4	1.00	1558		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEADR4A	1.00	1603	66.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEAFB2	1.00	1607		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEAFB2A	1.00	1612	67.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEAFB3	1.00	1616		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEAFB3A	1.00	1621	74.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEAFB4	1.00	1625		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEAFB4A	1.00	1630	69.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCV	1.00	1635		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB	1.00	1639		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEAFB5	1.00	1642		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MEAFB5A	1.00	1645	74.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MEAFB6	1.00	1649		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEAFB6A	1.00	1652	78.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
LCSS	50.00	1656		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
LCSSA	50.00	1659	98.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEAFB50	1.00	1703		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MEAFB51	1.00	1706		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MEAFB52	1.00	1709		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: VARIAN1 300 _ Method: F_

Start Date: 12/29/95 End Date: 12/29/95

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
MEAFB53	1.00	1713		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MEAFB50	1.00	1716		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEAFB51	1.00	1720		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEAFB52	1.00	1723		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
MEAFB53	1.00	1727		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCV	1.00	1730		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB	1.00	1734		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-

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ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: VARIAN2 300 _ Method: F_

Start Date: 12/29/95 End Date: 12/29/95

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	0936		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S10	1.00	0940		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S20	1.00	0945		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S50	1.00	0950		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
ICV	1.00	0955		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
ICB	1.00	0959		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCV	1.00	1004		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCB	1.00	1009		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S0	1.00	1013		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCV	1.00	1018		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCB	1.00	1023		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CRA	1.00	1027		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
AA	1.00	1032	102.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
ZZZZZZ	5.00	1037		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-		-
ZZZZZZA	5.00	1042	100.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
PBS	1.00	1046		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
PBSA	1.00	1051	108.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
LCSS	10.00	1056		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
LCSSA	10.00	1100	97.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
MEADQ9	1.00	1105		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
MEADQ9A	1.00	1110	66.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCV	1.00	1114		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCB	1.00	1119		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S0	1.00	1124		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S20	1.00	1129		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCV	1.00	1135		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCB	1.00	1139		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
MEADQ9D	1.00	1143		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
MEADQ9DA	1.00	1148	89.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
MEADQ9S	2.00	1152		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
MEADQ9SA	2.00	1157	94.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
MEADR0	1.00	1202		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-

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ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: VARIAN2 300 _ Method: F_

Start Date: 12/29/95 End Date: 12/29/95

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
MEADR0A	1.00	1206	51.5																					X			
MEADR1	1.00	1211																						X			
MEADR1A	1.00	1216	48.0																					X			
MEADR2	1.00	1220																									
MEADR2A	1.00	1225	24.5																								
CCV	1.00	1230																						X			
CCB	1.00	1234																						X			
MEADR3	1.00	1238																						X			
MEADR3A	1.00	1243	58.0																					X			
MEADR4	1.00	1247																						X			
MEADR4A	1.00	1252	43.5																					X			
MEAFB2	1.00	1257																						X			
MEAFB2A	1.00	1301	48.0																					X			
MEAFB3	1.00	1306																						X			
MEAFB3A	1.00	1311	48.5																					X			
MEAFB4	1.00	1315																									
MEAFB4A	1.00	1320	39.5																								
CCV	1.00	1325																						X			
CCB	1.00	1329																						X			
MEAFB5	1.00	1333																									
MEAFB5A	1.00	1338	26.0																								
MEAFB6	1.00	1343																						X			
MEAFB6A	1.00	1347	79.5																					X			
MEADR2	5.00	1352																						X			
MEADR2A	5.00	1357	102.0																					X			
MEAFB4	5.00	1401																						X			
MEAFB4A	5.00	1406	95.5																					X			
MEAFB5	5.00	1411																						X			
MEAFB5A	5.00	1415	102.5																					X			
CCV	1.00	1420																						X			
CCB	1.00	1424																						X			

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ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: BUCK MERCURY_ Method: CV

Start Date: 11/22/95 End Date: 11/22/95

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1411																X									
S0.2	1.00	1413																X									
S0.5	1.00	1414																X									
S1	1.00	1415																X									
S5	1.00	1416																X									
S10	1.00	1418																X									
S0	1.00	1421																X									
S0.2	1.00	1422																X									
S0.5	1.00	1424																X									
S1	1.00	1425																X									
S5	1.00	1426																X									
S10	1.00	1428																X									
7	1.00	1430																X									
ICB	1.00	1431																X									
CCV	1.00	1432																X									
CCB	1.00	1434																X									
CRA	1.00	1436																X									
ZZZZZZ	1.00	1438																									
ZZZZZZ	1.00	1439																									
ZZZZZZ	1.00	1442																									
ZZZZZZ	1.00	1443																									
ZZZZZZ	1.00	1445																									
ZZZZZZ	1.00	1447																									
ZZZZZZ	1.00	1448																									
ZZZZZZ	1.00	1450																									
PBS	1.00	1452																X									
CCV	1.00	1453																X									
CCB	1.00	1454																X									
CCV	1.00	1458																X									
CCB	1.00	1500																X									
LCSS	1.00	1501																X									
MEADQ9	1.00	1504																X									

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ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: BUCK MERCURY_ Method: CV

Start Date: 11/22/95 End Date: 11/22/95

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
MEADQ9D	1.00	1505		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEADQ9S	1.00	1507		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEADR0	1.00	1509		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEADR1	1.00	1510		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEADR2	1.00	1511		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEADR3	1.00	1513		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEADR4	1.00	1514		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEAFB2	1.00	1516		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
CCV	1.00	1517		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
CCB	1.00	1519		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEAFB3	1.00	1520		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEAFB4	1.00	1522		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEAFB5	1.00	1523		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
MEAFB6	1.00	1524		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
CCV	1.00	1526		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-
CCB	1.00	1527		-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-

FORM XIV - IN ILM04.0

U.S. EPA - CLP

14
ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: CYANIDE SPEC_ Method: C_

Start Date: 11/21/95 End Date: 11/21/95

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1810																									X
S5	1.00	1810																									X
S10	1.00	1811																									X
S50	1.00	1812																									X
S100	1.00	1813																									X
S200	1.00	1814																									X
ICV	1.00	1945																									X
ICB	1.00	1946																									X
CCV	1.00	1947																									X
CCB	1.00	1948																									X
PBS	1.00	1949																									X
LCSS	1.00	1950																									
0	1.00	1951																									X
MEADQ9	1.00	1952																									X
MEADQ9D	1.00	1953																									X
MEADQ9S	1.00	1954																									X
MEADR0	1.00	1955																									X
MEADR1	1.00	1956																									X
MEADR2	1.00	1957																									X
LCSS	5.00	1958																									X
CCV	1.00	1959																									X
CCB	1.00	2001																									X
LCSW	1.00	2030																									X
CCB	1.00	2030																									X
CCV	1.00	2031																									X
CCB	1.00	2032																									X
PBS	1.00	2032																									X
LCSS	1.00	2033																									
MEADR3	1.00	2034																									X
MEADR4	1.00	2035																									X
MEAFB2	1.00	2035																									X
MEAFB3	1.00	2036																									X

FORM XIV - IN ILM04.0

U.S. EPA - CLP

14
ANALYSIS RUN LOG

Lab Name: ANALYTICAL_RESOURCES_INC. Contract: 68D50134__

Lab Code: ARI___ Case No.: 24211_ SAS No.: _____ SDG No.:MEADQ9

Instrument ID Number: CYANIDE SPEC_ Method: C_

Start Date: 11/21/95 End Date: 11/21/95

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
MEAFB4	1.00	2037																									X
MEAFB5	1.00	2038																									X
MEAFB6	1.00	2038																									X
LCSS	5.00	2039																									X
CCV	1.00	2040																									X
CCB	1.00	2041																									X

FORM XIV - IN ILM04.0

EPA United States Environmental Protection Agency
Contract Laboratory Program

rganic Traffic Report & Chain of Custody Record
(For Inorganic CLP Analyis)

SAS No. (If applicable)

Case N

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. Oil (High only)
7. Waste (High only)
8. Other (specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaOH
4. H_2SO_4
5. $K_2CR_2O_7$
6. Ice only
7. Other (specify in Column D)
N. Not preserved

2. Region No.: [illegible]
Sampling Co.: [illegible]
Sampler (Name): [illegible]
Sampler Signature: [illegible]

3. Purpose*
Lead: SF, PRP, ST, FED
Early Action: CLEM, PA, REM, RI, SI, ESI
Long-Term Action: FS, RD, RA, O&M, NPLD

4. Date Shipped: [illegible]
Carrier: [illegible]
Airbill Number: [illegible]

5. Ship To: [illegible]
ATTN:

6. Date Received – Received by: 11/16/95 Janet Felkins
Laboratory Contract Number: 68-D5-0134
Unit Price: 77.65

7. Transfer to:
Date Received
Received by
Contract Number
Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E – RAS Analysis: Diss. Metals	Total Metals	Cyanide	Low only: NO_2/NO_3	Fluoride	High only: pH	Conduct.	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K High Phases: Solids	Water-Miscible Liq.	Water-Immis. Liq.
MEAF136	5	L	[illegible]	6	*	X	X					5 [illegible]	X10[illegible]7	[illegible]	[illegible]	[illegible]			
~~MEAF136~~																			

Shipment for Case Complete? (Y/N)	Page	Sample(s) to be Used for Laboratory QC	Additional Sampler Signatures	Chain of Custody Seal Number(s)
Y	2 of 2			41849 / 41850

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	[illegible]				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) Janet Felkins	Date / Time 11/16/95 09:45	Remarks Is custody seal intact? Y/N/none	

DISTR DN: Green - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return SMO

EPA Form 9110-1

SEE REVERSE FOR ADDITIONAL STANDAR[illegible]STRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFIN[illegible]S

A21-012-6 REV 3/93

362296

EPA

United States Environmental Protection Agency
Contract Laboratory Program Sample Management Office
PO Box 818 Alexandria, VA 22313
703-557-2490 FTS 557-2490

Inorganic Traffic Report & Chain of Custody Record

(For Inorganic CLP Analysis)

SAS No. (if applicable)

Case No. 24211

1. Sample Description (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Rinsate
5. Soil/Sediment
6. Oil (High only)
7. Waste (High only)
8. Other (Specify)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaOH
4. H_2SO_4
5. $K_2CR_2O_7$
6. Ice only
7. Other (Specify)
N. Not preserved

3. Region No. V

Sampling Co. 1 / A

Sampler (Name): Brad Taylor

Sampler Signature: Brad Taylor

4. Type of Activity: Lead: SF, PRP, ST, FED; Pre-Remedial: PA, SSI, LSI; Remedial: RIFS, RD, RA, O&M, NPLD; Removal: CLEM, REMA, REM, OIL, UST

5. Date Shipped: 11-15-95

Carrier: Fed Ex

Airbill Number: 4957337221

6. Ship To: Analytical Resources, Inc., 400 [illegible] Ave North [illegible] WA 98109

ATTN:

7. Date Received -- Received by: 11/16/95 Janet Felkins

Laboratory Contract Number: 68-D5-0134

Unit Price: 77.65

8. Transfer to

Date Received

Received by

Contract Number

Price

CLP Sample Numbers (from labels)	A Enter # from Box 1	B Conc. Low Med High	C Sample Type: Comp./Grab	D Preservative from Box 6	E - RAS Analysis: Metals Total	Metals Dissolved	Cyanide	Low Conc. only: Nitrate/Nitrite	Low Conc. only: Fluoride	High only: pH	High only: Conductivity	F Regional Specific Tracking Number or Tag Numbers	G Station Location Number	H Mo/Day/Year/Time Sample Collection	I Sampler Initials	J Corresp. CLP Org. Samp. No.	K Sample Condition on Receipt	L High Conc. Phases (Check below): Solids	Water - MIS Liq.	Non Water - Mis Liq.
MEADG9	5	L	G	6	X		X					5-189152	X101	11-15-95-1245	B.T.	EARG1				
MEADR0	5	L	G	6	X		X					5-189153	X102	11-15-95-1000	B.T.	EARG2				
MEADR1	5	L	G	6	X		X					5-189154	X103	11-15-95-1020	B.T.	EARG3				
MEADR2	5	L	G	6	X		X					5-189155	X104	11-15-95-1045	B.T.	EARG4				
MEADR3	5	L	G	6	X		X					5-189156	X105	11-15-95-1100	B.T.	EARG5				
MEADR4	5	L	G	6	X		X					5-189157	X106	11-15-95-1100	B.T.	EARG6				
MEAFB2	5	L	G	6	X		X					5-189158	X201	11-15-95-1135	B.T.	EARG7				
MEAFB3	5	L	G	6	X		X					5-189159	X202	11-15-95-1305	B.T.	EARG8				
MEAFB4	5	L	G	6	X		X					5-189160	X203	11-15-95-1345	B.T.	EARG9				
MEAFB5	5	L	G	6	X		X					5-189161	X204	11-15-95-1415	B.T.	EARH0				

Shipment for Case complete? (Y/N) Y

Page 1 of 12

Sample used for a spike and/or duplicate

Additional Sampler Signatures

Chain of Custody Seal Number: 41849 / 41850

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Brad Taylor [signature] PS	11-15-95 1800				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	
		Janet Felkins	11/16/95 09:45		

Split Samples ☐ Accepted (Signature) ☐ Declined

EPA Form 9110-1 (Rev. 5-91) Replaces EPA Form (2075-6), previous edition which may be used

DISTRIBUTION:
Green - Region Copy Pink - SMO Copy White - Lab Copy for Return to Region Yellow - Lab Copy for Return to SMO

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS

Inorg-2